



CFSEI
COLD-FORMED STEEL
ENGINEERS INSTITUTE

2017 CFSEI DESIGN EXCELLENCE AWARD WINNER

**FIRST PLACE/MUNICIPAL – MATSEN FORD DESIGN ASSOCIATES, INC. –
THE CADE MUSEUM FOR CREATIVITY AND INVENTION – GAINESVILLE, FL**

The Cade Museum for Creativity and Invention

**801 South Main Street
Gainesville, FL 32601**

**Completed: Summer 2017
Construction Cost: \$9.2 million**

Owner: Phoebe Cade-Miles

Architect of Record: GWWO Inc.

/Architects

Engineer of Record for Structural Work:

Thornton Tomasetti

Cold-Formed Steel Specialty Engineer: Matsen Ford Design Associates, Inc.

Cold-Formed Steel Specialty Contractor: Central Florida Drywall and Plastering, Inc.

Award Entry Submitted by: Susan M. Dzibinski, Matsen Ford Design Associates, Inc.



Photo by Central Florida Drywall & Plastering, Inc.

Project Summary:

The Cade Museum for Creativity and Invention was constructed to exhibit the history of Gatorade and its inventor, Dr. J. Robert Cade. According to the 26,000-square-foot museum's website, <http://www.cademuseum.org/>, the mission is to create classes, programs and exhibits to "engage visitors in 'purposeful creativity,' the kind that leads to great inventions, new businesses and ideas that change the world." This goal is reflected not only in the museum's namesake, but also in the design of the building.

25 Massachusetts Avenue NW
Suite 800
Washington, DC 20001

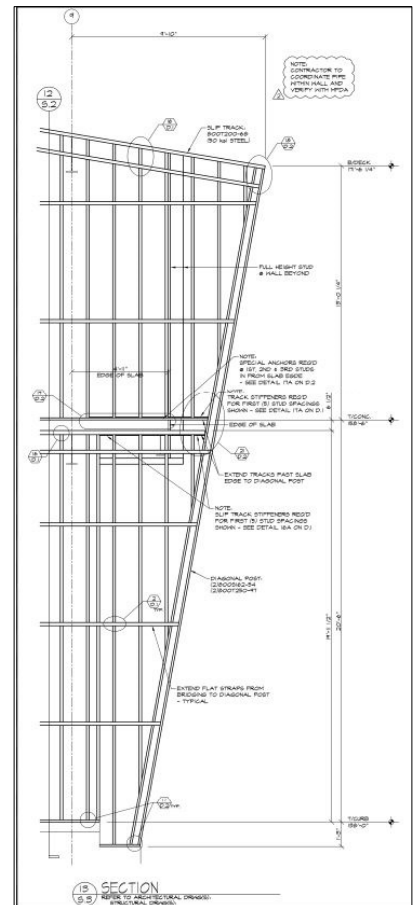
www.cfsei.org

The main structure is steel post and beam with composite deck and steel roof deck. Lateral support is provided by steel-braced frames. The building consists of a maximum two stories, as well as an open central core extending 60 feet above grade. The exterior walls are framed using non-load bearing eight- and six-inch cold-formed steel studs with plywood sheathing and a combination of corrugated metal panel and EIFS exterior finish.

Design Challenges

What makes the building unique is the circular and stepped shape. Many exterior walls are part of a radius wall that also slant outward from bottom to top. One of the most challenging areas to design and engineer was the wing walls which slant out from the building with structural support stopping short of the outermost stud walls. Because of this lack of support, the very most exterior studs of the wing wall are post built up from 16-gage (54 mil) studs and 12-gage (97 mil) tracks. The post is then supported by heavy-gage studs cantilevered off the slab at the second level.

Another interesting and challenging design feature of the building occurs where no structural steel support is present at the walls, including large curtain walls at a radius. This presented an extra challenge because the engineer of record did not allow loading of the metal deck. To overcome this challenge, kickers are used at every radial beam, about nine feet on center, and a strongback stud is used to support intermediate studs.



Wing wall section image by Matsen Ford Design Associates, Inc.

The Cade Museum for Creativity and Invention demonstrates “purposeful creativity” in design using cold-formed steel framing and will serve the dual purpose of educating and inspiring visitors in the years to come.

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