



Kieffer Dental and ARC International

Kieffer Dental consists of a 3,500 SF single story dental clinic space which includes a waiting area with kids play room, 6 exam rooms, office space, administration area and a full unfinished basement.

The ARC International building consists of a 3,400 SF single story office space which includes a waiting area, conference room, general office space, administration area and a full unfinished basement.

Unique engineering solutions on these design-build projects include air-air heat pumps, energy recovery ventilators, daylighting, low-voltage track and indirect lighting.

Project Data

Owners

Dr. Joe Kieffer, Kieffer Dental
Donovan Broberg, ARC International

Location

Rapid City, SD

Building Type

Dental / Office

Building Area

7,000 square feet (Excluding Basement)

Mechanical Systems / Features

Domestic water system
High SEER Air to Air Heat Pumps
Energy Recovery Ventilator
Integration of Dental Supplier Layout

Electrical Systems / Features

Kieffer – Full Spectrum Lighting
ARC - Indirect Lighting
120/208v, 600 amp multi-meter services
Integration of Dental Supplier Layout
Kieffer - Addressable Fire Alarm
Communications Wiring/Connectivity

Construction Cost

\$1,200,000

Completion Date

November 2008

Mechanical Engineering

Each building has its own dedicated domestic water service. The water meters are located in the lower level mechanical room within each building. Plumbing fixtures will be installed in the restrooms and will be ADA compatible.

The HVAC systems consist of air to air heat pumps with add-on electric heat. Energy Recovery Ventilators are used to reclaim heat that would otherwise be exhausted to the outdoors. Each building has an ERV located in the mechanical room. The air handlers are located in various areas within the building and remote heat pumps units are located on the roof.

The building has stand-alone thermostat control for the heat pumps. The exhaust fans are controlled with the lights in each restroom.

Electrical Engineering

The Kieffer facility design integrated the dental consultant design recommendations and supported connectivity of their equipment supply. Unique lighting systems included low-voltage track lighting and full-spectrum lighting for the optimal color rendering in the procedure areas. The ARC lighting utilized indirect lighting with day-lighting.

Each of these facilities were equipped with 600 amp services supporting a main meter and a future tenant space service entrance and meter.

The systems included Addressable fire alarm in the Kieffer facility and Data/Tele wiring and connectivity.