

CONSULTANTS:

OWNER'S PROJECT ADVISOR:
MOSES TUCKER REAL ESTATE, INC.

CIVIL ENGINEER:
MCCLELLAND ENGINEERS

LANDSCAPE ARCHITECT:
LARSON BURNS SMITH

STRUCTURAL ENGINEER:
CROMWELL ENGINEERS INC.

MECH., H.E.C., PLUMB. ENGINEER:
CROMWELL ENGINEERS INC.

SUSTAINABLE CONSULTANT:
BNIM / ELEMENTS

GLOBAL VILLAGE CONSULTANT
CAMBRIDGE SEVEN ASSOCIATES

INTERIOR DESIGNER:
POLK STANLEY YEARY

GENERAL CONTRACTOR:
CDI

GENERAL NOTES:

NOTES:

ISSUE DATE:
DECEMBER 15, 2003
CORE/SHELL
PACKAGE #5

REVISIONS:

#	DATE	DESCRIPTION
Δ	1-16-04	ADDENDUM #1
Δ	7-1-04	PACKAGE 7, 100% ROLL UP

**HEIFER
INTERNATIONAL
CENTER
OFFICE BUILDING**

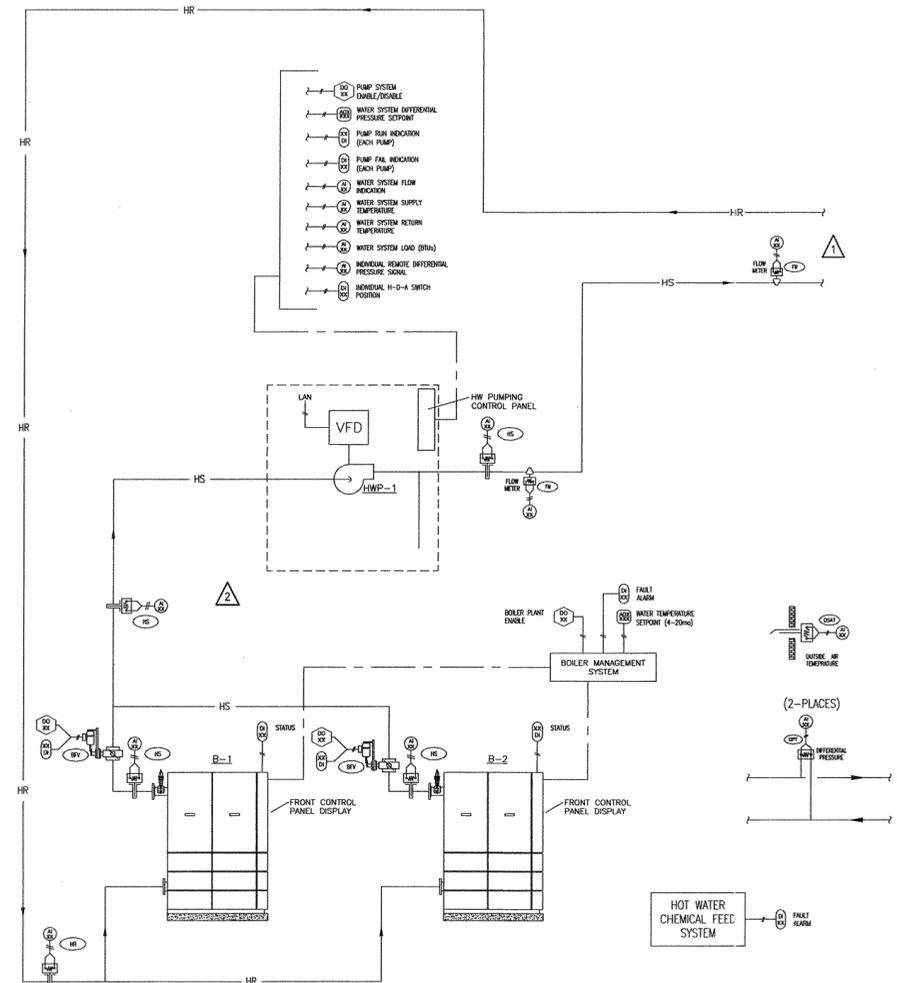
LITTLE ROCK, ARKANSAS

PSY PROJECT NUMBER:
431C

CONTENTS:
HVAC CONTROLS

SHEET NUMBER:

M403



1 HOT WATER CONTROL DIAGRAMS
M403 | M403 NO SCALE

Heating Water System

Fin Tube Radiation (Floors 1 through 4)

Fin tube radiation shall be served by silent two-way two-position valves. On a call from a space sensor the valve(s) serving the fin tube elements in that control zone shall open. When the sensor setpoint is satisfied, the valve(s) shall close. Valves shall be absolutely silent.

Ventilation Unit Preheat Coil

The two-position valve serving the Ventilation Unit Preheat Coil shall be fully opened at any time the outdoor temperature is 50F (adjustable) or less. The two-position valve serving the Ventilation Unit Preheat Coil shall be fully closed at any time the outdoor temperature is greater than 50F (adjustable). The integral face and bypass dampers shall modulate to maintain a leaving air temperature of 47F (adjustable). Sensor shall be Platinum RTD averaging type.

Ventilation Unit Reheat Coil

Water flow shall be modulated to maintain a mixed air temperature of 62F (adjustable) entering the cooling coil of the air handling units served by the ventilation unit. The air handling unit with the coldest mixed air temperature shall control. Sensors shall be Platinum RTD averaging type.

Heating Water Loop Temperature Reset Control

Heating supply water shall be circulated at 130F (adjustable) when the outdoor temperature is 65F (adjustable) and shall be evenly increased to 180F (adjustable) when the outdoor temperature is 15F (adjustable).

Heating Water Pumps

Heating Water Pumps shall be operated to achieve peak wire-to-water operating efficiency. The pump speed shall be controlled to match the differential pressure setpoint of XXXX ft wg (adjustable). Differential Pressure Sensors (2) shall be located as directed by the Engineer. Obtain specific instruction as to the actual location for the installation of the device and the taps into the piping.

Heating Water Boilers

Heating water boilers shall be operated as required to match the load. When the lead boiler reaches 90% of its capacity, the lag boiler shall be started. When each boiler is operating at 40% of its capacity, the lead boiler shall be stopped. Lead boiler duty shall be alternated to keep equal operating hours on each boiler. Differential operating time shall not exceed 25 hours. Boilers shall modulate their firing rate on their internal controls when operating. The boiler isolation valve associated with each boiler shall be opened before the boiler is enabled and shall be closed after confirmation that the boiler has been stopped.

