

# ENTRY FORM



## DVASE 2021 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		Other Structures Over \$1M	
Buildings \$40M - \$100M		Single Family Home	X

Approximate construction cost of facility submitted:	Undisclosed
Name of Project:	Private Residence
Location of Project:	Longport, NJ
Date construction was completed (M/Y):	September 2020
Structural Design Firm:	Mulhern + Kulp
Affiliation:	<b>All entries must be submitted by DVASE member firms or members.</b>
Architect:	Asher Slaunwhite Architects
General Contractor:	Buck Custom Homes

Company Logo (insert .jpg in box below)



### Important Notes:

One of the oldest homes in Longport, this turn of the century masterpiece received a face lift in 2020. Mulhern + Kulp teamed up with Asher Slaunwhite Architects and Buck Custom Homes to renovate the home, originally built in 1896, and bring it into the modern era while preserving its historical charm.

From the outset, the architect determined that the existing home would be renovated and brought up to modern codes while saving as much of the existing structure as possible. Zoning was a challenge, and would have been more restrictive on new construction, however, the existing home was grand-fathered. By saving the existing building we were able to maximize the building size and expand the architectural programming.

To maintain the historical integrity of the existing home, the architect kept most of the exterior aesthetic on the side and street-front elevations. The rear of the home received a large modern addition and was blended seamlessly to the existing home through the architect's design. Additional design efforts went into a major interior renovation and reorganization of the interior spaces largely focused on opening up the first floor living areas.

One of the challenges unique to the Jersey Shore is the flood design requirements. In order to meet current codes, the existing house was lifted and a new foundation was installed. Given the size of the site, the house was able to be moved to allow for driven timber piles to be installed, after which the house was moved back and set on a new CMU foundation with reinforced concrete grade beams. While Mulhern + Kulp was not responsible for the house lift, we were heavily involved in the lift and consulted to ensure proper bracing was installed during the lift and relocation.

Mulhern + Kulp also worked closely with the general contractor to complete the interior renovations, which centered around removing multiple interior bearing walls. The new open-concept floor plan was achieved by installing large flush steel beams to support the second-floor system. The main beam, spanning around 32', was a challenge for all parties involved. The general contractor relied heavily on Mulhern + Kulp during the design development phase to ensure the final structure would be feasible to erect. We were also present on site to review the temporary bracing and coordinate the installation of the beam during construction.

In addition to the open-concept, other modern conveniences impacted the structural design. Restrictions on the building height and the owner's desire to maintain a flat ceiling with no dropped soffits, required us to design for a mechanical system completely flush within the floor. A high velocity HVAC system was selected and required us to cut holes in existing joists where feasible. At other locations we retrofitted the existing floor with a system of flush steel beams cut into the existing joists which allowed for web penetrations through which to run the ducts.

After all was said and done, most of the existing building was saved and supplemented as required to meet modern building codes. We were proud to work on this project and look forward to this home serving its new family for another century.



**Front Elevation – Before**



**Front Elevation – After**



House during lift and relocation phase



**One of the new flush steel beams during construction**



**Renovated open-concept living room**



**Rear addition with modern design elements**



**New roof deck**



**New kitchen**



**Finished front elevation**

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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