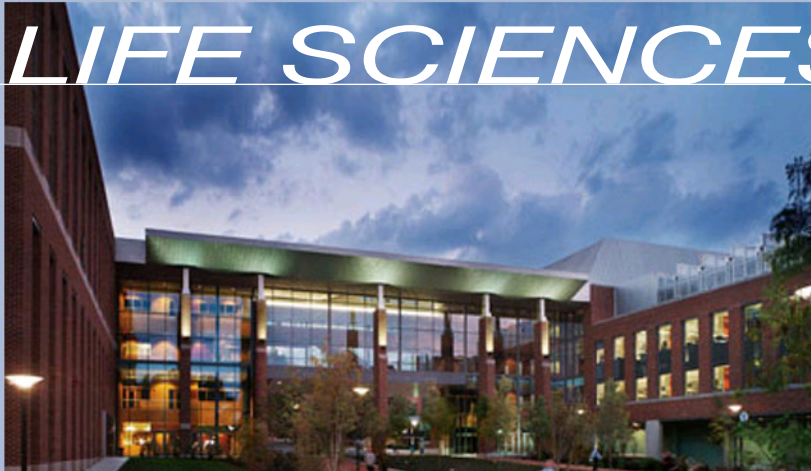


LIFE SCIENCES BUILDING

UNIVERSITY PARK, PENNSYLVANIA



KIRK M. STAUFFER STRUCTURAL OPTION

<http://www.engr.psu.edu/ae/thesis/portfolios/2008/kms491/>

PROJECT TEAM

OWNER - The Pennsylvania State University

ARCHITECTS - Payette Associates

Bower Lewis Thrower Associates

STRUCTURAL ENGINEER - Gannett Fleming

M/E/P ENGINEER - Bard, Rao, + Athanas

CONSTRUCTION MANAGER - Skansas

BUILDING STATISTICS

154,000 GSF 6 Levels [97' tall]

CONSTRUCTION DATES - 7/2002 - 9/2004

DELIVERY METHOD - CM at risk

CONTRACT AMOUNT - \$37,790,085



ARCHITECTURE

- Creates "Gateway to the Sciences" at end of pedestrian mall by utilizing a bridge connection to the adjacent Chemistry Building.
- Design relates to campus through material use and various punched fenestrations.
- Modern building technologies implemented as indication of progressive campus.
- Houses general classrooms, research labs, offices, and greenhouses.

ELECTRICAL / LIGHTING SYSTEM

- 15 kV incoming service distributed by 4000 A main switchboard.
- Electric distributed is both 480Y/277V and 208Y/120V.
- Indoor diesel 750 kW 480Y/277V emergency generator.
- Mostly fluorescent light fixtures, special fixtures used for labs, darkrooms, greenhouses.
- Natural lighting / sun shades on south curtain wall.

STRUCTURAL SYSTEM

- FOUNDATION - Steel piles with reinforced concrete caps and reinforced concrete spread footings
- FLOOR SYSTEM - Concrete slab on composite steel deck supported by composite steel beams and girders.
- LATERAL FORCE RESISTING SYSTEM - Steel moment and braced frames throughout building in two orthogonal directions.
- COLUMNS - Steel columns individually or as part of lateral force resisting system.

MECHANICAL SYSTEM

- 281,000 CFM outside air supplied by eight air handling units.
- 150 tons of cooling by two rooftop air cooled chiller units.
- Heating steam from central steam plant.
- Individual temperature control by 36 variable and constant volume boxes.
- High efficiency filtration on laboratory air intake and exhaust.

THE PENNSYLVANIA STATE UNIVERSITY