

## BASIS OF DESIGN - CAMPUS BOILER RETROFIT

Date: September 2015 Project Name: Retrofit Central Boiler Plant to Decentralized Boiler Plants Expansion-Detroit, MI Project #: 2015-09 Prepared By: Reader  
 Revision date: \_\_\_\_\_

### BUILDING

New Construction  Renovation  Addition Sq. Ft.: \_\_\_\_\_  Infrastructure Expansion No. of floors at and above grade: \_\_\_\_\_ No. of floors at and above grade: \_\_\_\_\_

### UTILITIES

**Electrical:**  New  Upgrade  Existing **Gas:**  New  Upgrade  Existing **Steam:**  New  Upgrade  Replace **Chilled Water:**  New  Upgrade  Existing

**Hot Water:**  New  Upgrade  Existing **Condenser Water:**  New  Upgrade  Existing **Services from Utility of:**  Electric  Gas  District Energy  Existing

**Campus Power Plant:**  Electric  Gas  Steam  CHWS  CWS  Hot Water  None

### UTILITY DESIGN PARAMETERS

**Electrical:**  120/1/60  208/3/60  277/3/60  480/3/60  \_\_\_/3/60

**Emergency Power:**  New  Diesel oil  Gas  Existing  None **Gas:**  Design Parameters by Plumbing Engineer

**Steam Pressure:**  Low @ \_\_\_psig  Medium @ \_\_\_psig  High @ \_\_\_psig  High @ \_\_\_psig

**Chilled Water Temperature:**  CHWS @ 42°F  CHWR @ 56°F  CHWS Reset @ 42°F/46°F & CHWR @ 56F/60°F

**Condenser Water Temperature:**  CWS @ 85°F & CWR @ 98°F  CHWS Reset @ 85F/48°F & CHWR @ 98F/62°F

**Hot Water Temperature:**  None  Fixed HWS @ \_\_\_F & HWR @ \_\_\_F  HWS @ 180F & HWR @ 150°F when 6°F OAT  Off above 60

### ASHRAE APPLICATION HANDBOOK

**ASHRAE 2011 Handbook:** Chapter [ ] **ASHRAE 2012 Handbook:** Chapter [ ] [ ] [ ]

### OWNER MECHANICAL DESIGN PARAMETERS

**Equipment Location:**  On floor being served  In central equipment room(s)  \_\_\_\_\_  In penthouse  Away from building

**Maintenance Outside Occupied Space:**  Yes Serving primary HVAC equipment  No

**Redundancy:**  For (List Equipment)  N+  No

**Equipment/System Expansion:**  Increase equipment size by 66%  No

**Indoor Air Quality at:** MERV rating of  for pre-filters MERV rating of  for after filters, and MERV of [ ] for final filters. MERV rating of [ ] terminal units

**Acoustic & Vibration Criteria:**  Design parameters by acoustic consultant  None

**Specialty Room(s):**  \_\_\_\_\_ (List Room)  None

**Occupancy Schedule:**  24-7-365  Occupied/Unoccupied (List Hours of Occupancy)  None

### DESIGN CRITERIA

**Outdoor Dry Bulb & Wet Bulb:** \_\_\_°F Heating season \_\_\_°F/\_\_\_°F Cooling season

### ENERGY & ENVIRONMENT CRITERIA

**LEED Certification:**  Yes  No  Other certification (List the program)

**Annual Operating Budget:**  With energy budget  With organization structure  Outsource operation & maintenance  Building only  Not applicable

**Refer To "The Facility Files" For Additional Operation & Maintenance Design Criteria**

### SPECIAL CONDITIONS & REQUIREMENTS

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

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