

# ENTRY FORM



## DVASE 2022 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	X
Buildings \$40M - \$100M		Single Family Home	

Approximate construction cost of facility submitted:	\$3M for temporary steel structure and foundations
Name of Project:	Landmark II - Temporary Shoring/Excavation
Location of Project:	Los Angeles, CA
Date construction was completed (M/Y):	June 2019
Structural Design Firm:	Plan B Engineering
Affiliation:	<b>All entries must be submitted by DVASE member firms or members.</b>
Architect:	Gensler
General Contractor:	MATT Construction

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 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.

Located in West LA, this 2.8 acre site originally consisted of a four-story below grade parking garage with the 17-story Landmark I tower on the north side of the lot. With the new 34-story Landmark II tower proposed just to the south, a four-story deep window needed to be cut through the existing parking garage in order to build the new foundations and superstructure.

This ambitious plan required a temporary bracing system to restrain nearly 50 ft. of soil adjacent to two active city streets, which was discretely installed prior to demolition and would remain until the new tower could be integrated into the remaining garage slabs and foundation walls. Plan B was tasked with devising an innovative solution to meet this unique set of challenges within an accelerated, design-build timeline.

The solution, which utilized steel, micro piles, and tensioned soil anchors, needed to be fully coordinated with multiple existing and new structure interferences. The design seamlessly incorporated typical support of excavation foundation elements with the kind of hot-rolled steel bracing systems that are often used for facade retention of historic structures. This ultimately allowed for unobstructed demolition and new construction up through the existing structure.

In order to reduce site congestion and make more efficient use of materials, the bracing system also served as vertical shoring to suspend existing columns and slabs along the perimeter of the demolition zone. To integrate the existing slabs into the bracing system, extensive analysis and reinforcement was required. Steel chord members tied into the portions of slab to remain gave the system a robust temporary diaphragm.

An additional design challenge came up as a result of the rigorous review and approval process of this highly unconventional system through multiple City of Los Angeles agencies, city-mandated soil anchor and pile proof testing of up to 200% of design load, maximum of 415 kips. The setup for the proof testing required its own set of structural design documents as the typical method of bracing the machine against the existing structure was not possible. The tie-back jacking assembly included slab in-fills, 24" deep wide-flange walers, 10" wide HSS straps supported by W24 soldier beams located 3 bays behind the tie-backs.

# Landmark II Temporary Shoring/Excavation

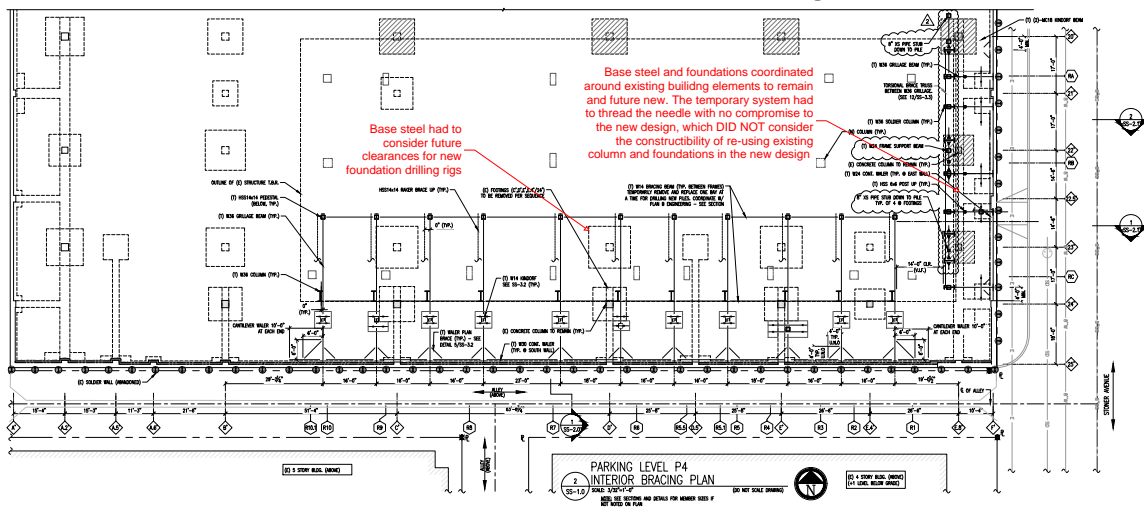
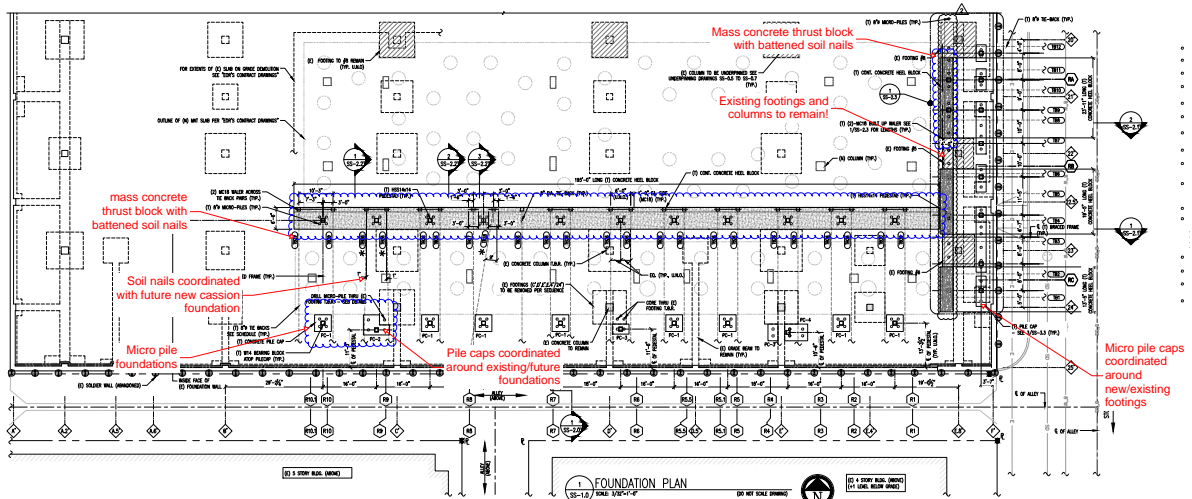




Temporary Support of Excavation Bracing  
Prior to Start of New Foundations

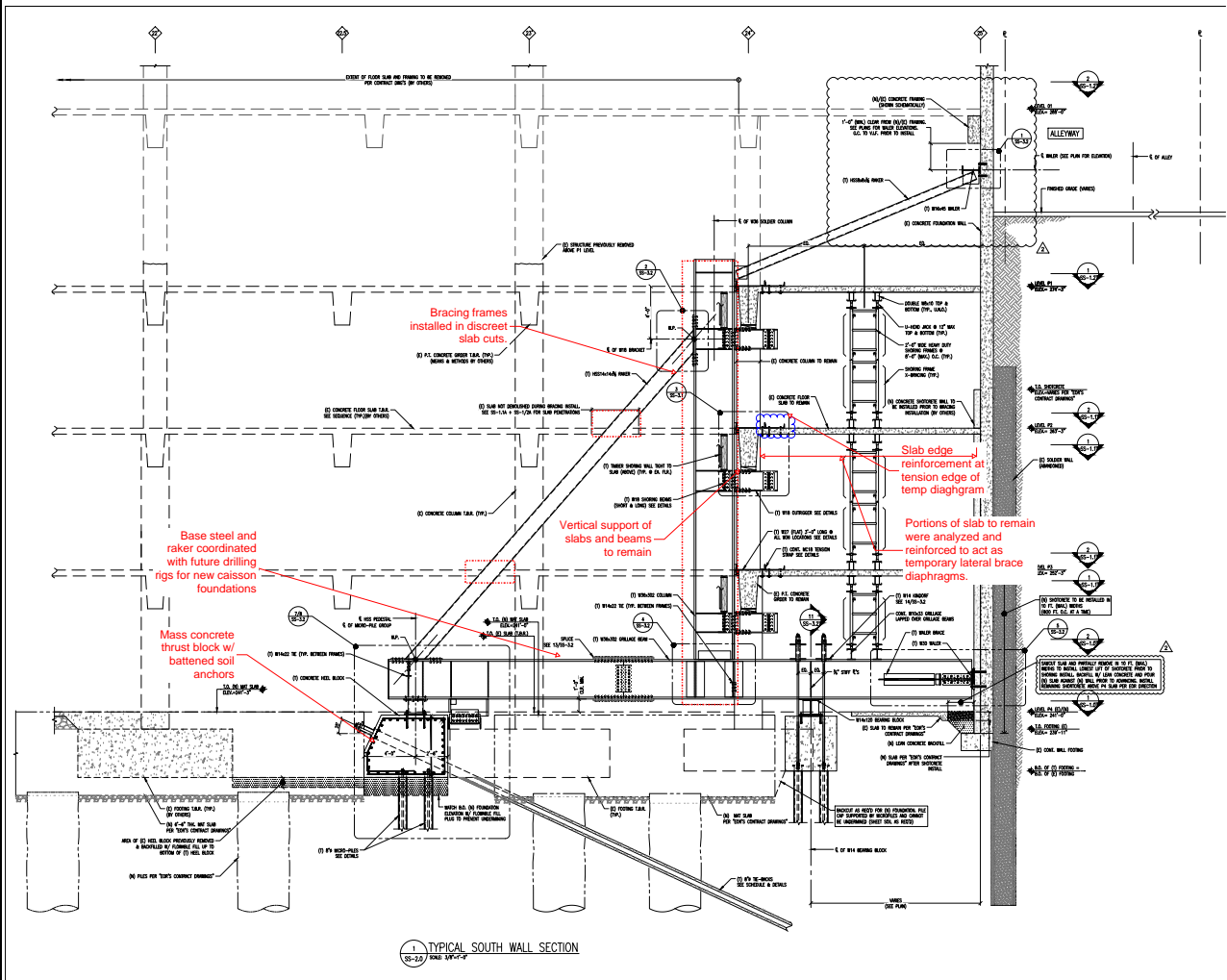


# Temporary Shoring/Excavation Structural Plans

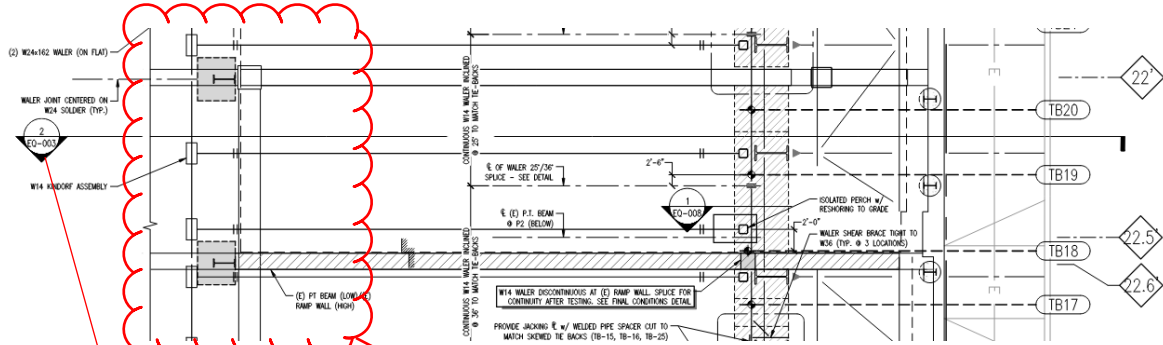


- The following 5 pages (maximum) can be used to portray your project to the awards committee through photos, renderings, sketches, plans, etc...

# Temporary Shoring/Excavation Section - South Wall

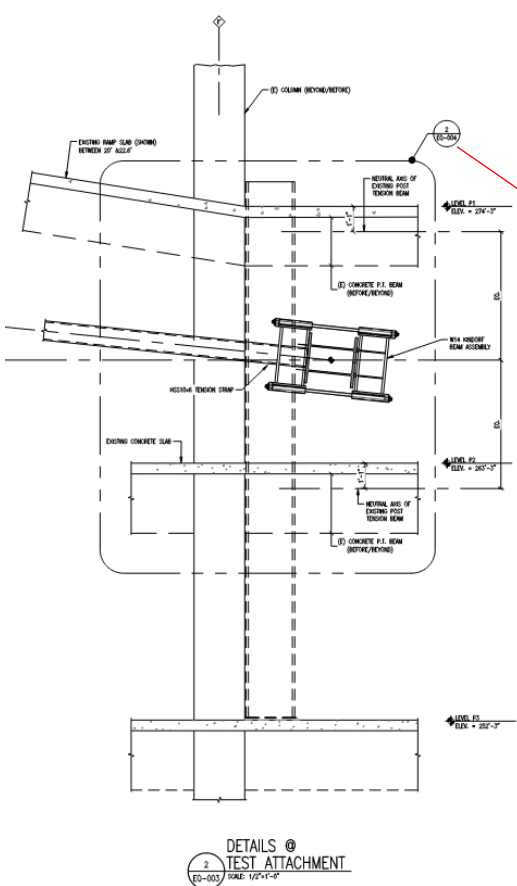


# Test Jacking Assembly Plan/Section/Detail- East Wall



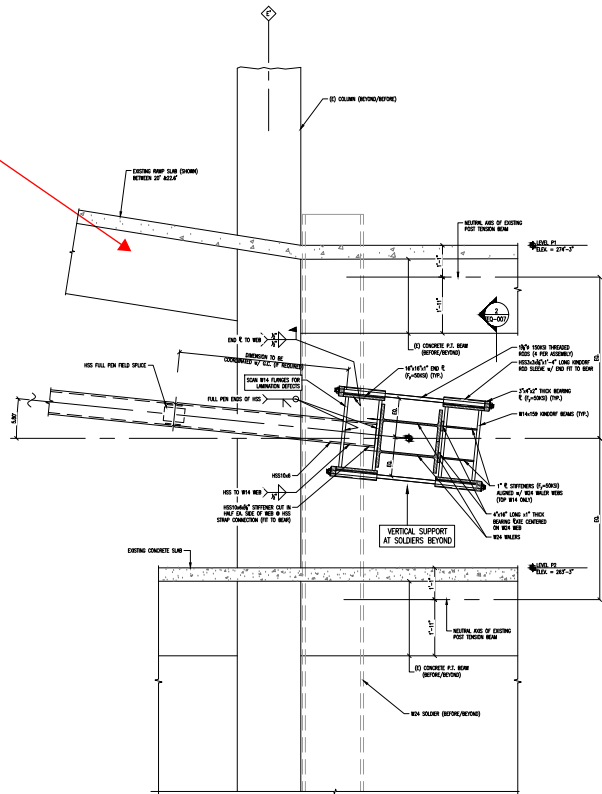
(1) bay of the kindorf beam assembly that was used to engage the existing structure during the proof testing

heel blocks for soil nails beyond



DETAILS @ TEST ATTACHMENT  
SCALE: 1/2\"/>

building interior




SECTION @ HSS ATTACHMENT  
SCALE: 3/4\"/>

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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