

## SDSM&T Connolly & Palmerton Hall Dorm Renovation



This project consisted of the renovation of two campus dormitory buildings and the addition of a new Commons area. The Commons area is used as a connecting link between the existing buildings. The project was completed in two phases with an emphasis on achieving a higher level of sustainability in the design and construction. Each phase of the construction process reduced negative impacts on the environment by utilizing effective waste management and recycling of products removed from the buildings. This project achieved LEED Gold certification with Skyline as the coordinating professional.

### Project Data

#### Owner

State of South Dakota

#### Location

Rapid City, SD

#### Building Type

Education

#### Building Area

68,950 square feet

#### Mechanical Systems / Features

- Domestic water system
- 4-pipe fan coil units
- Energy recovery ventilators
- Solar supplemental water heating
- Steam water heaters
- Fire suppression system

#### Electrical Systems / Features

- Robust/efficient fluorescent lighting
- Walkway, bollard and pole lighting
- Local & occupancy lighting controls
- 120/208v services and distribution
- Data/tele wiring and connectivity
- Addressable fire alarm system
- Door access system

#### Construction Cost

\$5,500,000

#### Completion Date

2010



#### Mechanical Engineering

A new domestic water heating system was incorporated into the building supplemented by a solar water heating system to offset a portion of the domestic heating water load. New low consumption plumbing fixtures were installed throughout the facility.

The HVAC systems for the dormitories consist of 4-pipe fan coil units and are ventilated to the latest ASHRAE standards. A total energy recovery ventilator was used to recover energy and moisture from toilet and shower exhaust and to provide ventilation to the lounge areas on each floor. The new Commons area will be served by a rooftop air handling unit with supplemental heat provided by flat panel radiators at the perimeter. Wireless temperature controls were utilized, which interface with the head end controller at the campus Physical Plant.

A new wet type fire protection system was installed in each building with a dedicated zone valves at each floor. Standpipes with fire department connections will be located in each building.

#### Electrical Engineering

Lighting was replaced with new robust and efficient fluorescent fixtures selected specifically for placement to utilize existing recessed raceway systems. The scope included site lighting and replacement of exterior building lighting with efficient metal halide fixtures. Nearly all lighting circuits include walls switches in series with ceiling-mounted occupancy sensors facilitating local occupant control *and* auto-off functions.

New power panels and associated feeders were integrated into existing distribution systems to repower the sleeping rooms and new equipment.

Systems included new and augmented fire alarm systems, communications wiring and connectivity, and a door access system integrated with the campus standards.