

# ENTRY FORM



## DVASE 2021 Excellence in Structural Engineering Awards Program

### PROJECT CATEGORY (check one):

Buildings under \$5M		Buildings Over \$100M	
Buildings \$5M - \$15M	<input checked="" type="checkbox"/>	Other Structures Under \$1M	
Buildings \$15M - \$40M		Other Structures Over \$1M	
Buildings \$40M - \$100M		Single Family Home	

Approximate construction cost of facility submitted:	\$10 Million
Name of Project:	Arrupe Hall at Saint Joseph's University
Location of Project:	Philadelphia, PA
Date construction was completed (M/Y):	01/2021
Structural Design Firm:	Keast & Hood Structural Engineers
Affiliation:	<b>All entries must be submitted by DVASE member firms or members.</b>
Architect:	Moto Designshop
General Contractor:	Hunter Roberts

Company Logo (insert .jpg in box below)



### Important Notes:

- Please .pdf your completed entry form and email to [bsagusti@barrhorstman.com](mailto:bsagusti@barrhorstman.com).
- Please also email separately 2-3 of the best .jpg images of your project, for the slide presentation at the annual virtual presentation 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.

Directly off of the busy City Line Avenue, a quiet tree-lined Lapsley Lane is the perfect setting for the newly built Arrupe Hall, a peaceful residence for Jesuit priests who teach at Saint Joseph's University and the nearby preparatory high school.

Arrupe Hall is a three-story congregate living residence of approximately 15,000 GSF located on-campus at St. Joseph's University in Lower Merion Township. Designed to accommodate 15 residents in individual units, the modern structure is elegant, serene, and provides generous living spaces and amenities for its inhabitants. An attached chapel is a study in the use of light and time. Inspired by the Gregorian Calendar, its distinctive brick screen wall permits dappled light through layers of interior wood screens for a place of worship that is as meditative as it is inspiring.

The building's structure is a meticulously coordinated steel podium supporting load-bearing wood stud walls and floors constructed of metal plate connected wood trusses and engineered lumber. The steel framing was thoughtfully integrated into the wood structure to allow open gathering spaces on the first floor - a library, dining room, and study - and the suites on the second and third floors offer retreat and privacy.

Major structural challenges included incorporating a lateral system into the open floor plan and transferring forces between the wood and steel systems. Load-bearing walls step back on the façade and were transferred to steel beams below. Panelization of the shear walls meant field connections between panels were critical, and these connections and hold-downs were carefully designed and checked in the field.

A three-story lobby features a monumental stair constructed of wood and steel where every connection and detail was carefully developed to achieve the architectural vision for a flowing guardrail that transitions to a wood screen. A 250 sf skylight supported by LVL beams illuminates the core of the residence.

The most unique and challenging structural aspect of the project was the design of a 30 ft tall single wythe brick screen wall around the exterior of the chapel. The design team carefully developed the perforations in the wall to allow light into the chapel while also integrating continuous reinforcing in custom hollow-core bricks. The curving and battered wall is supported by a galvanized steel armature that is carefully concealed behind the brick. Vertical and horizontal threaded stainless steel rods are used for reinforcement and adjustable ties allow for the wall to expand and contract over time.

Considering the challenge of building the brick screen, Keast & Hood and our client Moto Designshop worked to involve the International Masonry Institute and masons with the Bricklayers and Applied Craftworkers (BAC Local Union #1) during the design phase to seek input on building this geometrically complex and ambitious screen wall. Their input informed the final design and provided valuable insight into the feasibility of constructing this one-of-a-kind feature.

Arrupe Hall stands as an elegant and serene home for the University's esteemed Jesuit faculty. Keast & Hood was honored to contribute to such an important project.

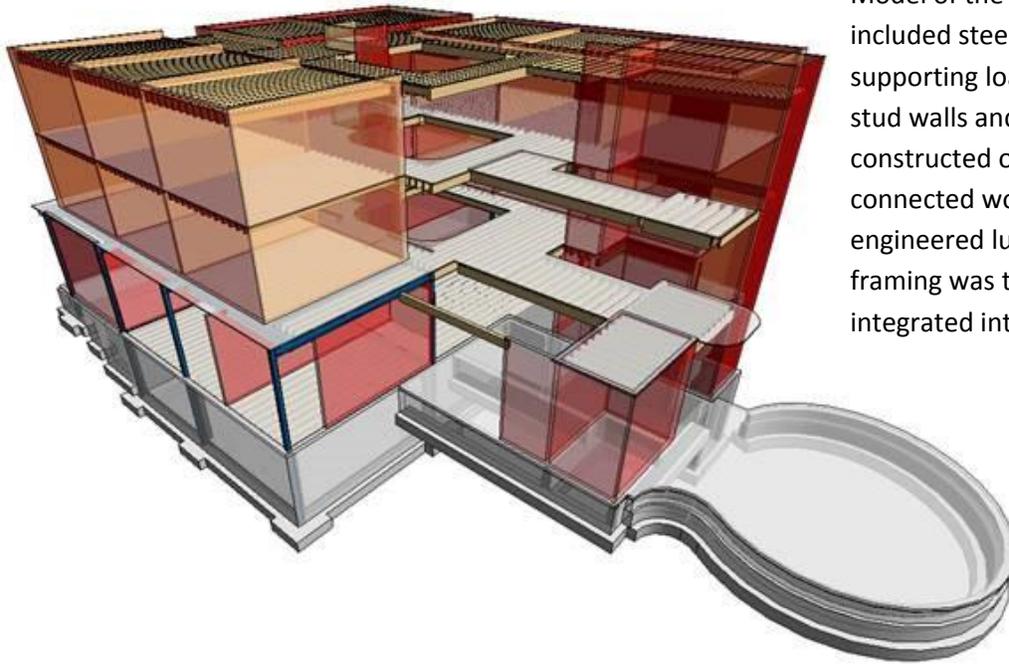
- The following 5 pages (maximum) can be used to portray your project to the awards committee through photos, renderings, sketches, plans, etc...



Above: The new, 15,000 GSF Arrupe Hall at Saint Joe's University exterior featuring a 30 ft tall, single wythe brick curved screen wall around the exterior of the chapel that is a part of the new building.

Right: Interior view of the living quarters for the Jesuit priests that are the primary users of the hall.





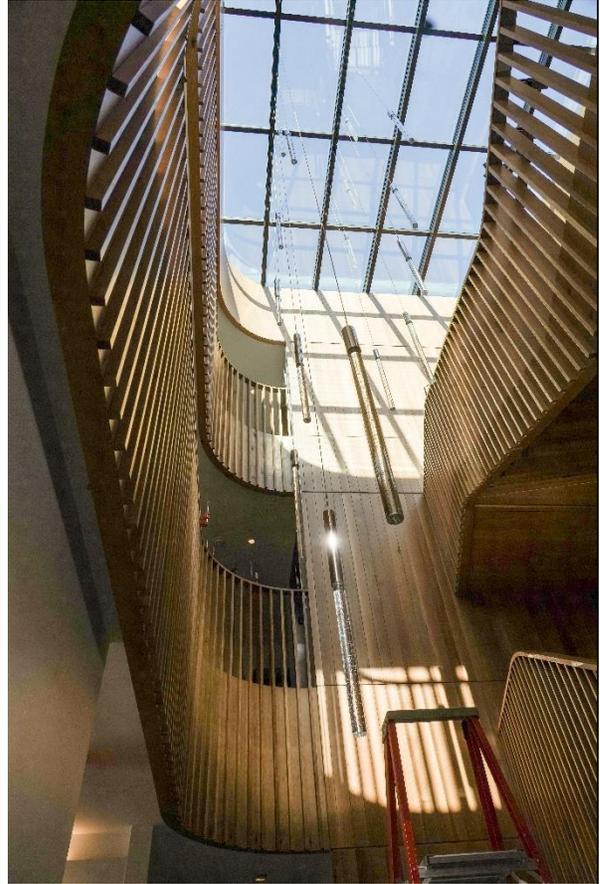
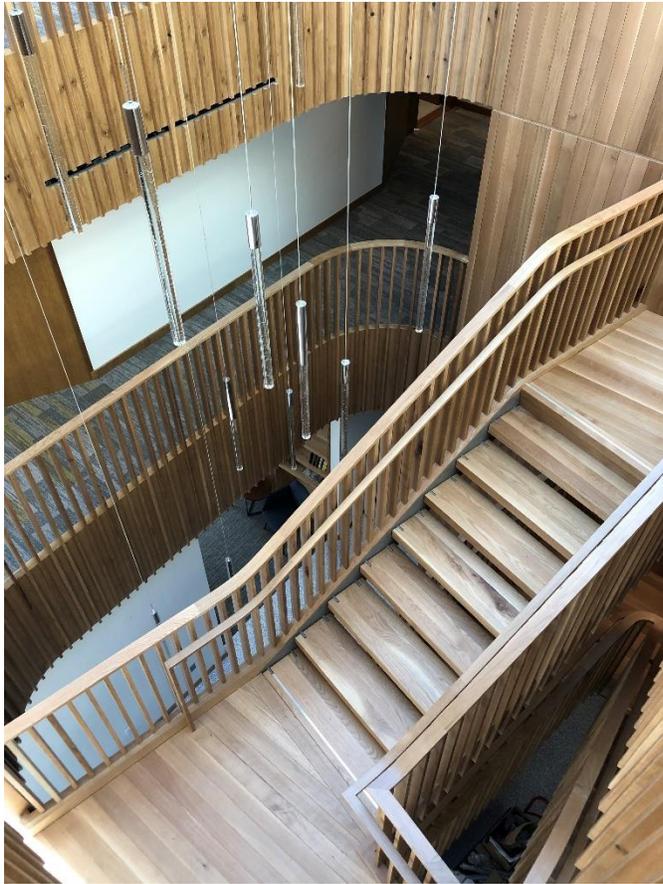
Model of the structure which included steel podium supporting load-bearing wood stud walls and floors constructed of metal plate connected wood trusses and engineered lumber. The steel framing was thoughtfully integrated into the wood.



Left: Interior view of the three story lobby and chapel space. Above: The 250 sf skylight supported by LVL beams illuminating the core of the residence.



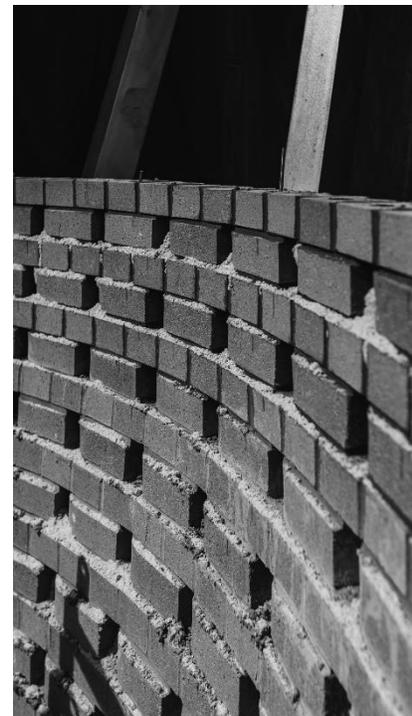
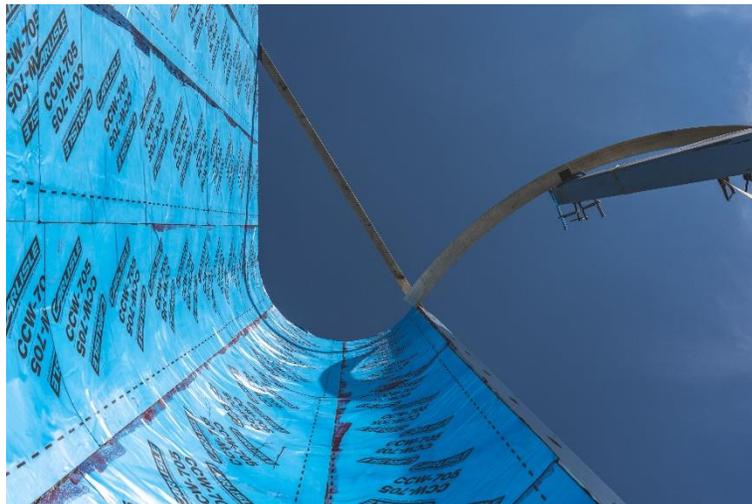
Views of the monumental stair constructed of wood and steel where every connection and detail was carefully developed to achieve the architectural vision for a flowing guardrail that transitions to a wood screen.





Left: The galvanized steel armature support for the curving and battered wall.

Below: The perforations in the wall allow light into the chapel while also integrating continuous reinforcing in custom hollow-core bricks. Vertical and horizontal threaded stainless steel rods are used for reinforcement and adjustable ties allow for the wall to expand and contract over time.





A major design feature, the completed 30 foot tall single wythe brick screen wall around the exterior of the chapel.



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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