UCI natural sciences unit two

irvine, california

grant w kightlinger
lighting/electrical

http://www.engr.psu.edu/ae/thesis/portfolios/2009/gwk124

info

project area: 146,075 ft²
height: 5 stories
total cost: $45M
construction time: 17 mar 2005 – 01 sep 2008
delivery method: modified design / build

team

owner: the university of california irvine
architect of record: carrier-johnson
design architect: zimmer-gunsul-frasca architects
general contractor: hensel phelps construction co.
structural: bfl owen & assoc.
civil: boyle engineering
mechanical: ma engineers
electrical: konsortum 1
landscape: ima design

arch

The academic building is composed of a four-story laboratory wing and a five-story office wing which form the shape of an “L”, with a two-story entrance lobby located between the two. A small outdoor courtyard is sheltered on two sides by the wings of the building. The fifth floor features a terrace with access to the main stair. Concrete shear walls and red granite panels make up the building façade. The roof is reinforced modified bitumen with copper and steel accents.

struc

18” thick concrete shear walls form the bulk of the façade. The building foundation consists of reinforced piles below a 6” slab-on-grade. 10” thick two-way slabs are typical on upper floors. The structure employs a reinforced concrete framing system with 8” drop panels.

ltg/ elec

A 12kV service connected to UCI’s underground distribution network provides normal power to the building. A 2500kVA pad-mounted transformer feeds the 480/277V three-phase system. A 1250 kW diesel generator provides emergency backup power. 2’ x 4’ linear fluorescent fixtures are typical throughout office and lab areas. Recessed compact fluorescent downlights are used in public and circulation areas.

mech

Three air handling units located in the mechanical room on the first floor supply conditioned air to the spaces and have a combined 160,000 cfm capacity. Constant air volume and variable air volume terminal units with reheat coils are used within the branch duct system.