ENTRY FORM

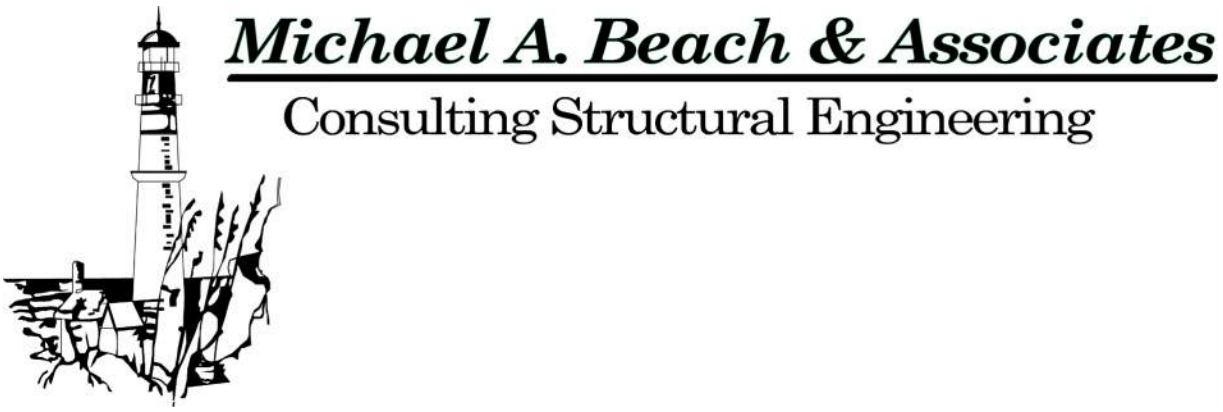
DVASE
2018 Excellence in Structural Engineering Awards Program

PROJECT CATEGORY (check one):

Buildings under $2M		Buildings Over $100M	
Buildings $2M-$10M		Other Structures Under $5M	
Buildings $10M - $30M		Other Structures Over $5M	
Buildings $30M - $100M	X	Single Family Home	

Approximate construction cost of facility submitted:	$50M
Entry Fee:	**FREE**
Name of Project:	The Rowan University Rutgers-Camden Joint Health Sciences Center
Location of Project:	Camden, NJ
Date construction was completed (M/Y):	Under Construction, Projected Completion – Spring 2019
Structural Design Firm:	Michael A. Beach & Associates
Affiliation:	**All entries must be submitted by DVASE member firms or members.**
Architect:	HOK & J.F. McKernan Jr. Architects & Assoc.
General Contractor:	Torcon

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.

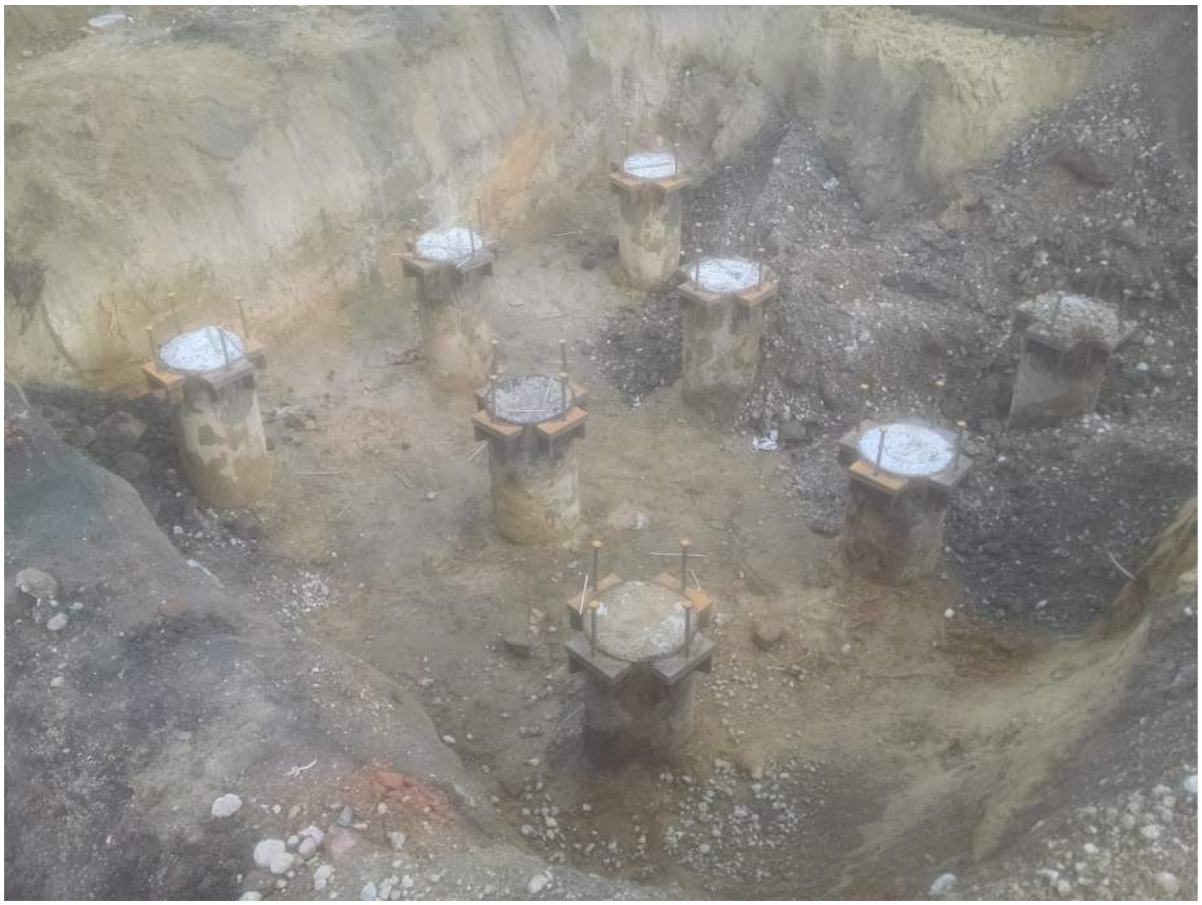
The Joint Health Sciences Center at Rowan University Rutgers-Camden is a 98,000 square foot mixed use higher education building designed to serve multiple institutions including The Cooper Medical School of Rowan University, Rutgers University, Camden County College, and The Rowan University Rutgers-Camden Board of Governors (RURCBOG). The project is located at the corner of Dr. Martin Luther King Blvd and Broadway in Camden, New Jersey and is scheduled for completion in the Spring of 2019.

The building is L-Shaped in plan with 4 stories along one leg and 3 stories along the other leg. The floors are comprised of steel framing and composite concrete slab on deck. The main lateral force resisting system consists of concrete slab on deck diaphragms and steel braced frames. The foundations for the building are comprised of grade beams and pile caps supported by 80 ton concrete filled steel pipe piles.

The first challenge on this project was controlling vibration. The labs and research facilities within the building contain a lot of sensitive equipment. In addition to strict vibration requirements, the location of the building is adjacent to PATCO and other trains which can transmit significant vibrations to the building. The first step in reducing the vibrations was to increase the mass by making the concrete slabs on deck 8 inches thick to dampen the vibrations. Several column grid spacings were analyzed for sensitivity to vibrations until an optimal layout was achieved.

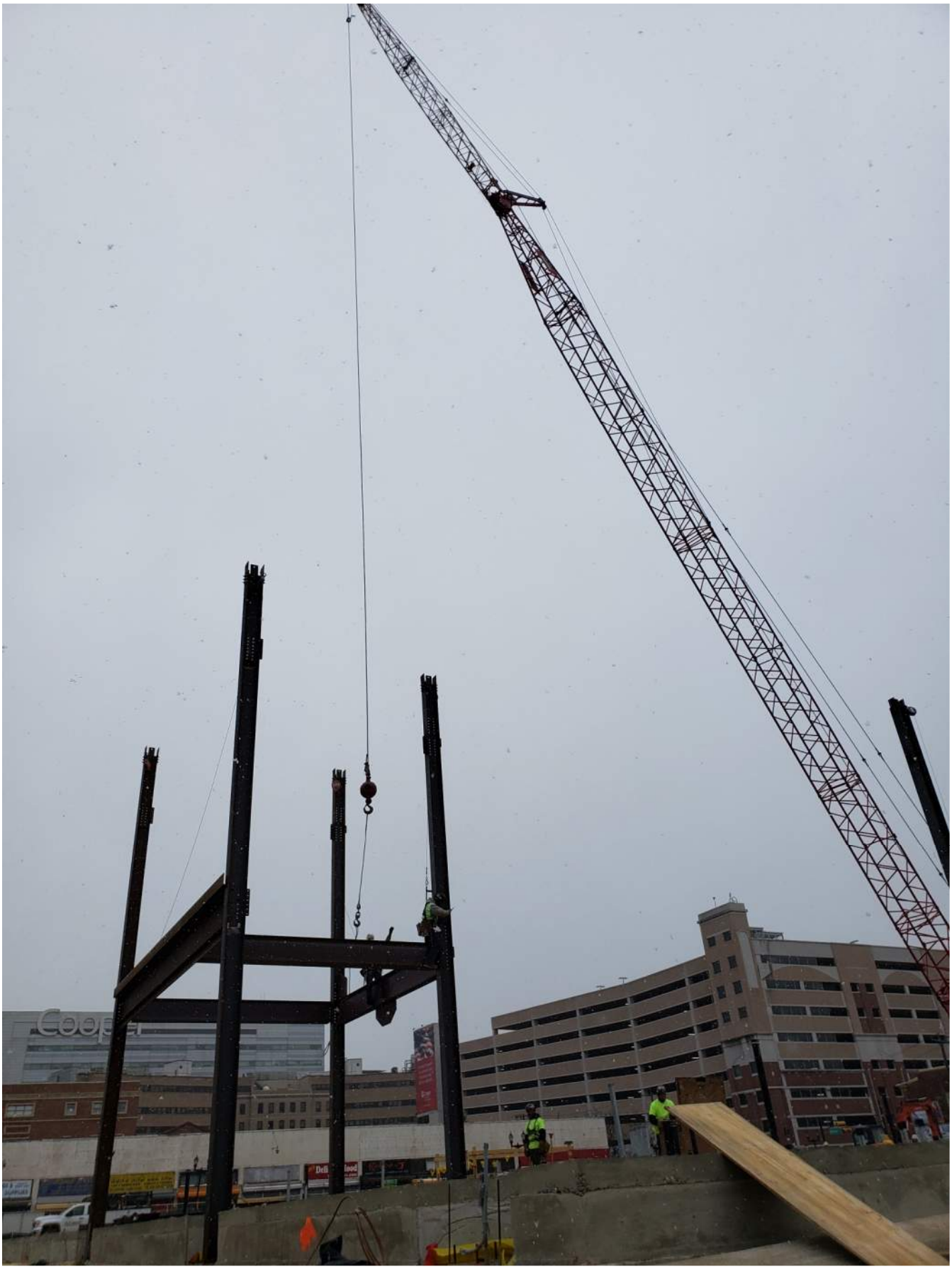
The second challenge on this project was supporting the upper floors from the second floor. At the northeast corner of the building, the design required the columns to be discontinuous. This created a case where columns transferred out at cantilevers supported by other transfer beams. This issue was amplified by the vibration requirements. In order to achieve the desired look, large transfer beams had to be used to accomplish this.

The third challenge on this project was the design of the very tall, discontinuous parapets that required special thermal requirements. The parapets changed in construction from Glass Fiber Reinforced Cement (GFRC) wall panels on backup metal studs to a curtainwall system. The different construction types stopped and started at challenging locations. This combined with an 11 foot height, sloping conditions, and thermal breaks created a very difficult framing scheme. This was eventually solved with special splices incorporating Fabreeka structural thermal breaks at the column locations. Large HSS tube girts were used to span between the column locations. In addition, the backup metal stud layout required built up jambs on top of Fabreeka structural thermal breaks.



Installed piles with uplift anchors.

Pile caps and grade beams.



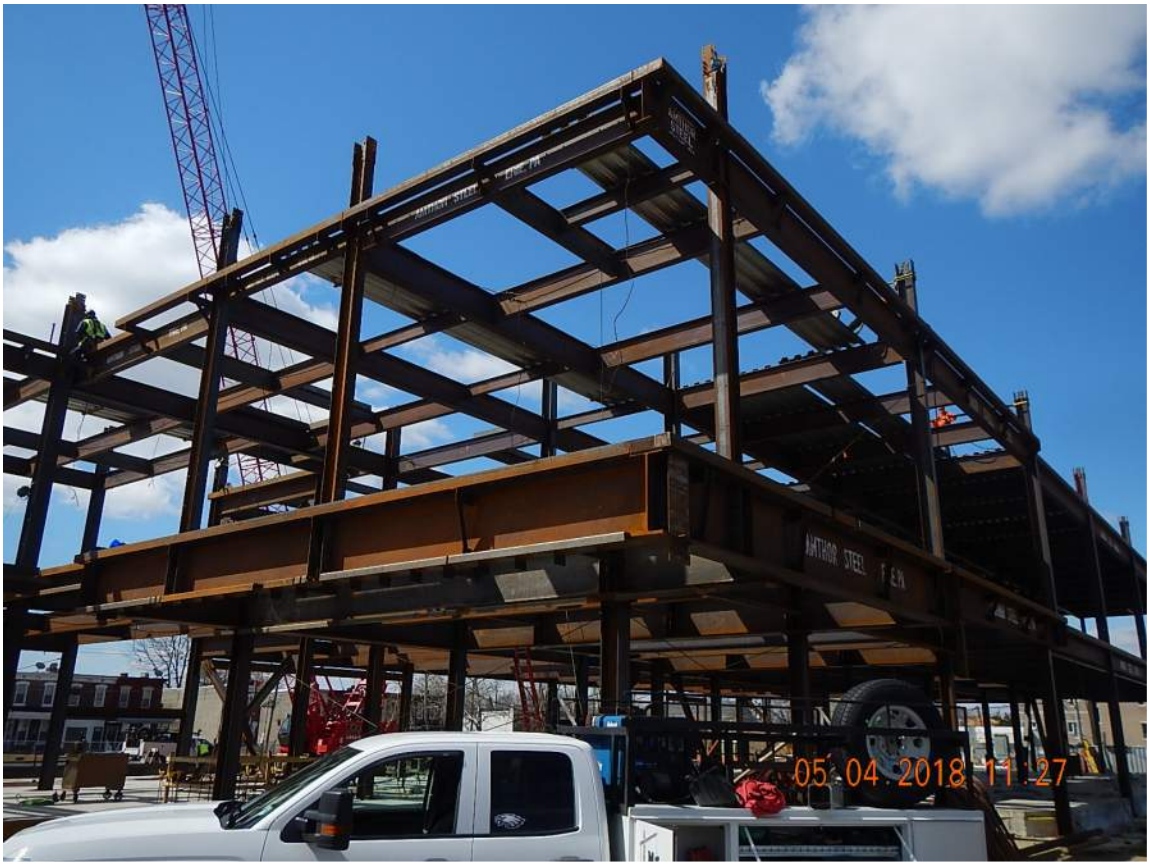
First steel being erected.

Rendered Isometric View.

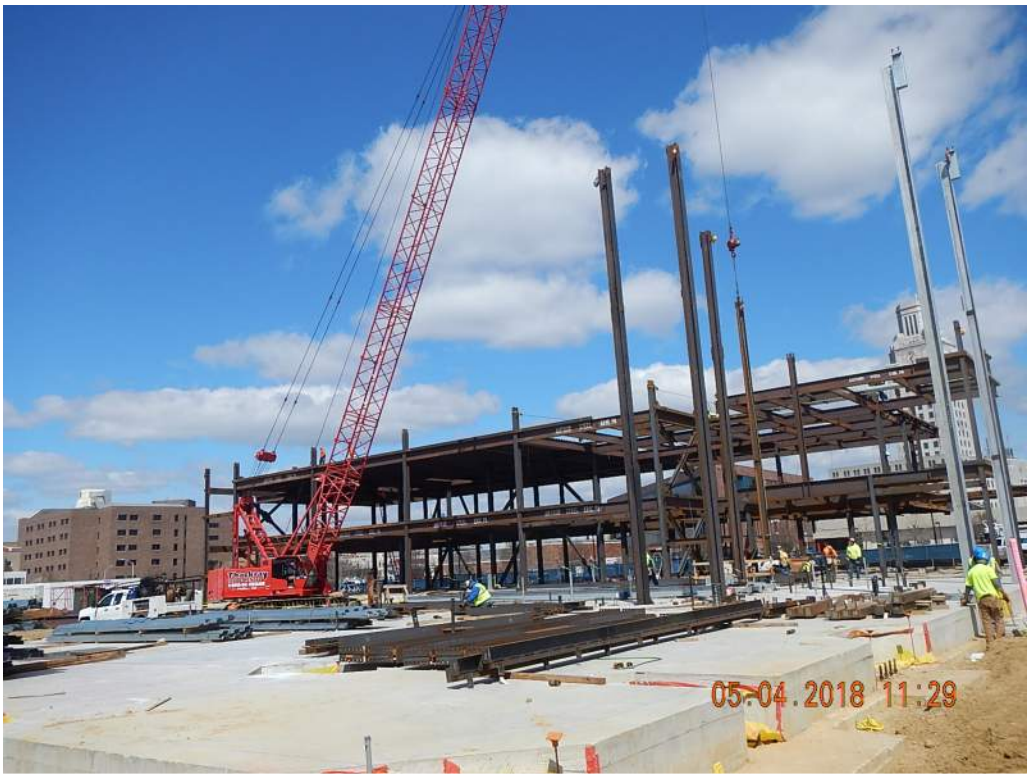
Rendered Front Entrance View.

https://vimeo.com/238830882

Link to video of finished building.



2ND and 3RD floor steel.



Crane, north leg steel, and south leg slab on grade.

Steel being erected.

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? NO

Submitted by:

Print name:	**Signature:**	**Date:**
Paul Nettleton		**04/09/18**

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