ENTRY FORM



DVASE 2018 Excellence in Structural Engineering Awards Program

PROJECT CATEGORY (check one):

Buildings under \$5M		Buildings Over \$100M	
Buildings \$5M - \$15M	XX	Other Structures Under \$1M	
Buildings \$15M - \$40M		Other Structures Over \$1M	
Buildings \$40M - \$100M		Single Family Home	

Approximate construction cost of facility submitted:	\$10M
Name of Project:	VILLANOVA - FINNERAN PAVILLION
Location of Project:	VILLANOVA, PA
Date construction was completed (M/Y):	8/2018
Structural Design Firm:	EWINGCOLE
Affiliation:	All entries must be submitted by DVASE member firms or members.
Architect:	EWINGCOLE
General Contractor:	HUNTER ROBERTS

Company Logo (insert .jpg in box below)



Important Notes:

- Please .pdf your completed entry form and email to <u>bsagusti@barrhorstman.com</u>.
- Please also email separately 2-3 of the best .jpg images of your project, for the slide presentation at the May dinner and for the DVASE website. Include a brief (approx. 4 sentences) summary of the project for the DVASE Awards Presentation with this separate email.

• 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.

Commissioned by Villanova University to re-imagine the 30-year old Finneran Pavilion, the home for the Wildcat's Men's and Women's Basketball teams, the goals of the project were to create a Major Division I Basketball Experience. The unique hyperbolic roof form was seen by the team as an opportunity to be celebrated. Over 400 linear LED light fixtures were designed into the exposed wood roof structure to accentuate the volume. Four video boards, along with a center hung LED and fascia ribbon boards were combined with a new state-of-the-art sound system, elevating the fan's experience from that of a glorified high school gymnasium into a major Division I arena.

Structural upgrades to the two-story, 6,500-seat structure include a completed perimeter concourse, new seating and a new grand entry. Although the entire project cost was on the order of \$45M due to the major upgrades in seating, A/V and lighting, the renovations that included structural work within the existing Pavilion structure were in the \$10M range.

One of the most interesting parts of the project was dissecting the wood-framed hyperbolic paraboloid roof and determining how the parts and pieces work together. The roof was modeled in Revit so that the architects could have a more accurate feel for the entire volume of space available for renovation. Additional existing steel framing, necessary for the stability of the existing structure, was also modeled so that architects could appropriately plan around them. Modeling of the roof structure also helped architects locate and resolve several pinch points at the low ends where new construction had to be modified.

The new concourse is a steel framed platform using concrete on metal deck and moment frames for lateral stability. The new structures are isolated from the existing structure with an expansion joint. Getting steel, concrete, lifts and booms into the space proved challenging. Openings in the existing walls were required to facilitate erection.

One of the more challenging pieces of the renovations included the construction of a bleacher platform that allowed access to concessions below and offered unobstructed views of the new fan experience lighting and monitors. The steel frame seating structure had large sloping cantilevers, complex angled connections and diagonal bracing for stability. Close communication with the fabricator was required.

The main entrance into the pavilion has been relocated to a more prominent location from campus that leads patrons into the new concourse. Major site renovations were required that included grand stairs, site retaining walls and opening up of the existing block and brick wall and replacing it with curtain wall. The exterior masonry walls spanned between tall steel wind columns around the perimeter. Although non-load bearing, these columns remained in place and new wind girts were added to brace the columns and to support the monumental curtain wall. This new entry welcome fans and spectators of the Villanova Wildcats for many more years to come.









• The following 5 pages (maximum) can be used to portray your project to the awards committee through photos, renderings, sketches, plans, etc...



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

All entries become the property of DVASE and will not be returned. By entering, the entrant grants a royalty-free license to DVASE to use any copyrighted material submitted.

If selected as an award winner, you may be offered the opportunity to present your project at a DVASE breakfast seminar. Would you be willing to present to your colleagues? **YES NO**

Submitted by:

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