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	

Approximate construction cost of facility submitted:	**Total Project Cost $60,000,000**
Name of Project:	**2100 Hamilton**
Location of Project:	**2100 Hamilton Street Philadelphia, PA**
Date construction was completed (M/Y):	**October 2020 (top out), August 2021 (anticipated opening)**
Structural Design Firm:	Thornton Tomasetti
Affiliation:	**All entries must be submitted by DVASE member firms or members.**
Architect:	**Cecil Baker + Partners**
General Contractor:	**Ernest Bock & Sons**

Company Logo (insert .jpg in box below)

Thornton Tomasetti

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.

2100 Hamilton is a 10-story luxury condominium building located in Philadelphia's Museum District, just off the Benjamin Franklin Parkway behind the Rodin Museum. Comprised of 27 exclusive residences, 2100 Hamilton offers a luxury lifestyle that is easy, effortless, and exciting. This lush retreat, with a nearly half acre private residential garden, offers stunning city views and strikes the perfect balance of Center City living with the peace of a park-like setting. At approximately 150,000 square feet, it also contains a private 2-story parking garage with 2 auto lifts, an infinity pool, and features long balconies that required unique engineering solutions.

At a Glance

•10-story, luxury condominium building
•150,000 gross square feet
•Interior infinity pool and landscaped garden terrace
•Two story parking garage with auto lifts
•Two-way flat slabs utilizing filigree construction and concrete columns on spread footings
•Post-tensioned bars to control deflection at long cantilevered balconies

A Sampling of Significant Structural Features

Structural System – The structure is mostly comprised of 12" thick two-way flat slabs utilizing filigree construction and concrete columns on spread footings with two concrete shear wall cores, and includes various locations of structural steel for curtain wall support. The large ground floor terrace also spans approximately 40 feet over an existing rail right-of-way, with the entire area designed to accommodate a variety of high-end landscaping features. The north side of the building is built against an existing 3-story retaining wall supporting Hamilton Street, with the ten stories above street level bringing the height of the entire structure to about 160 feet.

Filigree Coordination – The filigree construction used on this project enabled significant cost and schedule savings for the owner and contractor. The Filigree method is a process for construction of concrete decks that successfully integrates “factory precast” and field-construction technologies. The 2.25” thick precast decks serve as the formwork and incorporate the bottom reinforcing in one direction, with the rest of the reinforcement and concrete field placed at reduced quantities. While this requires a higher degree or coordination between trades, especially for MEP openings, it still provides sufficient flexibility and easier, faster and safer construction.

Feature Balconies - At the 18 foot long balcony at the southeast corner of each raised floor, we were unable to add support members to the slab, which steps and slopes to a minimum thickness of about 10”, to meet deflection requirements. We conservatively designed the slab to work for strength with only mild reinforcement, but provided Dywidag high-strength Threadbars in the cantilever with a back span into the building to reduce deflections. We studied different bar quantities, lengths, and layouts to optimize the results, including some modest drape of the bars for more efficiency. With just a few additional details, sections, and notes regarding shoring - which would need to remain in this area until sufficient strength was reached and bars were tensioned - the desired look was achieved. Since post-tensioned concrete is not popular in the Philadelphia market we pro-actively provided the necessary support to the contractor, using a product and company in Dywidag who are well-regarded and easy to work with.

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

COURTESY OF CECIL BAKER + PARTNERS

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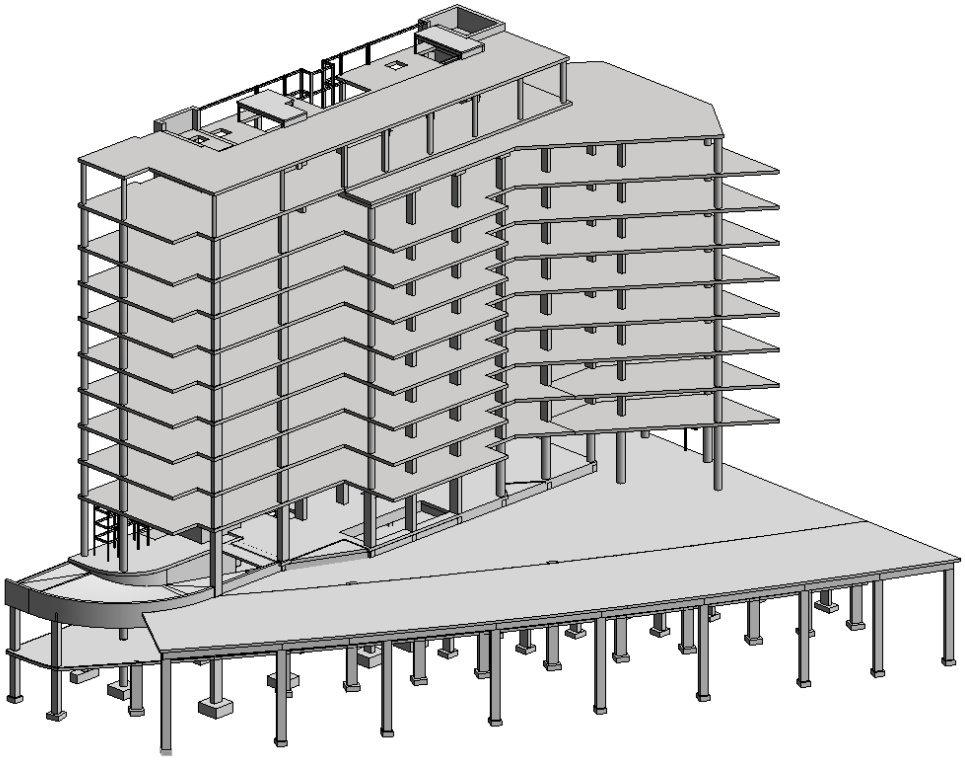

AXON VIEW OF REVIT MODEL

FILIGREE CONSTRUCTION

FILIGREE CONSTRUCTION

FEATURE BALCONY

TOPPING OUT

WINDOW WALL INSTALLTION

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: Stephen Kane, P.E.	**Signature:** 	**Date:** 3/31/21
Submitting Firm:	Thornton Tomasetti	
Mailing address:	1700 Market Street, Suite 1750 Philadelphia, PA 19103	
Telephone: 267-238-4030	**Fax:** 267-238-4001	**Email:** skane@thorntontomasetti.com