Research Lab:
Building Energy Systems

Contact: N/A

Programmers: N. Anderson (NIU)

Nature of Operations: The Building Energy Systems lab is intended for the testing of HVAC and water heater equipment in a controlled environment. The lab will also test window units fitted into the southern exterior wall. The open room has four 5' x 5' test bays for HVAC equipment with power and gas lines, and four 5' x 5' test bays for water heater equipment, with power, gas lines, water lines, and floor drains. Provide exhaust ducts to exterior. The 15' x 15' central area of the room is a space for future fully enclosed test installations, with 4 overhead standard outlets switched separately, and an open hub floor drain.

Operating Essentials: The ceiling should be exposed, with a grid of Unistrut for the support of test ducts, overhead power, and piping. The exterior wall should have three "standard module-sized" windows constructed to be easily removed for testing. Provide two exterior concrete pads: one to house condensing units for testing, and one to house a biogas or propane tank. Provide weather tight thru-wall sleeves for wires, tubing, and gas lines. Provide disconnect switches, circuit breaker, and emergency shut off valves. FRP wall surface to 4'-0" AFF. Sealed concrete floors.

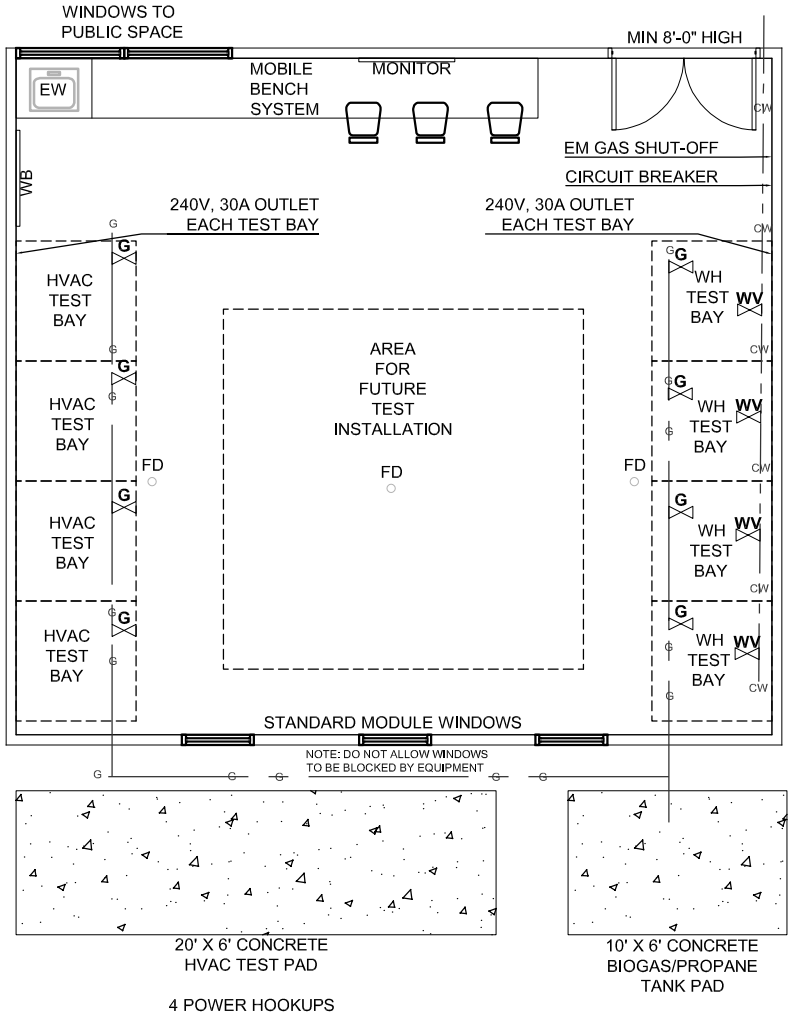
SUPPORT	Qty.		SF	SF Ext.
See Lab Drawing.				
SUBTOTAL SF				1116
CIRCULATION 20%				0
SUPPORT SF				**1116**

TOTAL SF **1116**

Users **3-4** (No permanent personnel)

Adjacencies: In proximity to the mechanical room.

Remarks: Provide 2 overhead cameras, display monitor, and white board. Overhead cameras can project to lobby display monitors. Lab display monitor should connect to and display BAS system, and to camera in building mechanical room. Provide a BAS login to adjust non-laboratory temperatures and humidity.



GRAPHIC LEGEND

COLD WATER LINE — CW

GAS LINE — G

GAS HOOK UP VALVE — G

WATER HOOK UP VALVE — WV

NORTH

BUILDING ENERGY SYSTEMS LAB

SCALE $\frac{1}{8}$" = 1'-0" 0 8

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PROJECT NAME	CDB NIU NICCS
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PROJECT MANAGER	LREBBE
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