

# ENTRY FORM



## DVASE 2018 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	X	Single Family Home	

Approximate construction cost of facility submitted:	\$54,000,000
Name of Project:	Asplundh Cancer Pavilion - Abington Health Center
Location of Project:	Willow Grove, PA
Date construction was completed (M/Y):	January 2018
Structural Design Firm:	Ewing Cole
Affiliation:	<b>All entries must be submitted by DVASE member firms or members.</b>
Architect:	Ewing Cole
General Contractor:	L.F. Driscoll

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 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.

The 88,000 square-foot Asplundh Cancer Center of Abington-Jefferson Health System was designed to incorporate the client's vision of healing within a natural environment. Spread over two floors, the entire Abington-Jefferson cancer treatment program is contained under one roof and includes medical oncology, radiation oncology, lymph-edema programs, public education, general counseling, a healthy eating cafe and a winter garden. In order to achieve the client's vision of healing within a natural environment, several challenging structural elements were incorporated into the Architectural design.

The Asplundh Cancer Center consists of a North Wing, South Wing, a connector housing the Winter Garden and a separate one story portion consisting of three Linear Accelerator vaults. The two-story wings and the Winter Garden connector consist of conventional slab on deck construction spanning to steel wide-flange members. The lateral force resisting system for the North Wing consists of ordinary moment frames while the South Wing consists of braced frames.

The project focal point is the canopy extending above the patient drop-off driveway along the east side of the North Wing. The steel framed roof featured bi-directional slopes requiring members extending from the building to taper providing a slim profile at the canopy edge. At the northern edge of the canopy, the steel cantilever length is approximately 10-feet and increases sharply as the edge of the canopy angles away from the building. The longest of the cantilevered girders is approximately 27-feet. At the southern end of the canopy where the extreme edge is nearly 40-feet from the last row of building columns, a support was provided in the form of a custom "Tree Column".

The Tree Column consists of an 11'-0" high trunk framed with a triangular vertical tube steel truss frame fabricated from hollow structural steel tube members and wrapped in steel plates. The branches are also made up of hollow structural steel tubes wrapped in plate material to form the triangular profile along with a taper. The branches extend up from the top of the trunk to the underside of the patient drop off canopy, approximately 33-feet above grade. The branches connect to the canopy at three points surrounding a 10-foot diameter skylight.

All of the Tree Column steel was hot-dipped galvanized and painted to achieve a reflective surface and blend into the surroundings. All steel for the column was required to meet strict AESS criteria in order to achieve the high quality of fabrication and finish required by the design. Close coordination and review of the steel finish and edge alignment at several stages of the fabrication and finishing process was required, including trips to the fabrication shop. The design called for sharp edges on the triangular trunk branches which proved to be a challenge in fabrication to achieve a sharp edge without any waves.

Further architectural features were expressed, at the west end of the South Wing where a dining patio was covered by a 14-foot wide cantilevered canopy that cantilevered from the building west elevation and then cantilevered north from the same cantilever. One column was envisioned to support the canopy at the south end, which was a custom designed 'V'-column that consisted of sloping wide-flange columns concealed with an architectural cover plate to provide a continuous, seamless geometric support. The steel was hot-dip galvanized and custom painted to achieve a finish similar to the tree column.

The architecture also required meticulous detailing to provide adequate structural support for the building's undulating facade, curving both in the vertical and horizontal plans and changes in facade types. From the rolling and sloping stone base to the rooftop screen wall to the curtain wall and metal panel the structural detailing captured the ever-changing elevations, angles and material interfaces. The best example of the complex detailing requirements is the phenolic panel cornice that borders both the North and South Wings. The swooping wood-look cornice changes in thickness and cantilever length with slightly different structural support requirements every few feet.

The Winter Garden connector is a two-story atrium space with a long footbridge connecting the North and South Wings. The Winter Garden also features a monumental stair and several functioning planters and water features.

In summary, through a continued coordination process between the design team disciplines and the contractor during construction the team was able to achieve the vision set forth to create a place for healing within a natural environment.

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

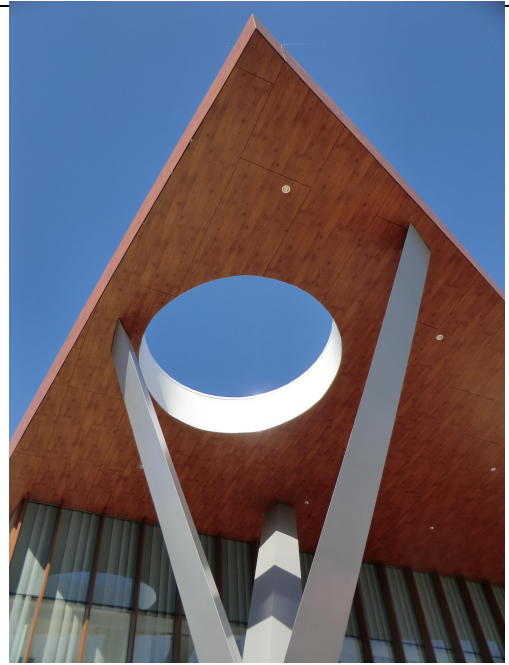


North Building Architectural Rendering



Architectural Rendering  
(South Wing on left, North Wing on Right)





Photos of installed "Tree Column"





Tree Column Trunk in paint Shop



Tree Column in paint shop



Tree Column branch at sharp edge



"V" Column at  
Patio Canopy



"V" Column at  
Patio Canopy



Patio Canopy  
Cantilevered steel

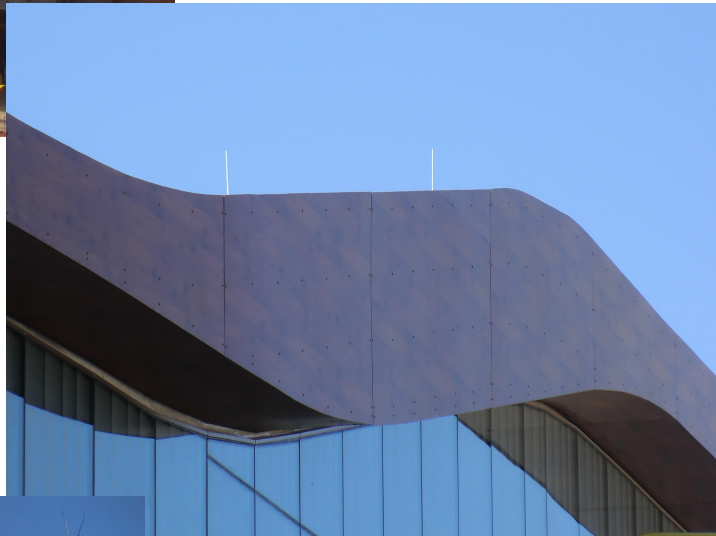


Winter Garden Hung  
Stair





Parapet details



Curved stone with curved  
CMU back-up






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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