

# The Educational Activities Building

PSU Harrisburg Campus



Figure 1 Images courtesy of BCJ

## Building Statistics 1

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Option: Construction Management

Advisor: Craig Dubler

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## **General Building Data**

**Building name:** Educational Activities Building (EAB)

**Location:** PSU Harrisburg Campus, Harrisburg, PA

**Building occupant name:** PSU Harrisburg Campus

**Occupancy type:** Educational, with some engineering laboratories and offices.

**Size:** 55,057 GSF

**Number of stories:** 2 stories

**Construction dates:** 02/04/2013 to 05/30/2014

**Total project cost:** \$19.4 Million

**Project delivery method:** CM at Risk/ Guaranteed Maximum Price

**Project team:**

<b>Role</b>	<b>Organization</b>	<b>Website</b>
<b>Owner</b>	Penn State	<a href="http://www.opp.psu.edu">www.opp.psu.edu</a>
<b>CM</b>	Reynolds Construction	<a href="http://www.reynoldsconstruction.com">www.reynoldsconstruction.com</a>
<b>Architect</b>	Bohlin Cywinski Jackson	<a href="http://www.bcj.com">www.bcj.com</a>
<b>Structural Engineer</b>	Hope Furrer Associates	<a href="http://www.hfurrer.com">www.hfurrer.com</a>
<b>MEP Engineer</b>	IES	<a href="http://www.ies-pa.com">www.ies-pa.com</a>
<b>Civil Engineer</b>	Raudenbush	<a href="http://www.raudeng.com">www.raudeng.com</a>
<b>BIM Consultant</b>	Adept Project Delivery	<a href="http://www.adeptprojectdelivery.com">www.adeptprojectdelivery.com</a>

## **Architecture**

The Educational Activities Building addition is a 51,000 square foot project located on the Penn State Harrisburg Campus. The building will be used for classrooms, laboratories and offices for the different programs offered at the Harrisburg Campus. The structure is L- shaped with curtain wall façade covered with brick veneer. The short side of the building consists of two floors and the long side is mostly one floor. The site of the project doesn't have any historical significance which eliminates any historical requirements or regulations.

The project is located within the campus property line so it follows the Educational-Institutional Zoning District (E-I). Some of the zoning regulations are as follow:

- 40' maximum building height.
- 75' front yard setback from street or driveway center line.

### **Codes:**

IBC- International Building Code, 2009

International Fire Code, 2009

International Energy Conservation Code, 2009

International Existing Building Code, 2009

International Fuel Gas Code, 2009  
International Mechanical Code, 2009  
International Plumbing Code, 2009  
International Urban-Wildland Interface Code, 2009  
International Code Council, 2003

## **Building Enclosure**

Building Façade:

the building exterior is made of Aluminum Curtain Wall system. The walls are covered with brick veneer on the outside and 1" insulated glazing unit on the inside. The curtain wall is connected to the ground with 4" CMUs with ½" exterior gypsum sheathing. In addition, glazed aluminum channels are used around the openings in vertical sections of the building.

Roofing:

The roofing mainly consists of a single ply roof membrane system over ½" gypsum cover board. Additionally, there's a layer of 4" of rigid insulation between the membrane system and the roof structure. Finally, a self-adhering air/vapor barrier is placed between the 4" insulation and the concrete on metal deck roof.

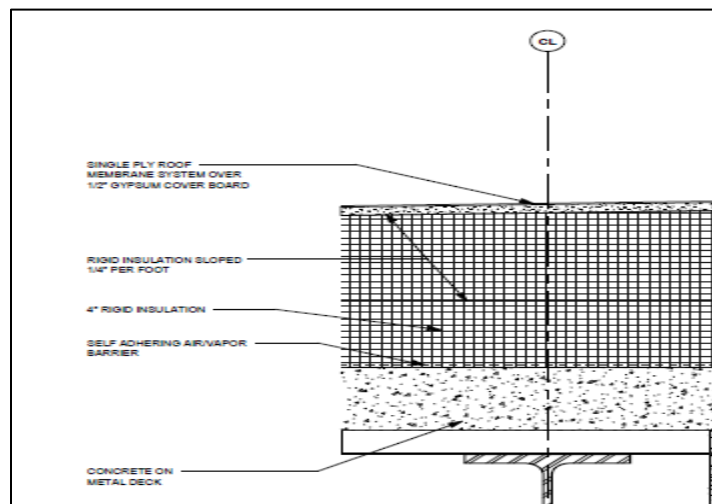


Figure 2 Sectional view of the roofing. Image Courtesy of BCJ

## **Sustainability Features**

- Mechanical system sustainability features:
  - The HVAC system is central station air handling unit, which utilizes chilled water for cooling and hot water for heating.
  - Variable volume supply and return fans using variable frequency drives on the motors.
  - Energy recovery wheels which recover sensible and latent energy from relief and exhaust air.
- Electrical system sustainability features:
  - Electrical distribution includes various step-down transformers.
  - Majority of the lighting in the building are LED lighting with lighting control based on localized sensors.