IN THE CIRCUIT COURT OF THE ELEVENTH JUDICIAL CIRCUIT IN AND FOR MIAMI-DADE COUNTY, FLORIDA

CASE NO: 2021-015089-CA-01
SECTION: CA43
JUDGE: Michael Hanzman

In re:

Champlain Towers South Collapse Litigation
______________________________________/

NOTICE OF FILING CORRECTED COMPOSITE EXHIBIT A

Receiver, Michael I. Goldberg (the "Receiver"), on behalf of the Champlain Towers South Condominium Association, Inc., hereby files the attached corrected Composite Exhibit A to *Receiver's Emergency Motion for Entry of Order Authorizing Receiver to Sign Permit Application Requested by Miami-Dade County Authorizing Bofam Construction Company, Inc. to Undertake Emergency Work to Brace the Retainment Walls at the Property* (the "Motion"), filed on August 5, 2021 to include the complete engineering plans.

Dated: August 6, 2021

BERGER SINGERMAN LLP
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CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on August 6, 2021, a true and correct copy of the foregoing document was filed electronically through the Florida Court's E-Filing Portal, which will provide electronic service of the filling to all counsel of record.

By: *Jordi Guso*
Jordi Guso

10768296-1

COMPOSITE

EXHIBIT “A”

STRUCTURAL CALCULATIONS

PROJECT: PROPOSED RETAINING WALL BRACING FOR CHAMPLAIN TOWERS COLLAPSE SITE
ADDRESS: 8777 COLLINS AVENUE, SURFSIDE, FL, 33154

APPLICABLE CODES
- FBC 2020
- ASCE 7-16
- AASHTO BRIDGE DESIGN SPECIFICATIONS
- ACI 318-14
- AISC 14TH EDITION

These Calculations contain manual and computer-generated structural calculations. Computations were performed to the best of my knowledge according to sound and generally accepted engineering principals and Code requirements. The sign and seal provided herein is meant to cover all computation sheets pages 1 through 15.

This item has been digitally signed and sealed by Masood Hajali PE 82038
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

MASOOD HAJALI
LICENSE
No 82038
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
I AM THE AUTHOR OF THIS DOCUMENT

Digitally signed by MASOOD HAJALI
Date: 2021.08.03 15:48:31 -04'00'

Masood Hajali, PhD, P.E.
Florida Reg.: 82038

PROJECT: PROPOSED RETAINING WALL BRACING FOR CHAMPLAIN TOWERS COLLAPSE SITE
ADDRESS: 8777 COLLINS AVENUE, SURFSIDE, FL, 33154

TABLE OF CONTENTS

Computer Programs Used:

- Mecawind
- Enercalc

2000 NW 89th PL, Unit 102, Doral, FL 33172, Ph: 305-898-9995, CA 5566

1. DESIGN CRITERIA

Design Parameters

- Florida Building Code, 2020 Edition
- Wind Parameters:
    - ASCE 7-16
    - Wind Velocity= 195 MPH (ULT)
    - Risk Category= IV
    - Exposure= D
    - Mean Height=10’-0”
    - Kd= 0.85
    - GCpi= ±0.55

Materials Used

- Existing Concrete Strength at 28 days - f’c=3,000psi (as per Microfilm Sheet S-11 of S-14)
- Existing Reinforcing - fy=60,000psi (as per Microfilm Sheet S-11 of S-14)
- Structural Steel Tubes ASTM A500 GrB – fy=46,000psi
- Structural Steel Plates ASTM A36 – fy=36,000psi

Design Loads

- Refer to Section 2.

Foundation Parameters

- Existing Concrete Structural Slab on Piles and Fill (6 ½” to 9” Thickness).

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2. LOADS AND PARAMETERS

LIVE SURCHARGE

LS= 480pcf

WIND LOADS (AWAY FROM SURFACE) (SEE REPORT BELOW)

WLat= 89.2psf (ASD)

SOIL PARAMETERS

Ka= 0.33

γDry= 100pcf

γSat= 120pcf

γSW= 65pcf

WIND LOADS FOR PARTIALY ENCLOSED

```
                              MecaWind v2340
    Software Developer: Meca Enterprises Inc., www.meca.biz, Copyright © 2018

Basic Wind Parameters
Wind Load Standard          = ASCE 7-16    Exposure Category           = D
Wind Design Speed           = 195.0 mph    Risk Category               = II
Structure Type              = Building     Building Type               = Partially Enclosed

General Wind Settings
Incl_LF    = Include ASD Load Factor of 0.6 in Pressures                 = True
DynType    = Dynamic Type of Structure                                   = Rigid
NF         = Natural Frequency of Structure (Mode 1)                     = 1.000 Hz
Zg         = Altitude (Ground Elevation) above Sea Level                 = 0.000 ft
Bdist      = Base Elevation of Structure                                 = 0.000 ft
SDB        = Simple Diaphragm Building                                   = False
zi         = Level of highest opening in building or zero to use h       = 0.0 ft
Reacs      = Show the Base Reactions in the output                       = False
MWFRSType = MWFRS Method Selected                                        = No Analysis

Topographic Factor per Fig 26.8-1
Topo       = Topographic Feature                                         = None
Kzt        = Topographic Factor                                          = 1.000

Building Inputs
RoofType: Building Roof Type  = Flat          RfHt    : Roof Height        = 10.000 ft
W       : Building Width      = 310.000 ft    L       : Building Length    = 200.000 ft
Frames  : Incl Transverse Frames= False       n       : Number of Frames   = 3
e       : Solidity Ratio      = 0.350         Par     : Is there a Parapet = False
Aog     : Tot Area of Openings= 0.00 sq ft    Vi      : Unpart Int Volume  = 0.00 ft^3

Exposure Constants per Table 26.11-1:
Alpha: Const from Table 26.11-1= 11.500      Zg:    Const from Table 26.11-1= 700.000 ft
At:    Const from Table 26.11-1= 0.087       Bt:    Const from Table 26.11-1= 1.070
Am:    Const from Table 26.11-1= 0.111       Bm:    Const from Table 26.11-1= 0.800
C:     Const from Table 26.11-1= 0.150       Eps:   Const from Table 26.11-1= 0.125

Overhang Inputs:
Std        = Overhangs on all sides are the same                         = True
OHType     = Type of Roof Wall Intersections                             = None

Components and Cladding (C&C) Calculations per Ch 30 Part 1:
h/W        = Ratio of mean roof height to building width                 = 0.032
h/L        = Ratio fo mean roof height to building length                = 0.050
```


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```
h          = Mean Roof Height above grade                                 = 10.000 ft
Kh         = Z < 15 ft [4.572 m]--> (2.01 * (15/zg)^(2/Alpha) {Table 26.10-1}= 1.030
Kzt        = Topographic Factor is 1 since no Topographic feature specified  = 1.000
Kd         = Wind Directionality Factor per Table 26.6-1                  = 0.85
Ri         = Reduction Factor for Partially Enclosed Large Volume Buildings  = 1.000
GCPi       = Ref Table 26.13-1 for Partially Enclosed Building: 0.55*Ri      = +/-0.55
LF         = Load Factor based upon ASD Design                            = 0.60
qh         = (0.00256 * Kh * Kzt * Kd * Ke * V^2) * LF                    = 51.15 psf
LHD        = Least Horizontal Dimension:  Min(B, L)                       = 200.000 ft
a1         = Min(0.1 * LHD,  0.4 * h                                      = 4.000 ft
a          = Max(a1, 0.04 * LHD, 3 ft [0.9 m])                            = 8.000 ft
h/B        = Ratio of mean roof height to least hor dim: h / B            = 0.050
0.2*h      = Parameter used to define Zone 3                              = 2.000 ft
0.6*h      = Parameter used to define Zones 1 and 2                       = 6.000 ft
```

Wind Pressures for C&C Ch 30 Pt 1
All wind pressures include a load factor of 0.6

Description ft	Zone	Width ft	Span ft	Area sq ft	1/3 Rule	Ref Fig	GCp Max	GCp Min	p Max psf	p Min psf
Wall	5	1.000	7.000	16.33	Yes	30.3-1	0.866	-1.192	72.43	-89.11

```
Area     = Span Length x Effective Width
1/3 Rule = Effective width need not be less than 1/3 of the span length
GCp      = External Pressure Coefficients taken from Figures 30.3-1 through 30.3-7
p        = Wind Pressure:  qh*(GCp - GCpi)  [Eqn 30.3-1]*
* Per Para 30.2.2 the Minimum Pressure for C&C is 9.60 psf [0.460 kPa] {Includes LF}
Since Roof Slope <= 10 Deg, the GCp value is reduced by 10%
```

RETAINING WALL LOAD CASES FACTORS

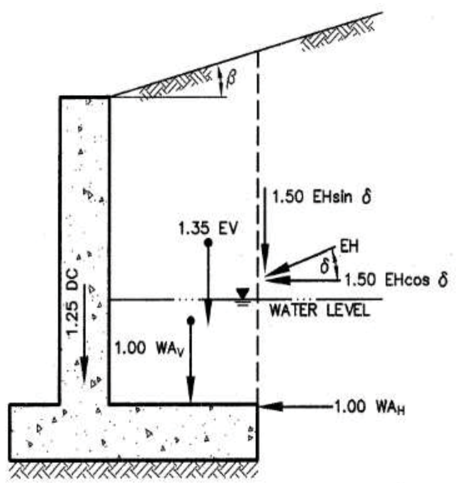

Figure C11.5.6-1—Typical Application of Load Factors for Bearing Resistance

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3. RETAINING WALL LOAD ANALYSIS

γ' soil	100	pcf
γ conc	150	pcf

γs soil	120	pcf
γ w	65	pcf

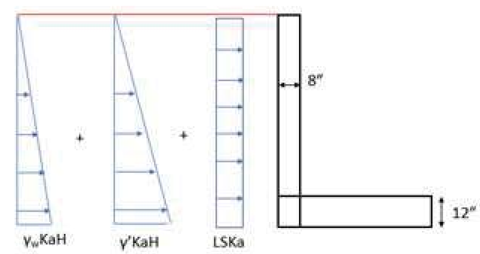
LOAD CASE EH			
H (ft)	Ka	Centroid (ft)	PEH(lb/ft)
7	0.33	2.33	809
8	0.33	2.67	1056
9	0.33	3.00	1337
10	0.33	3.33	1650

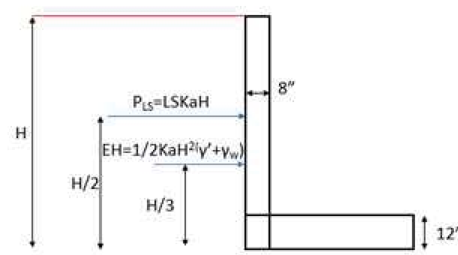
LOAD CASE WA			
H (ft)	Ka	Centroid (ft)	PEH(lb/ft)
7	0.33	2.33	526
8	0.33	2.67	686
9	0.33	3.00	869
10	0.33	3.33	1073

LOAD CASE LS W/ Heq=4ft & q=480 psf			
H (ft)	Ka	Centroid (ft)	PLs(lb/ft)
7	0.33	3.50	1109
8	0.33	4.00	1267
9	0.33	4.50	1426
10	0.33	5.00	1584

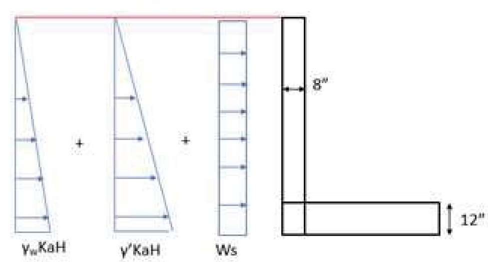
LOAD CASE WS W/ qws=89.2 psf		
H (ft)	Centroid (ft)	PWs(lb/ft)
7	3.50	624
8	4.00	714
9	4.50	803
10	5.00	892

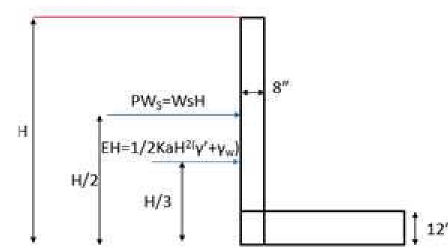
Loads for strength I





Loads for strength III





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WALL ACTNG AS SIMPLY SUPPORTED BEAM

EH	Soil pressure							
H (ft)	Centroid (ft)	PEH(lb/ft)	a (ft)	b (ft)	Top R (lb)	Bot R (lb)	B in L/3 (lb-ft)	B in L/2 (lb-ft)
7	2.33	808.50	4.67	2.33	270	539	1258	314
8	2.67	1056.00	5.33	2.67	352	704	1877	469
9	3.00	1336.50	6.00	3.00	446	891	2673	668
10	3.33	1650.00	6.67	3.33	550	1100	3667	917

WA	Hydrostatic pressure							
H (ft)	Centroid (ft)	PEH(lb/ft)	a (ft)	b (ft)	Top R (lb)	Bot R (lb)	B in L/3 (lb-ft)	B in L/2 (lb-ft)
7	2.33	525.53	4.67	2.33	175	350	817	204
8	2.67	686.40	5.33	2.67	229	458	1220	305
9	3.00	868.73	6.00	3.00	290	579	1737	434
10	3.33	1072.50	6.67	3.33	358	715	2383	596

PLS	Live surcharge							
H (ft)	0.00	0.00	a (ft)	b (ft)	Top R (lb)	Bot R (lb)	B in L/3 (lb-ft)	B in L/2 (lb-ft)
7	3.50	1108.80	3.50	3.50	554	554	1940	1294
8	4.00	1267.20	4.00	4.00	634	634	2534	1690
9	4.50	1425.60	4.50	4.50	713	713	3208	2138
10	5.00	1584.00	5.00	5.00	792	792	3960	2640

(Strength I)

Shear superposition	Top R (lb)					Bot R (lb)				
Factor/	1.5	1	1.75	Ult	Unfactored	1.5	1	1.75	Ult	Unfactored
H (ft)	Gs	Gw	LS	Gs+Ls+Gw	Gs+Ls+Gw	Gs	Gw	LS	Gs+Ls+Gw	Gs+Ls+Gw
7	270	175	554	**1550**	999	539	350	554	2129	1444
8	352	229	634	**1866**	1214	704	458	634	2622	1795
9	446	290	713	**2205**	1448	891	579	713	3163	2183
10	550	358	792	**2569**	1700	1100	715	792	3751	2607

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Moment superposition	B in L/3 (lb-ft)					B in L/2 (lb-ft)				
Factor/	1.5	1	1.75	Ult	Unfactored	1.5	1	1.75	Ult	Unfactored
H (ft)	Gs	Gw	LS	Gs+Ls+Gw	Gs+Ls+Gw	Gs	Gw	LS	Gs+Ls+Gw	Gs+Ls+Gw
7	1258	817	1294	**4968**	3369	314	204	1940	4072	2459
8	1877	1877	1690	**7650**	5444	469	305	2534	5444	3309
9	2673	2673	2138	**10425**	7484	668	434	3208	7050	4310
10	3667	3667	2640	**13787**	9973	917	596	3960	8901	5473

PWS	Wind load							
H (ft)	0.00	0.00	a (ft)	b (ft)	Top R (lb)	Bot R (lb)	B in L/3 (lb-ft)	B in L/2 (lb-ft)
7	3.50	624.40	3.50	3.50	312	312	1093	728
8	4.00	713.60	4.00	4.00	357	357	1427	951
9	4.50	802.80	4.50	4.50	401	401	1806	1204
10	5.00	892.00	5.00	5.00	446	446	2230	1487

(Strength III)

Shear superposition	Top R (lb)					Bot R (lb)				
Factor/	1.5	1	1.4	Ult	Unfactored	1.5	1	1.4	Ult	Unfactored
H (ft)	Gs	Gw	WS	Gs+Ls+Gw	Gs+Ls+Gw	Gs	Gw	WS	Gs+Ls+Gw	Gs+Ls+Gw
7	270	175	312	**1017**	757	539	350	554	1935	1444
8	352	229	357	**1256**	938	704	458	634	2401	1795
9	446	290	401	**1520**	1136	891	579	713	2914	2183
10	550	358	446	**1807**	1354	1100	715	792	3474	2607

Moment superposition	B in L/3 (lb-ft)					B in L/2 (lb-ft)				
Factor/	1.5	1	1.4	Ult	Unfactored	1.5	1	1.4	Ult	Unfactored
H (ft)	Gs	Gw	WS	Gs+Ls+Gw	Gs+Ls+Gw	Gs	Gw	LS	Gs+Ls+Gw	Gs+Ls+Gw
7	1258	817	728	**3724**	2804	314	204	1093	2206	1611
8	1877	1877	951	**6025**	4706	469	305	1427	3007	2202
9	2673	2673	1204	**8368**	6550	668	434	1806	3966	2909
10	3667	3667	1487	**11248**	8820	917	596	2230	5093	3743

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4. BEAM AND BRACING DESIGN

Beam Design at top of Wall)

Span= 10’-0” (Multiple)

From Previous Section, for Critical Case Strength I,
Uniform Load = 1700plf (Unfactored)

From attached calculations use HSS 6”x6”x3/8”.

Reactions
RMax= 17.0kips (ASD) for Typical Span

Brace Design)

Max. Span= 8’/sin45=11’-4”
Point Load= 17kips (ASD)
Max. Axial= 17/sin45=24.1kips

Reactions
Pmax= 17kips (ASD)
Vmax= 17*1.51=25.7kips (ULT)

From attached calculations use HSS 4”x4”x3/8” w/3/4”x12”x16” base plate and (6) 5/8”Diameter Hilti HAS Rods SS 304 w/HIT-RE 500V3 Epoxy (4” emb.)

Check Welds
For ¼” E70xx,
Vall= 3.71kip/in
Available Length= 4/sin45=5.65in *2=11.3in
Allowable Shear= 3.71*11.3=42kips > 17kips OK (See attached table)

2000 NW 89th PL, Unit 102, Doral, FL 33172, Ph: 305-898-9995, CA 5566

Calc Engineering

Rev: 580002

Multi-Span Steel Beam

Description Steel Beam

General Information

Code Ref: AISC 9th ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Fy - Yield Stress 46.00 ksi Load Duration Factor 1.00

Spans Considered Continuous Over Supports

Span Information

Description									
Span	ft	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Steel Section		HSS6X6X3/8	HSS6X6X3/8	HSS6X6X3/8	HSS6X6X3/8	HSS6X6X3/8	HSS6X6X3/8	HSS6X6X3/8	HSS6X6X3/8
End Fixity		Pin-Pin	Pin-Pin	Pin-Pin	Pin-Pin	Pin-Pin	Pin-Pin	Pin-Pin	Pin-Pin
Unbraced Length	ft	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00

Loads

Live Load Used This Span ?		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dead Load	k/ft								
Live Load	k/ft	1.700	1.700	1.700	1.700	1.700	1.700	1.700	1.700

Results

Mmax @ Cntr	k-ft	13.22	5.76	7.45	7.01	7.01	7.45	5.76	13.22
@ X =	ft	3.93	5.27	4.93	5.00	5.00	5.07	4.73	6.07
Max @ Left End	k-ft	0.00	-17.96	-13.14	-14.46	-14.02	-14.46	-13.14	-18.0
Max @ Right End	k-ft	-17.96	-13.14	-14.46	-14.02	-14.46	-13.14	-17.96	0.00
fb : Actual	psi	16,372.2	16,372.2	13,177.6	13,177.6	13,177.6	13,177.6	16,372.2	16,372.2
Fb : Allowable	psi	27,600.0	27,600.0	27,600.0	27,600.0	27,600.0	27,600.0	27,600.0	27,600.0
		Bending OK	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK	Bending OK
fv : Actual	psi	2,458.5	2,144.7	2,061.0	2,040.1	2,040.1	2,061.0	2,144.7	2,458.5
Fv : Allowable	psi	18,400.0	18,400.0	18,400.0	18,400.0	18,400.0	18,400.0	18,400.0	18,400.0
		Shear OK	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK	Shear OK

Reactions & Deflections

Shear @ Left	k	6.70	8.98	8.37	8.54	8.46	8.63	8.02	10.30
Shear @ Right	k	10.30	8.02	8.63	8.46	8.54	8.37	8.98	6.70
Reactions...									
DL @ Left	k	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LL @ Left	k	6.70	19.28	16.39	17.18	16.91	17.18	16.39	19.28
Total @ Left	k	6.70	19.28	16.39	17.18	16.91	17.18	16.39	19.28
DL @ Right	k	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LL @ Right	k	19.28	16.39	17.18	16.91	17.18	16.39	19.28	6.70
Total @ Right	k	19.28	16.39	17.18	16.91	17.18	16.39	19.28	6.70
Max. Deflection	in	-0.168	-0.041	-0.074	-0.065	-0.065	-0.074	-0.041	-0.168
@ X =	ft	4.40	5.33	4.93	5.00	5.00	5.07	4.67	5.60
Span/Deflection Ratio		714.8	2,917.8	1,628.8	1,835.4	1,835.4	1,628.8	2,917.8	714.8

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Calc Engineering

Rev: 580002

Steel Column

Description Steel Brace

General Information

Code Ref: AISC 9th ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Steel Section	**HSS4X4X3/8**	Fy	46.00 ksi	X-X Sidesway :	Restrained
		Duration Factor	1.000	Y-Y Sidesway :	Restrained
Column Height	11.330 ft	Elastic Modulus	29,000.00 ksi		
End Fixity	Pin-Pin	X-X Unbraced	11.330 ft	Kxx	1.000
Live & Short Term Loads Combined		Y-Y Unbraced	11.330 ft	Kyy	1.000

Loads

Axial Load...

Dead Load	k	Ecc. for X-X Axis Moments	0.000 in
Live Load	24.10 k	Ecc. for Y-Y Axis Moments	0.000 in
Short Term Load	k		

Summary

Column Design OK

Section : HSS4X4X3/8, Height = 11.33ft, Axial Loads: DL = 0.00, LL = 24.10, ST = 0.00k, Ecc. = 0.000in

Unbraced Lengths: X-X = 11.33ft, Y-Y = 11.33ft

Combined Stress Ratios	Dead	Live	DL + LL	DL + ST + (LL if Chosen)
AISC Formula H1 - 1		0.3189	0.3189	0.3189
AISC Formula H1 - 2		0.1827	0.1827	0.1827
AISC Formula H1 - 3				

XX Axis : Fa calc'd per Eq. E2-1, K*L/r < Cc

YY Axis : Fa calc'd per Eq. E2-1, K*L/r < Cc

Stresses

Allowable & Actual Stresses	Dead	Live	DL + LL	DL + Short
Fa : Allowable	15.81 ksi	15.81 ksi	15.81 ksi	15.81 ksi
fa : Actual	0.00 ksi	5.04 ksi	5.04 ksi	5.04 ksi
Fb:xx : Allow [F3.1]	27.60 ksi	27.60 ksi	27.60 ksi	27.60 ksi
fb : xx Actual	0.00 ksi	0.00 ksi	0.00 ksi	0.00 ksi
Fb:yy : Allow [F3.1]	27.60 ksi	27.60 ksi	27.60 ksi	27.60 ksi
fb : yy Actual	0.00 ksi	0.00 ksi	0.00 ksi	0.00 ksi

Analysis Values

F'ex : DL+LL	17,408 psi	Cm:x DL+LL	0.60	Cb:x DL+LL	1.00
F'ey : DL+LL	17,408 psi	Cm:y DL+LL	0.60	Cb:y DL+LL	1.00
F'ex : DL+LL+ST	17,408 psi	Cm:x DL+LL+ST	0.60	Cb:x DL+LL+ST	1.00
F'ey : DL+LL+ST	17,408 psi	Cm:y DL+LL+ST	0.60	Cb:y DL+LL+ST	1.00

Max X-X Axis Deflection 0.000 in at 0.000 ft Max Y-Y Axis Deflection 0.000 in at 0.000 ft

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Calc Engineering

Rev: 580002

Steel Column

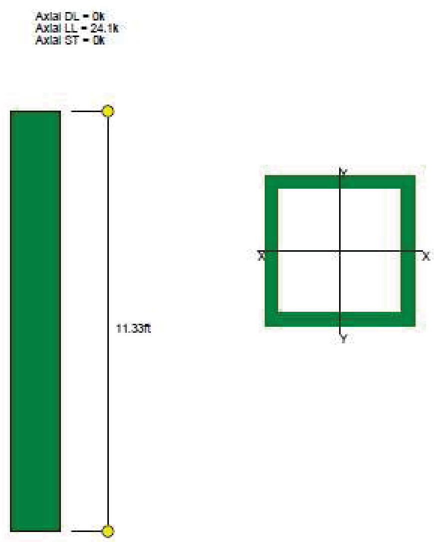
Description Steel Brace

Section Properties **HSS4X4X3/8**

Depth	4.000 in	Weight	16.24 #/ft	Values for LRFD Design....	
Web Thick	0.349 in	Ixx	10.300 in4	J	17.500 in4
Width	4.000 in	Iyy	10.300 in4	Cw	9.14 in6
Flange Thick	0.349 in	Sxx	5.130 in3	Zx	6.390 in3
Area	4.78 in2	Syy	5.130 in3	Zy	6.390 in3
Rt	0.000 in	Rxx	1.470 in		0.000
		Ryy	1.470 in		

Section Type = HSS-Square

Sketch & Diagram



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Calc Engineering

Rev: 580000

Steel Column Base Plate

Description Base Plate

General Information

Code Ref : AISC 9th Ed ASD, 1997 UBC, 2003 IBC, 2003 NFPA 5000

Loads

Axial Load	20.00 k
X-X Axis Moment	0.00 k-ft

Plate Dimensions

Plate Length	16.000 in
Plate Width	12.000 in
Plate Thickness	**0.688** in

Support Pier Size

Pier Length	36.000 in
Pier Width	36.000 in

Steel Section **HSS4x4x3/8**

Section Length	4.000 in
Section Width	4.000 in
Flange Thickness	0.349 in
Web Thickness	4.000 in

Allowable Stresses

Concrete f'c	3,000.0 psi
Base Plate Fy	36.00 ksi
Load Duration Factor	1.000

Anchor Bolt Data

Dist. from Plate Edge	1.500 in
Bolt Count per Side	3
Tension Capacity	5.500 k
Bolt Area	0.442 in2

Summary

Baseplate OK

Concrete Bearing Stress **Bearing Stress OK**

Actual Bearing Stress	104.2 psi
Allow per ACI318-95, A3.1	
= 0.3 * f'c * Sqrt(A2/A1) * LDF	1,800.0 psi
Allow per AISC J9	2,100.0 psi

Full Bearing : No Bolt Tension

Plate Bending Stress **Thickness OK**

Actual fb	24,601.7 psi
Max Allow Plate Fb	27,000.0 psi

Tension Bolt Force **Bolt Tension OK**

Actual Tension	0.000 k
Allowable	5.500 k

Table 5.13.1 Allowable Resistance of Fillet Welds, kips/in. (Shielded Metal Arc Welding)

		Allowable Shear in Fillet Welds, R_w, (kips/in. of weld)					
Nominal Size (in.)	*Effective Throat (AISC–1.14.6) (in.)*	*Minimum Tensile Strength of Weld (ksi)*					
		60	*70*	*80*	*90*	*100*	*110*
1/8	0.088	1.59	1.86	2.12	2.39	2.69	2.92
3/16	0.132	2.38	2.78	3.18	3.58	3.97	4.37
1/4	0.177	3.18	3.71	4.24	4.77	5.30	5.83

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Company:		Page:	1
Specifier:		Project:	CT Collapse Site
Address:		Sub-Project I Pos. No.:	Base Anchors
Phone I Fax:	|	Date:	8/3/2021
E-Mail:			

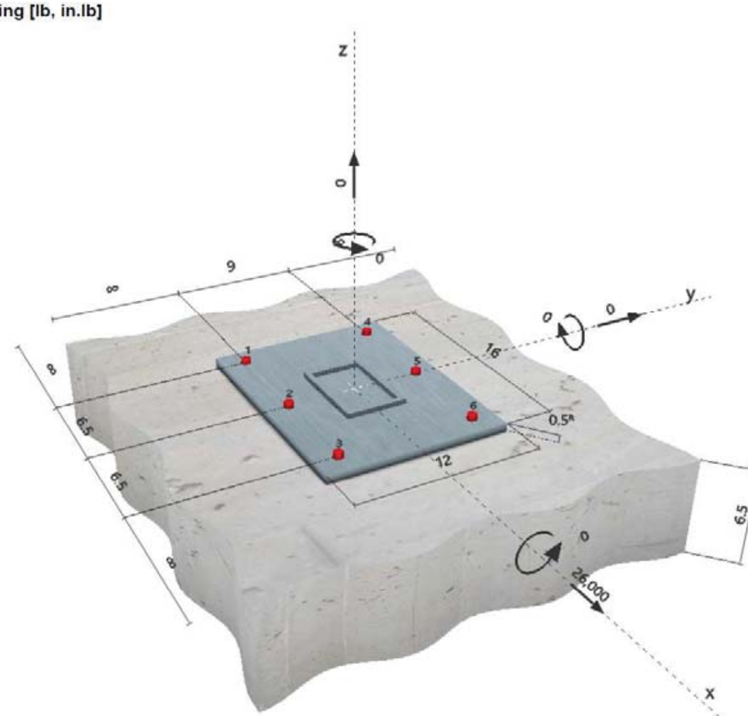
Specifier's comments:

1 Input data

Anchor type and diameter:	**HIT-RE 500 V3 + HAS-R 304/316 SS 5/8**
Effective embedment depth:	$h_{ef,act}$ = 4.000 in. ($h_{ef,limit}$ = - in.)
Material:	ASTM F 593
Evaluation Service Report:	ESR-3814
Issued I Valid:	1/1/2020 | 1/1/2021
Proof:	Design method ACI 318-08 / Chem
Stand-off installation:	e_b = 0.000 in. (no stand-off); t = 0.500 in.
Anchor plate:	l_x x l_y x t = 16.000 in. x 12.000 in. x 0.500 in.; (Recommended plate thickness: not calculated
Profile:	Rectangular HSS (AISC), HSS6X4X.375; (L x W x T) = 6.000 in. x 4.000 in. x 0.375 in.
Base material:	cracked concrete, 3000, f_c' = 3,000 psi; h = 6.500 in., Temp. short/long: 32/32 °F
Installation:	**hammer drilled hole, Installation condition: Dry**
Reinforcement:	tension: condition B, shear: condition B; no supplemental splitting reinforcement present edge reinforcement: none or < No. 4 bar
Seismic loads (cat. C, D, E, or F)	no

R - The anchor calculation is based on a rigid anchor plate assumption.

Geometry [in.] & Loading [lb, in.lb]



2 Proof I Utilization (Governing Cases)

		Design values [lb]		Utilization	
Loading	Proof	Load	Capacity	β_N / β_V [%]	Status
Tension	-	-	-	- / -	-
Shear	Pryout Strength (Bond Strength controls)	26,000	36,715	- / 71	OK

Loading	β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
Combined tension and shear loads	-	-	-	-	-

3 Warnings

- Please consider all details and hints/warnings given in the detailed report!

Fastening meets the design criteria!

4 Remarks; Your Cooperation Duties

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- You must take all necessary and reasonable steps to prevent or limit damage caused by the Software. In particular, you must arrange for the regular backup of programs and data and, if applicable, carry out the updates of the Software offered by Hilti on a regular basis. If you do not use the AutoUpdate function of the Software, you must ensure that you are using the current and thus up-to-date version of the Software in each case by carrying out manual updates via the Hilti Website. Hilti will not be liable for consequences, such as the recovery of lost or damaged data or programs, arising from a culpable breach of duty by you.

GENERAL NOTES

CODES

1. FLORIDA BUILDING CODE 2020
2. A.S.C.E. 7-16 FOR WIND ANALYSIS
3. ACI 318-14 – BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
4. AISC 14TH EDITION
5. AASHTO BRIDGE DESIGN SPECIFICATIONS 2017

LOADS - DESIGN CRITERIA

1. WIND PARAMETERS:

"ROOF" HEIGHT	10'-0"
BASIC WIND VELOCITY:	196 MPH (ULT)
RISK CATEGORY:	IV
EXPOSURE	C
Kd	0.85

PARTIALLY ENCLOSED BUILDING INTERNAL PRESSURE COEFFICIENT: +/-0.55

2. OTHERS LOADS:

LIVE SURCHARGE: 480 PCF

FOUNDATIONS

1. EXISTING STRUCTURAL CONCRETE SLAB. THICKNESS VARIES BETWEEN 6½" TO 9" (BASED ON INFORMATION PROVIDED IN MICROFILM, FIELD MEASUREMENTS AND INFORMATION PROVIDED BY THE CONTRACTOR) SUPPORTED ON PILES.
2. SOIL PARAMETERS USED:
   - Ka= 0.33
   - γDry= 100pcf
   - γSat= 120pcf
   - γSW= 65pcf

CONCRETE AND REINFORCING STEEL

1. SUBMIT CONCRETE MIX DESIGN TO ENGINEER FOR REVIEW PRIOR TO POURING.
2. ALL NORMAL-WEIGHT CONCRETE MUST BE MIXED IN ACCORDANCE WITH ACI 301 TO ACHIEVE A MINUMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000PSI. WATER/CEMENT RATIO MUST BE 0.40 MAX. BY WEIGHT UON ON PLANS AND 0.15 MAX. WATER-SOLUBLE CHLORIDE ION CONTENT IN CONCRETE (PERCENT BY WEIGHT OF CEMENT) IN ACCORDANCE TO TABLE 4.3.1 OF ACI 318-08.
3. SLUMP SHALL BE 4" (±1).
4. CONTRACT AN INDEPENDENT TESTING LABORATORY TO PERFORM THE CONCRETE CYLINDER SAMPLING AND TESTING AS REQUIRED FLORIDA BUILDING CODE, 2020. SUBMIT TEST REPORTS TO ENGINEER.
5. AGGREGATES TO BE CLEAN AND WELL GRADED, MAX. SIZE 1". VERTICAL DROP NOT TO EXCEED 8'-0".
6. NO ADDITIONAL WATER SHALL BE ADDED TO THE CONCRETE MIX AT THE JOBSITE UNLESS PREVIOUSLY APPROVED.
7. PROVIDE ALL FORMING AND TEMPORARY SHORING.

REINFORCING STEEL:

1. STANDARD: ASTM A-615, GRADE 60
2. REINFORCEMENT PLACEMENT TOLERANCES MUST COMPLY WITH SECTION 2.2 OF ACI 117.
3. SHALL BE DEFORMED BARS, FREE FROM LOOSE RUST AND SCALE.
4. CONTRACTOR TO PROVIDE CHAIRS BOLSTERS, SPACERS ETC. IN ORDER TO CORRECTLY ASSEMBLE, PLACE AND SUPPORT ALL REINFORCING IN PLACE.
5. ALL REINFORCING SHALL CONFORM TO THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI-315)
6. CONCRETE COVER FOR REINFORCEMENT:

- WALLS : 2"

STRUCTURAL STEEL AND ANCHORS

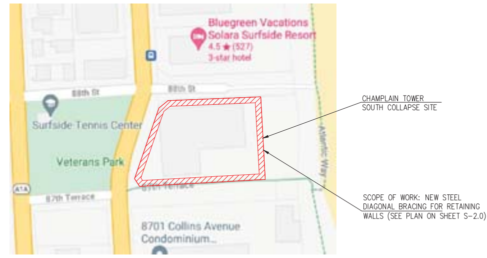
1. STRUCTURAL PLATES ASTM A36
2. STRUCTURAL TUBES ASTM A500 Gr B
3. ALL WELDS TO USE 70xx ELECTRODES AND SHALL COMPLY WITH AWS STANDARDS.
4. ALL STEEL COMPONENTS AND WELDS SHALL BE PROTECTED WITH TWO SHOP COATS OF RUST INHIBITING PAINT MIN. 3 MIL DRY FILM THICKNESS
5. OUR OFFICE RECOMMENDS PERIODICAL INSPECTIONS TO EVALUATE STEEL CONDITION AFTER INSTALLATION. CONSIDER THAT WELDS TYPICALLY RUST BEFORE OTHER COMPONENTS, ESPECIALLY IN MARINE ENVIROMENTS.
6. ANCHORS SHALL BE HILTI HAS RODS STAINLESS STEEL 304/316 (OR SIMILAR APPROVED BY OUR OFFICE.) WITH HEAVY NUT AND WASHER INSTALLED AS PER MANUFACTURER'S TECHNICAL DATA.
7. EPOXY SHALL BE HILTI HIT-RE 500V3 (OR SIMILAR APPROVED BY OUR OFFICE) APPLIED AS PER MANUFACTURER'S TECHNICAL DATA. DO NOT EXPOSE EPOXY TO WATER UNTIL AFTER IT HAS CURED.

CONTRACTORS

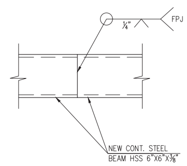
1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF EXISTING AND/OR ADJACENT STRUCTURES, STREETS, AND SIDEWALKS DURING CONSTRUCTION.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD. SHOULD A DISCREPANCY BE FOUND STOP WORK IMMEDIATELY AND NOTIFY OUR OFFICE.
3. CONTRACTOR SHALL WORK THE STRUCTURAL PLANS IN CONJUNCTION OTHER TRADES.
4. EXISTING STRUCTURE: CONTRACTOR SHALL REVIEW THE ORIGINAL CONSTRUCTION DRAWINGS OF THE EXISTING BUILDING PRIOR TO BIDDING AND DURING CONSTRUCTION TO VERIFY THE EXISTING MEMBERS AFFECTED BY THE NEW CONSTRUCTION.
5. THE USE OF SCALE TO OBTAIN DIMENSIONS NOT SHOWN ON THESE PLANS IS STRICTLY FORBIDDEN. THE ENGINEER WILL NO BE RESPONSIBLE FOR ERRORS RESULTING FROM SUCH ACTION.
6. ALL SPECIFIED MATERIALS AND CONNECTORS CAN BE SUBSTITUTED WITH EQUAL OR BETTER, WITH THE APPROVAL OF ENGINEER OF RECORD.
7. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE CONSTRUCTION PROCEDURE AND SEQUENCE AND INSURE THE SAFETY OF THE REMAINING PORTIONS OF THE BUILDING AND ITS COMPONENTS DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, ETC. THAT MAY BE NECESSARY.
8. OUR OFFICE DOES NOT POSSES, NOR PRESUMES TO POSSES ANY KNOWLEDGE OR EXPERTISE IN MATTERS TO JOB SITE EMPLOYEE SAFETY, OSHA OR LABOR LAW REQUIREMENTS FOR A CONSTRUCTION PROJECT. SAFETY AND COMPLIANCE WITH OSHA AND LABOR LAWS ARE THE ABSOLUTE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THOSE CONSULTANTS HE HIRES TO ADDRESS THESE MATTERS. OUR OFFICE SPECIALIZES IN THE STRUCTURAL DESIGN ONLY, AND THE BOARD OF PROFESSIONAL REGULATION FORBIDS US FROM ASSUMING RESPONSIBILITY OUTSIDE HIS AREA OF EXPERTISE.
9. OUR OFFICE RESERVES THE RIGHT TO REVISIT THE DESIGN ONCE ALL THE LABORATORY TESTING AND ASSESSMENT OF THE EXISTING STRUCTURE ARE FINISHED AND THE INFORMATION RECEIVED. PLANS SHALL BE ADJUSTED AFTER RECEIVING A RECENT SURVEY.
10. CONTRACTOR TO PROVIDE X-RAY RESULTS OF THE WALL AND SLAB TO ENGINEER AFTER THE SITE IS DRY AND ENGINEER WILL ADJUST THE PLANS AND CALCULATIONS IF NECESSARY.

SPECIFIC SITE NOTES

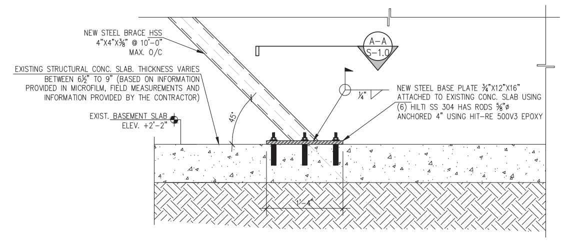
1. NO STEEL PLATE CAN BE ATTACHED TO DAMAGED CONCRETE/BROKEN OR CRACKED CONCRETE WALL OR SLAB
2. AREA OF THE WORK SHALL DRY DURING THE CONSTRUCTION.
3. CALC ENGINEERING ONLY PROVIDED STRUCTURAL PLANS, ANYTHING RELATED TO ELECTRICAL TO PROVIDE POWER FOR THE CONSTRUCTION WORKERS TO BE PROVIDED BY CONTRACTOR.
4. ALL LOOSE CONCRETE PIECES AND HANGING REBARS TO BE REMOVED FOR SAFETY FROM THE SITE BEFORE CONSTRUCTION TO BE STARTED
5. UNBRACED CONCRETE WALL ON THE SIDE OF 87 STREET CLOSE TO POOL AREA TO BE REMOVED OR SECURED BEFORE THE JOB STARTS, THIS WALL IS NOT SECURED TO ANY WHERE AND ANYTIME DURING CONSTRUCTION CAN FALL
6. PRIORITY IS INSTALLATION OF THE BRACING ON THE COLLINS AVE AND THEN 88 STREET AND THEN THE OTHER TWO SIDES.
7. CONCRETE SLAB HANGING FROM CORNER OF THE 88 ST AND OCEAN SIDE TO BE REMOVED OR SECURED



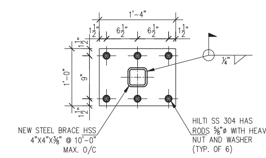
SITE LOCATION MAP - SCOPE OF WORK
NTS



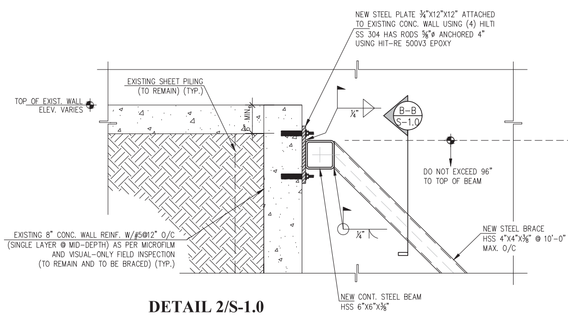
TYP. BEAM SPLICE DETAIL
NTS



DETAIL 1/S-1.0
1"=1'-0"



SECTION A-A/S-1.0
1"=1'-0"



DETAIL 2/S-1.0
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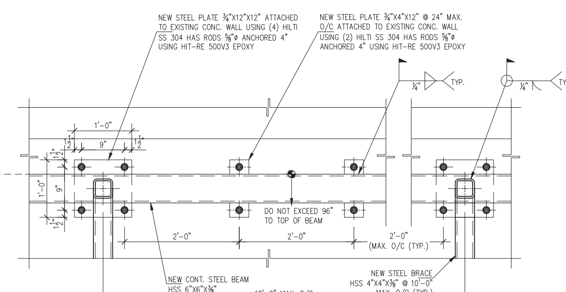

SECTION B-B/S-1.0
1"=1'-0"

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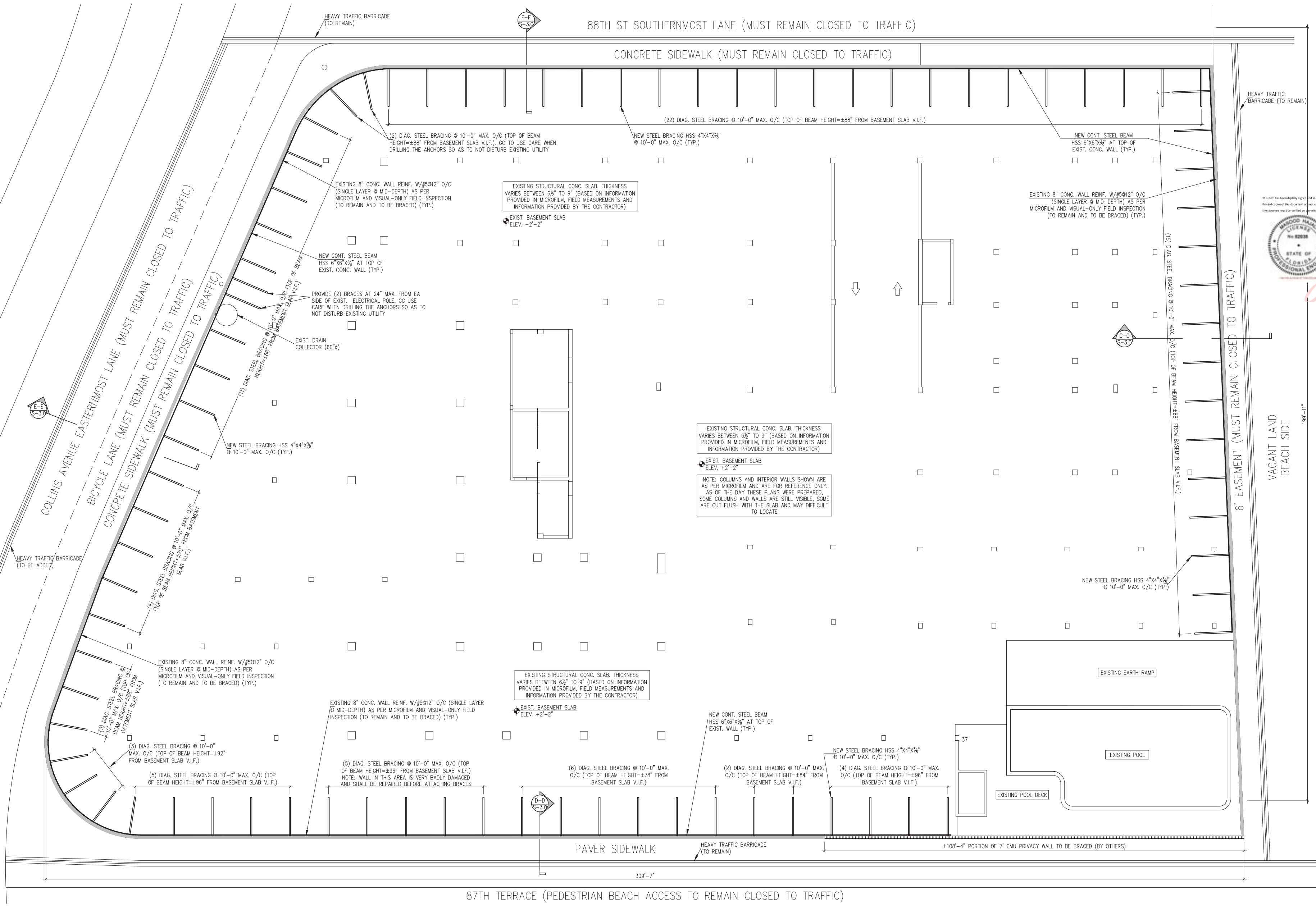
ENGINEERING BUSINESS
CA CERTIFICATION: 32566
MASOOD HAJALI P.E
LIC #82038

PROPOSED RETAININT WALL BRACING
CHAMPLAIN TOWERS COLLAPSE SITE
8777 COLLINS AVENUE
SURFSIDE, FL, 33154

Revision #	Description	Date

Date	08/02/2021
Project Number	S-21119
Sheet	S-1.0
Scale: As Shown	Drawn By: MH



EXISTING BASEMENT FLOOR PLAN - PROPOSED WALL BRACING

3/32"=1'-0"

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PROPOSED RETAININT WALL BRACING
CHAMPLAIN TOWERS COLLAPSE SITE
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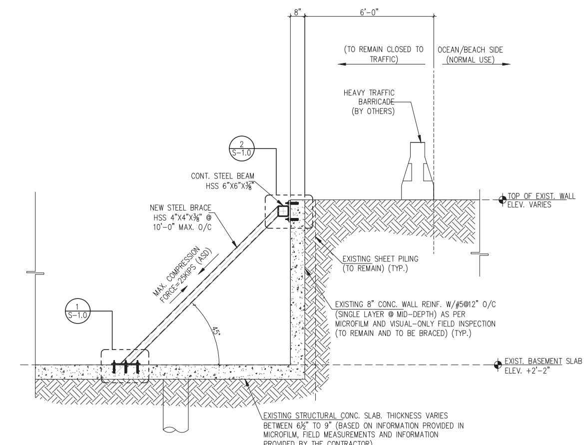
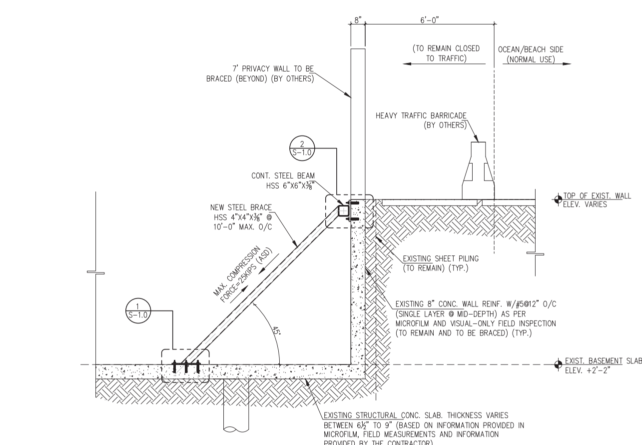
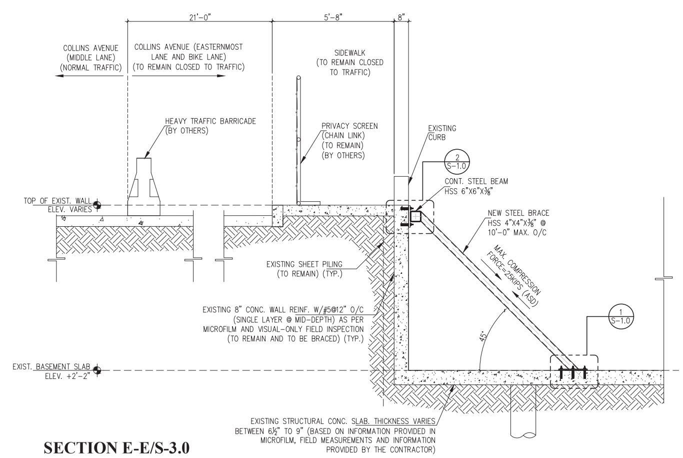


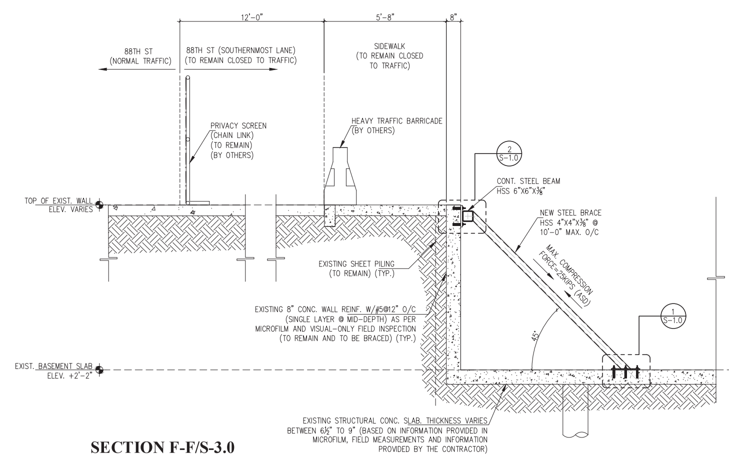
SECTION C-C/S-3.0
3/8"=1'-0"



SECTION C-C/S-3.0
3/8"=1'-0"



SECTION E-E/S-3.0
3/8"=1'-0"



SECTION F-F/S-3.0
3/8"=1'-0"

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PROPOSED RETAININT WALL BRACING
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