

Request for Proposals for Professional Services

The City of Sioux Falls, South Dakota, is accepting proposals from qualified firms for services for the following Water Reclamation Facility Project.

Water Reclamation Facility Effluent Filter Media and Equipment Replacement

Background

The Sioux Falls Public Works Water Reclamation Division has established a Capital Improvements Program (CIP) Project to replace the existing effluent gravity filters at the Water Reclamation Facility (CIP number 154077). The Water Reclamation Facility was built in 1980 and the gravity filters were constructed as part of the original wastewater treatment facility.

The filters were designed as influent flow splitting with Wheeler bottom under drains. The under drains are failing with media loss to the clearwell. As constructed, the original filters consisted of one foot of graded gravel over the under drains with one foot of sand and two feet of anthracite media. The gravity filters treat effluent from the activated sludge nitrification system.

Based on data from 2004 – 2009 (1550 samples), activated sludge effluent quality was as follows:

Average Total BOD = 9.4 mg/L
Average Soluble BOD = 2.1 mg/L
Average Carbonaceous BOD = 5.5 mg/L
Average TKN = 3.0 mg/L
Average TSS = 13.8 mg/L
Average TVSS = 12.2 mg/L
TSS standard deviation = 5.4 mg/L
90% of TSS analyses less than or equal to 20 mg/L

The Sioux Falls Water Reclamation Facility is operating under a NPDES permit that expired June 30, 2005 which establishes effluent BOD and TSS limitations as follows:

30-Day Average BOD = 30 mg/L
7-Day Average BOD = 45 mg/L (April – May)
7-Day Average BOD = 22 mg/L (June – August)
7-Day Average BOD = 45 mg/L (September – October)
7-Day Average BOD = 38 mg/L (November – March)
30-Day Average TSS = 30 mg/L

7-Day Average TSS = 45 mg/L

There have been no compliance problems with any NPDES permit requirements. A master plan for the Water Reclamation Facility was completed in February 2009, which recommended the filter replacement project. The master plan also updated the average day capacity of the treatment facility from 13.4 MGD to 21 MGD with a peak hour capacity of 35 MGD. The 2008 average daily flow was 15.5 MGD.

Project Scope of Work

The Sioux Falls Water Reclamation Division is interested in a filter upgrade project that will achieve the following:

1. Maximize hydraulic capacity of the effluent filters,
2. Maximize filter run length,
3. Minimize the amount of water used for backwashing,
4. Accommodate automation and SCADA control,
5. Minimize energy requirements, and
6. Improve the effluent quality from the activated sludge nitrification system.

To ensure that the replacement filtration system meets the above objectives, the Sioux Falls Water Reclamation Division will be contracting with South Dakota State University (SDSU) to do pilot testing of various filter systems and media configurations. The consultant selected for the project will work closely with Dr. Christopher Schmit and other SDSU staff and students during the pilot testing phase of the project.

This filter upgrade project is scheduled for design in 2010 and construction in 2011. The preliminary estimate for construction is \$3,000,000. The consultant selected for the project will first analyze filter options in a technical memorandum and recommend a preferred filter alternative. The scope of work for the Request for Proposal shall only be for preliminary engineering work necessary to complete a technical memorandum on the different filter options and selected option. A design agreement will be negotiated once the final design scope of services is more clearly established after filtration alternatives have been narrowed. The overall schedule is to have the final plans and specifications completed by October 15, 2010.

Project funding will be user fees in the Water Reclamation's Capital Improvements Program. Monthly project team meetings may be required with this project to ensure this project stays on schedule. The consultant shall prepare the agenda and distribute meeting minutes listing action and decision items.

Existing effluent filter unit schematic drawings are posted on the City's website on the Request for Proposal site.

The Water Reclamation Facility Master Plan, February 2009, is also posted on the City's website on the Request for Proposal Site.

Deliverables: Preliminary Engineering Phase

- a. A separate Technical Memorandum evaluating the filter options and the final preferred filter option to be completed by June 1, 2010.
- b. Meeting minutes from the project team meetings.

Firms interested in providing services are requested to submit the following information.

- Name of Project Manager and other design team members to be assigned to this project. Please address contingency plans should one of these employees be unavailable during the design phase.
- The firm's approach to the Project. The approach should include, but not be limited to; all items listed above, a task list, and estimated number of personnel hours per task and resumes of project team.
- A proposed schedule for the Project.
- Recent projects pertinent to this project and any examples of similar projects in other cities in the United States that the consultant was involved with.

Professional liability and statutorily required insurance will be required, upon selection.

EVALUATION OF PROPOSAL SCHEDULE

A consultant selection team comprised of Sioux Falls Public Works Engineering and Water Reclamation Facility staff will review all proposals. The selection team shall select the firm they feel will supply the City the best and most complete effort. The selection team will interview for this project. The selection of a qualified firm will be made no later than November 10, 2009.

The evaluation of proposal shall proceed on the following schedule:

August 28, 2009	Post RFP on the City's website
October 9, 2009	Proposals received at City Hall
October 23, 2009	Short-list consultants for Interviews

November 2-6, 2009	Interviews
November 10, 2009	Select consultant and prepare agreement
January 4, 2010	Notice to Proceed

Please furnish **five** copies of the proposals to Ms. Shannon Ausen, PE, Office of Public Works-Engineering, 224 West Ninth Street, Sioux Falls, SD 57104-6407 by 2:00 p.m. Central Time, October 9, 2009. Submittals received after the stated time will be returned unopened and will not be considered.

All proposals received by the City will be **confidential**.

Questions regarding the project can be directed to Trent Lubbers, Water Reclamation Facility Division Manager, at 367-8188, or Mark Perry, Principal Engineer, at (605) 367-8601. **Tours** may be given for this phase of the project, if requested, and can be scheduled by contacting the Water Reclamation Facility.