Section 1 – Project Description
The WISE DIA Connection is a project to deliver between 1 and 6 MGD of water from the Denver Water potable system at Denver International Airport (DIA) to the City of Aurora (Aurora) Prairie Water Pump Station No. 2 (PWPS2). There will be approximately 6 miles of pipeline which will span the jurisdictions of the City and County of Denver, unincorporated Adams County, and the City of Commerce City. See Figure 1 for general pipeline layout. At the pipeline’s endpoint at the PWPS2, metering, backflow protection, pressure reduction and control facilities will be needed, along with a connection to Aurora’s existing pipeline. The pipeline and control facilities are required to be operational by March 30, 2025. Proposals are requested for Civil, Survey, Geotechnical, Mechanical, and Electrical, Instrumentation and Controls (E&IC) design services.

Section 2 – Background and History
The Water Infrastructure and Supply Efficiency (WISE) project is a partnership between Aurora, Denver Water, and the South Metro WISE Authority (South Metro). Denver Water and Aurora have committed to provide an interruptible, yet perpetual, supply to South Metro through Aurora’s Prairie Water Project. The WISE DIA Connection will provide a means for Denver Water to provide a portion of its water obligation to South Metro and meet required water quality targets. Water delivered through the WISE DIA Connection will blend with water from Aurora’s north campus and be conveyed to the Binney Water Purification Facility for treatment. While the current water delivery agreement requires deliveries through this pipeline through 2030, the intention is that this pipeline will continue to be operated post 2030 at times when Denver Water has a need to move water through its distribution system at DIA to maintain water quality.

Denver Water will determine the timing and water availability to meet monthly and annual targets. Aurora will determine what can be taken and will control the flow of water moved through the pipeline. The control will be developed to maintain specific blending rates with other sources entering Aurora’s Binney Water Purification Facility. South Metro is a stakeholder responsible for 85% of the cost to design and construct the pipeline. Denver Water is responsible for the other 15% of costs to design and construct the pipeline. The pipeline will be owned and operated by Denver Water, whereas the control facilities will be owned and operated by Aurora except for a PLC enclosure which will be owned and operated by Denver Water.

Section 3 – Project Objectives
The following specific project objectives have been identified:

- Adhere to Denver Water’s Capital Projects Procedures Manual (CPPM) for project delivery.
- Design the pipeline from Denver Water’s Conduit No. 147 at DIA to Aurora’s PWPS2, including crossings of Third Creek and E-470.
- Design the control facilities at PWPS2, including the meter pit, backflow prevention facility and control/pressure reducing/metering facility.
- Design the power and communication facilities at PWPS2 in accordance with Aurora’s Electrical Design and Engineering Guidelines and SCADA Design and Engineering Guidelines. These are in the process of being posted online by Aurora. Preliminary copies are attached as Appendix E.
- Design a separate Denver Water PLC enclosure in accordance with Denver Water Capital Projects Construction Standards (CPCS) to repeat status signals from the Aurora communications cabinet to Denver Water SCADA network.
- Prepare the project’s design drawings and specifications in general accordance with Denver Water’s Engineering Standards, CPCS, Design Drafting Standards and Engineering Specification and Formatting Guidelines except where otherwise indicated. Due to the unique nature of the
Some of Denver Water’s design criteria will not be applicable to the project. These will be addressed individually during design.

- Provide Engineering support services during construction, material testing and construction management/inspection services

**Section 4 – Overall Consultant Scope of Services**

The Consultant shall coordinate and work closely with the Owner’s Design Project Manager (DPM) and engineering support team on the design. The Consultant’s scope will be to provide the design plans and technical specifications necessary to construct the pipeline, appurtenances, and control facilities and to assist during bidding of the project. The Consultant’s scope will also include identifying and assisting with Owner-provided procurement items and preparing technical portions of permit applications that will be submitted by the Owner. A detailed Scope of Services follows.

Environmental services related to wetlands delineation and 404 permitting, threatened or endangered species surveys and cultural resource identification will be done by the Owner.

**Section 5 – Consultant Qualifications**

As a minimum, the Consultant team shall include the following experienced team members:

- Civil/pipeline engineer
- Geotechnical/Trenchless design engineer
- Environmental specialist
- Mechanical engineer
- Electrical engineer
- Instrumentation and Controls specialist
- Professional Land Surveyor
- Cost estimator
- Microsoft Word Document Specialist

Project team members shall demonstrate experience similar to that required for the project. All team members directing and managing the engineering services shall be Colorado registered professionals. A Colorado registered Professional Land Surveyor shall be part of the team. Key personnel proposed for the project shall remain available for the entirety of the project and changes of key personnel will be subject to approval by the Owner. Inclusion of a general contractor on the project team will not preclude that contractor from submitting a bid on the project.

Each Consultant or Sub-consultant employee identified as having a need to receive the Confidential Information will need to sign an original Non-Disclosure Terms and Conditions as part of the contract.

**Section 6 – MWBE Goal**

Denver Water has a goal to support a diverse business community and is committed to providing opportunities for minority and women-owned business enterprises (MWBE). In keeping with that commitment, a minimum MWBE goal of 5% has been set for this Work. Participation beyond the stated goal is encouraged.

The Consultant will be required to complete and submit a Monthly MWBE Participation Report in the format provided after contract award so that the Owner can trace the actual utilization of, and payments to MWBEs.

**Section 7 – ProjectWise**

This Project will be developed, coordinated, and stored in Denver Water’s ProjectWise datasource. The Consultant must establish a valid user-based license agreement with Bentley Systems, prior to receiving access into Denver Water’s ProjectWise datasource. The Consultant should visit [https://virtuosity.bentley.com/product/projectwise-explorer-virtuoso-subscription/](https://virtuosity.bentley.com/product/projectwise-explorer-virtuoso-subscription/) to obtain the ProjectWise Explorer license(s). Project-related deliverables will be distributed collaboratively through ProjectWise, and all working and final copies of documentation will be versioned and archived within ProjectWise.
shall include meeting minutes, correspondence and engineering calculations, including input and output files from any software used for design. It shall be the responsibility of the Prime Consultant to ensure access for all subconsultants as appropriate, that all subconsultant design documents are properly filed. A brief overview, security access, and training will be provided on how to use and navigate Denver Water’s ProjectWise datasource during the Project kick-off meeting.

Questions on ProjectWise will be addressed during the Pre-Proposal meeting.

Section 8 – Owner Responsibility
The Owner will provide the Consultant with following information to aid in the design process:

- Results of Wetlands Delineation (to be completed by end of 2022). Wetlands are being delineated within a 100-foot buffer along the pipeline route, with an extended buffer area at the crossing of First Creek and Quency Street.
- Results of State and Federal Endangered Species Act (ESA) species survey (to be completed by end of 2022)
- Results of prairie dog burrow survey (as potential habitat for burrowing owls) (to be completed by end of 2022)
- Results of Class 1 Cultural Resource Survey (completed by end of 2022)
- Preliminary CAD Basemap of the pipeline route (not including area within PWPS2 fence)
- As-built Drawings of relevant Denver Water and Aurora facilities
- Cathodic Protection Design, to be provided by Denver Water and incorporated in the 60% design submittal
- Project Work Plan

Section 9 – Project Assumptions
The following assumptions were made in the development of this Scope of Work:

- Project execution shall follow Denver Water’s CPPM located online: https://www.denverwater.org/contractors/construction-information/design-standards.
- Consultant shall attend a meeting with the Owner’s Drafting Supervisor to discuss Owner’s Drafting Standards. The meeting shall be attended by at least two individuals on the Consultant’s drafting team. While Aurora facility drawings shall incorporate an Aurora title block, all construction plans shall be prepared to Denver Water drafting standards. Preparation of separate Denver Water and Aurora sets shall be done as part of the as-built drawing process.
- Consultant shall attend a meeting with the Owner’s Administration personnel to discuss the Owner’s guidelines for specification preparations. The meeting shall be attended by document specialist in charge of producing the technical specifications. Consultant’s specifications shall be submitted in the latest CSI format and adhere to the Owner’s Engineering Specification and Formatting Guidelines.
- The Consultant shall provide the technical portions of the contract, including the specifications and exhibits. The Owner’s Administration personnel and DPM shall be responsible for the contractual portion of the project and shall incorporate the technical portions into the Owner’s contract after the 90% submittal.
- The Owner intends to pre-purchase materials whose deliveries are identified as risks to the Owner’s construction schedule. The Consultant shall notify Owner whenever such materials are identified during the design.
- The Owner’s Administration personnel shall control the specifications after the 90% design milestone and shall be responsible for producing the Final for Bid specifications.
- The Owner shall be responsible for selecting the prequalified contractors, obtaining Letters of Intent from General Contractors, and bidding the project.
• The Owner will provide payment for any required review fees to outside agencies or for permit applications submitted prior to bidding.
• Network, instrumentation, and control design for the PWPS2 facility must be done by Aurora’s prequalified integration consultants, a list of which is contained in Appendix A. Other electrical design, including communication design for Denver Water, is not restricted to these firms.
• The Owner will procure the license agreements for installation of the pipe and appurtenance on DIA property and on City of Aurora Property. These shall be provided to the Consultant for incorporations into the 90% Design submittal as an exhibit.

**Section 10 – Project Schedule**

The anticipated Project Schedule is summarized as follows. The Owner needs to have the project operational by March 31, 2025. The schedule below utilizes Design Bid Build methodology with early material procurement by the Owner. The Consultant is free to propose alternative schedules to meet the Owner’s substantial completion date. Classic design-build or CMAR delivery methods are not being considered for this project, but the consultant may propose methods that incorporate elements of these delivery models.

- 09/23/22 RFP posted on Denver Water website
- 09/29/22 Mandatory Pre-Proposal Meeting
- 10/19/22 Final Written Questions Due
- 10/31/22 Proposals Due by noon
- 11/1/22-11/4/22 Initial Review Period by Stakeholders
- 11/7-11/10/22 Consultant Interviews (if required)
- 11/11/22 Consultant selected
- 11/14/22-11/23/22 Prepare Final Contract and Sign Documents
- 12/7/22 Board Meeting/ Approval of Recommended Consultant
- 12/28/22 Notice to Proceed Issued to Selected Consultant
- 3/15/23 30% Design Due
- 3/15/23-3/29/23 30% Review Period
- 6/15/23 60% Design Due
- 6/15/23-6/29/23 60% Review Period
- 9/27/23 90% Design Due
- 9/27/23-10/11/23 90% Review Period
- 10/26/23 100% Design completion
- 10/31/2023 Project advertised for bid
- 11/29/23 Bids received
- 12/13/23 Board Approval/Notice of Award
- 03/30/25 Construction Complete & Facilities Operational

The Pre-Proposal meeting was held on Thursday September 29, 2022, from 10:00 am to noon in the Board Room at Denver Water. In-person representation by the Prime Consultant was mandatory to submit a Proposal.

Any requests for clarification or additional information regarding the submission of this RFP shall be submitted in writing via e-mail to jessica.barbier@denverwater.org by noon on Wednesday October 19, 2022.
Section 11 – Scope of Services

Phase 1 – Project Management and Administration

Project Management and Administration includes the following activities:

- General Project Management
- Project Management Plan development
- Project controls and reporting
- Project design meetings
- Project milestone review workshops (30%, 60%, and 90%)

Task 1.1: General Project Management

This task is time for the Consultant Project Manager to oversee and administer the project. The Consultant’s Project Manager shall be responsible for performance of the Consultant and all Subconsultant team with respect to costs, schedule, and document control.

Deliverables:
- None

Task 1.2: Project Management Plan

The Project Management Plan will document the key project information required by the Consultant Project Team members to assist them in executing the project to meet the required objectives: on-time, on-budget, quality, and meeting the Owner’s critical success factors. The key elements of the Plan are described as follows:

- Project Charter: this shall utilize the Owner’s Project Work Plan to define project’s goals, objectives, and critical success factors.
- Consultant Project Team roles, and responsibilities.
- QA/QC Plan
- Scope of Services with work breakdown structure.
- Baseline Planned Value (PV) schedule to be used for Earned Value (EV) reporting.
- Project schedule in Microsoft Project
- Project budgets.

Deliverables:
- Project Management Plan

Task 1.3: Project Controls and Reporting

Monthly Project Status Reports shall contain:

- A summary of services completed since the previous report.
- The current project schedule and budget status and analysis (is it on schedule and on budget).
- Project issues and potential change logs.
- Notice of potential out-of-scope items
- Upcoming milestones and/or deliverables

Monthly invoices shall be broken down by task, Prime Consultant, and Subconsultants and include the following:

- Denver Water Contract Number
- Total contract amount
- Detailed charges for the current invoice period
- Total charges to date
- Earned value analysis and graph
- Previous billings
- Outstanding balance
- Current amount remaining
- Total amount due

Deliverables:
- Monthly invoices
- Monthly project status reports

Task 1.4: Project Workshops

Workshops are to inform and obtain input from Project Stakeholders. Workshops shall include an initial kickoff workshop and 30%, 60% and 90% design review workshops. Workshops shall discuss the design, any design modifications since the last submittal, the latest risk register, and the opinion of probable construction cost. Workshops shall allow for virtual attendance.

Deliverables:
- Agendas
- Meeting minutes, including action items

Task 1.5: Project Meetings

Project meetings may be hybrid or virtual (as determined by the meeting scope) and include:

- CAD Standards Meeting
- Specification Guidelines meeting
- Design Progress Meetings (no less than once a month)

Deliverables:
- Agenda (Progress Meetings only)
- Meeting minutes, including action items

Phase 2 – Survey Services

The Survey Services scope is for engineering support during design and construction. The scope does not include contractor support during construction.

In consideration of the 30% design milestone, the Owner will be providing initial survey data, which will need to be augmented during design. The provided information will need to be verified to a confidence level for design and for the purpose of certifying the Survey Control Diagram.

The Owner-provided initial survey data includes:

- Initial Survey Control Diagram showing the Project Control and Survey Control
- Survey Mapping (Planimetric, Topography, Utilities, approximate Right-of-Way/Boundary, Encumbrances) with the following caveats:
  - All planimetric features within the E470 roadway and PWPS2 (inside the security fence) will be depicted via DRCOG imagery.
  - No utilities will be established within the Prairie Water Pump Station.
  - Utilities depicted within E470 roadway shall reflect the level of effort conducted depending on safety.
The limits of the provided survey information are from ROW to ROW, with additional information provided at utility crossings. On DIA property, the survey is to the edge of farming since there is no ROW.

- Wetlands delineation information will be provided as shape files.

**Task 2.1 Design Survey Services**

This task consists of augmenting and verifying the initial survey information. No title work will be required for this task. Activities under this task include:

- Survey Mapping (Planimetric, Topography, Utilities, approximate Right-of-Way/ Boundary, Encumbrances)
- Survey Control Diagram (Project control and Survey Control)
- Potholes
- Addressing 30-60-90% review comments involving the mapping
- Certifying the Survey Control Diagram

**Deliverables:**

- Survey Control Diagram for all design phases.
- Survey Mapping Drawing

**Task 2.2 Construction Survey Services**

Survey services during construction are for support of the engineer and include those responsibilities of the Owner/Engineer as laid out in CPCS Specification Section 07 71 23.16. This task shall include:

- Provide horizontal and vertical survey control for the Contractor.
- Provide review and verification of Contractor lines and grades at critical locations.
- Collect information necessary for the engineer’s response to changed conditions or questions during construction
- Collect information necessary for the as built drawings, beyond that collected by the project inspector
- Certify survey information on the as built drawings.

**Phase 3 – Initial Design**

This task consists of initial analyses needed to define the design and consists of:

- Control Facility Equipment Design Analysis
- Control Facility Alternative Analysis
- Communication Analysis
- Third Creek Crossing Alternatives Analysis

**Task 3.1: Control Facility Equipment Design**

This task consists of documenting the selection, sizing, and layout of the equipment in the control facility that will measure flow, regulate flow, and reduce pressure in the flow. The consultant will document all assumptions and design criteria. Design factors include:

- The flow from DIA needs to be mixed with raw water prior to pumping at specific ratios based on the respective water quality profiles. An alkalinity meter in the control facility will record the DIA data necessary to determine flow rate. (Approved water quality meters are listed in Appendix E, Aurora’s SCADA Design and Engineering Guidelines)
- Measurement of the flow will be with a mag meter from an approved manufacturer as listed in Appendix E, Aurora’s SCADA Design and Engineering Guidelines. Aurora requires the meter have five straight diameters upstream and two downstream.
Flow regulation will be limited to valve manufacturers approved by Aurora.

- The difference in hydraulic grade lines from the Denver Water conduit and the PWPS2 forebay is approximately 250 feet. The head not lost in friction must be reduced inside the control facility.
- The final pipeline diameter will be established prior to the start of design; diameter will be between 16 and 20 inches.

**Deliverables:**
- Control Facility Equipment Technical Memorandum

**Task 3.2: Control Facility Alternatives Analysis**

This task will evaluate both an above-ground enclosure and an underground facility for the control facility. The underground facility must not be considered a confined space. The analysis shall look at the benefits and costs of each alternative including the cost of the structures and required appurtenances, permitting, maintenance, preferred location on the PWPS2 site and the cost of utility connections. Consultant shall present results at a virtual meeting to obtain consensus on the selected design. The decision with supporting information shall be document in a design memorandum.

**Deliverables:**
- Control Facility Alternatives Decision Memorandum

**Task 3.3: Data Communication Analysis (Denver Water)**

Provide an analysis to determine the most reliable and cost-effective means of providing data communication between a new Denver Water PLC at PWPS2 and Denver Water’s SCADA network, reviewing both utility fiber optic and radio communication options. Radio analysis, including a radio path study shall incorporate plans for future development around PWPS2 and associated building heights. Denver Water will provide the Consultant with the I/O which need to be transmitted to Denver Water. Only the Denver Water communication link will be analyzed, the connection from the Aurora PLC to the Aurora SCADA system will be done through fiber optic.

**Deliverables**
- Denver Water Data Communication Technical Memorandum

**Task 3.4: Third Creek Crossing Alternatives Analysis**

Perform a primarily desktop analysis to evaluate open cut and trenchless alignments across Third Creek. Risk, permitting and cost shall be assessed to provide a recommended crossing design. Results of the Site Investigation (Phase 4) will be needed to finalize this task. The Consultant shall present results of the analysis at a virtual meeting to obtain consensus on the selected design and document the analysis and conclusions in a memorandum that includes a risk register and cost comparison.

**Deliverables**
- Third Creek Crossing Alternatives Memorandum

**Phase 4 – Site Investigation**

The Site Investigation task shall examine the soil, rock, and water properties along the alignment to determine their impact on the proposed design and construction. This task shall include the access permits required for entry onto E-470 property. Access on DIA property shall be coordinated through the Owner’s DPM. Results of the geotechnical and environmental investigation impact design decisions and are considered a critical path item. Reports shall be included as Exhibits to the contract documents. The task shall consist of:

- Geotechnical investigation
• Environmental hazard investigation

**Task 4.1: Geotechnical Investigation**

The investigation shall include test holes drilled along the alignment to investigate the underground geotechnical conditions, with emphasis on obtaining data at proposed trenchless crossings, deep excavations or at new structures. The consultant shall sample and test soil/rock to obtain parameters needed for design, including corrosion potential, and thrust block design. Location and spacing of test holes will be determined by the consultant. A geotechnical investigation report (draft and final) shall summarize the site conditions/geology, test holes, geotechnical data and include design criteria and construction recommendations. The Consultant shall be familiar with the earthwork specifications contained in the Denver Water CPCS and provide language for any modifications to the CPCS specifications that are needed for this project. Data obtained shall be used in developing the Geotechnical Baseline Reports in Task 6.

**Deliverables:**

- Draft geotechnical investigation report
- Final geotechnical investigation report

**Task 4.2: Environmental Hazard Investigation**

The project area contains numerous natural gas and petroleum pipelines, active and abandoned. Environmental sampling and testing shall be done in conjunction with the geotechnical investigation based on an analysis of potential hazards. Consultant shall summarize the testing, conclusions, and recommendations in an environmental hazard summary report. The report shall address potential impacts to design and construction including alignment, selection of pipe and gasket materials and construction dewatering.

**Deliverables:**

- Draft environmental hazard investigation report.
- Final environmental hazard investigation report

**Phase 5 – 30% Design**

The 30% Design task shall adhere to the requirements of the Denver Water CPPM. The task culminates in the 30% Design Submittal. The 30% Design task shall include the following:

- Basis of Design Memorandum
- 30% Design
- 30% Drawings

**Task 5.1: Basis of Design Memorandum**

This purpose of this task is to document the criteria used in design including flow rates, pressures, standards, and codes used.

**Deliverables:**

- Basis of Design Memorandum

**Task 5.2: 30% Design**

The 30% design will include the design necessary to produce 30% Drawings. A list of design expectations for the project is included in Appendix B. The 30% design shall determine the proposed pipe alignment (within the general alignment given in Figure 1), the layout and size of new facilities, one-line drawings, and preliminary equipment schedules.

The Consultant shall prepare a list of applicable CPCS specifications and any additional technical specifications which are needed. The 30% Design task shall also include a Risk Register identifying perceived risks to the project and mitigation strategies and an Opinion of Probable Cost. The 30% Opinion of Probable Construction Cost shall be submitted no later than one week after the 30% design milestone.
Deliverables:
- List of applicable CPCS Specifications and New Specification Sections
- Risk Register
- 30% Opinion of Probable Construction Cost

Task 5.3: 30% Drawings
The Consultant should understand the anticipated drawings for the project, and these shall be included in a draft index. Appendix D lists the types of drawings that are anticipated for this project. Placeholders should be included for drawings not started. Sufficient information shall be provided to allow Denver Water to begin a cathodic protection design, which will be provided back to the Consultant in redline form.

Deliverables:
- 30% Design Drawings (pdf and CAD format)
- Batch Standards Check File

Phase 6 – Trenchless Design
This phase consists of the trenchless crossing designs. For the purposes of this proposal, the Consultant shall assume two trenchless crossings are required, at Third Creek and at E-470. (The Third Creek Crossing will be dependent on the results of Task 3.4.) The tasks include:

- Trenchless Risk Analysis Memorandum
- Geotechnical Baseline Reports (GBR)
- Drawing and Specification support

Task 6.1: Trenchless Risk Analysis Memorandum
After review of available data, the Consultant will develop risk registers showing the impact of site conditions on various trenchless methodologies for each crossing. The Consultant will present this information at a Risk Analysis Meeting to discuss and select which methods will be allowed in the contract for each site. The Consultant shall prepare a Risk Analysis Memorandum documenting the risk registers, discussions, and decisions.

Task 6.1.1: Trenchless Risk Analysis Memorandum - E-470 Crossing

Deliverables:
- Trenchless Risk Analysis Memorandum - E-470 Crossing

Task 6.1.2: Trenchless Risk Analysis Memorandum - Third Creek Crossing

Deliverables:
- Trenchless Risk Analysis Memorandum - Third Creek Crossing

Task 6.2: Geotechnical Baseline Report (GBR)
The Consultant shall develop Geotechnical Baseline Reports based on the results of the Risk Analysis Meeting. Two separate GBR's should be assumed for the purposes of the proposal. Both a draft and final document shall be prepared. The GBR documents shall be included as part of the contract documents.

Task 6.2.1 Geotechnical Baseline Report - E470 Crossing

Deliverables:
- Draft Geotechnical Baseline Report: E-470 Crossing
- Final Geotechnical Baseline Report: E-470 Crossing
Task 6.2.2 Geotechnical Baseline Report-Third Creek Crossing

*Deliverables:*
- Draft Geotechnical Baseline Report: Third Creek Crossing
- Final Geotechnical Baseline Report: Third Creek Crossing

Task 6.3: Drawing and Specification Support

The trenchless Consultant shall provide direction to develop construction plans of the trenchless crossings and shall provide review of these plans during design. The trenchless Consultant shall review the CPCS standing documents and provide edits in the form of Supplementary Technical Specifications to customize the specifications to the project needs.

Task 6.3.1 Drawings and Specification Support – E470 Crossing

*Deliverables:*
- There are no specific deliverables for this task.

Task 6.3.2 Drawings and Specification Support – Third Creek Crossing

*Deliverables:*
- There are no specific deliverables for this task.

Phase 7 – 60% Design

The 60% design task shall adhere to the requirements of Denver Water’s CPPM. The task culminates in the 60% Design Submittal. The 60% Design task include the following:

- 30% Comment Resolution
- 60% Design
- 60% Drawings
- 60% Specifications
- Owner-Procured Material Support (drawings and specifications)

Task 7.1: 30% Comment Resolution

The Consultant shall provide a response matrix to address comments provided on the 30% design. The response log shall include the sheet or page number, the comment, the reviewer, and the resolution.

*Deliverables:*
- 30% Comment Resolution Log

Task 7.2: 60% Design

The 60% design will include the design necessary to produce 60% Drawings. As part of this task, the Risk Register and Opinion of Probable Construction Cost shall be updated. The 60% Opinion of Probable Construction Cost shall be submitted no later than one week after the 60% design submittal and must involve a team member with general contracting estimating experience.

*Deliverables:*
- Updated Risk Register
- 60% Opinion of Probable Construction Cost

Task 7.3: 60% Drawings

At 60%, the General and Civil drawings shall be close to 90% complete. Electrical drawings shall be close to 60% complete. The Owner shall provide a cathodic design, in redline form on the 30% design drawings, for the Consultant to draft and incorporate in the 60% Drawing set. Standalone drawings necessary for Owner-procurement of the pipe, control valves and any other materials identified in the Risk Register, are included in this task.
Deliverables:
• Material Procurement Drawings
• 60% Design Drawings (pdf and CAD format).
• Batch Standards Check file

Task 7.4: 60% Specifications

The 60% specification submittal shall include the following:

• Project-specific modifications to the Denver Water CPCS using the Supplemental Technical Specifications (STS) format, for all CSI divisions
• All applicable standard STS required for Denver Water projects (available online)
• Project specific technical specifications, including SECTION 01 11 00
• Draft (or final) Geotechnical investigation and environmental hazard reports
• Draft Geotechnical Baseline Reports
• Owner-provided 60% contract documents (pdf form)

Consultant shall provide a separate 60% Administrative review copy (pdf) to Owner consisting only the STS and project specific technical specifications. This shall be reviewed for compliance with formatting guidelines.

Any STS needed for catholic protection shall be provided by the Owner.

Procurement specifications necessary for Owner-provided materials are also contained in this task.

Deliverables:
• Procurement specifications
• 60% Specification package (pdf format)
• 60% Administrative review copy (pdf format)

Phase 8 – Permit Support

This phase includes design services necessary to secure construction related permits in advance of construction. For the purposes of the proposal, the tasks are assumed to be:

• Floodplain Use Permit
• E-470 Construction Permit
• Stormwater Management Plans
• Dewatering Permit.

Task 8.1: Adams County Floodplain Use Permit

It is assumed that construction activities will fall within the designated floodplain of Third Creek and will require a floodplain use permit. This task assumes that only a letter of No Impact and accompanying figure are needed and shall be submitted on behalf of the OWNER. The permit and all criteria shall be included as an Exhibit in the contract documents.

Deliverables:
• Floodplain Use Permit application
• Floodplain Use Permit
Task 8.2: E-470 Construction Permit

This task consists of preparing and submitting the E-470 construction permit documents to obtain approval by the E-470 Authority prior to bidding the project. This task assumes a pre-review will be done with the Authority.

**Deliverables:**
- All correspondence to and from E-470 Authority
- Authorized Construction Permit

Task 8.3: Stormwater Management Plans

This task will consist of developing the stormwater plans that the Contractor will need to submit to the three jurisdictions along the pipe alignment: City and County of Denver, Adams County and Commerce City. Drawings shall follow the requirements of the separate jurisdictions include any specific details, notes, or title blocks.

For the work within the City of Denver, the task also includes preparing the complete Construction Activities Stormwater Discharge Plan (CASDP) which shall be included as an exhibit to the Specifications.

Stormwater Management Plan Drawings shall be included as part of the design submittal packages.

**Deliverables:**
- 30% Stormwater Management Plan Drawings.
- 60% Stormwater Management Plan Drawings
- 90% Stormwater Management Plan Drawings
- FFB Stormwater Management Plan Drawings
- FFC Stormwater Management Plan Drawings
- CASPD permit

Task 8.4: Dewatering Permit

For the purposes of this proposal, it is assumed a standard construction dewatering permit will be needed along the alignment. To eliminate construction delays associated with permit approval, this task is for the Consultant to obtain the permit for the Owner and then transfer the permit to the Contractor. A copy of the dewatering permit and requirements will be included with the bid documents. Language concerning the transfer shall be included in the Specifications. The scope of this task shall include the following:
- Submit and obtain the dewatering permit in Owner’s name
- Submit any required “no discharge” reports to the State prior to transfer
- Transfer permit to Contractor and advise of pending submittal requirements.

**Deliverables:**
- Dewatering Permit.
- Confirmation of Permit transfer to Contractor.

Phase 9 – 90% Design

The 90% design task shall adhere to the requirements of Denver Water’s CPPM. The task culminates in the 90% Design Submittal. The 90% Design task shall include the following:
- 60% Comment Resolution
- 90% Design
- 90% Drawings
- 90% Specifications
- QA/QC set
During 90% Design, the Consultant shall meet with Owner for the purposes of preparing a proposal for Construction Services. This proposal shall be submitted within 2 weeks of the 90% design submittal.

**Task 9.1: 60% Comment Resolution**

The Consultant shall provide a response matrix to address comments provided on the 60% design. The response log shall include the sheet or page number, the comment, the reviewer, and the resolution.

*Deliverables:*
- 60% Comment Resolution Log.

**Task 9.2: 90% Design**

The 90% design will include the design necessary to produce 90% Drawings. As part of this task, the Risk Register and Opinion of Probable Construction Cost shall be updated. The 90% Opinion of Probable Construction Cost shall be submitted no later than one week after the 90% design milestone and must include the involvement of a team member with general contracting estimating experience.

*Deliverables:*
- Updated Risk Register
- 90% Opinion of Probable Construction Cost

**Task 9.3: 90% Drawings**

The 90% Drawings constitute the Consultant’s complete design.

*Deliverables:*
- 90% Design Drawings (pdf and CAD format)
- Batch Standards Check file

**Task 9.4: 90% Specifications**

The 90% technical specifications shall constitute the complete technical specifications and all exhibits. Exhibits will include:

- Final Geotechnical Investigation Report
- Final Environmental Hazards Report
- Final Geotechnical Baseline Reports
- CASDP submittal package
- Floodplain Use Permit
- Owner-procured material information (provided by Owner)
- License Agreements (provided by Owner)
- E-470 permit
- Dewatering permit (as required)

The Owner’s DPM will provide a pdf of the 90% contract documents to the Consultant so that the submittal constitutes complete contract documents. At this time, the Consultant shall also turn over the MS Word document for the technical specifications to the Owner.

*Deliverables:*
- 90% Specification package (pdf)
- 90% Specifications (Word)

**Task 9.5: QA/QC Set**

The Consultant shall provide a QA/QC review set of the 90% Drawings in accordance with the Denver Water CPPM requirements for colored drawings. The QA/QC set shall be submitted no more than one week after the 90% design submittal date.
**Deliverables:**
- QA/QC Colored set (pdf)

**Phase 10 - Final for Bid Documents**

This task is the final work product prior to bidding the project. The work under this task includes the following:
- 90% Comment Resolution
- Final for Bid Drawings
- Final for Bid Specifications redlines

**Task 10.1: 90% Comment Resolution**

The Consultant shall provide a response matrix to address comments provided on the 90% design. The response log shall include the sheet or page number, the comment, the reviewer, and the resolution.

**Deliverables:**
- 90% Comment Resolution Log

**Task 10.2: Final for Bid Drawings**

This task consists of producing the final drawings for sealing and signature. Plans shall be signed and sealed by the Consultant Team and initialed by the Owner. The Consultant’s PLS shall seal and sign the Survey Control Drawing.

**Deliverables:**
- Final for Bid Drawings – sealed and signed

**Task 10.3: Final For Bid Specifications**

The Consultant shall provide final redlines of the technical specifications and exhibits in pdf format. Final formatting shall be done by the Owner.

**Deliverables:**
- Final for Bid Technical Specification redlines and Exhibits (pdf format)

**Phase 11 – Bid Phase Services**

This task consists of the following:
- Bidding Services
- Final for Construction Drawings

**Task 11.1: Bidding Services**

This task shall consist of the following. Issuance of Addenda will be done by the Owner, however all technical corrections shall be supplied by Consultant:
- Attendance at Pre-Bid Meeting and Pre-Construction Site visit
- Provide responses to Contractor questions
- Provide specification corrections as required for Addenda
- Provide Drawing corrections as required for Addenda

**Deliverables:**
- Corrections necessary for Owner to issue Addenda
Task 11.2: Final for Construction Drawings
This task consists of producing the Final For Construction Drawing set, conformed with any addenda issued during bidding. The set shall be signed and sealed by the Consultant Team and initial by the Owner.

Deliverables:
• Final for Construction Drawings – sealed and signed

Phase 12 – Engineering Support Services during Construction, Material Testing and Construction Management/Inspection Services

This task consists of Engineering Support Services during construction, materials testing and Construction Management/Inspection Services. Engineering Support Services includes tasks associated with the support of design contract administration such as submittal review, RFI responses, addressing design conflicts, discrepancies, interferences, and changes, etc. Construction Management/Inspection Services includes quality assurance to verify the project is being installed in accordance with the contract documents, contract administration, and other field tasks.

Denver Water will provide oversight and administration of internal items, including processing of pay applications, project budgeting, internal coordination, and setup of the Procore electronic document management system which shall be used for all construction documents.

Task 12.1: Engineering Support Services during Construction
Tasks included in this phase are:
• Meetings
• Submittal Review
• Engineering Site Visits/Engineering Inspections
• Design Questions and Design Changes
• RFI Response
• As Built Drawings

Task 12.1.1: Meetings
This task consists of meetings necessary for the design engineers to attend. It shall include construction and other meetings as needed or applicable.

Deliverables:
• none

Task 12.1.2: Submittal Review
This task consists of the review of submittal documents for conformance with the contract documents. The Consultant will review submittals through the Owner’s Procore platform. Submittals shall be reviewed within 10 business days of uploading by the Contractor. All submittals shall also be reviewed by the Owner’s engineer.

Deliverables:
• Review comments (in Procore)

Task 12.1.3: Engineer Site Visits/Engineering Inspections
This task consists of construction jobsite visits by the engineer/design professional. Visits related to specific inspections or to document project issues shall be documented in a memo accompanied with photographs. This task shall include site visits related to commissioning of systems by the appropriate design professionals.

Deliverables:
• Inspection/site visit memo
Task 12.1.4: Design Questions and Design Changes
This task consists of fielding construction questions and addressing changes during construction.

*Deliverables:*
- Applicable correspondence and documentation

Task 12.1.5: RFI response
This task is for the engineer/design professional to respond to formal Requests for Information related to the design. Responses shall be done on the Procore platform.

*Deliverables:*
- RFI response (in Procore)

**Task: 12.1.6: As-built Drawings**
This task is for producing final record drawings from the inspector’s red lined drawings. The design professionals shall review the red lined drawings and add clarifications as needed. Final drawings shall be signed and sealed by the Consultant.

Separate record copies shall be prepared for Denver Water, Aurora, and South Metro. The contents of each utility’s record set shall be determined by the respective utility at an as-built meeting held with the Consultant. The record set for Aurora shall be prepared in compliance with the city’s CAD Data Submittal Standard, attached as Appendix H.

*Deliverables:*
- Record Drawing for Denver Water (signed and sealed)
- Record Drawing for Aurora (signed and sealed)
- Record Drawing for South Metro (signed and sealed.)

**Task 12.2: Material Testing**
Material testing is to be provided during construction by the Design Engineer with coordination provided by the General Contractor. Soil compaction will make up the majority of testing. Concrete testing will be needed for all cast in place structures and asphalt testing will be needed for road restoration. Provide costs and assumptions for this task.

*Deliverables:*
- Material Testing Reports

**Task 12.3: Construction Management/Inspection Services**
This task in total shall not exceed more than 40 hours per week provided by either one individual providing both inspection and construction management services or an individual providing inspection and another providing construction management. In the former case, the tasks should be combined in the Proposal.

**Task 12.3.1: Construction Management**
This task consists of providing one Construction Project Manager/Inspector to provide a daily presence at the construction site to verify that the installation of the project work is in accordance with the plans, specifications, approved shop drawings, submittals, contract changes, and record as built information.

The construction management scope shall include:
- Basic construction management coordination with outside agencies and stakeholders.
- Interface with Denver Water’s Construction Manager who will have supervision of the project and will be administering Denver Water functions including pay
applications, coordination with Denver Water sections, Procore assistance, budgeting, and other internal administrative items.

- Review Contractor progress and store materials for progress payments.
- Monitor Contractor progress and schedule review.
- Administration of Changes Orders, Amendments, Field Orders, etc.
- Field correspondence as needed.
- Project meetings.

*Deliverables:*
  - *Construction Management correspondence (as needed)*

**Task 12.3.2 Inspection Services**

The project inspection scope shall include civil/piping, mechanical, and electrical systems. The daily inspector duties shall include:

- Provide Daily Inspection Reports which include a written record of daily activities accompanied by photos of the work in progress, pertinent information associated with potential delays, schedule changes, tracking extra works and costs, deliveries, correspondence, safety, non-conformance, and contract compliance impacts. Daily reports shall be completed in Procore, the Owner's construction platform. The Construction Manager and Design Team will be provided access to Procore at no cost by the Owner.
- Verify that on-site materials and equipment are in conformance with the specifications and approved submittals.
- Keep an ongoing punch list of deficiencies and corrections.
- Perform quality assurance inspections to ensure general compliance with the contract documents. Issue non-compliance notifications when necessary.
- Serve as the primary field contact to the Owner's Construction Project Manager.
- Coordinate with Owner's and Consultant’s personnel for needed activities.
- Ensure material testing is performed properly and manage all failing test results.
- Ensure Contractor submits all applicable contract documentation, review and approve when applicable. This includes but is not limited to material and other testing requirements, Certificates of Proper Installation, permitting, and traffic plans as specified.
- Attend weekly progress meetings.
- Verify percent completion percentages on monthly pay application.
- Collect project GPS data in accordance with Appendix G. This includes providing a GPS unit with the accuracies listed in Appendix G. Early in construction, the inspector shall supply a sample data collection set to the Owner for a quality review.
- Keep a record of all project changes and ensure the Contractor is also maintaining a record. Provide a complete set of red-lined as-builds at the end of construction. An electronic copy of the red lines shall be stored in Procore.

*Deliverables:*
  - Daily reports (in Procore)
  - Sample GPS collection set
  - GPS data for entire project
  - Red-lined drawings
Section 13 – Proposal Requirements

The Proposal shall outline the Consultant’s Scope of Services, to include the criteria set forth within this RFP. The proposal shall describe the Consultant’s approach to administering and completing the design and construction on schedule. Include sufficient detail to demonstrate an understanding of the project, identifying assumptions, objectives, challenges, and unique solutions. Explain any changes to the proposed project schedule. A sample consultant agreement is attached as Appendix F. The Proposal shall contain:

- Cover letter
- Project approach
- Project Organizational Chart
- Tailored 2-page maximum resumes for key personnel
- Detailed schedule- identify changes to the schedule included herein.
- Manpower labor estimate (work breakdown structure) by labor type/hours for the following project phases and tasks provided under Scope of Services. Include the corresponding hourly rates (an 11-inch by 17-inch format for the work breakdown structure is acceptable).

  o Phase 1: Project Management and Administration
    ▪ Task 1.1: General Project Management
    ▪ Task 1.2: Project Management Plan
    ▪ Task 1.3: Project Controls and Reporting
    ▪ Task 1.4: Project Workshops
    ▪ Task 1.5: Project Meetings
  
  o Phase 2: Survey Services
    ▪ Task 2.1: Design Survey Services
    ▪ Task 2.2: Construction Survey Services
  
  o Phase 3: Initial Design
    ▪ Task 3.1: Control Facility Equipment Design
    ▪ Task 3.2: Control Facility Alternatives Analysis
    ▪ Task 3.3: Denver Water Data Communications Analysis
    ▪ Task 3.4: Third Creek Crossing Alternatives Analysis
  
  o Phase 4: Site Investigation
    ▪ Task 4.1: Geotechnical Investigation
    ▪ Task 4.2: Environmental Hazard Investigation
  
  o Phase 5: 30% Design
    ▪ Task 5.1: Basis of Design Memorandum
    ▪ Task 5.2: 30% Design
    ▪ Task 5.3: 30% Drawings
  
  o Phase 6: Trenchless Design
    ▪ Task 6.1: Risk Analysis Memorandum
      ▪ Task 6.1.1: Risk Analysis Memorandum – E470 Crossing
      ▪ Task 6.1.2: Risk Analysis Memorandum – Third Creek Crossing
    ▪ Task 6.2: Geotechnical Baseline Report
      ▪ Task 6.2.1: Geotechnical Baseline Report- E470 Crossing
      ▪ Task 6.2.2: Geotechnical Baseline Report- Third Creek Crossing
    ▪ Task 6.3: Drawing and Specification Support
      ▪ Task 6.3.1: Drawing and Specification Support – E470 Crossing
      ▪ Task 6.3.2: Drawings and Specification Support -Third Creek Crossing
  
  o Phase 7: 60% Design
    ▪ Task 7.1: 30% Comment Resolution
    ▪ Task 7.2: 60% Design
    ▪ Task 7.3: 60% Drawings
    ▪ Task 7.4: 60% Specifications
  
  o Phase 8: Permit Support
    ▪ Task 8.1: Adams County Floodplain Use Permit
- Task 8.2: E-470 Construction Permit
- Task 8.3: Stormwater Management Plans
- Task 8.4: Dewatering Permit

  o Phase 9: 90% Submittal
    - Task 9.1: 60% Comment Resolution
    - Task 9.2: 90% Design
    - Task 9.3: 90% Drawings
    - Task 9.4: 90% Specifications
    - Task 9.5: QA/QC Set

  o Phase 10: Final For Bid
    - Task 10.1: 90% Comment Resolution
    - Task 10.2: Final For Bid Drawings
    - Task 10.3: Final for Bid Specification redlines

  o Phase 11: Bidding Phase Services
    - Task 11.1: Bidding Services
    - Task 11.2: Final For Construction Drawings

  o Phase 12: Engineering Support Services during Construction, Materials Testing and
    Construction Management/Inspection Services
    - Task 12.1: Engineering Support Services During Construction
      - Task 12.1.1: Meetings
      - Task 12.1.2: Submittal Review
      - Task 12.1.3: Engineering Site Visits/Engineering Inspections
      - Task 12.1.4: Design Questions and Design Changes
      - Task 12.1.5: RFI Response
      - Task 12.1.6: As Built Drawings
    - Task 12.2: Materials Testing
    - Task 12.3: Construction Management/Inspection Services
      - Task 12.3.1: Construction Management
      - Task 12.3.2: Inspection Services

- A written statement regarding the Consultant's eligibility to perform the work without a conflict of interest.
Section 14 – Selection Criteria

Denver Water, and its WISE partners, South Metro and Aurora, will review and rate the Proposals. Each WISE partner will assign a numerical score for each Proposal. Those three scores will be averaged to provide the final Proposal score. The Consultant team with the highest score will be awarded the contract. WISE Partners will use the following scoring criteria, with a maximum possible score of 100.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Standard</th>
<th>Point Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Personnel Qualifications</td>
<td>Do the assigned personnel have the skills and experience to complete the work fully and effectively? Do the personnel have firsthand experience in this type of work? Do the personnel have prior experience working with Aurora and Denver Water standards in the past?</td>
<td>0-15 points</td>
</tr>
<tr>
<td>Firm Qualifications</td>
<td>Does the firm have the appropriate support capabilities to meet the demands of the project? Has the firm provided reference projects showing previous projects of this type of scope?</td>
<td>0-15 points</td>
</tr>
<tr>
<td>Proposed Approach, Project Plan, and Schedule</td>
<td>Is the proposal clearly written? Does the proposal show an understanding of the project objectives and the results desired from the project? Does the project approach seem practical? Are there recommendations given for ways to improve the project and/or schedule?</td>
<td>0-30 points</td>
</tr>
<tr>
<td>Cost and Work Hours</td>
<td>Do the work hours presented accurately reflect the level of effort required to complete tasks? Is there sufficient involvement from the key project personnel to ensure the design remains on track? Is the overall proposal fee reasonable for the work provided?</td>
<td>0-30 points</td>
</tr>
<tr>
<td>MWBE Participation</td>
<td>Does the proposal meet the MWBE goal of 5%? Does the proposal exceed the goal?</td>
<td>0-10 points</td>
</tr>
</tbody>
</table>

The WISE Partners will determine whether Consultant Team interviews are warranted.
Section 15 – Proposal Submittal

Costs associated with Proposal preparation, pre-proposal meeting attendance, interview attendance, etc. shall be borne entirely by the proposing Consultant. Proposal information will become the property of the Owner.

- Proprietary Or Confidential Information:
  - Proposers acknowledge that Denver Water may be required to disclose any or all of the documents submitted with a Proposal, pursuant to the Colorado Open Records Act, C.R.S. § 24-72-201.1, et seq. Under C.R.S. § 24-72-204(3)(a)(IV), Denver Water may deny inspection of any confidential commercial or financial information furnished to Denver Water by an outside party. Therefore, a Proposer must clearly designate any documents submitted with its Proposal that the Proposer deems proprietary or confidential, to aid Denver Water in determining what must be disclosed in response to a request for documents under the Colorado Open Records Act.
  - The Proposer’s designation of material to be redacted must be reasonable or it will not be honored. For example, a Proposer may not designate the entire Proposal to be confidential and proprietary.

The Consultant’s proposal shall be submitted electronically by noon MST on Monday October 31, 2022, by uploading a PDF version of their proposal to the Dropbox folder at https://www.dropbox.com/request/YOKx0NVRdo5npDhql3Kd. In addition, a PDF version of the Consultant’s proposal with intellectual or proprietary property redacted shall be uploaded to the same Dropbox location.

Terms for this Proposal

Addenda

- In the event it becomes necessary to revise, change, clarify, provide additional information about, and/or cancel this RFP, Denver Water will issue a written addendum. It is the sole responsibility of the Proposer to acknowledge all addenda in its Proposal.

Withdrawal or Modification of Proposals

- Proposals may be withdrawn or modified by Proposers prior to the Proposal due date, but only upon written request. After the Proposal due date, Denver Water will not return Proposals or other information supplied to Denver Water. After the proposal due date, if Denver Water identifies a defect in the proposal that could otherwise be corrected, Denver Water may request the proposer to supplement their proposal to make needed corrections identified by Denver Water.

Right to Negotiate

- Denver Water may select one or more Proposals and may negotiate any and all elements of a Proposal, if deemed to be in the best interest of Denver Water.

Figures

Figure 1 – Proposed Pipeline Alignment
Appendices
Appendix A – List of Aurora’s Prequalified Integration Firms
Appendix B – Design Expectations
Appendix C – Prairie Water’s Control Approach
Appendix D – List of Anticipated Drawing Types
Appendix E – City of Aurora: Electrical Design and Engineering Guidelines and SCADA Design and Engineering Guidelines
Appendix F – Denver Water Sample Consultant Agreement
Appendix G - GPS Collection Requirements
Appendix H - Aurora CAD Submittal Standards