



The Hetzel Union Building (HUB)

Pennsylvania State University, University Park

Building Statistics

John C Keyes

Lighting / Electrical

Advisor: Kevin Houser

BUILDING STATISTICS

General Building Data

BUILDING NAME

The Hetzel Union Building (HUB)

LOCATION

Penn State University, University Park

BUILDING OCCUPANT NAME

The HUB

OCCUPANCY TYPE

Multi-Purpose

SIZE OF BUILDING

107,000 S.F.

NUMBER OF STORIES

Three stories above grade

PROJECT TEAMS

Owner: Penn State University

Construction Manager: Gilbane Building Company

Architect: Gund Partnership

Landscape Architect: Andropogon Associates, Ltd.

MEP Engineer: Vanderweil Engineers

Civil Engineer: Sweetland Engineering and Assoc.

Structural Engineer: LeMessurier Consultants

Acoustic Consultant: Acentech Incorporated

BUILDING STATISTICS

AV/IT Consultant: Vantage Technology Group

Lighting Consultant: Horton Lees Brogden Lighting Design

CONSTRUCTION DATES

May 2013 - May 2015

COST INFORMATION

Project cost: \$44,600,000

PROJECT DELIVERY METHOD

Design-Bid-Build

Architecture

DESIGN AND FUNCTIONAL COMPONENTS

The design of the HUB addition both compliments and stands apart from the rest of the HUB. The terra cotta shell is reminiscent of the masonry brick façade on the older portions of the building, but maintains a strong identity as a newer and improved space. The large use of glass helps to create a lighter feel both visually and structurally to the addition as a whole.



Atrium: Courtesy of Gund Partnership

There are a variety of spaces within the HUB, including the campus bookstore, various food vendors, THON offices, and various gathering spaces. The bookstore features a design that is both inviting and open. The first story acts as the main store, while the mezzanine level connects to the main floor of the HUB and is more of a study space and casual reading area. The main atrium is the main pathway through the building, connecting the new addition to the old HUB. The main floor also functions as a seating area for the food court. A main stair is positioned in the center of the space that is both for bleacher style seating and a means of getting onto the mezzanine level. The mezzanine is a ring that spans the perimeter

of the atrium and is lined with conference rooms and offices that take advantage of the abundance of daylighting with curtain wall like glazing.

MAJOR MODEL CODES

The codes used in the designing of the HUB include IBC 2009, ASHRAE 2010, NEC 2011, IECC 2009, IEBC 2009, ISBC 2009, and IPC 2009.

ZONING

A-1, 2: Assembly - Theaters, Restaurants

B: Business

M- Mercantile

Building Enclosure

FACADES

The three main building facades for the building are terra cotta, curtain wall, and masonry brick. A large portion of the atrium and attached spaces is clad in terra cotta panels, which vary in texture from smooth to corrugate. The masonry brick is the main façade of the bookstore. These bricks vary in color considerably, from a rich crimson to a much lighter rose color. Behind the masonry is 2.5” cavity wool insulation and 8” metal studs that are 16” on center to hold everything up.

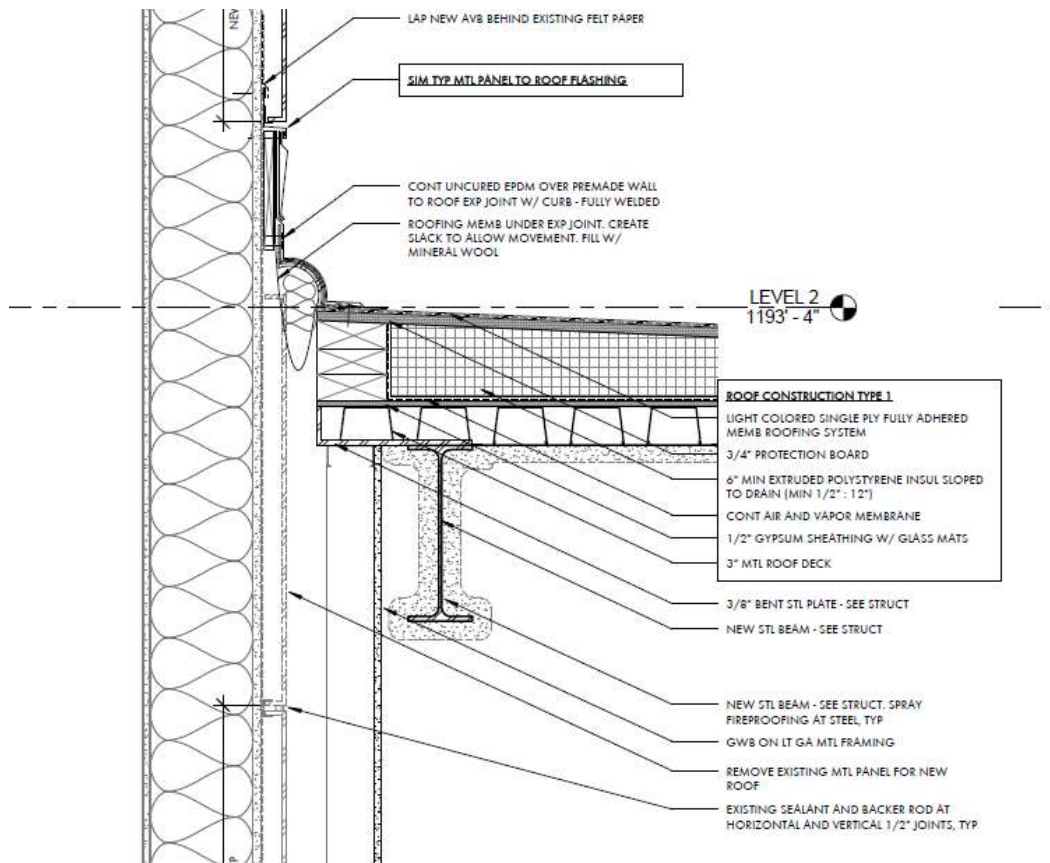


The two main curtain wall facades, made up of low-e reflective glazing, provide daylight to the bookstore and to the main atrium space. The upper panels of glass in the atrium space also have frit to help control the amount of direct sunlight that enters the space. In addition to the curtain wall there is also a skylight like system in the atrium space with a metal scrim over top of triangular glass panels.

ROOFING

The roof of the bookstore is a green roof construction that will have the ability to accommodate occupants. The atrium roofing system is comprised of sloping metal panels that give way to glass panels in

the middle portion. The glass panel portion takes on a much more organic sloping in contrast to the more conventional continuous slope of the surrounding metal panels.



Ref: A4.32 (8)

Typical roof construction consists of a single ply membrane, 3/4" protection board, 6" min extruded polystyrene insulation, air and vapor membrane, 1/2" gypsum sheathing with glass mats on a 3" metal roof deck.

Sustainability Features

An inhabitable green roof over the book store will help with drainage as well as acting as a heat sink for the spaces below. High performance glazing is used for the curtain wall systems to help mitigate solar heat gain. The use of scrims on some of the glass roof panels also helps to lessen glare and solar heat gain coming from above.