DENVER WATER

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PROFESSIONAL SERVICES
REQUEST FOR STATEMENTS OF QUALIFICATIONS

North System Renewal Water Treatment Plant (NSRWTP)
Design Package #7 (DP#7) – Moffat Facility Improvements

Section 1: Background and History

Denver Water (DW) is in the process of replacing the aging Moffat Water Treatment Plant (WTP) with a new modern plant located near Ralston Reservoir. The 185 million gallons per day (MGD) Moffat WTP, located in Lakewood, CO, is a conventional coagulation, flocculation, sedimentation, mono-media sand filtration facility, which sequentially disinfects with free chlorine and chloramines. The facility was originally constructed in 1937 and was expanded in 1955, 1961,1974, and 1994.

Section 2: Project Description

DW is soliciting Statements of Qualifications (SOQ) for a **DP#7 – Moffat Facility Improvements** design consultant (Consultant) to execute and deliver preliminary design phase services for decommissioning of the Moffat WTP and modifications at the Moffat WTP to convey finished water from the new Conduit No. 16 (84-inch diameter, designed by others) at the Moffat WTP site property boundary to the existing clearwells. The NSRWTP is a new 150 MGD facility located on DW property near Ralston Reservoir north of Golden on Colorado State Highway 93 and will deliver finished water via the new Conduit No. 16 to the Moffat WTP.

The NSRWTP Project execution will be a joint effort between DW, DW's Owner's Representative (OR), DW's Construction Manager-at-Risk (CMAR), and the design team. The design team will be comprised of a multi-disciplinary team based on the design packages (DPs) for the NSRWTP.

- DP#1 – Site and Civil Improvements
- DP#2 – Treatment Process Systems and Structures
- DP#3 – Electrical, Instrumentation, & Control Systems
- DP#4 – Ancillary Treatment Process Systems and Structures
- DP#5 – Architectural and Building Systems
- DP#6 – Post-Tensioned Water Storage Tanks
- **DP#7 – Moffat Facility Improvements**

The Consultant will consider the feasibility and phasing of various alternatives to effectively bypass the existing Moffat WTP while operation of the existing facility continues. It is anticipated that improvements at the Moffat WTP will be phased as follows:

- Phase 1a – DP#7: includes all improvements that must be completed before the existing Moffat WTP can be permanently shut-down, to facilitate conveyance of potable water from Conduit No. 16 to the existing Moffat WTP clearwells and distribution system, including a bypass to Conduit No. 25.
- Phase 1b – DP#7: includes all improvements that must be completed after the existing Moffat WTP is permanently shut-down.
- Phase 2 – by others: includes additional decommissioning activities at the Moffat WTP.

DW/OR responsibilities will include Project management, internal and external communications, scheduling of internal resources, design management, review, and budget allocation. The Consultant's responsibilities and pertinent Project information are presented herein with instructions for preparing a complete SOQ to serve as the DP#7 – Moffat Facility Improvements Consultant for the delivery of the NSRWTP.

Section 3: Project Objectives

The following specific Project objectives have been identified for both the NSRWTP and Moffat WTP:

- Sustainability: The NSRWTP site and facility will be designed to achieve the highest level of sustainability ratings possible in a cost-effective and feasible manner.
- Modularity: The NSRWTP processes will be designed for parallel operation to allow for units to be removed from service (operational and electrical) while the plant remains functional.
- Ease of Access and Maintenance: The NSRWTP site will be designed to allow for safe, efficient flow of traffic; future upgrade, expansion, and improvement to processes and structures; and ease of maintenance of all equipment.
- Safety: The NSRWTP will be designed to facilitate personnel safety during construction, startup and commissioning, and long-term plant operations and maintenance (O&M).
- Personnel: The NSRWTP will be designed to accommodate existing and future Collection System facilities, allowing for streamlined operation and control.
- Schedule: The NSRWTP will be operational no later than 2023.
- Budget: The team will accomplish the Project objectives within the projected budget.

The following primary objectives for improvements at the Moffat WTP have been identified:

- Phasing of design and construction to mitigate impacts to the NSRWTP startup.
- Maintenance of operations at the Moffat WTP until the NSRWTP is fully commissioned.
- Safety of Moffat WTP staff during construction of modifications and decommissioning activities at the Moffat WTP.
- Minimizing impacts to neighboring communities during construction at the Moffat WTP.

Section 4: Consultant Scope of Services

The DP#7 Consultant shall be responsible for the 0 to 30% design and concept alternatives development of the following:

- Evaluate and prepare a Moffat Phase 1a and 1b decommissioning, phasing, and transition plan that minimizes shutdowns and operational disturbances while maximizing concurrent activities during scheduled shutdowns.
- Sequence the work in coordination with the NSRWTP construction and startup and commissioning.
- Address pre-shutdown and post-shutdown activities.
- Evaluate and make recommendations regarding main process flows, ancillary flows, electrical, instrumentation, and control systems improvements.
- Evaluate and make recommendations for yard piping improvements at the Moffat facility including onsite extension of the new 84-inch diameter Conduit No. 16 from the property line to a new headworks structure that will reduce downstream pressure and connect to new yard piping into the existing clearwells.

- Evaluate and make recommendations for a separate pressure reducing station for connection to existing Conduit No. 25, bypassing the existing clearwells.
- Make recommendations for cathodic protection of all yard piping and ancillary equipment using the cathodic protection standards (by others) for the NSRWTP.
- Evaluate and develop a hydraulic gradeline (HGL) model through the Moffat facility at design flows (existing, proposed, and future) for alternate configurations. Collaborate with the DP#1 consultant to incorporate the results of the HGL analysis into the overall NSRWTP model.
- Develop a selective demolition plan that accommodates proposed improvements at the Moffat WTP. Major structures to be evaluated include flocculation/sedimentation Basin 4a and 4b to accommodate a new headworks building and modifications to the existing disinfection contact basin to increase storage capacity.
- Conduct an environmental assessment of structures, piping, equipment, and ancillary equipment planned for demolition and/or removal. Make recommendations for abatement as may be necessary.
- Evaluate, make recommendations, and prepare 30% preliminary design drawings for a new headworks building, including siting, pressure reducing valve, and reasonable accommodations for future energy recovery turbine(s). Evaluation shall address access, egress, operation and maintenance (O&M), equipment servicing, removal, and replacement.
- Evaluate and prepare 30% preliminary drawings for architectural, mechanical, electrical, and plumbing systems necessary to support the new headworks building in accordance with the NSRWTP design documents (by others).
- Support systems shall be separate and distinct from the existing Moffat WTP, which may be decommissioned, repurposed, abandoned, or demolished in Phase 2 (by others).
- Consultant shall evaluate and prepare 30% preliminary drawings, process and instrumentation diagrams, and control narratives for planned improvements at the Moffat WTP.
- Evaluate and make recommendations for communications and supervisory control and data acquisition systems necessary for the new facilities.
- Evaluate and prepare phasing diagrams and record drawing markups to convey recommendations for permanent isolation that will form the basis for subsequent demolition drawings of WTP processes from the new, existing, or modified facilities including yard pipe; structures, basins, and clearwells; valves and gates; mechanical equipment; chemical systems, piping or tanks; electrical equipment, instrumentation, and controls.
- Conduct a condition assessment, in coordination with DW staff, and prepare a report of recommendations for improvements to existing clearwells 1- 4 at the Moffat site.
- The Consultant shall evaluate overflow conditions in existing clearwells 1-4 and make recommendations regarding flow and energy dissipation.

Section 5: Consultant Qualifications

The Consultant shall demonstrate that the firm and proposed team have the necessary experience to design the modifications and decommission the Moffat WTP to meet DW's Project objectives and all regulatory requirements. The Consultant shall provide a minimum of three references that demonstrate performance on past projects. Proposed project personnel shall be tied to the project references.

The Consultant's SOQ shall demonstrate applicable experience for key staff as identified herein, and as necessary to accomplish the scope of services. DW's preference is that the Consultant's project manager is located in the Denver metropolitan area for the duration of the project. However, other key and support staff may be located outside of Denver. The following key personnel have been identified for DP#7:

- Project Manager
- Decommissioning/Startup & Commissioning Coordinator
- Site/Civil Engineer
- Lead Mechanical Engineer
- Lead Pipeline/Hydraulics Engineer
- Lead Electrical, Instrumentation, & Control (EI&C) Engineer
- Lead Structural Engineer
- Lead Architect
- Specifications Coordinator
- AutoCAD Lead Coordinator

Section 6: Owner Responsibility

DW will provide to the Consultant all available relevant information to aid in the design process. This includes but is not limited to:

- Previous studies.
- Project objectives.
- Provide review comments within agreed upon schedules.
- Provide all surveys including design surveys and as-built elevations.
- Provide historical as-built records.
- Provide relevant and appropriate design, specifications, and drafting for DW-designed Project components including but not limited to: Conduit No. 16, Conduit No. 25, and Moffat WTP.
- Provide NSRWTP Design Guidance Documents applicable to architectural, mechanical, electrical, and plumbing systems.

Section 7: Project Assumptions

The following assumptions were made in the development of this Scope of Services:

- The Preliminary Design Phase will proceed to 30%. The 30% level will be a major design gate for the Project and will meet the requirements detailed in the Scope of Services. Initially, the Consultant's Scope of Services will only be defined through the 30% Preliminary Design Phase. The Scope of Services from 30% to Final Design and Bidding may be developed near the conclusion of the 30% design.
- The design phase, through 30%, will not exceed a period of nine months from Notice to Proceed unless so authorized in advance of the delivery deadline by DW.

- DW will provide payment for all agreed upon permit application and review fees.
- Public relations efforts up to 30% design will be completed by DW.
- The Project execution shall follow the NSRWTP Project Management Plan, a copy of which will be provided to the selected Consultant, and applicable portions of DW's CPPM: http://www.denverwater.org/DoingBusinesswithUs/EngineeringOverview/CapitalProjectsProceduresManual/.
- Drawings shall be provided in electronic media on the shared NSRWTP ProjectWise site and in quality hard copy media. AutoCAD Drawings shall be in accordance with DW's design drafting CAD Standards: http://www.denverwater.org/DoingBusinesswithUs/EngineeringOverview/CADStandards/ and shall include, but not be limited to, the Standards located online in DW's CPPM.
- The Consultant's AutoCAD Lead Coordinator shall attend a meeting with DW's Drafting and Administration groups to discuss DW's Standards.
- Project specifications shall be submitted in CSI MasterFormat 2016 Edition and adhere to DW's Engineering Specifications, with formatting consistent with the CPCS: http://www.denverwater.org/DoingBusinesswithUs/EngineeringOverview/CPCS/ and any revisions made by the NSRWTP Specifications Team.
- Construction Contract General Conditions, Contract Agreement, Bid Forms, etc., shall be provided by DW via the CPCS.
- A "gate" is a term used to reference a formal document and the process used to acknowledge Project decisions. A gate is designed to acknowledge approval of its related topic by Project stakeholders. A gate is also a means to document decisions that have been made which are critical to the progress of the design beyond the current milestone/phase. Once a gate is "closed," no changes can be made to the design deliverable or data transferred without approval from DW. If changes are identified, those changes are to be logged on the Project change log and addressed in accordance with the change management process identified in the NSRWTP Project Management Plan and the CPPM.
- The Consultant shall assume the site is free of any sensitive cultural resources that require environmental clearance or other required permitting at the local, state, or federal level.
- The DP#7 Consultant shall submit the Moffat Facility Improvements to CDPHE for design approval as a discrete package.

Section 8: Project Schedule

Schedule for SOQs:

- November 10, 2016 Request for Qualifications advertised through www.denverwater.org
- November 17, 2016 Pre-SOQ Meeting, 8:30 am DW Board Room
- December 14, 2016 SOQ Due, 11:00 am

A Request for Proposal (RFP) with detailed instructions and Project information will be sent to the best-qualified firms, based on DW's assessment of the SOQs. After receipt and review of the qualified firms' proposals, a qualifications-based selection of the DP#7 Consultant will be made based on weighted factors detailed in the RFP. DW may elect to follow the proposals with a formal questionnaire and/or interview to assist with the proposal evaluation.

The anticipated schedule for proposals, Design Phase services, and construction is summarized below:

- January 10, 2017 Request for Proposals sent to short-listed Consultants
- January 18, 2017 Mandatory Pre-Proposal Meeting, 8:30 am DW Board Room
- January 31, 2017 Final Written Questions Due
- February 3, 2017 Addendum Issued (if required)
- February 7, 2017 Proposals Due
- February 27-28, 2017 Consultant Interviews (if required)
- March 1, 2017 Announce Consultant Selection
- March 22, 2017 Selected Consultant Recommendation to the Board
- March 30, 2017 Notice to Proceed Issued to Selected Consultant
- December 31, 2017 Preliminary Design (30%) Completion
- 2019 Final Design Completion (estimated)
- 2023 Construction Complete (estimated)

Any requests for clarification or additional information regarding submission of this SOQ shall be submitted in writing via e-mail (peter.mccormick@denverwater.org), or during the Pre-SOQ meeting that will be held in the Denver Water Board Room at 1600 West 12th Avenue, Denver, Colorado 80204, 8:30 am, local time, Thursday, November 17, 2016. Limit attendance at the Pre-SOQ Meeting to three employees per firm. DW is in the process of determining selection committee members for all NSRWTP RFPs and has instituted a blackout period for the solicitation of design services. **Any contact with DW or OR team members regarding the NSRWTP during the SOQ period, except Peter McCormick, may result in Consultant disqualification.**

Section 9: SOQ Requirements

Interested firms are to submit eight hard copies and one electronic copy (pdf on flash drive) of the SOQ package. The SOQ package page limit is six pages in length, excluding Cover Letter, References, and Resumes.

SOQ packages must be submitted to Peter McCormick, Design Project Manager, Denver Water, 1600 West 12th Avenue, Denver, Colorado 80204 by 11:00 am, local time, Wednesday, December 14, 2016.

The SOQ package shall include the following items in the order shown:

- Cover Letter (one page maximum, not included in the page limit).
- Firm background information, including local and national capabilities for Prime consultant and Subconsultants.
- Proposed Project Organizational Chart (an 11-inch by 17-inch format is acceptable for the Organizational Chart). Identify the home office location and applicable experience of each individual proposed.
- Anticipated Minority and Women-Owned Business Enterprise (MWBE) and Small Business Enterprise (SBE) firm involvement. DW recognizes the federal government's small business size regulations and certifications by the Mountain Plains Minority Supplier Development Council, Women's Business Enterprise Council – West, Colorado Department of Transportation, and City and County of Denver Division of Small Business. The MWBE goal for DP#7 is anticipated to be 5 to 10%.

- Provide a minimum of three project references for projects of a similar nature and scope. Include project statistics (capacity, construction cost, etc.), similarity or relevance to NSRWTP DP#7, dates, photos or renderings, and client contact information. Limit project references to a maximum of 10 pages, which are not included in the page limit. Tie proposed staff and responsibilities to reference projects (an 11-inch by 17-inch format is acceptable for the project references).
- Proposed staff resumes (limited to two pages each) shall be provided in an appendix and are not included in the page limit.

Section 10: Addenda to the Request for Statements of Qualifications

If it becomes necessary to revise any part of the RFQ, an addendum will be placed online at: http://www.denverwater.org/DoingBusinesswithUs/RequestsforProposals/BidProposalsEngineering/ prior to the date indicated herein. Respondents are responsible to check online prior to submission of their SOQ and acknowledge receipt of addendum(s) within their SOQ.