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SUSTAINABLE DESIGN – PEARSON HALL RENOVATION

ARCHITECTURAL DESIGN

1. The re use of the existing building, the re use / recycling of the existing structure is of major importance.
2. Operable windows with insulated glass and Low E glazing.
3. Aluminum window screens are used to save energy and provide natural ventilation in dorm rooms.
4. Water-saving toilets, bladder style, are provided in individual bathrooms.
5. The drywall is made from recycled materials.
6. Metal was diverted from landfills recycled from Pearson Hall (Excludes cast items like the radiators and copper pipe that the college recycled themselves).
7. Light fixtures, panel doors, cabinets, water fountains, breaker boxes, and ceiling fans were turned over to the college for re-use.
8. All carpet was picked up for recycling.
9. The local subcontractor information participation is as follows: Subcontractors from Berea – four. Subcontractors located within a 45-mile radius of Berea – nine.
10. Demolition for Renovation – Meyer Midwest Contractors recycled the following items: Copper pipe, electrical wire, cast radiators, sprinkler pipe, metal studs, carpet, steam pipe, exterior metal stairs and landings, mop sinks, exhaust fans, wood studs, brick used for smoke barriers at corridor walls, aluminum hand rails, water coolers, oak hand rails wood cabinets, spiral stairs.
11. Demolished concrete was used for was used for fill in a commercial lot.
12. Flush Wood Doors – prefinsihed wood doors.
13. Painting – latex paints, with low V.O.C's.
14. Toilet compartments are solid plastic recycled plastics.
15. The entrance foyer floor finish used a recyclable material of bamboo wood flooring.
16. Floor carpeting in offices and resident apartment is low VOC and Green labeled certified.
17. Flooring tile in residence rooms and corridors is PVC free, VOC free and made from natural sources.
18. Use of daylighting of interior spaces via a skylight on the fourth floor and openings in interior lobbies to daylight lower floors.
19. Window blinds, which help control the amount of heat, which is transferred through the windows, are provided.
20. The existing exterior wall was insulated with rigid R-20 insulation. The attic space was insulated with R-30 insulation and is formaldehyde free.
21. Entrance vestibule is provided for air infiltration.
22. The new roof covering is a white membrane to reduce thermal heat gain.
23. The new stair addition is protected by solar sun screening at each floor.

MECHANICAL / ELECTRICAL DESIGN

24. We have provided an outside air energy recovery unit that uses a run around coil unit that exhausts the building air and accomplishes a 70% recovery of energy for outside air.
25. For HVAC chilled and hot water, we have provided variable speed controls that achieve a significant savings.
26. For domestic hot water we have provided a recirculating system that provides hot water to the user at the point-of-use. This kind of system will provide hot water to the user in a minimum amount of time.
27. All lavatories are equipped with sensor type faucets to reduce the amount of water used.
28. Building is equipped with a HVAC management system that limits temperatures in each space so that rooms cannot be over heated or over cooled.
29. In cooperation with the Architect, we have provided for an insulation envelope for the entire building that matches the new window installation to maximize the total energy infiltration and leak influence on the total building envelope.



30. The chilled water use from the central plant (61 tons) is reduced from 85 tons based on the Architect's commitment to high-energy values in the basic construction. Also, building heat exchangers were designed for 40 F temperature differential rather than the standard 20 F. This results in ½ the pumping energy for heat compared to a "standard" system
31. For energy efficiency, we have reduced the lighting load. For example, we have eliminated all forms of incandescent lamps. We also installed occupancy sensors in each dorm room, in halls, in toilet/shower rooms, and in kitchen/lounge areas. Lights are on only when areas are occupied.
32. For all of the corridor lights, we have provided either compact fluorescent lamps of 54 watts (High Output) to minimize the consumed watts per square foot for all commons place lighting systems. As stated above, these lights are controlled with occupancy sensors.
33. In the dorm rooms we have provided one 22-watt fluorescent fixture and the occupancy sensors.