

LEED EAp2/EAc1 Energy Conservation Measures Narrative

Energy Conservation Measures:

- LED lighting is used throughout for both interior and exterior lighting resulting in a decrease in electrical consumption for the proposed building.
- Occupancy sensors are provided for most interior spaces allowing a further reduction (when not already required by ASHRAE 90.1-2007) in the proposed building lighting power density.
- Occupancy sensors in laboratories allow for reduction of minimum airflow from 6 air changes per hour (ACH) to 3 ACH. The minimum unoccupied airflow in the baseline laboratories is 50% of design air flow values per G.3.1.1.d
- A heat pipe heat recovery system on the fume hood and vivarium exhaust recovers sensible heat from the exhaust air to the supply air. The baseline system for the vivarium is exempt from exhaust air heat recovery requirements per G.3.1.2.10.h
- An enthalpy wheel heat recovery device (85% total effectiveness) recovers heat from the general exhaust and pre-conditions the outdoor air serving the labs and air handling units 4, 5 & 6. The baseline laboratory system has a total heat recovery device with 50% effectiveness per G.3.2.10. The other non lab and non vivarium areas in the baseline do not require exhaust air heat recovery per G.3.2.10.
- A heat recovery chiller that moves heat from the chilled water return to the heating water supply. This will increase electrical consumption but reduce chilled water and steam consumption.

Electricity:

The net result of the energy conservation measures is that the proposed building uses 29,400 kWh less than the baseline building.

Purchased Chilled Water:

The net result of the energy conservation measures is that the proposed building uses 39,600 therms less than the baseline building.

Purchased Steam:

The net result of the energy conservation measures is that the proposed building uses 48,200 therms less than the baseline building.