



INSTITUTE FOR CHEMICAL DEFENSE

- Aberdeen Proving Grounds Edgewood Area



PROJECT DESCRIPTION...

The U. S. Army Medical Research Institute of Chemical Defense operates this \$500 million state-of-the-art chemical defense research facility in the Edgewood Area of Aberdeen Proving Grounds. This complex facility encompasses approximately 582,000-GSF on a sloping site, and has multiple first-floor levels and multiple wings ranging from two to five stories. Supporting facilities include conventional and specialized utilities, roadways and parking areas, storm drainage, IT/Telecommunications and Safety systems, as well as associated site improvements.



SCOPE OF WORK...

Balter provided the geotechnical and geo-environmental engineering and design using extensive subsurface boring data and laboratory test data collected by both the USACE and Balter. Balter's recommendations included complex engineering evaluations, UXO screening, supported by sophisticated materials laboratory testing performed in our AASHTO and USACE validated laboratory.

All geotechnical design was performed in accordance with US Army Corps Design Manuals and Procedures, the Uniform Facilities Code and subjected to detailed review by the US Army Corps.



ADDED VALUE...

Due to its design requirements, the facility generated unusually heavy structural loads for its height. It also incorporated extensive settlement-sensitive laboratory equipment. These aspects presented geotechnical design challenges since the site includes weak moisture-sensitive surface clays and deep soft soils.



To select the most cost-effective foundation systems, extensive geotechnical analyses were performed with both the original Corps data and the supplemental Balter data. Balter's advanced geotechnical analyses included the evaluation of eight different foundation systems. This permitted the use of geopiers for in-situ improvement of undocumented existing fills and high-pressure footings **resulting in a savings of \$7 million from the value engineered auger-cast piles originally expected and \$3 million from the excavated/replace alternate.**

This project was the recipient of The Commander's Coin Award for Excellence for the design of the new ICD facility.



The United States Army Medical Research Institute of Chemical Defense is the nation's leading science and technology laboratory in the area of medical chemical countermeasures research and development.



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*Geotechnical Engineering, Subsurface Exploration
Construction Inspection and Materials Testing*