

Immanuel Medical Center Air Handling Unit Replacement Omaha, Nebraska



Project Cost
\$3,021,000

Client Reference
Waldinger Corp

Alegent Health budgeted \$3 million for infrastructure upgrades to repair, rebuild or replace the eight major air handling units serving the original patient towers, administration area, imaging, oncology and exam rooms at the Immanuel Medical Center. The air handling units had many operational issues, primarily due to the age of the equipment and the difficulty associated with maintaining equipment that can be shut down for only intermittent, short-term repair.

Immanuel Medical Center requested that Farris Engineering prepare a plan of action to arrange for all necessary repairs to the air handling units, with the stipulation that no single air handling unit could be out of service for more than eight hours, and that the time allotted for any downtime would be dictated by Immanuel Medical Center, typically at night and weekends.

The plan first involved the purchase of a temporary air handling unit. Farris Engineering specified and designed an air handling system that could be adjusted to provide the correct airflow, heating and cooling to each of the eight zones while each air handling unit was being upgraded. FEI prepared the necessary bid documents for the medical center to purchase the unit in a competitive bidding environment.

The temporary unit was installed on the roof, and temporary ductwork extended from this unit to each of the eight existing air handling units. A patch was fabricated to connect the temporary supply and return ductwork to each zone as its associated air handling unit was being upgraded. Two of the units were completely removed, and new air handling units fabricated in their place. The filter banks, heating and cooling coils, drains and doors were replaced on the other six units, and the interior surfaces power-washed. All eight units were upgraded with a direct digital controls system.

The construction work spanned approximately 10 months over a two year time period. At no time was any zone without heating or cooling for more than eight hours. The medical center now has essentially eight new air handling units to serve the facility for another 40 years. The temporary unit has been relocated and will now permanently serve the new Imaging and Oncology Department expansion.