

**Veterans Affairs Medical Center  
Microbiology Laboratory  
Omaha, Nebraska**



**Project Cost**  
\$2,338,600

**Completion Date**  
2009

**Client Reference**  
Calvin L. Hinz Architects &  
Associates

Farris Engineering provided the mechanical and electrical engineering conceptual design, design development, final design, shop drawing review and construction period services to implement the major upgrade to this facility. The project consisted of major alterations to this portion of the existing facility to meet current codes and offer more capabilities for this laboratory. Significant characteristics of the project include:

- Meetings were held with DVA administration, engineering, safety and user personnel to define the actual needs of the areas involved in the project.
- The entire microbiology area mechanical and electrical systems were removed and replaced with new, state-of-the-art systems.
- The existing facility had no outside air capabilities and is below grade allowing minimal direct access to exterior envelope components of the facility. This required careful integration into the main building ventilation system to acquire outside air for makeup air for the hoods. Similar problems were encountered in routing dedicated exhaust ducts out of the facility.
- Radioactive isotopes, chemical fumes, tissue cultures, perchloric acid and related media are representative substances that were present for the hoods.
- Laminar flow, bypass and variable air volume type hoods were employed for various areas as dictated by the substances present.
- Distilled water, natural gas, corrosive waste, vacuum, cup sink compressed air and related capabilities were provided for these hoods.
- High efficiency particulate air (HEPA) filtration was provided for a majority of the dedicated exhaust ducts discharging from the facility.
- Spark resistant exhaust fan construction and PVC coated duct-work were provided for the systems to meet code requirements as well as to meet good engineering practices.