

Exterior View at Reading Lounge



Bradley Sisenwain Lighting Electrical Option

www.engr.psu.edu/ae/thesis/portfolios/2009/bds239/

Architecture:

The four story buildings total 360,000 SF and estimated at \$147 million to complete. Designed around an elongated atrium—that acts as an “interior street” for student and faculty gathering—Gateway’s building spans two blocks and over George Street. The first floor is home to a three story library, outdoor patios and playground, and community center. Classrooms, laboratories, and offices can be found on every floor. Exterior materials consist of brick, aluminum curtain wall systems, concrete panels, and aluminum wall panels. Three roofs are used: “cool roof” and two green roofs.

Special Features:

LEED Gold Certification, the first in the state of Connecticut. This new campus will make use of alternative energy technologies including solar, hot water, and photovoltaic panels.

Structural:

The primary structural system is a typical wide-flange layout of columns, girders, and beams. The floors above grade are composite metal deck. Full-height trusses support the walkway and are visible from the inside and out; creating an interesting and contemporary structural identity. Concrete footers are located below the basement (North Tower) and below grade (South Tower). A 5" slab on grade tops the footings on these levels.

Mechanical:

The central plant consists of three fire-tube boilers and two centrifugal water chillers. During off peak hours (at night) the two chillers produce ice which is then used to cool air during the day. This air is allocated by six air handling units located on the roof of the fourth floor. One cooling tower is also located on the roof.

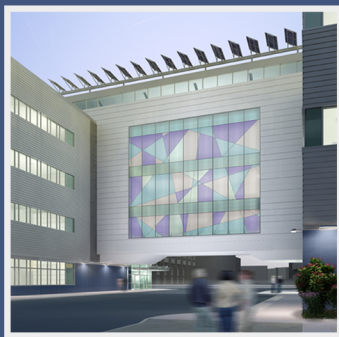
Lighting/Electrical

Electric lighting is a balance between function, performance, and appearance. The majority of lamp types are linear/compact fluorescent and metal halide, and are designed to the lowest wattage consumption to meet LEED criteria.

The utilities incoming power is the split between two 2500 KVA step-down transformers which feed two 4000A, 480Y/277V main switchboards which are located in both the North and South Towers. The 1000KW emergency power generator is controlled by four automatic transfer switches.



Gathering Space



Exterior View North East



Exterior View North West



Exterior View South West