



## Pharmaceuticals & Biotechnology

**Client**  
SAIC/NAID

**Location**  
Frederick, MD, USA



## Vaccine Pilot Plant

### Project Description

CH2M HILL Lockwood Greene provided design engineering services for a vaccine development facility and multi-product pilot plant built for the National Institute of Allergy and Infectious Diseases (NIAID). The project was originally planned as a greenfield facility on the Fort Detrick campus and was subsequently re-designed as a tenate-fit-out in an industrial park in Frederick, Maryland. The Science Application International Corporation (SAIC) was the contractor responsible for the design, construction and operation of the facility. The National Cancer Institute at Frederick was also under contract to provide technical support.

The plant is designed to carry out live and attenuated vaccine production with recombinant mammalian cell culture and bacterial fermentation technology. Initial vectors employed include adenovirus and DNA plasmid technology. Production areas include two small-scale (100 liter), one medium-scale (400 liter), and one large-scale (2,000 liter) fermentation and downstream processing suites.

The project included formulation, sterile fill/lyophilization, and final packaging. Support functions include filling and packaging, process utilities, warehousing, QC laboratories, and offices.

The 49,500 sf manufacturing area was constructed with pre-manufactured clean room wall and ceiling panels. The 126,900 sf building consists of one main level for the primary building functions with a 27,850 sf mechanical mezzanine and 49,500 sf interstitial walk-on ceiling.

NIAID conducts and supports research to study the causes of allergic, immunologic, and infectious diseases; and develops better means of preventing, diagnosing, and treating these illnesses. It is one of 20 institutes comprising the National Institutes of Health, as well as one of eight agencies that compose the Public Health Service in the Department of Health and Human Services.