

**Request For Proposal**  
**Design Engineering Services**  
**2016 Water Treatment Plant Improvements**

**Oak Creek Water & Sewer Utility**

**Oak Creek, Wisconsin**

**August 18, 2014**

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# REQUEST FOR PROPOSAL

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## I. INTRODUCTION

The Oak Creek Water & Sewer Utility intends to retain the services of an engineering consulting firm to perform design services for the 2016 Water Treatment Plant Improvements project.

The purpose of this document is to outline the Utility's interest in obtaining the services of a qualified engineering consulting firm to provide design services. This document introduces a scope of services to be performed. In addition, the proposal submittal requirements and the consultant evaluation and selection process are included for your reference.

### **Background**

The Oak Creek Water and Sewer Utility provides retail drinking water service to the City of Oak Creek. Drinking water is sold wholesale to the City of Franklin as well as to the Caledonia Utility District.

The source of drinking water is Lake Michigan. A pump station near the lake conveys raw water to a treatment plant. Water is treated in a conventional surface water treatment plant with a treatment capacity of 35 million gallons per day. The filtered water passes through a baffled chlorine contact tank before being pumped to customers. The chlorine contact tank provides primary disinfection in accordance with the surface water treatment rule.

Wisconsin Department of Natural Resources (WDNR) has stated that the chlorine contact tank does not meet current codes, and that this must be addressed within 10 years (by 2018). The Oak Creek water plant does not store finished water at the water plant site. This reduces operational flexibility and reliability as water demands change or if treatment capacity is reduced.

The Utility uses chlorine as the primary disinfectant, and distribution system disinfectant. The Utility meets all drinking water regulations and produces high quality water. Most water utilities along the western shore of Lake Michigan employ a second barrier to pathogens, particularly *Cryptosporidium*. Second pathogen barriers used by other Lake Michigan water utilities include ozone, membrane filtration, and ultraviolet light (UV) disinfection.

Any questions or clarifications concerning the RFP shall be directed to:

Ron J. Pritzlaff, P.E.  
Utility Engineer  
Oak Creek Water & Sewer Utility  
170 W. Drexel Avenue  
Oak Creek, WI 53154  
rpritzlaff@water.oak-creek.wi.us  
(414) 570-8200 x24  
(414) 570-8215 (fax)

## **II. PROJECT DETAILS**

This project includes the design of improvements to the Oak Creek Water Treatment Plant (WTP) that entail constructing a new high service pump facility, new intermediate pump facility, ultraviolet light (UV) disinfection, additional storage, and related appurtenances such as yard piping and electrical distribution. See Figure 1 for the general layout of the existing facilities and new facilities. Additionally, the existing high service pump room will be converted to allow for stand-by electric power generation. The existing chlorine contact tank will be bypassed and remain in place off-line.

An extensive pre-design study has been conducted to evaluate alternatives for improvements under the following criteria: water quality, water quantity, operation and maintenance (O&M), constructability, future expansion. This study is available as noted at the end of the RFP and will provide history with regard to the project.

Wisconsin Department of Natural Resources (WDNR) Safe Drinking Water Loan Program (SDWLP) funds will be used to finance the project. Construction is expected to begin in 2016. Plans and specifications must be complete by April 17, 2015 in order to receive the funding. The Oak Creek Water and Sewer Utility anticipates that construction will commence in 2016. Therefore, the Utility is looking for a committed and aggressive design team.

## **III. GENERAL SCOPE OF SERVICES**

The consultant will provide general consulting services as noted below.

### **A. Design Services**

#### **1. Agency and Utility Coordination**

The consultant is to coordinate with various agencies to resolve conflicts and determine constraints for the project. Prepare, apply, and obtain permits and other necessary approvals from various agencies involved in the project. The consultant shall also investigate and coordinate with Focus on Energy for any grant opportunities.

2.     Hydraulics

Perform a hydraulic analysis using existing facilities and other treatment constraints in order to optimize filter effluent quality and run time, maximize depth in the finished water storage tanks for maximum water storage and submergence over high lift pumps, and situate the hydraulic grade line such that the new intermediate pump station pumps are optimized for performance.

3.     Intermediate Pump Station

Design an intermediate pump station with a firm capacity of 35 million gallons per day (mgd) and wet well for pump suction and vertical turbine pumps to overcome the hydraulic water level. The wet well design must be for 60mgd and the rest of the facility expandable to 60mgd. The intermediate pump station design will also include vertical turbine pumps with adjustable frequency drives.

4.     UV Disinfection

Design an Ultraviolet disinfection (UV) facility to meet the minimum design criteria set forth by the WDNR. This includes 3-log inactivation of *Cryptosporidium* and *Giardia* following the UV reactor and UV dose guidelines established in the U.S. Environmental Protection Agency's *UV Disinfection Guidance Manual* (2006) in order to give the Oak Creek Water and Sewer Utility a *Cryptosporidium* LT2 Bin 4 classification. The UV facility should be designed for 35 mgd expandable to 60 mgd.

5.     Storage

Design additional storage based on an average day demand of 8 mgd and generally accepted guidelines for water storage. New storage should contain a minimum of 2 million gallons. The tank shall be designed in halves such that one half is baffled and can be used for CT requirements without UV. Storage design should include future expansion possibilities to a demand of 60 mgd and provide plug flow throughout.

6. High Lift Pump Station

Design a high lift pump station adjacent to the new water storage facility for a firm capacity of 35 mgd expandable to 60 mgd. All pumps should have variable frequency drives.

7. Electrical

Design upgrades to the electrical distribution system to support the addition of the new facilities. Include the addition of stand by electrical generation through modifications to the existing high service pump station.

8. Appurtenances

Design yard piping and all other appurtenances to accomplish the goals set forth with this project.

9. Surveys

Perform all survey necessary to provide information and locations for the preparation of plans and application of permits.

10. Meetings

The Consultant shall host bi-weekly meetings at the treatment plant with the Utility Engineer, General Manager, and Water Treatment Plant Manager to discuss the progress of the project. The consultant will also insure that appropriate members of regulatory agencies are invited. Additional meetings include a utility coordination meeting, pre-bid meeting, and pre-construction conference.

11. Public Involvement

Prepare all exhibits, documentation, and handout materials for an informational meeting with Oak Creek Water and Sewer Utility Commission and City of Oak Creek officials.

## **B. Construction Contract Documents**

### **1. Plans**

Prepare plans and specifications with sufficient detail for regulatory agencies to review, and a contractor to construct the various facilities. The construction documents shall be specific enough to sufficiently detail the construction methods and allow for survey and layout of the facilities.

## **IV. SUBMITTAL REQUIREMENTS - PROPOSAL**

Candidates shall submit proposals that thoroughly respond to the items listed below. For fairness and ease of review the proposal must be organized and presented in the exact order as outlined in this section.

### **A. Statement of Qualifications**

1. Summary of firm's general qualifications, background, number of employees, office locations, etc.
2. Identify the local office that will handle this project.
3. Discuss familiarity with Wisconsin Department of Natural Resources regulations and personnel.
4. Detailed summary of the design team that will be used on the project. Include resumes and clearly show all projects of similar size and scope handled by the design team. Only projects accomplished by the design team will be considered as appropriate experience. The firm's experience on similar projects is not relevant in this analysis.
5. Outline the performance of projects handled by the design team on the projects identified in (4), and include project consultant fees, meeting project deadlines, extras added to the design contract, project size, and list a reference name, address, and phone number.
6. Outline the consultant's liability and professional responsibility insurance. The consultant's financial stability and capacity to carry out the scope and extent of the work needed.
7. Discuss sub-consultants that may be used and their expertise.

8. Detail the firm's quality control program and ability to keep projects on schedule and within budget.
9. Discuss the design team's approach for this project, including any potential improvement to the scope.

**B. Detailed Presentation of Tasks**

1. Describe the precise scope of work to be accomplished. Clearly delineate any modifications (additions or deletions) to the general scope of services outlined in Section II of this RFP.
2. Provide a detailed time schedule to accomplish each portion of the project scope. The time schedule proposed must be realistic and attainable under the consultant's maximum project load scenario and include dates and work hours per task and discipline.
3. Describe the organization of the design team. How will the team function and who will work directly with the Utility.
4. Outline the methods of reporting progress to the Utility, meetings, reports, fax, etc.

**V. CONSULTANT EVALUATION AND SELECTION PROCESS**

The Oak Creek Water & Sewer Utility will evaluate and select the best-qualified consultant for our project.

We understand that ranking a consultant based on qualifications far outweighs other considerations. However, final consultant selection will be based on critical factors such as, past performance, cost, and consultant's staff qualifications. Once the highest ranked consultant is identified, we will begin negotiations of work scope and compensation.

**A. Preliminary Screening**

Candidates shall submit four copies of their proposal to Ronald J. Pritzlaff, P.E., Oak Creek Water & Sewer Utility, 170 W. Drexel Avenue, Oak Creek, Wisconsin 53154, by 9 a.m., Friday September 26, 2014.

An envelope, plainly marked "2016 Water Treatment Plant Improvements Consultant Services Proposal", shall be submitted. Envelopes or packages that are received after the date and time stated above will be returned unopened and removed from further consideration. The Utility will review all



proposals and determine if and how many firms will be interviewed.

After the proposals are evaluated, consultants will be informed whether they will be evaluated further by an in-person interview. Arrangements will be made individually with each finalist for interview time and date, as necessary.

## **B. Interviews**

In preparation for the interview, each consultant will organize the key individuals of the design team that will work on the project. The project manager, project engineer, and another individual selected by the consultant shall be present at the interview. The project engineer shall make the bulk of the presentation.

The consultant will be responsible to bring all visual aids, handouts, and other materials necessary to briefly and concisely demonstrate the firm's ability to accomplish the work outlined in the scope of services. The interview sequence will be as follows.

- ◆ Remarks by panel chair covering procedures, interview sequence, time allowance, and panel member introduction.
- ◆ Firm introduces representatives, makes 60-minute presentation addressing the five rating criteria below.
- ◆ Questions from the panel. The panel will have the opportunity to ask questions of the consultant and their design team.
- ◆ The consultant may ask questions of the panel.
- ◆ The consultant shall have 10 minutes to make closing remarks and deliver wrap-up summary.

The panel will evaluate consultants based on the following five criteria.

### **RATING CRITERIA**

- Qualifications of the design team and sub-consultants and their ability to work well with Utility staff.
- Experience and performance on past projects of similar size and scope.
- Project design approach, quality assurance review procedures, and

new ideas.

- Proposed communication plan to provide design progress reports.
- Project schedule and committed staff.

### **C. Contract Negotiations and Approval**

After the firms are ranked, the Utility will begin negotiating with the top-ranked firm. Selection will be based on a combination of price, scope, and qualifications. If agreement is reached, a consulting agreement will be presented to the Utility Commission for approval. If an agreement cannot be reached with the top-ranked firm on any items, the second-ranked firm will be considered, and the same process will continue.

## **VI. AVAILABLE INFORMATION**

The Utility has made the following information available on the Internet to assist in the consultant's evaluation and preparation of their proposal:

Engineering Design Manual

<http://www.oakcreekwi.org/your-government/departments/engineering-department/>

Chlorine Contact Tank and Storage Evaluation

**Figure 1**

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