ENTRY FORM

DVASE
2010 Excellence in Structural Engineering Awards Program

PROJECT CATEGORY (check one):

New Building under $30M		Other Structures Under $10M	
New Building over $100M		Other Structures Over $10M	
New Building $30M - $100M	X		

Approximate construction cost of facility submitted:	$35 Million
Entry Fee:	**FREE**
Name of Project:	Williams College – North and South Academic Buildings
Location of Project:	Williamstown – Massachusetts
Date construction was completed (M/Y):	August 2008
Structural Design Firm:	CVM Engineers
Affiliation:	**All entries must be submitted by DVASE member firms or members.**
Architect:	Bohlin Cywinski Jackson – Wilkes-Barre Office
General Contractor:	Barr & Barr, Inc.

Company Logo (insert .jpg in box below)

Provide a concise project description in the following box (one page maximum). Include the significant aspects of the project and their relationship to the judging criteria.

The North and South Academic Buildings located on the campus of Williams College were officially completed and occupied in August 2008. The North Academic Building is a 59,000 sq. ft. three-story building with a partial basement while the South Academic Building is a 41,000 sq. ft. three-story building which also has a partial basement. The program in the Academic Buildings includes 165 offices, 10 classrooms, 4 meeting rooms and 12 lounge/gathering areas. Both Academic Buildings feature a green/garden roof over the main, two-story gallery spaces while the South Academic Building also has a green/garden roof over the south classroom space. Both Academic Buildings also feature sloped copper roofs and the building façades consist of a combination of brick, metal panel and curtain wall. The brick façade is supported off of a stepped concrete foundation wall with CMU serving as the back-up.

The buildings are founded on conventional spread footings. However, throughout both academic buildings, the rock contours varied greatly. Each building had some spread footings founded on bedrock which had a bearing capacity upward of 20,000 psf but transitioned to areas that had a bearing capacity of only 1500 psf on glaciolacustrine soils. The use of the super-imposed rock contour plan helped to establish the footing design criteria and was used to verify the bearing conditions in the field. Due to the drastically different bearing pressures, CVM worked closely with the Geotechnical Engineer to ensure the footings were designed to limit the differential settlement.

The Academic Buildings' superstructure consisted of a semi-rigid moment connected steel framed structure with concrete filled metal deck. Throughout the building, the steel structure was expressed and the use of AESS steel was utilized. The main roof for both buildings consisted of a steel framed gabled roof; however both buildings also expressed areas with lower flat roofs occurring in the specialty areas such as the reading rooms and the main classrooms.

The Academic Buildings used 4" nominal tongue and groove glulam roof decking over the gallery spaces to support a green roof, which could be viewed from inside the buildings on the third floor. The remainder of the building used a combination of Epic floor and roof deck as well as Epic Acoustic floor and roof deck in areas with sensitive acoustic concerns.

One of the main features of the two academic buildings is the alignment of the axis of their two story tall gallery spaces looking out into the courtyards. Each building has a 28'-6" long, 6'-0" wide pedestrian bridge overlooking the gallery space below. Both the North and South Academic Buildings are L-Shaped in plan with only the pedestrian bridge connecting the two wings together on the second floor of each building. Therefore, one end of the pedestrian bridge was designed to incorporate a slide bearing connection to allow each wing to move independently due to the lack of a continuous diaphragm at the second floor.

In the North Academic Building, a 34'-0" long ornamental gallery stair ran along the exterior curtain wall and was supported by two WT bent stringers. The 5'-0" wide stair consisted of a 3/8" custom bent plate supporting slate treads. The use of two built-up cruciform columns was introduced to help with the vibration performance of the main gallery stair.

Each building has a main aluminum trellis on the east side supported off of three story tall masonry piers. In addition to these main aluminum trellises, there are aluminum sunshade structures cantilevering from stainless steel knife plates connected back to the CMU back-up. Individual CMU piers were designed to span from floor to floor to support the cantilevering aluminum sunshades.

Please attach your photos as previously described in the call for entries document and insert captions for the photos in the following boxes.

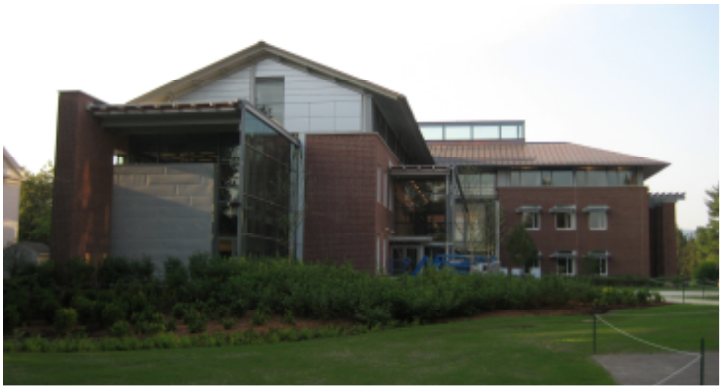
Photo 1:

North Academic Building – View of Ornamental Gallery Stair

Photo 2:

North Academic Building – Courtyard view of Specialty Classroom and Gallery

Photo 3:



South Academic Building – View from downtown

Photo 4:

North Academic Building – View of Aluminum Trellis and Alumimum Sunshades

Photo 5:

North Academic Building – View from Pedestrian Bridge looking down into the Gallery

By signing, signatory agrees to the following and represents that he or she is authorized to sign for the structural design firm of record:

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Submitted by:

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