FIELD REPORT NO. 07			SIMPSON GUMPERTZ & HEGER Engineering of Structures and Building Enclosures
Report By: Lachezar V. Handzhiyski, SE			
Date of Site Visit: 21 September 2021 **Date Report Issued:** 11 October 2021			
Project No.: 147041.10	**Keyword:** 301S		
Project Name:	301 Mission Street Perimeter Pile Upgrade	**Purpose:**	Observe basement walls and mat foundation
Meeting/ Work Location:	301 Mission Street, San Francisco, California 94105	**Time – from:** **to:**	1:30 PM 2:30 PM
Weather:	Passing clouds	**Ambient Temperature:**	70°s F
Persons Contacted:	Gary Pera, Building Engineer, Millennium Tower James R. Zaratin, General Manager, Millennium Tower		
Distribution:	Gregory Deierlein, Stanford University, (ggdeierlein@gmail.com) Shahriar Vahdani, Applied GeoDynamics, Inc., (shah.vahdani@gmail.com) Craig Shields, Rockridge Geotechnical, (csshields@rockridgegeo.com) Marko Schotanus, Marx|Okubo Associates, Inc., (marko_schotanus@marxokubo.com) Dan Brown, Dan Brown and Associates (DBrown@DBA.world) Willy Yau, San Francisco Department of Building Inspection, (Willy.Yau@sfgov.org) Neville Pereira, San Francisco Department of Building Inspection, (Neville.Pereira@sfgov.org)		
This report is limited. The following items are based on brief and limited observations of certain selected locations; all similar locations may not have been observed. Other issues of equal or greater importance may not be addressed in this report. Recommendations included in this report are for consideration by the project team and are not construction change directives.			

Lachezar V. Handzhiyski, SE of Simpson Gumpertz & Heger Inc. (SGH) visited the site on 21 September 2021 to observe the basement walls of the podium and tower and the mat foundation of the tower. He met with Gary Pera while on site. The following is a summary of the observations noted during our site visit for each area we observed.

1. CONSTRUCTION STATUS

At the time of our site visit installation of production piles for the Perimeter Pile Upgrade was on hold.

2. OBSERVATIONS

We observed the basement walls and mat foundation in the podium basement levels B5 and B1 and the basement wall and mat foundation in the tower basement level B1. We did not observe any signs of additional damage relative to our 24 June 2019 field visit.

We observed leaks and cracks in the podium basement walls. Various locations are shown on Photos 1-15. The most significant leakage occurs in the western basement wall adjacent to the tower foundation. Leaks were repaired using epoxy injection in most areas. Photos 9 and 10 show the basement wall in the northwest corner of the podium at level B1 where we observed the most severe leakage. Cracks in the podium basement walls appeared identical to the conditions we observed in June 2019. The interior podium ramp shear wall (Photo 18) appears to be uncracked suggesting little structural deformation in the podium substructure.

Photos 16 and 17 show the vertical movement joint between the tower and the podium substructures. Floor finishes in the area have been repaired and a ramp was added to provide an accessible walking surface across the joint.

Photos 19 and 20 show the condition of the preexisting cracks in column H-11 in the southeast basement storage room. Photo 21 shows the cracks at the concrete shear wall adjacent to this column. These cracks appeared visually identical to the conditions we observed in June 2019.

Photos 22 through 30 show various tower basement wall and top of mat foundation locations. The north and south tower basement walls appeared in good condition. We observed leakage at the tower western walls. In some areas the leaks were repaired using epoxy grout injection. The building engineer, Gary Pera, reported that during drilling operations the rate of water inflow through the basement wall cracks increases. The top of the tower mat was uncracked.

Photos 31 and 32 show the condition of the shear walls and mat foundation at two elevator cores. We did not observe any cracks or other indications of structural damage in these areas.

Photo 33 shows the elevator threshold repair performed at level 1. Tower tilt increased the gap between the elevator car located in the podium building and the slab part of the tower. The repair consists of the addition of an aluminum plate to the tower floor to reduce the size of the gap.

Photo 1
Podium west basement wall at level B5

Photo 2
Podium west basement wall at level B5

Photo 3
Podium west basement wall at level B5

Photo 4
Signs of prior leakage in the podium at level B5

Photo 5
Podium west basement wall at level B1

Photo 6
Podium west basement wall at level B1

Photo 7
Podium west basement wall at level B1

Photo 8
Podium west basement wall at level B1

Photo 9
Podium west basement wall at level B1

Photo 10
Podium west basement wall at level B1

Photo 11
Podium shear wall at level B1

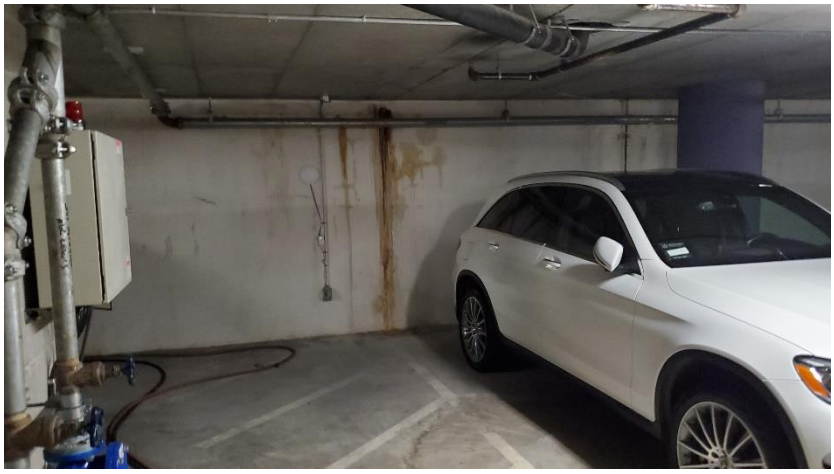

Photo 12
Podium north basement wall at level B1

Photo 13
Podium north basement wall at level B1

Photo 14
Podium east basement wall at level B1

Photo 15
Podium east basement wall at level B1

Photo 16
Separation joint between the tower and the podium

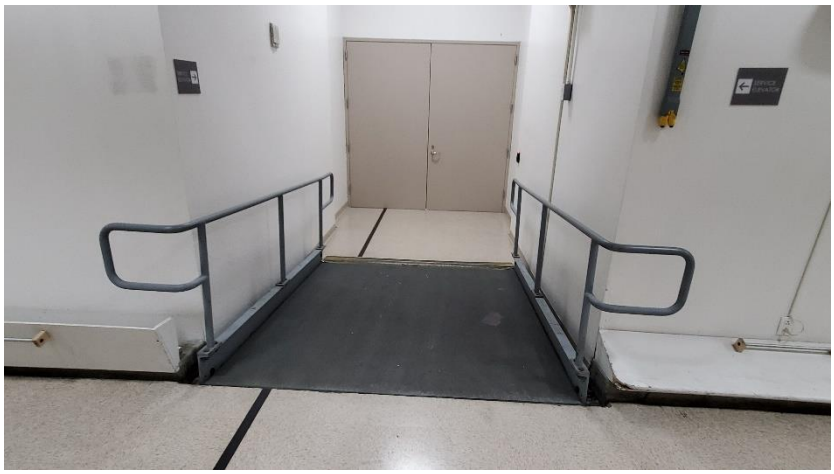

Photo 17
Separation joint between the tower and the podium

Photo 18
Interior podium ramp shear wall at B1

Photo 19
Preexisting cracks in tower column H-11 at B1

Photo 20
Preexisting cracks in tower column H-11 at B1

Photo 21
Basement wall cracks in tower storage room at B1

Photo 22
Top of tower mat foundation in Fire Pump room

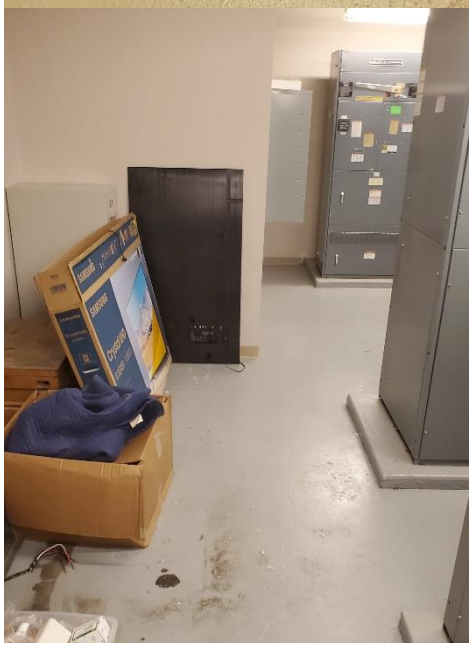

Photo 23
Top of tower mat foundation in Switchboard room

Photo 24
South tower basement wall at Switchboard room

Photo 25
West tower basement wall at Emergency Switchboard room

Photo 26
Top of tower mat foundation at Emergency Switchboard room

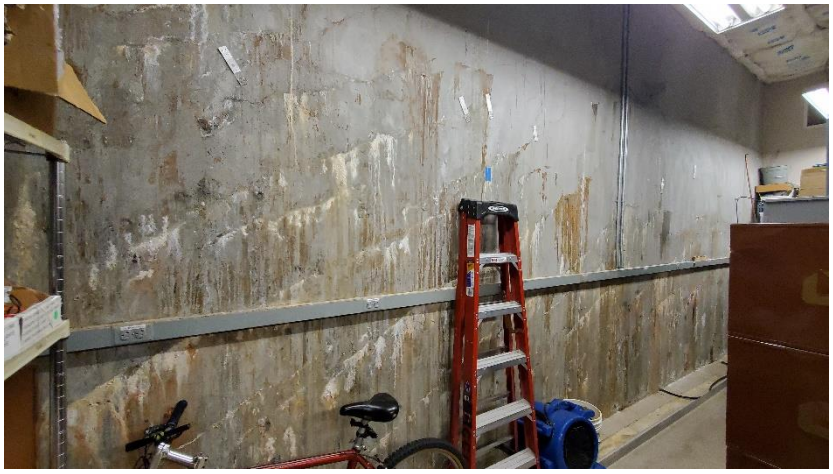

Photo 27
West tower basement wall

Photo 28
West tower basement wall at telephone security room.

Photo 29
West tower basement wall epoxy injection repairs at storage B1-F

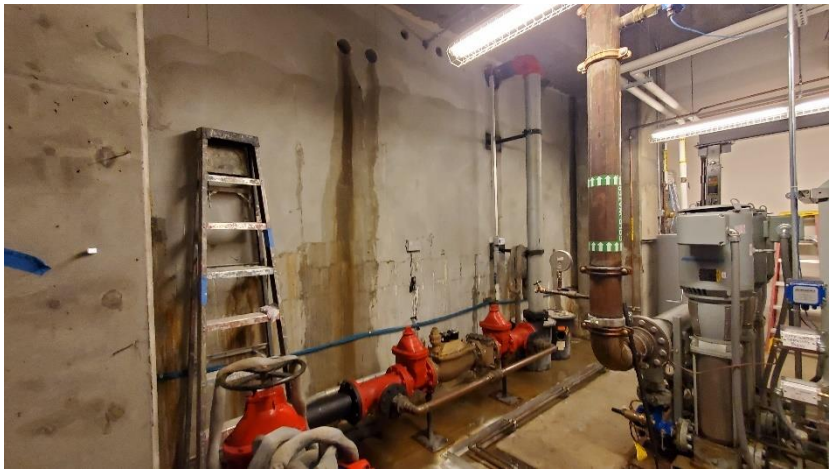

Photo 30
North tower basement wall at Fire Water room

Photo 31
Elevator C-5 pit shear walls

Photo 32
Elevator C-1 & C-2 pit shear walls

Photo 33
Elevator threshold repair at L1.