ENTRY FORM

DVASE
2022 Excellence in Structural Engineering Awards Program

PROJECT CATEGORY (check one):

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

Approximate construction cost of facility submitted:	$32M
Name of Project:	Ramapo College of New Jersey - Learning Commons
Location of Project:	Mahwah, New Jersey
Date construction was completed (M/Y):	06.2021
Structural Design Firm:	CVM
Affiliation:	**All entries must be submitted by DVASE member firms or members.**
Architect:	Bohlin Cywinski Jackson
General Contractor:	Dobco, Inc.

Company Logo (insert .jpg in box below)

Important Notes:

- Please .pdf your completed entry form and email to 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.

The George T. Potter library at Ramapo College of New Jersey (RCNJ) is a four story, steel framed structure, built in 1975. The library building is situated on a sloped site, with approximately half the building founded on a 30" concrete mat slab, and the other half founded on shallow foundations.

The library modernization program, developed by Bohlin Cywinski Jackson (BCJ), involved increasing the square footage of each of the upper floors, to more closely match the footprint of the first floor. Overall, the total square footage of the library was increased to approximately 73,000 square feet, an increase of almost 30% from the original 56,500 square feet of usable space. The modernization program also involved the addition of full height curtain wall over one entire elevation of the structure and the removal and reinstallation of the existing slate cladding, supported on a new, supplemental structural system.

The added square footage increased the load on several of the existing shallow spread footings, supporting steel columns to remain. CVM developed an underpinning scheme to reinforce the existing footings. However, the contractor's delegated design engineer proposed an alternate scheme to reinforce the footings, that involved enlarging the size of the footings with new concrete placed around and over the top of the existing footings. CVM worked closely with the specialty engineer to ensure the new concrete elements were doweled into the existing footings to adequate transfer the new columns loads and ensure the reinforced footing behaved compositely.

In several locations, the existing columns needed to be lengthened in order to support the new library space created on the upper floors. New column members were spliced on to the top of the existing columns. Many of these splices were scheduled to remain exposed, so CVM and BCJ developed bolted splice details that were both structurally sound and aesthetically acceptable. Likewise, some existing columns required reinforcing, due to the increased demand from the new floor area, so CVM and BCJ developed reinforcing details that could remain exposed.

One key architectural and structural element of the renovation is an oval shaped, sloping skylight on the roof, aligned with a sloping lightwell opening through the fourth floor, down to the third floor. Supplemental structural framing on the roof, supports the architectural skylight element. Additional sloped framing at and below the roof framing, supports the glass lightwell pieces that span up to the skylight from the fourth floor ceiling and the glass lightwell pieces that span up to the roof from the fourth floor. Even more supplemental framing at the fourth floor supports the lightwell glass from the third floor up to the fourth floor. All the supplemental lightwell framing slopes at varying angles and various lengths to follow the sloping lightwell.

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

Figure 1 & 2 - Before and after renovation

Figure 3 - New floor area at curtain wall elevation

Figure 4 - Cantilevered roof at new outdoor patio space

Figure 5 - Exposed bolted splice of new column piece on to existing

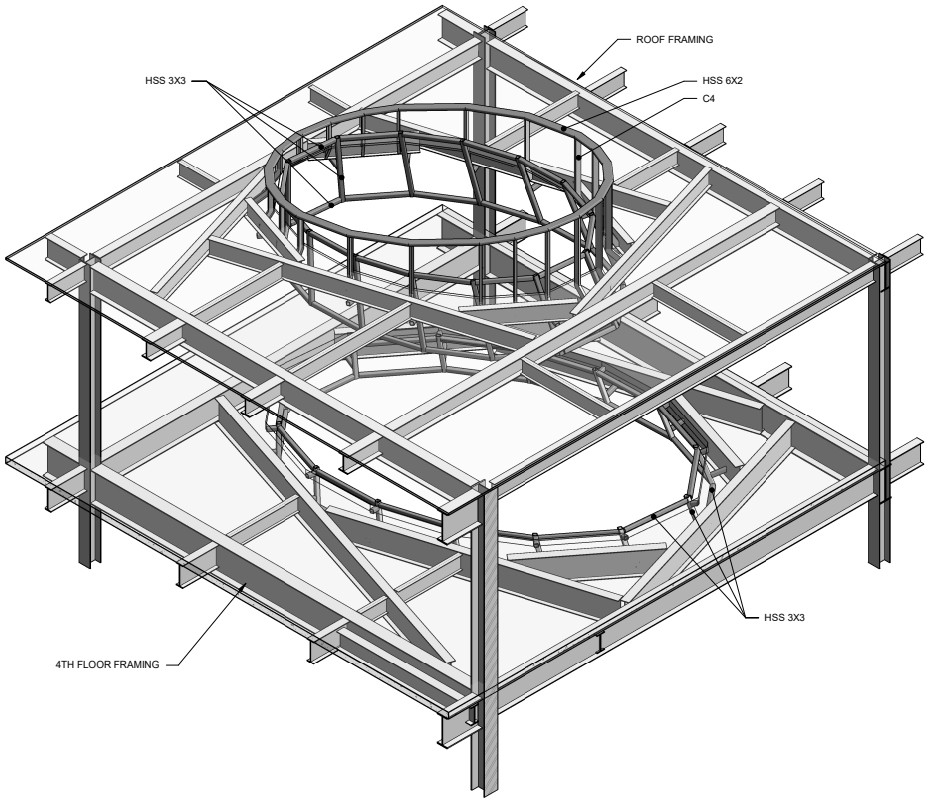


Figure 6 - Isometric of the skylight and lightwell framing

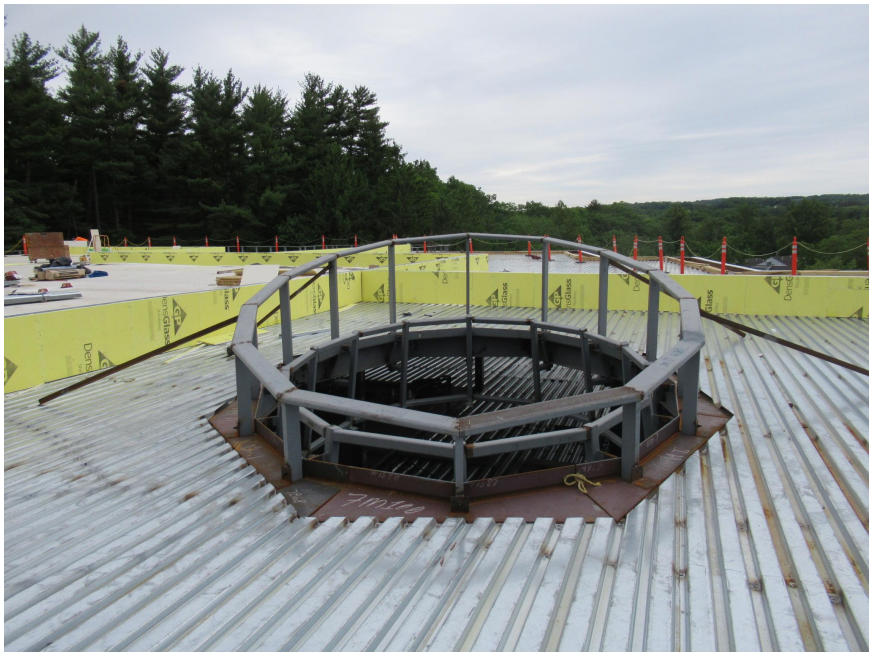


Figure 7 - Framing at roof for skylight

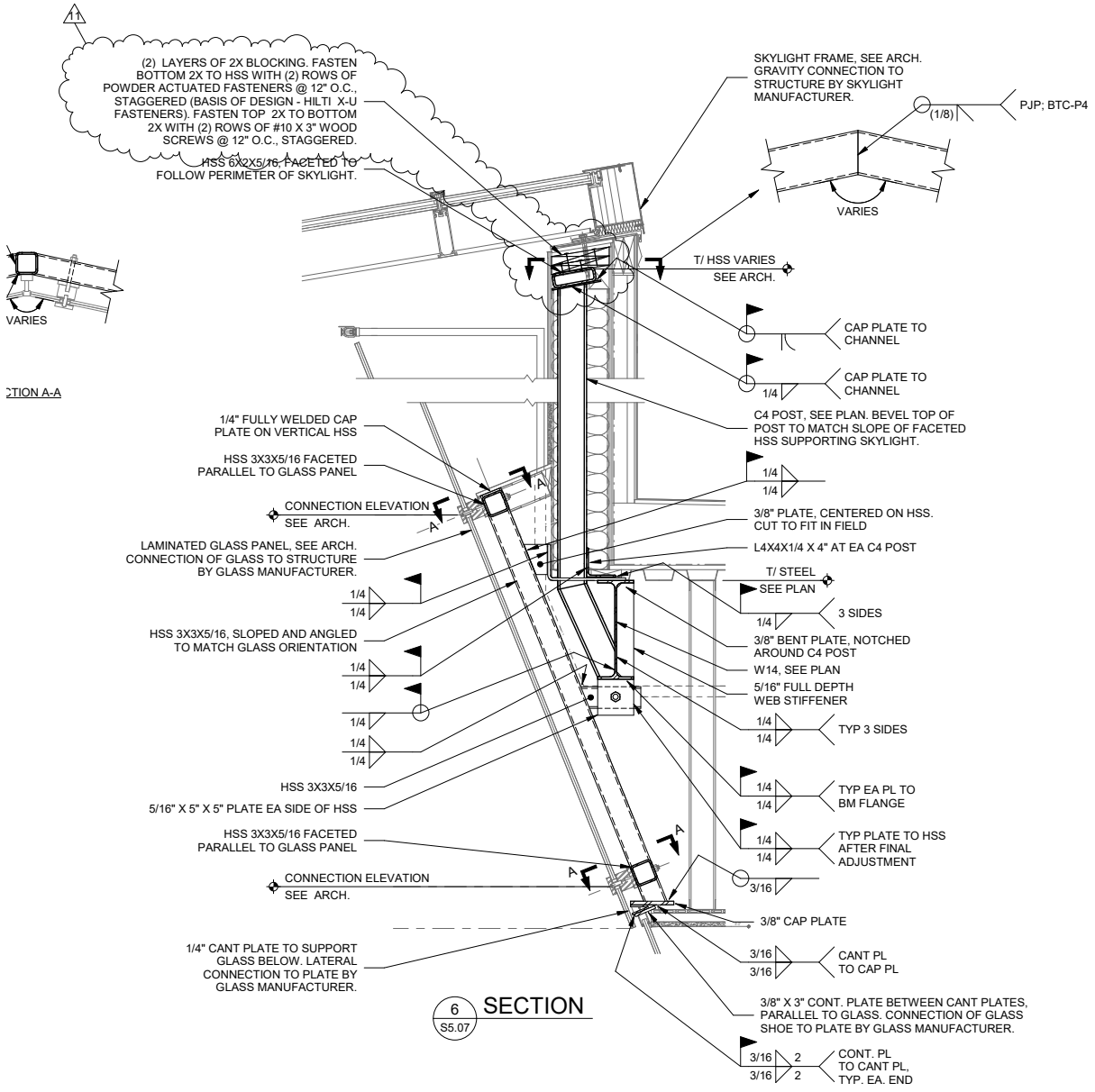


Figure 8 - Detail of skylight and lightwell framing at roof

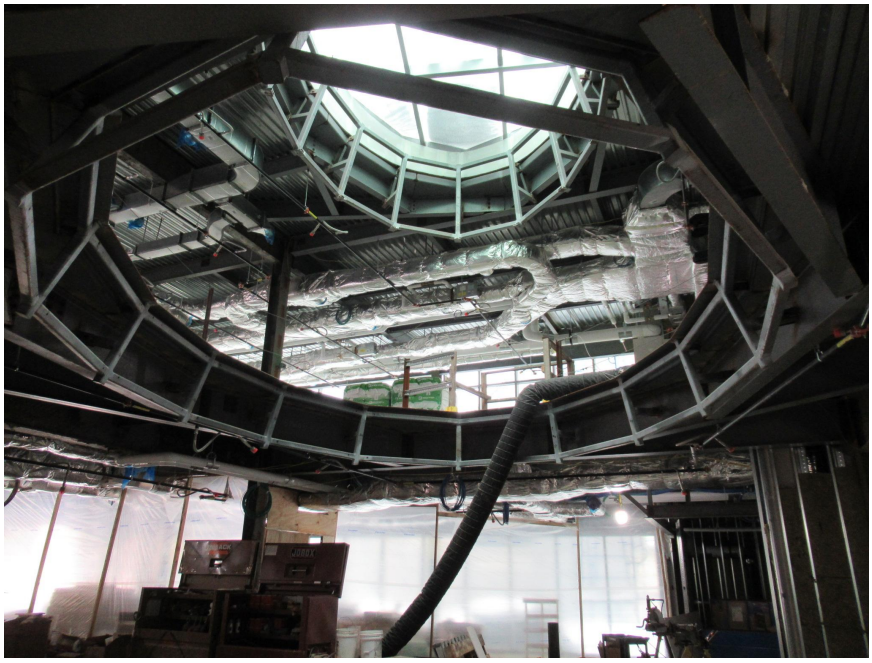


Figure 9 - Lightwell framing at 4th floor and Roof

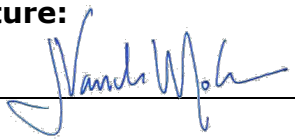
Figure 10 - Deep foundations at west balcony addition

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:

Print name: Jeff VanderMolen	**Signature:** 	**Date:** 04.08.22
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