

**Nathan Kline Research Institute
Building 39 Laboratory Renovations
Orangeburg, New York**

Owner: NYS Office of Mental Health

Total Construction Cost: \$2,000,000.00

Provide design for full renovation of an existing lab building to comply with American Association for Accreditation of Laboratory Animal Care (AAALAC), American Society of Heating Refrigeration Engineering (ASHRAE), National Electric Code (NEC).

The mechanical design consists of a complete redesign of the heating, ventilating, and air conditioning systems to accommodate increased heating and cooling loads and increased ventilation requirements for lab applications and animal housing to meet ALAC standards and Research Laboratory requirements. The project requires constant 100% outside air, 24 hours of the day, 7 days a week. A direct digital control system controls the various temperature and humidity set points to provide the proper environment for a laboratory environment with animal housing environment at all times. Due to the research nature of this project, environmental conditions include special conditions during testing in short term and long term data collection in specific rooms.

Heating, Ventilating and Air Conditioning (HVAC) Design, positive/negative airflow design, duct system leakage testing and balancing of laboratories, sensing chambers, operating room, animal housing, cage wash area, clean rooms versus dirty rooms.

The plumbing design consists of complete design of potable water, water conditioning, and sanitary for the testing equipment provisions and cage washing areas. Plumbing design is included in clean and dirty areas of the laboratory.

The electrical design consists of upgrading the building power distribution, lighting system, security system fire alarm system and site lighting to provide electrical services for the increased system equipment load and laboratory equipment requirements. The design also requires analysis and provision for emergency power requirements for critical building systems and laboratory equipment.



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