

PUBLIC WORKS MEMORANDUM
#21-2019

DATE: June 10, 2019

TO: Honorable Mayor Pro Tem Esquibel and City Council Members

THROUGH: Heather Geyer, City Manager *hmg*

FROM: Kent Kisselman, PE – Director of Public Works *FKK*
Tamara Moon – Water Resources Administrator

SUBJECT: CR-57 – Integrated Water Resources Plan Update

PURPOSE

City Council will be considering CR-57, a resolution to approve a professional services agreement with ELEMENT Water Consulting, Inc. to update and revise the City's Integrated Water Resources Plan (IWRP).

BACKGROUND

In 2005, the City contracted with CDM Consultants to evaluate the City's water supply and demand and develop recommendations on ways to reduce water supply demand as well as ways the City could increase water supply. This IWRP was completed in 2007, and has been the guiding document for the City's Water Resources division since that time.

Since 2007, there have been changes to the City's water supply, water use patterns, and new developments constructed and planned. These changes to the community and our water system make the 2007 CDM report no longer relevant. A new IWRP that addresses these changes will allow City staff to better prepare the City's water supply to meet the future demands of our growing community.

On March 11, 2019, the City issued a Request for Proposal (RFP) for the IWRP Update. A pre-bid meeting was held on March 19, 2019, with ten consulting firms represented. On April 18, 2019, the City accepted bids from four consulting firms. RFPs were evaluated by staff. Based on the review of all proposals, ELEMENT Water was determined to be the lowest responsible bidder, with a base bid of \$116,650.00 and value added services in the amount of \$11,000.00, for a total bid price of \$127,650.00. Reference checks were favorable, and ELEMENT Water was determined to be capable of providing the skills and services necessary to complete the City's IWRP update.

ELEMENT Water will evaluate the City's current supply, demand and water use trends, and proposed development plans to determine water supply needs in the future, and ways that the City can maximize existing water supplies through conservation and water efficiency programs. They will also provide recommendations on the development of water supply in systems that we are currently not using. ELEMENT Water will also work with the Aquifer Storage and Recovery (ASR) consultant to ensure that the IWRP and the ASR plans work well together.

ELEMENT Water has provided two value added items to their proposal that will also benefit the City. In addition to the IWRP, ELEMENT Water will assist the City in updating its Water Efficiency Plan, and will develop an Excel based water supply model that City staff will be able to use for further water supply forecasting and planning. The Water Efficiency Plan will allow the

City to qualify for funding and grants for conservation and drought planning activities from the Colorado Water Conservation Board.

STAFF RECOMMENDATION

Attached to this memorandum is CR-57, a proposed resolution, which, if approved, would authorize the Mayor to execute a contract with ELEMENT Water Consulting, Inc. to update the Integrated Water Resources Plan, update the Water Efficiency Plan and create a water supply model. Staff recommends approval of this proposed resolution.

BUDGET/TIME IMPLICATIONS

The project proposed by ELEMENT Water Consulting, Inc. is in the amount of \$127,650.00. Funds are available in the Water Resources/Property Rights budget which can be used to support water supply and storage development activities.

2019 Budget Available Funds	\$894,675
ELEMENT Water Consulting, Inc. Contract	(\$127,650.00)
Remaining	\$767,025

Project timeline:

Contract Approval	June, 2019
Notice to Proceed	June, 2019
Kick-off Meeting	June, 2019
Task 1: Current Supply and Demand	August, 2019
Task 2: Identify Supply Alternatives	September, 2019
Task 3: Evaluate Alternatives	November, 2019
Task 4: Communication/Documentation	December, 2019
Value Added Tasks	December, 2019

STAFF REFERENCE

If Council members have any comments or questions they may contact Kent Kisselman, 303.450.4005, or kkisselman@northglenn.org.

CR-57 – Integrated Water Resources Plan Update
Integrated Water Resources Plan Update Contract

SPONSORED BY: MAYOR PRO TEM ESQUIBEL

COUNCILMAN'S RESOLUTION

RESOLUTION NO.

No. CR-57
Series of 2019

Series of 2019

A RESOLUTION APPROVING A PROFESSIONAL SERVICES AGREEMENT BETWEEN THE CITY OF NORTHGLENN AND ELEMENT WATER CONSULTING, INC. FOR THE INTEGRATED WATER RESOURCES PLAN 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 ELEMENT Water Consulting, Inc., attached hereto, in an amount not to exceed \$127,650.00 for the Integrated Water Resources Plan 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 _____, 2019.

ANTONIO B. ESQUIBEL
Mayor Pro Tem

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 ELEMENT Water Consulting, Inc. (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 them and payment for the work.

IV. COMPENSATION

A. In consideration for the services specified herein by Consultant, the City shall pay Consultant an amount not to exceed one hundred twenty seven thousand six hundred fifty dollars (\$ 127,650.00). 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, including time of performance, 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 merit 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 represents 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 to the extent 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.

F. Consultant shall not be in default of its obligations if performance is prevented or delayed by an existing or future *force majeure* condition or any other cause beyond the reasonable control of a party to this Agreement including, without limitation, act of government, act of God, act of City or City's contractor, meteorological phenomenon, power failures or blackouts, strike, shortage of labor or materials, insurrection, embargo, fire, flood, earthquake, electromagnetic interference, explosion, riot, wars or armed conflicts,

G. **Absent willful and wanton misconduct conduct**, the performance of Consultant's services shall not subject the personnel of either party to any personal legal exposure for Project risks, each party waiving such claims and covenanting that any claim shall be made against only a party and not against any of its personnel.

VIII. ILLEGAL ALIENS

A. Certification. By entering into this Agreement, Consultant hereby certifies that, at the time of this certification, it does not knowingly employ or contract with an illegal alien who will perform work under the Agreement and that Consultant will participate in either the E-Verify Program administered by the United States Department of Homeland Security and Social Security Administration or the Department Program administered by the Colorado Department of Labor and Employment in order to confirm the employment eligibility of all employees who are newly hired for employment to perform work under the Agreement.

B. Prohibited Acts. Consultant shall not:

1. Knowingly employ or contract with an illegal alien to perform work under this Agreement; or

2. Enter into a contract with a subcontractor that fails to certify to Consultant that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this Agreement.

C. Verification.

1. Consultant has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement through participation in either the E-Verify Program or the Department Program.

2. Consultant shall not use the E-Verify Program or the Department Program procedures to undertake pre-employment screening of job applicants while this Agreement is being performed.

3. If Consultant obtains actual knowledge that a subcontractor performing work under

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 or others for whom the City is legally liable.

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).

X. 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 the minimum amounts, durations, or types listed below.

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

this Agreement.

XIV. 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.

XV. 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.

XVI. NO WAIVER

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

XVII. 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.

XVIII. 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.

XIX. 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: ELEMENT Water Consulting, Inc.
Attn: Beorn Courtney_
P.O. Box 140785
Denver, CO 80214

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

CITY OF NORTHGLENN, COLORADO

By: _____

Carol A. Dodge
Print Name

Mayor
Title Date

ATTEST:

Johanna Small, CMC Date
City Clerk

APPROVED AS TO FORM:

Corey Y. Hoffmann Date
City Attorney

CONSULTANT:

By: Beorn Courtney

Beorn Courtney
Print Name

President 5/14/19
Title Date

ATTEST:

By: Logan Burba

Logan Burba
Print Name

Water Resource Engineer 5/14/2019
Title Date

EXHIBITS A & B

CITY OF NORTHGLENN IWRP UPDATE PROPOSAL

APRIL 17, 2019

City of New York (2014 – 2019)

In preparation for a planned aqueduct shutdown in 2022, WaterDM was hired by the New York City Water Board to prepare water demand management plans for 10 communities that purchase water wholesale from the NYC system. The goal of developing these Water Demand Management Plans was to equip participating customers with the ability to achieve water demand reductions of 5% (based on their 2013 demand) by the planned Delaware Aqueduct repairs in 2022, and maintain these reductions well into the future. As a broader objective, the program seeks to develop a foundation for a water savings culture in each community, with each Utility Partner setting a sustainable example for the public.

Contact: Erin Morey | Director, Demand Management & Resilience Policy | Integrated Water Management | Bureau of Environmental Planning and Analysis | NYC Environmental Protection
Phone: 718.595.6344 | EMorey@dep.nyc.gov

City of Westminster, Colorado (2012 – 2013)

WaterDM worked closely with Westminster staff to develop a detailed avoided cost analysis that examined the financial impact of changes in demand that have occurred over the past 20 years. Key elements of the project included demand forecasting and water supply evaluation. This research was published by the Alliance for Water Efficiency and in the AWWA Journal in April 2014.

Contact: Christine Anderson Gray | Business Operations Coordinator
Public Works & Utilities | City of Westminster
Phone: 303-658-2425 | cgray@cityofwestminster.us

D. PROPOSED SCOPE OF WORK (PROPOSAL)

ELEMENT Water Consulting (ELEMENT) and Water Demand Management (WaterDM) are honored to respond to the Request for Proposal (RFP) of the City of Northglenn (“City”) to assist the City in the update of its Integrated Water Resources Plan (IWRP). Our team provides modern and innovative solutions that thoroughly consider the needs of the community and the realities of water supply conditions in Colorado.

We understand the fundamental goals of this study are to update the City’s Integrated Water Resources Plan, taking into consideration changes to water resources, population, development plans, and water demands.

The ELEMENT Team will work closely with Northglenn staff to prepare the updated IWRP based on new data and analysis with new graphics and content. The ELEMENT Team will use the 2007 IWRP as a guide and foundation to inform the process, but the IWRP Update will be an entirely new report that reflects changes to the City’s water resources, population, and plans for development.

The steps we will take to prepare the IWRP Update are briefly described below and presented in full detail later in this proposal.

1. **Identify Current Supply and Demand Conditions** – Prepare a thorough evaluation of the historic and current water supply, demands, and climate in Northglenn including a careful assessment of the City’s water supply portfolio, water production, customer consumption, and non-revenue water. Through this analysis, Northglenn’s water supply needs over the next 30 years will be determined.
2. **Identify Alternatives** – Explore the range and resource mix of feasible water supply and demand management alternatives for meeting future requirements. This task will include coordination with the City’s Aquifer Storage and Recovery (ASR) consulting team and water rights consultant. Up to six water resource alternatives will be developed in close cooperation with City staff.
3. **Evaluate Alternatives** – Characterize, score, and rank up to six future water resource alternatives. Prepare implementation strategies for the highest ranked alternatives that provide the most logical and cost effective modes to meet the City’s water supply needs for the future.
4. **Communication and Documentation** – The ELEMENT Team will ensure responsive communication and accurate documentation throughout the project. Beorn Courtney and Peter Mayer are talented and experienced communicators who have made numerous presentations to elected councils and appointed boards and commissions and we welcome the opportunity to work with City staff to present the IWRP to Northglenn’s elected and appointed leaders.

A good integrated water resources plan should help guide a community to a secure and resilient water future. Our overall approach to the City of Northglenn IWRP Update is to carefully review and evaluate both the water supply and the water demand management options based upon a realistic assessment of need over the next 30 years and beyond. The chosen alternatives will represent a carefully selected mix of realistic options for Northglenn to consider and the evaluation will explore reliability, cost per acre-foot, climate resilience, engineering feasibility, and other relevant factors. The ELEMENT Team will conduct a facilitated workshop with City staff and leadership to review the alternatives and the scoring and ranking process and to select the preferred alternative(s) to move on to the implementation strategy phase.

The IWRP Update final report will summarize the entire planning process and will include the implementation plan for the preferred alternative. A final presentation will be prepared by the ELEMENT Team, with input from City staff, and co-presented to City Council and others as required. A summary fact sheet outlining current supply and demand conditions, future need, and the identified alternatives will be prepared to assist in communicating with leadership and the public.

Project Team Coordination and Communication

Preparing an IWRP requires close communication and cooperation between the consulting team and utility staff. Beorn Courtney, Principal Investigator and Project Leader, will coordinate the ELEMENT Team and will establish preferred lines of communication between the project team and City staff. Email will be the primary means of communication on a weekly (or more frequent) basis. Because the project team is local, in-person meetings can be easily scheduled, and web meetings and conference calls will also be utilized.

Communication is key to a successful project and the ELEMENT Team takes pride in being effective communicators and highly responsive to our clients. Our project management style is to meet regularly as a team and communicate clearly and frequently via email and phone as needed. Project Communication will run throughout the entire project and will be led by Beorn Courtney with assistance from Logan Burba.

The IWRP process will commence with a kickoff meeting between the ELEMENT Team and key City staff working on this project, which may include staff from the water resources, planning and development, engineering, or other departments. The full project plan and scope will be reviewed, the communications plan will be put in place, and the team will go over the available data and information for the plan. A particular focus of the kickoff meeting will be on Northglenn's expectations for the project and the ELEMENT Team's final deliverables. The ELEMENT Team will meet with Northglenn staff on a regular basis as the project proceeds. Typically, meetings will be held monthly either in person or via teleconference. The project schedule will be updated following the kickoff meeting and will be reviewed regularly to ensure that important deadline are met.

Other critical meetings and communications identified in the RFP are incorporated in the next section under the Technical Proposal, and follow the task sequencing provided in the RFP.

Technical Proposal

The ELEMENT Team has developed the following detailed work plan to update the City's IWRP, taking into consideration changes to water resources, population, development plans, and water demands and incorporating all the project goals set out in the RFP.

Task 1: Identify Current Supply and Demand Conditions

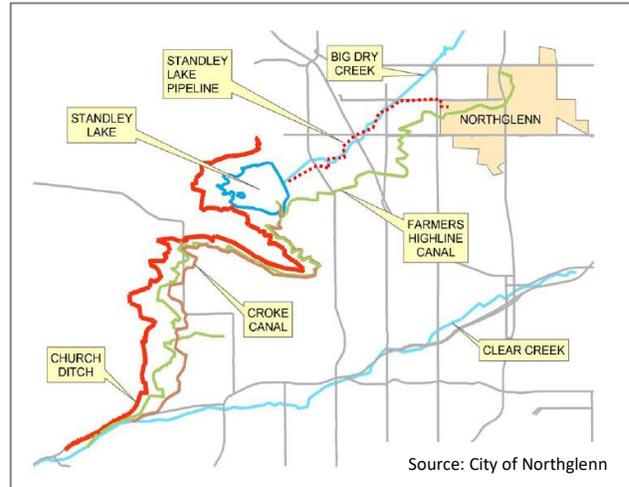
In this task, the ELEMENT Team will prepare a thorough evaluation of the historic and current water supply, demands, and climate in Northglenn including a careful assessment of the City's water supply portfolio, water production, customer water use, and non-revenue water. The planning period for the IWRP update will extend through the year 2050, evaluating Northglenn's water supply requirements over the next 30 years.

1.1 Review Existing Supply and Demand Information

Interpreting Northglenn’s current supply and demand data is the first step in updating information for the IWRP.

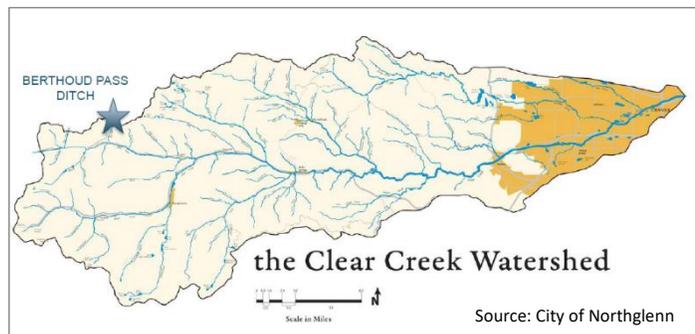
1.1.1 Obtain Supply and Demand Information

Working with City staff, the ELEMENT Team will obtain and review essential background water supply and demand materials and data¹. The information required for the IWRP includes: Northglenn’s water supply portfolio, daily water production (as many years as available), billed customer water use data (monthly or annual summaries), historic City population and current population forecast, recent water master plans and other relevant planning documents. To the extent possible, information will be obtained from Northglenn’s most recent and relevant planning documents including the previous 2007 IWRP, 2007 Conservation Plan, water supply master plans, supply alternative feasibility studies, comprehensive plans, and other existing plans, documents, and models identified by Northglenn staff as relevant to the project. We have reviewed the City’s 2007 IWRP and 2007 Conservation Plan and will work closely with the City staff to identify information from those and any other previously prepared documents to understand the portions that remain current versus information that needs to be updated.



1.1.2 Review and Analyze Northglenn’s Current Water Supply Portfolio

The ELEMENT Team will review the current water supply portfolio and develop estimates of average year and firm yield water supplies. The City’s 2007 IWRP used a drought planning period from the 1950’s. We will work with the City to evaluate the historical hydrology and confirm or select a different historical drought period for the update, which will be used in the analysis of the firm yield. In addition to hydrology, we will work with the City to identify the key factors that most significantly influence firm yield under the City’s current portfolio, including limitations associated with infrastructure capacities or operational arrangements.



The 2007 IWRP established a firm yield of 5,245 acre-feet per year (AFY) through the 1950’s drought or 3,580 AFY without the FRICO exchange. We will work with the City to understand the current status of

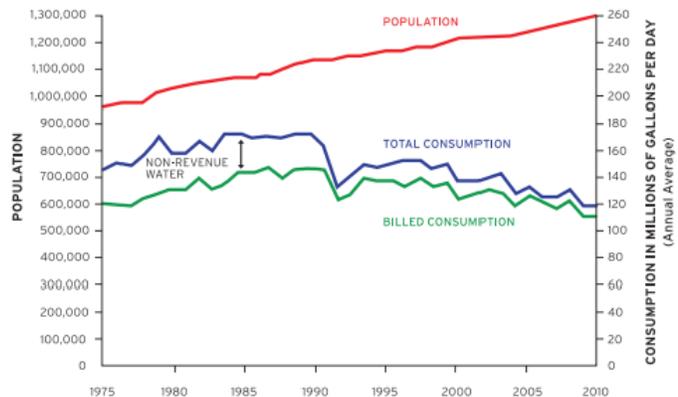
¹ Assumptions from RFP: 1. City will provide current demand conditions; 2. City will supply information including decrees, listing of water owned, storage rights and amounts, exchanges, and any other information relevant to determining current supply and demand conditions; 3. City will provide population projections through the year 2050; 4. City will provide information related to existing conservation programs; 5. Relevant planning documents and reports will be made available.

the FRICO exchange and identify relevant information from existing spreadsheet systems models for update, along with information from the recent Church Ditch change in Case No. 08CW141 and any available information from the pending application to change FRICO-Standley Lake shares in Case No. 18CW3007. The ELEMENT Team will prepare a schematic of the City’s existing sources, storage, exchanges, augmentation plans, and effluent uses to help communicate the information included in the water supply analysis and ensure that the key relevant information has been represented. While this task will establish the yield of the City’s current water supply portfolio, subsequent tasks will investigate the potential to increase the yield through alternative operations, cooperative arrangements, and infrastructure.

ELEMENT provides water rights services to several municipal water providers throughout the state of Colorado and within the South Platte River Basin. Through this experience, we are well prepared to evaluate historical diversion records and interpret water rights decrees. Further, we have a good working relationship with the City’s water rights consultant and we do not have any other water rights projects located within the Clear Creek watershed, making us free of any potential conflicts of interest which should facilitate communication with the City and its water rights consultant on this topic.

1.1.3 Review and Analyze Northglenn’s Current Water Demand Data

Throughout Colorado and the United States, municipalities are commonly experiencing minimal increase or decreases in total systemwide water use, even during periods of significant growth, due to efficiencies gained through new fixtures and appliances, landscaping transformations, pricing, and customer awareness. The ELEMENT Team will review Northglenn’s water demand history, customer water use (i.e. consumption) patterns, and customer water use efficiency to understand how water uses have been changing for Northglenn. The 2007 IWRP shows demand response to wet and cool periods as well as post-2002 drought response. We will review recent data to see if this response pattern has continued.



Growth in population and water consumption for Seattle Public Utilities (2012 Regional Water Supply Update)

The ELEMENT Team will seek out critical planning data from Northglenn, including current population and demographics and the City’s plans for growth and redevelopment into the future. Relevant local climate data will be obtained from available public weather stations for the period of time corresponding to the demand data Northglenn provides. Historical demand and climate data will be plotted and the relationship between demand, temperature, precipitation, and evapotranspiration explored. Drought periods will be identified and evaluated and we will determine whether the prior trends and post-2002 drought response has persisted and resulted in long-term water use reductions. Northglenn’s historic demand trends will be profiled and per capita water use calculated.

The review will ensure the data provided is sufficient to proceed to the water supply and demand assessment. Preliminary estimates of annual non-revenue water (including real and apparent losses) will be prepared. Effluent supplies will also be estimated using available wastewater treatment or other data. Through this task, the ELEMENT Team will identify any data gaps and additional information require to proceed to the 2050 supply and demand assessment.

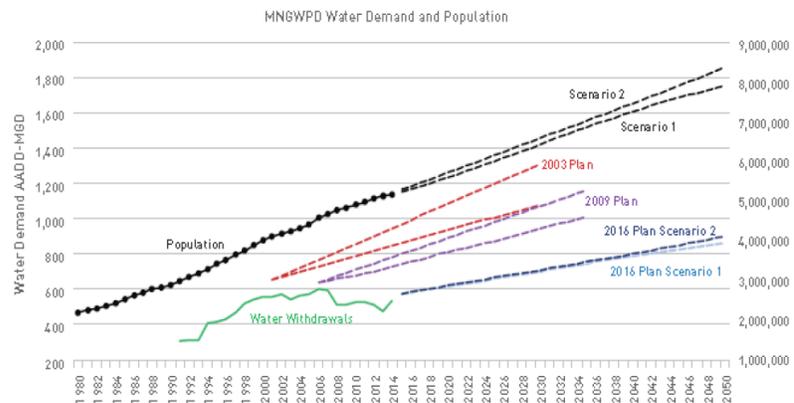
1.1.4 Prepare Water Supply and Demand Assessment

How much water will Northglenn likely need to meet demands in 2050 and what additional supplies may be required? In this task, the ELEMENT Team will take the information from the water supply and demand review from Tasks 1.1.2 and 1.1.3 and prepare a full supply and demand analysis in order to assess Northglenn’s future water supply needs. The ELEMENT Team will meet with the City to review the information being included and to make recommendations for obtaining additional information and refining the approach prior to completing the full assessment.

The ELEMENT Team will prepare a set of three demand projections or “forecasts” for Northglenn to use in the planning process.

- **Forecast 1** will be the most likely future trajectory of water demand in Northglenn based on all data and information the ELEMENT Team and Northglenn staff have evaluated. This forecast will include anticipated reductions in per capita use based on Water Research Foundation studies² and Colorado’s regulatory environment³. This forecast will include current best estimates for future average temperatures in the Denver metro area, based on climate research from the National Center for Atmospheric Research (NCAR), National Oceanic and Atmospheric Administration (NOAA), and the University of Colorado.

Water Demand Forecasts



Metropolitan North Georgia Water Planning Demands (2015 MNGWPD)

² Residential End Uses of Water studies, 1999,2016, Water Research Foundation. Denver, CO.

³ Colorado Senate Bill 14-103 includes a WaterSense fixture requirement.

- **Forecast 2** and **Forecast 3** will be developed as variants on Forecast 1, for purpose of exploring different probable futures. The specific changes to be implemented for these forecasts will be agreed upon by City staff and the ELEMENT Team. Some examples of aspects that could be varied include: alternative population forecast, alternative climate forecast, or increasing the adoption of water efficiency including landscaping changes, to name a few. Forecast 2 and 3 will allow Northglenn to explore the range of future uncertainty of water demand by varying the specific factors of greatest uncertainty. Densification is another example - as of 2007, the IWRP indicated that 93% of the service area was developed and “buildout” was anticipated for 2010. There was also a potential future development of the City-owned 640-acre parcel near Bull Reservoir. While Northglenn’s service area characteristics may not allow much additional densification through redevelopment or annexation, these are important topics to discuss in contemplating Northglenn’s potential future.



Each demand forecast will be evaluated with Northglenn’s average and firm yield water supply representation to determine the City’s adequacy of water supply over the next 30 years with its current water portfolio. Part of this analysis will evaluate the risk of drought and reduced supply availability to determine the ability and frequency of Northglenn to curtail customer demand on a short-term basis. Droughts are to be expected in Colorado and for water supply planning, it is essential to establish the fundamental reliability criteria goal to plan around. Similar to the analyses prepared for the Colorado Water Plan, this analysis will enable the City to understand potential vulnerabilities and risks to its water supply adequacy.

The ELEMENT Team has unique expertise in this type of supply and demand analysis and have conducted similar work for the technical update to the Colorado Water Plan as well as for individual water providers throughout Colorado including the City of Arvada, the City of Westminster, the City of Aspen, and many more.

1.2 Develop Water Management Objectives

The ELEMENT Team will present the results of the supply and demand analysis and a set of draft 2050 water management objectives for addressing the City’s build out demands, future supply needs, and water supply alternatives in establishing a reliable, resilient water supply with a tolerable level of risk. A list of potential management objectives will include a comprehensive set of economic and non-

economic criteria against which to complete a rigorous alternatives evaluation in Task 3, including but not limited to the following topics:

- *Economic*: capital, maintenance, operational, and administrative costs including treatment, distribution, and storage
- *Environmental*: energy and material use, waste produced, and environmental impacts such as effects on groundwater patterns and levels, water quality, and ecosystem impacts
- *Resilience*: increased reliability and ability to withstand climate changes such as long-term droughts and changing runoff patterns
- *Socioeconomic*: human health and community impacts, customer acceptance, political and regulatory acceptance, and public awareness
- *Technical*: technical and permitting feasibility to provide the needed water supply quantity and quality in a timely manner that aligns with the water demand projections

The supply portfolio alternatives being evaluated, which are described in Task 2, may include elements of new water supply and infrastructure, partnerships, and water demand reductions. The ELEMENT Team will work with the City to narrow in on the key water management objectives and then prepare a comprehensive set of performance measures that can be applied to a wide range of alternatives to evaluate the extent to which each alternative meets the management objectives. The performance measures for economic objectives are the most straightforward, typically applied as a cost per acre-foot yield. The non-economic objectives will be evaluated using a combination of quantitative and qualitative criteria.

An overall water supply system performance measure will also be characterized, such as:

Sample Performance Measure A – The City shall work to have adequate water availability such that demand must be curtailed through voluntary measures 1 in 10 years and mandatory measures 1 in 20 years. With these criteria in place, the City requires an additional 1,000 AF of supply annually to ensure reliability through 2050.

Sample Performance Measure B – The City shall work to have adequate water availability and will increase long-term water conservation efforts such that demand must be curtailed through voluntary measures 1 in 25 years and mandatory measures 1 in 50 years. With these criteria in place, the City requires an additional 1,000 AF of supply annually to ensure reliability through 2050.

The selected water management objectives will guide the development of the water supply alternatives in Task 2. The results of this Task 1 will be presented to the City staff in a workshop meeting format. At the conclusion of the workshop, Northglenn will identify the water management objectives to include in the evaluation of water supply alternatives in Task 2.

1.3 Prepare Technical Memorandum

The ELEMENT Team will prepare a technical memorandum for Northglenn which reviews the work completed in Task 1, summarizes the data and analysis, and presents the selected water management objectives developed during the workshop, along with a discussion and set of recommendations for the

objectives to bring forward to Task 2. A description of supply or storage alternatives identified in the objective discussion will also be included.

The technical memo, and all written work products, will be composed in a clear, concise manner and will include brilliant graphics and illustrative data tables wherever possible and relevant. The Task 1 technical memo will include a schematic or series of graphics showing Northglenn's existing sources of supply with storage, exchanges, and effluent management delineated along with average and firm yields for each supply source.

Task 2: Identify Alternatives

In this task, the ELEMENT Team will explore the range and resource mix of feasible water supply and demand management alternatives for meeting future needs. This task will include coordination with the City's ASR consulting team and an evaluation of implementation costs. Up to six water resource alternatives will be developed in close cooperation with City staff.

2.1 Supply Portfolio Alternatives

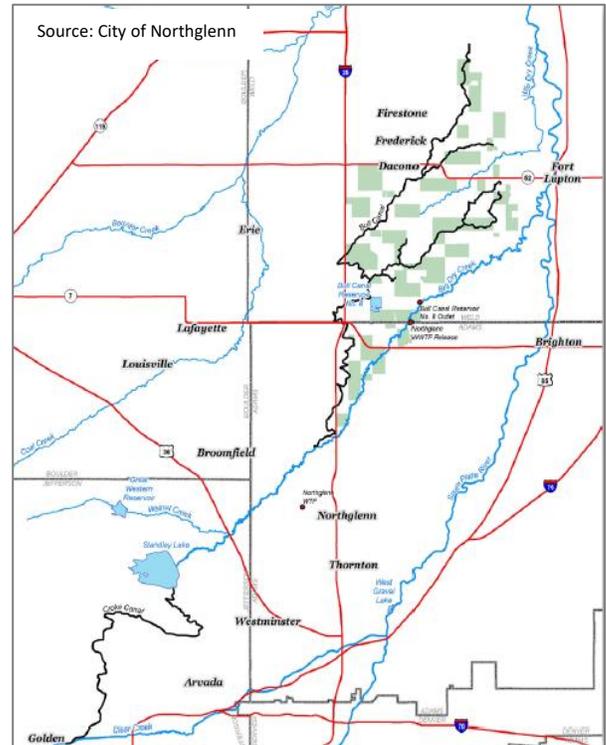
Building on information provided by Northglenn staff and the planning documents reviewed in Task 1, the ELEMENT Team will research and identify the following general categories of supply portfolio alternatives:

- **Potential new supply sources, reuse and/or use of effluent supplies, potential storage locations, and opportunities for trades and exchanges.**

Through this task, information about the City's existing water supplies and any being considered at this time will be incorporated into supply scenario alternatives as appropriate. The ELEMENT Team will work with the City staff, its consultants, and its water rights legal counsel to interpret available information and then integrate it into the IWRP.

- **Identify potential partners for developing alternative supplies.**

Northglenn has a long history of demonstrating innovation and efficiency in municipal water management, as evidenced by its FRICO exchange dating back to 1976. Bringing expertise from the South Metro Water Supply Authority management, Logan Burba will work with the City staff to evaluate opportunities for joint partnerships. Successful partnerships are built to meet a common goal or need, to realize efficiencies, share costs, or to satisfy individual needs that can be provided by partners. The ELEMENT Team will work with staff to identify potential partnerships and evaluate individual or group needs to support collaboration and provide mutual benefit to all involved partners.



- **Extending supply reliability by using advanced conservation and demand management options to reduce future demands.**

The ELEMENT Team has twice assisted the state of Colorado in identifying and evaluating opportunities to increase statewide water supply reliability by managing municipal demands, initially in the SWSI 2010 Update and again in the Colorado Water Plan Technical Update. Peter Mayer prepared the Best Practices Guide for Colorado Water Conservation and the ELEMENT Team frequently works with municipal clients in evaluating the cost-benefits of increasing supplies by managing demands. Implementing conservation and demand management programs often provide the least cost alternative to developing new supplies.

2.2 Incorporate Information from the City's ASR Consultant

An important component of the analysis of supply portfolio alternatives will be to work closely with and to include the work of the City's chosen ASR consultant. The ELEMENT Team has outstanding experience working with utilities that rely on ASR for their water supply including Tucson Water, a utility which has banked approximately 10 years of water supply via ASR and uses this system to deliver water on a daily basis.⁴

Through this task, ASR options will be incorporated into supply scenario alternatives as appropriate.

2.3 Develop Evaluation Process for Water Supply Alternatives

Working with City staff, the ELEMENT Team will develop a decision matrix for evaluating the water supply alternatives. The matrix will include important attributes including, but not limited to: cost (total and per AF), supply volume, reliability of supply (e.g. subject to climate or water rights calls), feasibility (both the utility and customer perspective), and timing (how long will it take to develop the supply alternative?).

The ELEMENT Team is open to any well-considered evaluation process the City prefers – there are several we are familiar with and they generally follow similar steps. For this project, the ELEMENT Team believes the Choosing by Advantages (CBA) approach could be an excellent way to explore the most sensible scenarios for Northglenn.

⁴ WaterDM is currently working with Tucson to develop the demand management components of the their IWRP and in 2016 prepared an avoided cost analysis for Tucson, published by the Alliance for Water Efficiency. https://www.financingsustainablewater.org/sites/www.financingsustainablewater.org/files/resource_pdfs/Final_A_WE_tucson_csnrates-az-web3.pdf

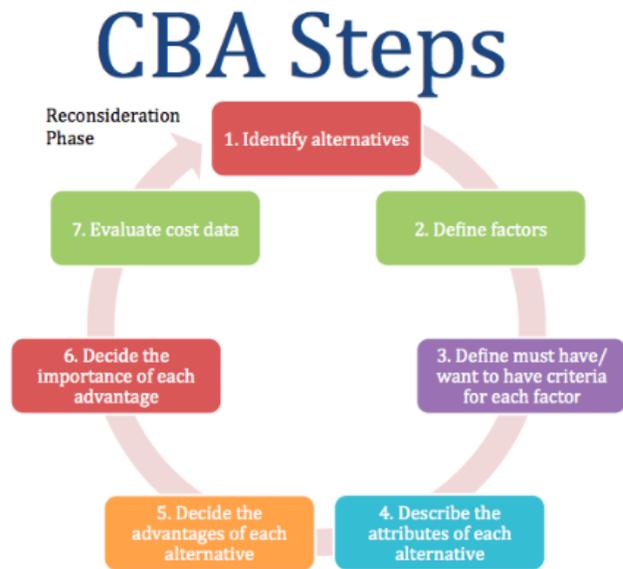
CBA was first developed by civil engineer, Jim Suhr in the late 1990s while at the U.S. Forest Service, and it has emerged as one of the best process tools to use when evaluating multiple objective scenario analysis in water resources and other planning areas. Denver Water recently used the CBA paradigm for scenario decision making with great success for a scenario planning project.

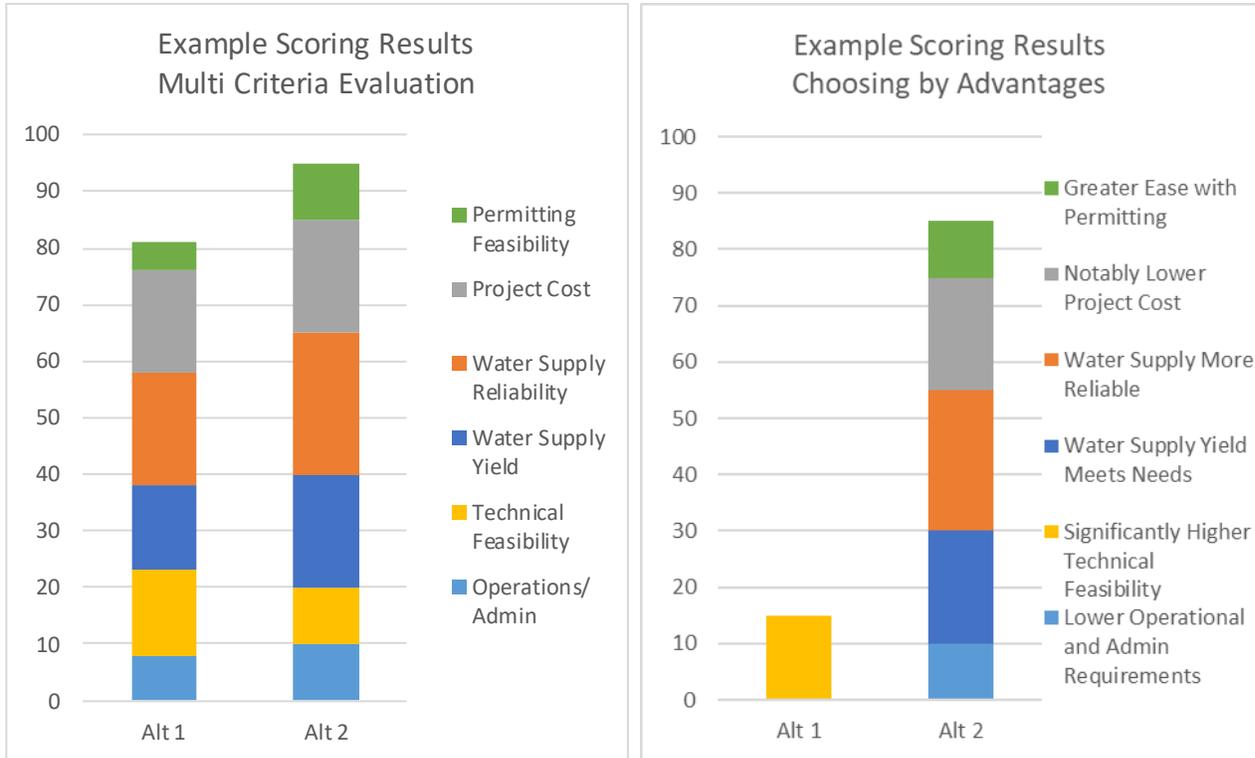
With the CBA method, disadvantages are not focused on, as they are considered as an advantage of other alternatives. The most important criteria, or attributes, are identified. The alternative with the greatest number of advantages or highest weighted advantage is then chosen as the best alternative.

The important terms used in CBA are:

- **Alternatives** are possible decisions, people, things, or plans from which one is to be chosen.
- A **factor** is an element, or component of a decision.
- The **criterion** is a decision, rule or guideline that is divided into “must” (essential) or “want” (preference) by one or more stakeholders.
- An **attribute** is a characteristic, quality, or consequence of one alternative (e.g. weight, durability, cost)
- An **advantage** is the difference between the attributes of two or more alternatives.

The ELEMENT Team will work with the City to evaluate the benefits of using the CBA method or to choose a more ‘traditional’ multi criteria evaluation method, which could also work well for this project. Both methods allow weighting of the criteria, however the CBA method provides emphasis on the advantages, as shown graphically below. Regardless of the specific process chosen, the ELEMENT Team and Northglenn staff together will determine the management objectives, criteria or performance measures, and category weighting in evaluating the identified water resources alternatives. A final list of water management objectives and rating matrix for alternatives will be provided as the key deliverables from this task, including weighting to recognize that not all management objectives are equally important.





Task 3: Evaluate Alternatives

In this task, the ELEMENT Team will characterize, score, and rank up to six future water resource alternatives and prepare implementation strategies for the highest ranked alternative.

3.1 Characterize Alternatives

3.1.1 Prepare Conceptual-Level Technical Descriptions

The ELEMENT team will prepare conceptual-level technical descriptions for each of the supply portfolio alternatives developed under Task 2.1, which will include information required to support the evaluation of each alternative. Technical descriptions will include components such as the general physical location of diversions, storage and treatment infrastructure, and mechanisms to convey water between locations. Information describing the estimated water supply yield, opinions of probable cost associated with different alternatives based on current market prices for water rights, and costs of similar alternatives that have been evaluated or implemented elsewhere in recent years, technical feasibility, permitting feasibility, and simplified layouts will be included. The technical description will provide as much detail as necessary to enable a reasonable comparison of alternatives.

3.1.2 Compare the Conceptual-Level Relative Costs

The conceptual level analysis will explore key elements of the alternatives, including the conceptual-level cost-per-acre-foot of yield, long-term supply reliability, and other aspects identified in the conceptual level description. Ongoing operations and maintenance costs will be quantified per acre-foot of yield where those costs are reasonably available. The conceptual-level analysis will produce the data and information needed to score and rank the alternatives in Task 3.2.

3.2 Score and Rank Alternatives

The water management objectives and ranking matrix from Task 2 will be used to score up to six alternatives.

3.2.1 Prepare Matrix, Score and Rank Alternatives

The ELEMENT Team will develop a new decision-based tool, utilizing an evaluation matrix format to score and rank the identified supply alternatives based on the scoring criteria and relative weighting of each scoring criteria. This will show relative advantages for each alternative and capability to meet Northglenn’s future supply objectives and needs. The tool will be developed as an interactive and transparent evaluation mechanism to compare supply alternatives using both cost and non-cost criteria. ELEMENT will work with Northglenn to weight the evaluation criteria based on current priorities and score each of the alternatives based on available information. Northglenn will be able to utilize this tool in the future, implementing a consistent evaluation methodology and allowing staff to manually weight criteria based on new information to meet future priorities.

Example Scoring Matrix using Multi Criteria Methodology

Alternatives	Water Supply Yield	Water Supply Reliability	Project Cost	Technical Feasibility	Operations/ Admin	Permitting Feasibility	Score
Max Weight	20	25	20	15	10	10	100
Alt 1	20	25	20	15	10	10	100
Alt 2	20	10	10	12	10	10	72
Alt 3	10	15	20	10	5	5	65
Alt 4	15	20	20	15	8	2	80
Alt 5	18	15	5	5	5	5	53
Alt 6	10	5	5	0	5	0	25

Example Scoring Matrix using Choosing by Advantages Methodology

Alternatives	Water Supply Yield Meets Needs	Water Supply More Reliable	Notably Lower Project Cost	Significantly Higher Technical Feasibility	Generally Lower Operational and Administrative Requirements	Greater Ease with Permitting	Total
Max Weight	20	25	20	15	10	10	100
Alt 1	20	25	20	15	10	10	100
Alt 2	20	No Adv	10	10	7	10	57
Alt 3	No Adv	No Adv	15	No Adv	No Adv	No Adv	15
Alt 4	No Adv	20	18	5	5	No Adv	48
Alt 5	10	10	No Adv	No Adv	No Adv	No Adv	20
Alt 6	No Adv	No Adv	No Adv	No Adv	No Adv	No Adv	0

A matrix showing each alternative's criteria score and relative ranking will visually depict each alternative in relation to the others and allow adjustments to the criteria weighting, as demonstrated above for either a Multi Criteria Methodology or the Choosing by Advantages Methodology. The weighted analysis approach, methodology, and ultimate ranking of alternatives will be described in a technical memorandum and presentation.

3.2.2 Progress Meeting

After the decision matrix is initially completed, the ELEMENT Team will hold a progress meeting with City staff to present the results. At this meeting, the team and staff will carefully review the analysis of implementation strategies to determine if any additional information or review is required prior to the facilitated workshop. City staff will provide input and recommendations to finalize the relative weighting of the evaluation criteria and the individual scoring for each of the identified supply alternatives. Based on the discussions and staff input at this meeting, the ELEMENT Team will revise the evaluation tool inputs and decision matrix and prepare for the facilitated workshop.

3.2.3 Facilitated Workshop

The ELEMENT Team will conduct a facilitated workshop with City staff and leadership to review the alternatives analysis, criteria weighting and scoring, and resulting ranking of the water supply and demand alternatives. The scoring and ranking tool inputs will be modified to reflect recommendations and decisions to finalize the scoring process. The resulting alternatives ranking matrix will be finalized and documented. Preferred or recommended alternatives will be identified for further analysis. The goal of the facilitated workshop will be to identify the preferred alternative(s) for further analysis.

3.3 Develop Implementation Strategies

To determine the preferred path forward, the ELEMENT Team will prepare conceptual implementation strategy for the highest-ranked water future alternative. The conceptual implementation plan will include a description of the alternative along with the relevant data and information researched. Implementation challenges will be clearly identified along with any known aspects that could affect the timing and/or cost of implementation.

The ELEMENT Team will work with City staff to determine the "preferred path" forward, considering the future need and total water demand. The implementation strategies will include a draft schedule with prioritized options and a clear plan for developing any needed new water supplies.⁵ Anticipated project implementation duration, timing of supply needs, and project costs will be integral in the recommended implementation schedule and approach.

Task 4: Communication and Documentation

The ELEMENT Team will ensure responsive communication and accurate documentation throughout the project⁶.

⁵ Assumptions from RFP: 1. Analysis of alternatives will be at the conceptual level; 2. Detailed engineering analyses will not be conducted in this study; 3. Supply options will be identified from existing information sources and the knowledge and experience of City staff and its consultants.

⁶ Assumptions from RFP: 1. City staff will make all necessary meeting arrangements; 2. The City will be responsible for all reproduction cost of extra copies of any materials beyond the number specified in the deliverables.

4.1 Presentation to City Leadership

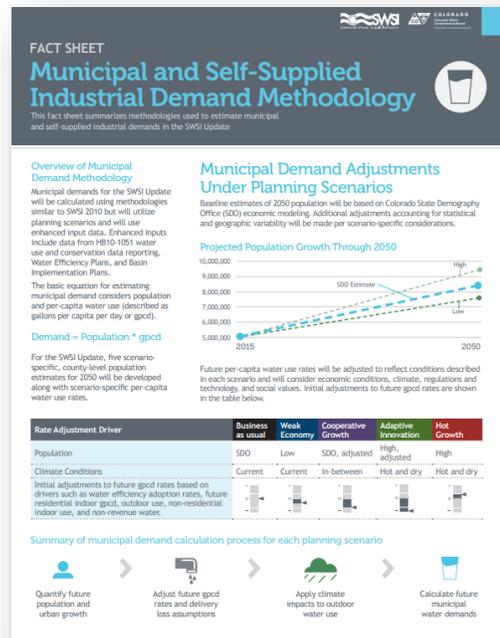
The ELEMENT Team will prepare a brief (no more than 1 hour) PowerPoint overview presentation to the City’s leadership team. This presentation will cover key findings from the IWRP as it relates to growth and future development in Northglenn and may include supporting handouts. A one to two-page draft color fact sheet will be prepared and provided, showing current supply and demand conditions, future needs, and alternatives. The final report and associated fact sheet will be updated based on feedback from the presentation to the leadership team prior to presenting to City Council in Task 4.3. Through working with the City of Aspen on its Drought Response Planning project, ELEMENT staff are skilled at working with municipal staff across departments to identify key information to present to City leaders that helps facilitate targeted discussion, address questions, and inform recommendations that are ultimately made by City Council.

4.2 Prepare Final Report

The ELEMENT Team will prepare a draft outline of the IWRP update for review by City staff and will work closely with staff to refine the outline and determine key content to be included in the IWRP documentation. A draft report will be prepared by the ELEMENT Team for review by City staff, documenting the work products from previous tasks. The ELEMENT Team will review the draft report with City staff and address comments from staff and leadership to produce a final update to the IWRP, including ten (10) hard copies and an electronic pdf file provided to the City. The fact sheet will be finalized and fifty (50) hard copies will be printed along with an electronic pdf file provided to the City. The ELEMENT Team regularly produces written documentation and prepares information for municipal planning, including documentation for the Colorado Water Conservation Board’s technical update to the Colorado Water Plan that will be released later this year and was presented by Beorn Courtney during a statewide webinar held this past March.

4.3 Presentation to City Council

The ELEMENT Team will prepare a brief overview and PowerPoint presentation to the City Council during a regular study session. We will work with City staff to determine the length, content, and format of the presentation which will provide a more generalized overview of the findings and present the supply alternatives and implementation strategies. Copies of the finalized fact sheet will be provided.



Optional Value-Added Tasks

In reviewing the RPF and preparing this proposal, the ELEMENT Team has identified two tasks that would likely benefit to the City in its long-term water management and implementation of the water supply strategies. While these tasks are not essential for successfully completing the IWRP update, efficiency in time and money can be gained by anticipating them in advance or during preparation of the IWRP update.

5.1 Prepare Water Supply and Demand Model

The analyses prepared for the water supply and demand assessment in Task 1.1.4 could be enhanced to provide the City with a transparent and dynamic model, allowing the City to update key driver information in the future. This would not change the scope of work completed for the IWRP update. Rather, it would provide the City with an additional tool that could be used to inform future decisions and assess how changes in the supply and demand data may impact the projected water supply gap.

5.2 Prepare Water Efficiency Plan Update and 1051 Reporting

The City of Northglenn's current Municipal Water Efficiency Plan (WEP) was developed in 2007, the same year that the prior Integrated Resources Plan was completed. We understand that the update to the IWRP is influenced in part by changes to the City's water supply portfolio. Additionally, customer demands have likely been influenced by ongoing efficiency programs and measures, modifying the City's demand profile. These changes will all be evaluated and updated under the IWRP and a high level of efficiency could be gained by also updating these aspects of the WEP simultaneously or shortly after completing the IWRP. This would also provide consistency in published data and the relationship between the WEP and the IWRP would be maintained if developed in unison. The ELEMENT Team has a flawless track record of assisting clients in obtaining grant funding through the Colorado Water Conservation Board for preparing WEPs and implementing efficiency programs. Updating the WEP would also bring the City into compliance with the statutory requirement to update WEP's at least every seven years, and qualify the City for water efficiency program implementation grant funding.

ELEMENT could also summarize and format updated water supply and demand data for the City's water use and conservation data reporting that is required under House Bill 10-1051, allowing the City to become eligible for future grants through the Colorado Water Conservation Board. Covered Entities, as defined by HB10-1051, are not eligible for funding through CWCB programs, including the Colorado Water Plan Grant program, unless their water use and conservation data are reported annually. The ELEMENT Team helped the CWCB develop the 1051 reporting guidelines and is proficient with the CWCB's reporting data portal.

The budget estimates included below for this task include time to prepare a WEP grant application and 1051 reporting, and assumes that grant funding would be utilized to update the WEP, providing the City a cost savings on the order of \$30,000.

E. COST PROPOSAL

The ELEMENT Team’s cost proposal for this project is presented in the tables below. The total proposed costs for completing all project tasks including the optional project components described is \$116,650. This estimate is based on our current understanding of the project and our proposed approach to using multiple forecasts to provide the City of Northglenn a realistic range of possible water futures. We look forward to further discussing this approach with the City, and potentially refining our scope and cost proposal based upon further input. For example, cost savings may be realized if it is determined that fewer number of demand forecasts are sufficient and depending up on availability of water supply portfolio and potential new supply alternatives. They key ELEMENT Team personnel responsible for delivery of this project are described in Section B above.

Table 1: Proposed Project Costs.

TASK	Total Budget
TEAM COORDINATION AND COMMUNICATION	\$4,780
TASK 1: IDENTIFY CURRENT SUPPLY AND DEMAND CONDITIONS	\$25,480
TASK 2: IDENTIFY ALTERNATIVES	\$19,020
TASK 3: EVALUATE ALTERNATIVES	\$48,070
TASK 4: COMMUNICATION AND DOCUMENTATION	\$19,300
TOTAL PROJECT	\$116,650
OPTIONAL TASK 5.1: PREPARE WATER SUPPLY AND DEMAND MODEL	\$6,000
OPTIONAL TASK 5.2: PREPARE WATER EFFICIENCY PLAN	\$5,000

Table 2: ELEMENT Team 2019 Rate Schedule.

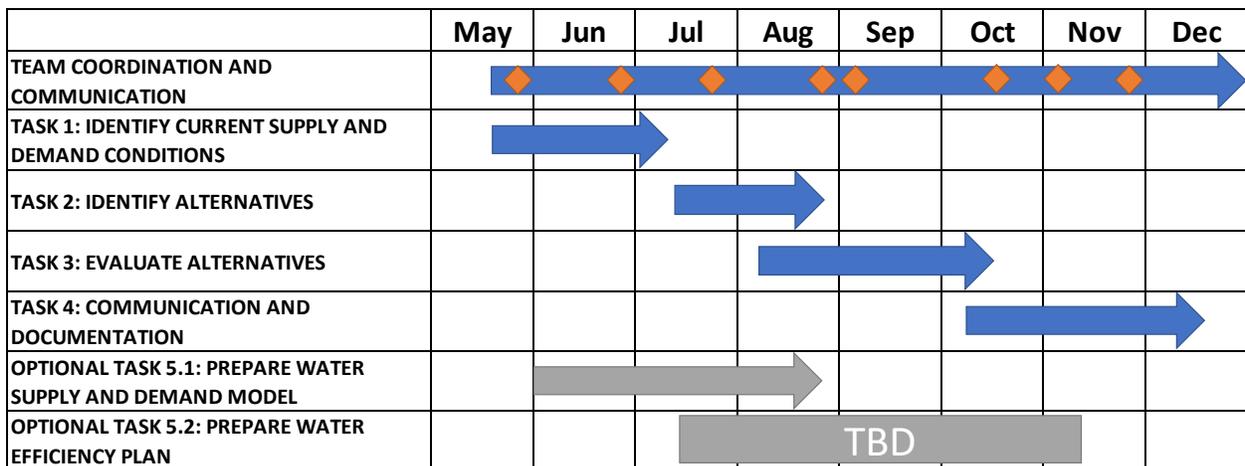
Project Role	Hourly Rate
Technical Advisor	\$205.00
Principal	\$185.00
Senior Engineer/Hydrologist	\$155.00
Staff Engineer/Hydrologist	\$135.00
Administrative	\$65.00

F. PROPOSED PROJECT SCHEDULE

The ELEMENT Team is prepared to begin work on this project immediately upon acceptance of this proposal and execution of an agreeable contract. We have strategically teamed to work concurrently and efficiently on both the demand and supply tasks to meet the City’s schedule identified in the RFP as shown in Table 4 below, which assumes a notice to proceed on May 14, 2019.

Table 3: Proposed Project Schedule.

Task	Est. Start Date	Est. Completion Date
TASK 1: IDENTIFY CURRENT SUPPLY AND DEMAND CONDITIONS	May 14, 2019	July 12, 2019
TASK 2: IDENTIFY ALTERNATIVES	July 15, 2019	August 21, 2019
TASK 3: EVALUATE ALTERNATIVES	August 7, 2019	October 18, 2019
TASK 4: COMMUNICATION AND DOCUMENTATION	October 9, 2019	December 18, 2019
OPTIONAL VALUE ADDED TASKS		
TASK 5.1: PREPARE WATER SUPPLY AND DEMAND MODEL	June 3, 2019	August 21, 2019
TASK 5.2: PREPARE WATER EFFICIENCY PLAN	TBD	TBD



◆ Anticipated Meetings and Presentations

We recommend a project kickoff meeting within the first two weeks of the project. While no dataset is ever complete or perfect, the availability and quality of data will control the critical path of the project schedule. Therefore, we will provide the City a list of data needs prior to being under contract to facilitate having a productive kickoff meeting. We will quickly identify any data gaps and produce a data completion plan. The ELEMENT Team has successful experience using this approach in numerous projects as described in Sections C and D above.

We have also had great success working with clients in similar efforts both face-to-face and through web/teleconferencing. We will identify the most effective methods with the City during the kickoff meeting, and begin setting subtask deadlines to ensure the project stays on task and within budget.

We estimate this project will take eight months to complete and this assumes the City is able to provide the water supply and demand data required for the research within the first few weeks of the project. If work commences in early May, it will be completed by 12/31/19. Schedule for Optional Tasks as described herein would be based on staff recommendations. Above is a potential schedule for these tasks assuming approval at the project Notice to Proceed.

PROSPECTIVE CONSULTANT'S CERTIFICATE REGARDING EMPLOYING OR CONTRACTING WITH AN ILLEGAL ALIEN

FROM: ELEMENT Water Consulting, Inc.
(Prospective Consultant)

TO: City of Northglenn
PO Box 330061
11701 Community Center Drive
Northglenn, CO 80233

Project Name Integrated Water Resource Plan

Bid Number 2019-006 Project No. 2019-061

As a prospective Consultant for the above-identified bid, I (we) do hereby certify that, as of the date of this certification, I (we) do not knowingly employ or contract with an illegal alien who will perform work under the Agreement and that I (we) will confirm the employment eligibility of all employees who are newly hired for employment to perform work under the Agreement through participation in either the E-Verify Program administered by the United States Department of Homeland Security and Social Security Administration or the Department Program administered by the Colorado Department of Labor and Employment.

Executed this 14 day of May, 2019.

Prospective Consultant Beorn Courtney for ELEMENT

By: Beorn Courtney

Title: President