

David H. Koch Institute for Integrative Cancer Research

Bryan Donovan | Mechanical Option



Project Location

Cambridge, Ma

Owner

Massachusetts Institute of Technology

Architect

Ellenzweig Architecture

MEP Engineer

Bard, Rao + Athanas Consulting Engineers, LLC

Structural Engineer

LeMessurier Consultants, Inc.

Civil Engineer

Nitsch Engineering, Inc.

Project Information



The Koch Institute is a 360,000 GSF design that will stand 7 stories above grade, along with a basement and penthouse. With a construction cost of \$190 million, the Koch Institute is planned to be completed in the winter of 2010.

Mechanical



Serving the lab spaces is a 100% Outdoor Air fan system that is supplied and exhausted by (10) 50,000 CFM factory built up AHU's coupled with (10) built up 50,000 CFM EAHU's. These units utilize a Heat Pipe Heat Recovery System. The perimeter and high-load interior spaces require induction cooling terminals (chilled beam). Campus chilled water and high pressure steam is provided in the basement. A 200 ton Water Cooled Rotary Screw Chiller provides redundancy for vivarium spaces.

Electrical



The main service entrance is through an existing manhole rated at 15 KV. Service is fed to (2) double-ended substations within the building. It is then stepped down to 480Y/277 V power through 2000 kVA (FA) transformers. Emergency power is provided by a 2000KW/ 2500KVA Generator.

Architecture



Designed to achieve LEED Gold Certification, the architecture of the Koch Institute embodies the sophistication of the research to be performed within its sleek enclosure. Aluminum and glass curtain walls wrap the building's facade. The facility will include research labs, vivarium, conference facilities, cafeteria and offices

Structural



The substructure consists of concrete column footings, foundation wall and slab on grade. The Floor System is made up of 4.5" NWC on 3" deep, 18 gage minimum composite steel deck. Orthogonal steel bracing makes up the lateral force resistance system. The Superstructure consists of individual steel columns that act as part of the lateral bracing system.