

October 12, 2007

Mr. Courtney McCracken  
Project Manager  
Brown Facilities Management  
295 Lloyd Avenue  
Providence, RI 02912

**Re: 450 Ton Chiller in Central Heating Plant**

Dear Courtney:

We are pleased to submit our proposal to provide the engineering services for the above referenced project as follows:

**A. Project Understanding**

Under Utility System Renewal and Upgrades project, a district chiller plant will be constructed in the Central Heating Plant (CHP) serving the Athletics District. The chiller plant will comprise two 450 ton electric motor driven chillers complete with cooling towers and pumps. The chiller plant will be located in the southeast corner of CHP. A new mezzanine level has already been constructed to accommodate the electrical equipment. Chilled water piping will have to be connected to the already installed piping outside of the CHP.

This project entails the installation of the first 450 ton chiller in the CHP. The design shall include provisions for future expansion for the second chiller.

We will provide design engineering services for the mechanical electrical, controls, structural and architectural work. We will lead the design team and be overall responsible for producing a coordinated and complete construction documents. The design will clearly indicate construction phasing and reworking of any of the existing building services.

**B. Scope of Work**

Prepare drawings and specifications and provide construction services for obtaining competitive bids from contractors and for construction related to the following:

- One 450 ton electric chiller with VFD
- Two condenser water pumps
- Two chilled water pumps
- Assorted vent fans, misc. pumps.
- Water treatment system.
- Refrigerant leak detection system

A new fire rated wall will be provided to separate the chiller plant from the boiler plant by new a fire rated wall, as required by ASHRAE 15.

We will retain Frank Holtaway & Son for the electrical work, MDA Design for the structural work, and 3SIXO for architectural work. The fee proposal from Frank Holtaway & Son is attached.

We will complete the project in phases: Design Development (DD), Construction Documents (CD) and Construction Services. The detailed scope of work will include the following:

Design Development:

The DD documents will represent 65% complete design and include the following:

- Equipment sizing – chillers, pumps, cooling towers, MCCs, switches, etc.
- Chilled water and condenser water P&I diagrams, and electric one-line diagrams.
- Equipment block layout for the chiller plant, substation, etc.
- Piping and wiring layouts (plans and sections)
- Renovation of existing spaces making room for the new chiller and pumps.
- Phasing of construction to minimize disruption to existing occupancy.
- Outline specifications

Construction Documents:

We will submit CD documents which will include drawings, specifications and cost estimates for mechanical, electrical, controls, structural and architectural work of 95% design completion. We will hold a review meeting to discuss Owner's comments. Should the construction cost estimates exceed the budget, we will provide value engineering

We will finalize the construction documents and issue the 100% complete bid package within two weeks from the final review meeting.

Bid Assistance:

During bidding, we attend a bid walk through meeting, respond to RFI's and prepare addenda as required.

Construction Services:

Construction services will be covered under the Utilities Renewal and Upgrade project. The scope of construction services are described below.

During the construction period, we will maintain a maximum of 10 calendar days turn-around time for shop drawing review, and reduce the time as required to fit the construction schedule. We will provide periodic field observation and attend construction meetings as required. To ensure that the system will function as designed, we will assist the contractor in performing testing, start-up, and commissioning of the system. We will prepare a punch list and final sign-off upon completion of the construction and commissioning work.

All drawings for the project will be prepared using AutoCAD 2000/2006. We will sign and seal all drawings prepared by us.

**Work Not Included:**

- Permit application and filing with authorities having jurisdiction.
- Asbestos abatement work, if required.

**C. Compensation**

We propose to provide the above service for a lump sum fee of \$96,400. The breakdown of our fee per design phases is as follows:

WM Group	
DD	\$21,400
CD	\$34,000
Bid Assistance	\$3,500
Frank Holtaway & Son	
Design	\$20,000
3SIXO (allowance)	\$10,000
MDA Design	\$7,500
<b>Total</b>	<b>\$96,400</b>

Construction services will be billed on time-card basis under the Utilities Renewal and Upgrades project.

Expenses for reproduction, computer plotting, out-of-town traveling and living will be reimbursed at cost. Reimbursed expenses will be billed against the Utilities Renewal and Upgrades project.

We appreciate the opportunity to provide our services to you. If you have any questions with regard to the above, please do not hesitate to contact us.

Very truly yours,

**WM Group Engineers, P.C.**



Douglas Wen, P.E.  
Vice President