

WIND ANALYSIS -- 120 MPH Wind Velocity or as interpolated
2020 7th edition Florida Building Code

Calculations as per Section 1609ASCE 7-16

Prepared By James Zaleski PE 51544

Job Address 437 SE PEACOCK TERRACE LAKE CITY FLORIDA

Date: 4/19/2021

Contractor AMERICAS HOMEPLACE

Prepared by (print legibly): James Zaleski

Design Professional FL Lic. #: 51544

Importance factor: 1.0 **Building Category:** Enclosed

Wind Exposure (s): B

Risk Category II

Internal Pressure Coefficient +/- .18

Mean Roof Height: 23.55 **End Zone Length** 6.0 **Max Overhang Length (Excluding Porches)** 2.0

Studs(SPECIES SPF) 2 x 4 Studs up to 10'-0" at 16 Inches o.c

TOP AND BOTTOM PLATE SPECIES (SPF) ALL LUMBER GRADE 1 OR 2

Roof Slope = 3/12 12/ 12 5/12

HURRICANE CLIPS(HC)

Hurricane Clips – SIMPSON

TRUSS SPAN/LOCATION

HC MODEL AT END ZONE – 1- SIMPSON H10A **HC MODEL INTERIOR ZONE –** 1-SIMPSON H10A

ALL PORCH BEAMS AND BAY WINDOWS – 2- SIMPSON H2.5A

GIRDER TRUSSES- USE SIMPSON 1-HTS20

FOLLOW MANUFACTURERS SPECS

ROOF SHEATHING MATERIAL – 7/16" OSB

NAILING – USE 8D RINGSHANK

NAILING PATTERN **EDGES-** 4" O.C **FIELD –** 6" O.C
EDGE SPACING TO BE 3" O.C ON THE FIRST PANEL AT ALL EAVES

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JAMES ZALESKI
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Plan May Be Mirrored at Contractors Option

James Zaleski P.E. #51544 2305 haverhill rd tall fl 32312 ph 850-766-7778

Job Address: _____

STUDS TO TOP PLATE -	<u>SIMPSON SPH 4 AT 48 " O.C.</u>
STUDS TO BOTTOM PLATE -	<u>SIMPSON SPH 4 AT 48 " O.C.</u>
1/2" X 10" J-BOLT (ANCHOR BOLT)	<u>AT 48" O.C</u>

WALL BRACING ___ **SEE PLANS FOR DETAILS** _ **100% continuous or as required: See Note I, below.**

Walls (See Plans For Details)
SHEATH ALL EXTERIOR WALLS
100% CONTINOUS

First 96" From Each Corner

Material 7/16" OSB **ALL SHEATHING FASTENERS - 8d Wall**

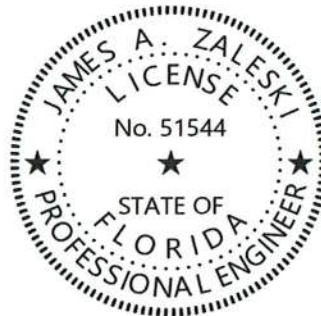
Nailing Edges 4" o.c.
Field 8" o.c.

All Areas

Material 7/16" OSB

Nailing Edges 4" o.c.
Field 8 o.c.

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COMPONENTS AND CLADDING PRESSURES: (WORST CASE LOADS MAY BE USED)

**COMPONENTS AND
CLADDING**

ZONE per

SEE ATTACHED

MAIN WIND FORCE RESISTING SYSTEMS (MWFRS) (WORST CASE LOADS MAY BE USED)

-

SEE ATTACHED

All Load Bearing and Shear Walls To be Framed as per FBC
Alternative Hurricane Clips are acceptable as long as they meet the
requirements shown

See Attached header schedule

PROVIDE GABLE END BRACING DETAIL, all vaulted or high ceilings shall be balloon framed to the ceiling diaphragm.

NOTES: PLEASE READ & complete all blanks!!!!

1. See floor plan for wall bracing locations or circle 100% if structural sheathing is required on all exterior walls, with the nailing pattern indicated above.
2. There are _____, there are not X interior shear walls, locate interior shear walls on plan.
3. Gable ends required to be sheathed with same material as shear wall? Yes or No (circle one)
4. Wall sheathing used in lieu of vertical straps: Nailing @ N/A o.c. along top & bottom plates
5. Provide detail for 2 story bldgs showing continuous load path between 2nd floor stud & 1st floor studs.
6. Provide additional information for column base & column/beam connection if required for porches.
7. Provide calculations or documentation to substantiate method used as an attachment to this form(SEE PLANS)

Instructions:

1. The form should be completed & signed, sealed & dated by a Fla. licensed engineer or architect.
2. Since more than one methodology for determination of wind forces is permitted under Section 1609ASCE7-16, to comply with State Building Codes a space has been provided to indicate method used.
3. Wind Analysis Forms submitted & permitted to be used as Master Plans will be for identical plans only, minor deviations such as door swings. Any deviation from the exterior form, opening sizes or locations will not be permitted unless noted by the design professional.

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Job Address: _____

HEADER SIZE AND STRAPPING CHART

SPAN	HEADER SIZE	QUANTITY OF JACK STUDS AT EACH END	QUANTITY OF KING STUDS AT EACH END	STRAPPING TO JACK STUDS AT EACH END	STRAPPING TO KING STUDS AT EACH END
0'-0" TO 3'-6"	2 2X8" WITH ½" PLATE	1	1	NONE	1 SIMPSON SP4H
3'-6" – 6'-6"	2 2X10" WITH ½" PLATE	2	1	1 SIMPSON MSTA24	1 SIMPSON SP4H
6'-6" – 9'-3"	2 -2X12" WITH ½" PLATE OR 4-2 X 10" WITH ½" PLATE	3	2	2 SIMPSON MSTA24	2 SIMPSON SP4H
9'-3" – 12'-0"	2- 1 ¾" X 9 ¼" LVL	3	2	2 SIMPSON MSTA24	2 SIMPSON SP4H
12'-0" – 15'-9"	2- 1 ¾" X 11 ¼" LVL	4	3	4 SIMPSON MSTA24	2 SIMPSON SP4H

JACK AND KING STUDS ARE 2 X4 IN ALL CASES SHEATH ALL EXTERIOR WALLS WITH 7/16" OSB ALL STUDS OVER 10'-0" TO RECEIVE 1 ROW OF BLOCKING

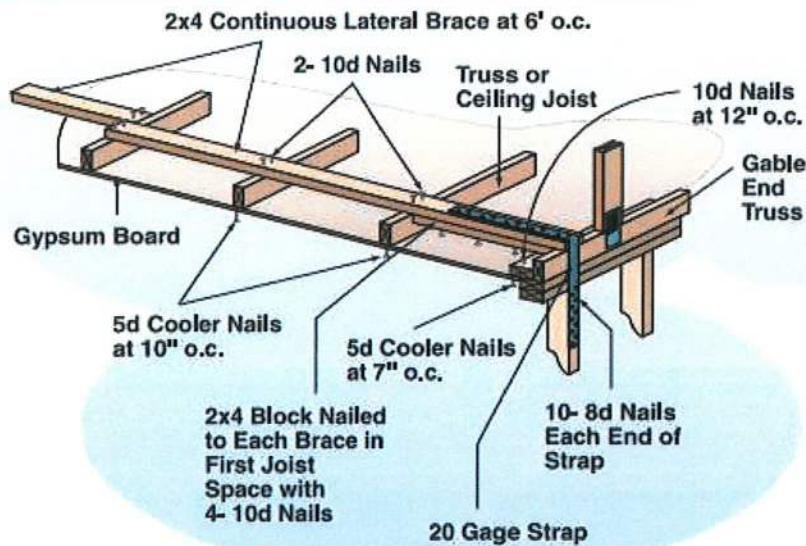


Figure 11. Ceiling Bracing for Gable Endwall

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Calculations as per Section 1609ASCE 7-16

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All Areas

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COMPONENTS AND CLADDING PRESSURES: (WORST CASE LOADS MAY BE USED)

**COMPONENTS AND
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ZONE per

SEE ATTACHED

MAIN WIND FORCE RESISTING SYSTEMS (MWFRS) (WORST CASE LOADS MAY BE USED)

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PROVIDE GABLE END BRACING DETAIL, all vaulted or high ceilings shall be balloon framed to the ceiling diaphragm.

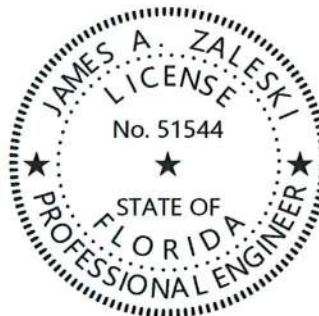
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9'-3" – 12'-0"	2- 1 ¾" X 9 ¼" LVL	3	2	2 SIMPSON MSTA24	2 SIMPSON SP4H
12'-0" – 15'-9"	2- 1 ¾" X 11 ¼" LVL	4	3	4 SIMPSON MSTA24	2 SIMPSON SP4H

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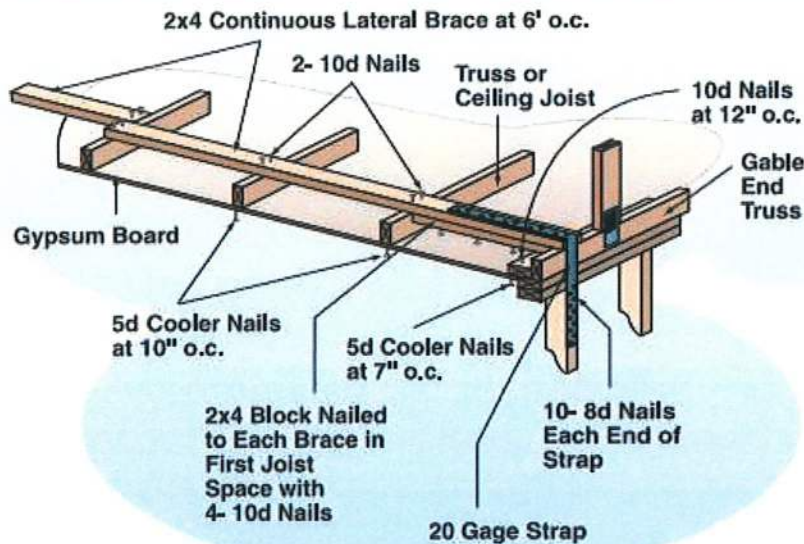


Figure 11. Ceiling Bracing for Gable Endwall

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MecaWind v2378

Software Developer: Meca Enterprises Inc., www.meca.biz, Copyright © 2020

Calculations Prepared by:

JAMES ZALESKI PE 51544
2305 HAVERHILL RD
PH 850-766-7778
TALLAHASSEE, FLORIDA, 32312
Date: Apr 19, 2021

Location: 437 SE PEACOCK TERR

Basic Wind Parameters

Wind Load Standard	= ASCE 7-16	Exposure Category	= B
Wind Design Speed	= 120.0 mph	Risk Category	= II
Structure Type	= Building	Building Type	= 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	= True
MWFRSType	= MWFRS Method Selected	= Ch 27 Pt 1

Topographic Factor per Fig 26.8-1

Topo	= Topographic Feature	= None
Kzt	= Topographic Factor	= 1.000

Building Inputs

RoofType	: Building Roof Type	= Gabled	W	: Width Perp to Ridge	= 47.000 ft
L	: Length Along Ridge	= 49.000 ft	Eht	: Eave Height	= 10.800 ft
RE	: Roof Entry Method	= Slope	Slope	: Slope of Roof	= 12.0 :12
Theta	: Roof Slope	= 45.0 Deg	Par	: Is there a Parapet	= False

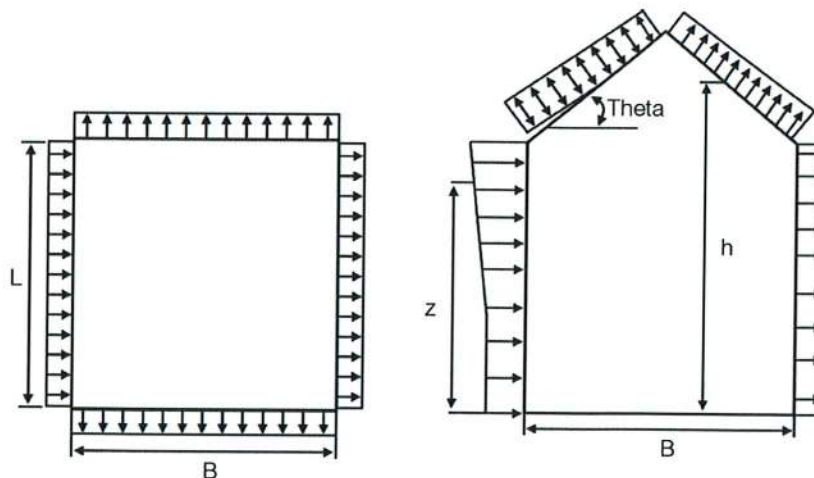
Exposure Constants per Table 26.11-1:

Alpha:	Table 26.11-1 Const	= 7.000	Zg:	Table 26.11-1 Const	= 1200.000 ft
At:	Table 26.11-1 Const	= 0.143	Bt:	Table 26.11-1 Const	= 0.840
Am:	Table 26.11-1 Const	= 0.250	Bm:	Table 26.11-1 Const	= 0.450
C:	Table 26.11-1 Const	= 0.300	Eps:	Table 26.11-1 Const	= 0.333

Overhang Inputs:

Std	= Overhangs on all sides are the same	= True
OHType	= Type of Roof Wall Intersections	= Soffit
OH	= Overhang of Roof Beyond Wall	= 2.000 ft

Main Wind Force Resisting System (MWFRS) Calculations per Ch 27 Part 1:



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h	= Mean Roof Height above grade	= 23.550 ft
Kh	= $15 \text{ ft } [4.572 \text{ m}] < Z < Z_g \rightarrow (2.01 * (Z/z_g)^{(2/\alpha)})$ {Table 26.10-1}	= 0.654
Kzt	= Topographic Factor is 1 since no Topographic feature specified	= 1.000
Kd	= Wind Directionality Factor per Table 26.6-1	= 0.85
Zg	= Elevation above Sea Level	= 0.000 ft
Ke	= Ground Elevation Factor: $K_e = e^{-(0.0000362 * Z_g)}$ {Table 26.9-1}	= 1.000
GCPi	= Ref Table 26.13-1 for Enclosed Building	= +/-0.18

RA = Roof Area = 3822.62 sq ft
 LF = Load Factor based upon ASD Design = 0.60
 qh = $(0.00256 * K_h * K_{zt} * K_d * K_e * V^2) * LF$ = 12.29 psf
 qin = For Negative Internal Pressure of Enclosed Building use qh*LF = 12.29 psf
 qip = For Positive Internal Pressure of Enclosed Building use qh*LF = 12.29 psf

Gust Factor Calculation:

Gust Factor Category I Rigid Structures - Simplified Method
 G1 = For Rigid Structures (Nat. Freq.>1 Hz) use 0.85 = 0.85
 Gust Factor Category II Rigid Structures - Complete Analysis
 Zm = $0.6 * H_t$ = 30.000 ft
 Iz = $C_c * (33 / Z_m)^{0.167}$ = 0.305
 Lzm = $L * (Z_m / 33)^{Epsilon}$ = 309.993
 Q = $(1 / (1 + 0.63 * ((B + H_t) / Lzm)^{0.63}))^{0.5}$ = 0.895
 G2 = $0.925 * ((1 + 1.7 * Izm * 3.4 * Q) / (1 + 1.7 * 3.4 * Izm))$ = 0.863
 Gust Factor Used in Analysis
 G = Lesser Of G1 Or G2 = 0.850

MWFRS Wind Normal to Ridge (Ref Fig 27.3-1)

h = Mean Roof Height Of Building = 23.550 ft
 RHT = Ridge Height Of Roof = 36.300 ft
 B = Horizontal Dimension Of Building Normal To Wind Direction = 49.000 ft
 L = Horizontal Dimension Of building Parallel To Wind Direction = 47.000 ft
 L/B = Ratio Of L/B used For Cp determination = 0.959
 h/L = Ratio Of h/L used For Cp determination = 0.501
 Slope = Slope of Roof = 45.0 Deg
 OH_Top_+X+Y = Overhang Coefficient Overhang +X+Y (Leeward) = -0.6, -0.6
 OH_Top_+X-Y = Overhang Coefficient Overhang +X-Y (Windward) = 0.4, 0.0
 OH_Top_+Y = Overhang Coefficient Top +Y (Leeward) = -0.6, -0.6
 OH_Top_-X+Y = Overhang Coefficient Overhang -X+Y (Leeward) = -0.6, -0.6
 OH_Top_-X-Y = Overhang Coefficient Overhang -X-Y (Windward) = 0.4, 0.0
 OH_Top_-Y = Overhang Coefficient Top Windward Edge = 0.4, 0.0
 Roof_LW = Roof Coefficient (Leeward) = -0.6, -0.6
 Roof_WW = Roof Coefficient (Windward) = 0.4, 0.0
 Soffit_-Y = Overhang Coefficient Soffit -Y = 0.8, 0.8

Cp_WW = Windward Wall Coefficient (All L/B Values) = 0.80
 Cp_LW = Leeward Wall Coefficient using L/B = -0.50
 Cp_SW = Side Wall Coefficient (All L/B values) = -0.70
 GCpn_WW = Parapet Combined Net Pressure Coefficient (Windward Parapet) = 1.50
 GCpn_LW = Parapet Combined Net Pressure Coefficient (Leeward Parapet) = -1.00

Wall Wind Pressures based On Positive Internal Pressure (+GCPI) - Normal to Ridge

All wind pressures include a load factor of 0.6

Elev	Kz	Kzt	qz	GCPI	Windward Press	Leeward Press	Side Press	Total Press	Minimum Pressure*
ft			psf		psf	psf	psf	psf	psf
10.80	0.575	1.000	10.81	0.18	5.14	-7.44	-9.53	12.57	9.60

Wall Wind Pressures based on Negative Internal Pressure (-GCPI) - Normal to Ridge

All wind pressures include a load factor of 0.6

Elev	Kz	Kzt	qz	GCPI	Windward Press	Leeward Press	Side Press	Total Press	Minimum Pressure*
ft			psf		psf	psf	psf	psf	psf
10.80	0.575	1.000	10.81	-0.18	9.56	-3.01	-5.10	12.57	9.60

Notes Wall Pressures:

Kz = Velocity Press Exp Coeff
 qz = $0.00256 * K_z * K_{zt} * K_d * V^2$
 Side = $q_h * G * C_{p_SW} - q_{ip} * +GCPI$
 Leeward = $q_h * G * C_{p_LW} - q_{ip} * +GCPI$
 * Minimum Pressure: Para 27.1.5 no less than 9.60 psf (Incl LF) applied to Walls
 + Pressures Acting TOWARD Surface
 Kzt = Topographical Factor
 GCPI = Internal Press Coefficient
 Windward = $q_z * G * C_{p_WW} - q_{ip} * +GCPI$
 Total = Windward Press - Leeward Press
 - Pressures Acting AWAY from Surface

Roof Wind Pressures for Positive & Negative Internal Pressure (+/- GCPI) - Normal to Ridge

All wind pressures include a load factor of 0.6

Roof Var	Start Dist	End Dist	Cp_min	Cp_max	GCPI	Pressure Pn_min*	Pressure Pp_min*	Pressure Pn_max	Pressure Pp_max
	ft	ft				psf	psf	psf	psf
OH_Top_+X+Y	N/A	N/A	-0.600	-0.600	0.000	-6.27	-6.27	-6.27	-6.27
OH_Top_+X-Y	N/A	N/A	0.400	0.000	0.000	4.18	4.18	0.00	0.00
OH_Top_+Y	N/A	N/A	-0.600	-0.600	0.180	-4.06	-8.48	-4.06	-8.48

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OH_Top_-X+Y	N/A	N/A	-0.600	-0.600	0.000	-6.27	-6.27	-6.27	-6.27
OH_Top_-X-Y	N/A	N/A	0.400	0.000	0.000	4.18	4.18	0.00	0.00
OH_Top_-Y	N/A	N/A	0.400	0.000	0.180	6.39	1.97	2.21	-2.21
Roof_LW	N/A	N/A	-0.600	-0.600	0.180	-4.06	-8.48	-4.06	-8.48
Roof_WW	N/A	N/A	0.400	0.000	0.180	6.39	1.97	2.21	-2.21
Sofit_-Y	N/A	N/A	0.800	0.800	0.180	10.57	6.15	10.57	6.15

Notes Roof Pressures:

Start Dist = Start Dist from Windward Edge End Dist = End Dist from Windward Edge
Cp_Max = Largest Coefficient Magnitude Cp_Min = Smallest Coefficient Magnitude
Pp_max = $q_h * G * Cp_{max} - q_{ip} * (+GCPi)$ Pn_max = $q_h * G * Cp_{max} - q_{in} * (-GCPi)$
Pp_min = $q_h * G * Cp_{min} - q_{ip} * (+GCPi)$ Pn_min = $q_h * G * Cp_{min} - q_{in} * (-GCPi)$
OH = Overhang X = Dir along Ridge Y = Dir Perpendicular to Ridge Z = Vertical
* The smaller uplift pressures due to Cp_Min can become critical when wind is combined with roof live load or snow load; load combinations are given in ASCE 7
+ Pressures Acting TOWARD Surface - Pressures Acting AWAY from Surface

MWFRS Wind Parallel to Ridge (Ref Fig 27.3-1)

h	= Mean Roof Height Of Building	= 23.550 ft
RHt	= Ridge Height Of Roof	= 36.300 ft
B	= Horizontal Dimension Of Building Normal To Wind Direction	= 47.000 ft
L	= Horizontal Dimension Of building Parallel To Wind Direction	= 49.000 ft
L/B	= Ratio Of L/B used For Cp determination	= 1.043
h/L	= Ratio Of h/L used For Cp determination	= 0.481
Slope	= Slope of Roof	= 45.0 Deg
OH_Bot	= Overhang Bottom (Windward Face Only)	= 0.8, 0.8
OH_Top	= Overhang Top Coeff (0 to h/2) (0.000 ft to 2.000 ft)	= -0.18, -0.9
OH_Top	= Overhang Top Coeff (0 to h/2) (2.000 ft to 11.775 ft)	= -0.18, -0.9
OH_Top	= Overhang Top Coeff (h/2 to h) (11.775 ft to 23.550 ft)	= -0.18, -0.9
OH_Top	= Overhang Top Coeff (h to 2h) (23.550 ft to 47.100 ft)	= -0.18, -0.5
OH_Top	= Overhang Top Coeff (>2h) (>47.100 ft)	= -0.18, -0.3
OH_Top	= Overhang Top Coeff (>2h) (>51.000 ft)	= -0.18, -0.3
Roof	= Roof Coeff (0 to h/2) (2.000 ft to 11.775 ft)	= -0.18, -0.9
Roof	= Roof Coeff (h/2 to h) (11.775 ft to 23.550 ft)	= -0.18, -0.9
Roof	= Roof Coeff (h to 2h) (23.550 ft to 47.100 ft)	= -0.18, -0.5
Roof	= Roof Coeff (>2h) (>47.100 ft)	= -0.18, -0.3
Cp_WW	= Windward Wall Coefficient (All L/B Values)	= 0.80
Cp_LW	= Leeward Wall Coefficient using L/B	= -0.49
Cp_SW	= Side Wall Coefficient (All L/B values)	= -0.70
GCpn_WW	= Parapet Combined Net Pressure Coefficient (Windward Parapet)	= 1.50
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Wall Wind Pressures based On Positive Internal Pressure (+GCPi) - Parallel to Ridge
All wind pressures include a load factor of 0.6

Elev	Kz	Kzt	qz	GCPi	Windward Press	Leeward Press	Side Press	Total Press	Minimum Pressure*
ft			psf		psf	psf	psf	psf	psf
36.30	0.740	1.000	13.91	0.18	7.25	-7.35	-9.53	14.59	9.60
17.90	0.604	1.000	11.36	0.18	5.52	-7.35	-9.53	12.86	9.60
10.80	0.575	1.000	10.81	0.18	5.14	-7.35	-9.53	12.48	9.60

Wall Wind Pressures based on Negative Internal Pressure (-GCPi) - Parallel to Ridge
All wind pressures include a load factor of 0.6

Elev	Kz	Kzt	qz	GCPi	Windward Press	Leeward Press	Side Press	Total Press	Minimum Pressure*
ft			psf		psf	psf	psf	psf	psf
36.30	0.740	1.000	13.91	-0.18	11.67	-2.92	-5.10	14.59	9.60
17.90	0.604	1.000	11.36	-0.18	9.94	-2.92	-5.10	12.86	9.60
10.80	0.575	1.000	10.81	-0.18	9.56	-2.92	-5.10	12.48	9.60

Notes Wall Pressures:

Kz = Velocity Press Exp Coeff Kzt = Topographical Factor
 $qz = 0.00256 * Kz * Kzt * V^2$ GCPi = Internal Press Coefficient
Side = $q_h * G * Cp_{SW} - q_{ip} * +GCPi$ Windward = $q_z * G * Cp_{WW} - q_{ip} * +GCPi$
Leeward = $q_h * G * Cp_{LW} - q_{ip} * +GCPi$ Total = Windward Press - Leeward Press
* Minimum Pressure: Para 27.1.5 no less than 9.60 psf (Incl LF) applied to Walls
+ Pressures Acting TOWARD Surface - Pressures Acting AWAY from Surface

Roof Wind Pressures for Positive & Negative Internal Pressure (+/- GCPi) - Parallel to Ridge
All wind pressures include a load factor of 0.6

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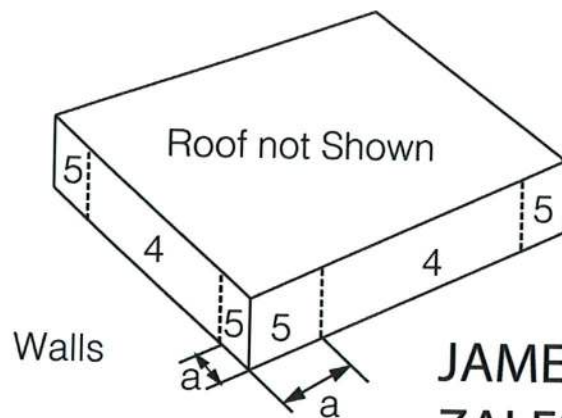
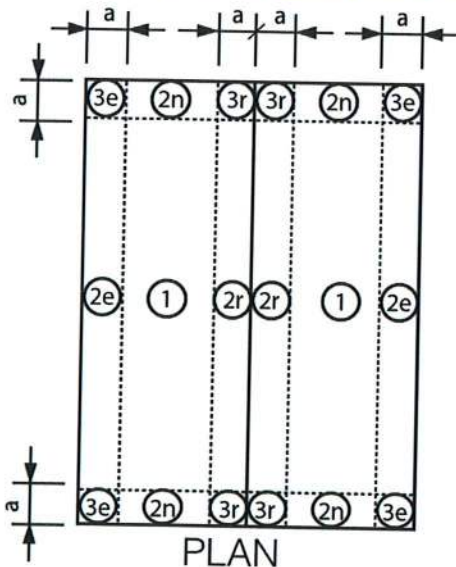


Roof Var	Start Dist ft	End Dist ft	Cp_min	Cp_max	GCPi	Pressure Pn_min* psf	Pressure Pp_min* psf	Pressure Pn_max psf	Pressure Pp_max psf
OH_Bot	N/A	N/A	0.800	0.800	0.000	8.36	8.36	8.36	8.36
OH_Bot	N/A	N/A	0.800	0.800	0.000	8.36	8.36	8.36	8.36
OH_Top (-X+Y)	0.000	2.000	-0.180	-0.900	0.000	-1.88	-1.88	-9.40	-9.40
OH_Top (-X-Y)	0.000	2.000	-0.180	-0.900	0.000	-1.88	-1.88	-9.40	-9.40
OH_Top (-Y)	2.000	11.775	-0.180	-0.900	0.180	0.33	-4.09	-7.19	-11.62
OH_Top (+Y)	2.000	11.775	-0.180	-0.900	0.180	0.33	-4.09	-7.19	-11.62
OH_Top (-Y)	11.775	23.550	-0.180	-0.900	0.180	0.33	-4.09	-7.19	-11.62
OH_Top (+Y)	11.775	23.550	-0.180	-0.900	0.180	0.33	-4.09	-7.19	-11.62
OH_Top (-Y)	23.550	47.100	-0.180	-0.500	0.180	0.33	-4.09	-3.01	-7.44
OH_Top (+Y)	23.550	47.100	-0.180	-0.500	0.180	0.33	-4.09	-3.01	-7.44
OH_Top (-Y)	47.100	51.000	-0.180	-0.300	0.180	0.33	-4.09	-0.92	-5.35
OH_Top (+Y)	47.100	51.000	-0.180	-0.300	0.180	0.33	-4.09	-0.92	-5.35
OH_Top (+X+Y)	51.000	53.000	-0.180	-0.300	0.000	-1.88	-1.88	-3.13	-3.13
OH_Top (+X-Y)	51.000	53.000	-0.180	-0.300	0.000	-1.88	-1.88	-3.13	-3.13
Roof (+Y)	2.000	11.775	-0.180	-0.900	0.180	0.33	-4.09	-7.19	-11.62
Roof (-Y)	2.000	11.775	-0.180	-0.900	0.180	0.33	-4.09	-7.19	-11.62
Roof (+Y)	11.775	23.550	-0.180	-0.900	0.180	0.33	-4.09	-7.19	-11.62
Roof (-Y)	11.775	23.550	-0.180	-0.900	0.180	0.33	-4.09	-7.19	-11.62
Roof (+Y)	23.550	47.100	-0.180	-0.500	0.180	0.33	-4.09	-3.01	-7.44
Roof (-Y)	23.550	47.100	-0.180	-0.500	0.180	0.33	-4.09	-3.01	-7.44
Roof (+Y)	47.100	51.000	-0.180	-0.300	0.180	0.33	-4.09	-0.92	-5.35
Roof (-Y)	47.100	51.000	-0.180	-0.300	0.180	0.33	-4.09	-0.92	-5.35

Notes Roof Pressures:

Start Dist = Start Dist from Windward Edge End Dist = End Dist from Windward Edge
Cp_Max = Largest Coefficient Magnitude Cp_Min = Smallest Coefficient Magnitude
Pp_max = $q_h * G * Cp_{max} - q_{ip} * (+GCPi)$ Pn_max = $q_h * G * Cp_{max} - q_{in} * (-GCPi)$
Pp_min* = $q_h * G * Cp_{min} - q_{ip} * (+GCPi)$ Pn_min* = $q_h * G * Cp_{min} - q_{in} * (-GCPi)$
OH = Overhang X = Dir along Ridge Y = Dir Perpendicular to Ridge Z = Vertical
* The smaller uplift pressures due to Cp_Min can become critical when wind is combined with roof live load or snow load; load combinations are given in ASCE 7
+ Pressures Acting TOWARD Surface - Pressures Acting AWAY from Surface

Components and Cladding (C&C) Calculations per Ch 30 Part 1:



h/W = Ratio of mean roof height to building width
h/L = Ratio of mean roof height to building length
h = Mean Roof Height above grade
Kh = 15 ft [4.572 m] < Z < Zg --> $(2.01 * (Z/Zg)^{(2/Alpha)})$ {Table 26.10-1}
Kzt = Topographic Factor is 1 since no Topographic feature specified
Kd = Wind Directionality Factor per Table 26.6-1
GCPi = Ref Table 26.13-1 for Enclosed Building
LF = Load Factor based upon ASD Design
qh = $(0.00256 * Kh * Kzt * Kd * Ke * V^2) * LF$
LHD = Least Horizontal Dimension: Min(B, L)
a1 = Min(0.1 * LHD, 0.4 * h)
a = Max(a1, 0.04 * LHD, 3 ft [0.9 m])
h/B = Ratio of mean roof height to least hor dim: h / B

= 0.501
= 0.481
= 23.550 ft
= 0.654
= 1.000
= 0.85
= +/-0.18
= 0.60
= 12.29 psf
= 47.000 ft
= 4.700 ft
= 4.700 ft
= 0.501

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

Description	Zone	Width	Span	Area	1/3 Rule	Ref Fig	GCp Max	GCp Min	p Max	p Min
ft		ft	ft	sq ft					psf	psf
Zone 1	1	1.000	1.000	1.00	No	30.3-2D	0.900	-1.800	13.27	-24.34
Zone 2e	2e	1.000	1.000	1.00	No	30.3-2D	0.900	-1.800	13.27	-24.34
Zone 2n	2n	1.000	1.000	1.00	No	30.3-2D	0.900	-2.000	13.27	-26.80
Zone 2r	2r	1.000	1.000	1.00	No	30.3-2D	0.900	-1.800	13.27	-24.34
Zone 3e	3e	1.000	1.000	1.00	No	30.3-2D	0.900	-3.200	13.27	-41.54
Zone 3r	3r	1.000	1.000	1.00	No	30.3-2D	0.900	-2.000	13.27	-26.80
Zone 4	4	1.000	1.000	1.00	No	30.3-1	1.000	-1.100	14.50	-15.73
Zone 5	5	1.000	1.000	1.00	No	30.3-1	1.000	-1.400	14.50	-19.42

Area = Span Length x Effective Width

1/3 Rule = Effective width need not be less than 1/3 of the span length

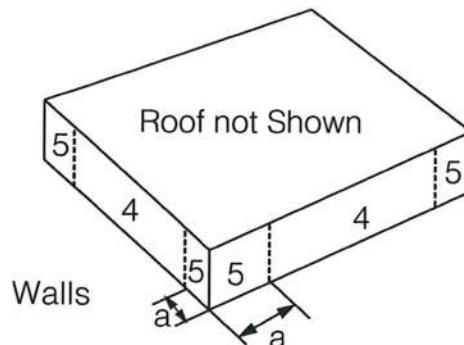
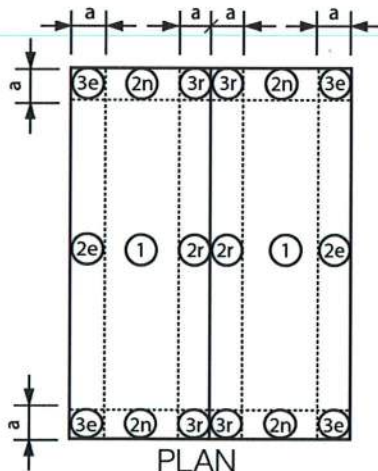
GCp = External Pressure Coefficients taken from Figures 30.3-1 through 30.3-7

p = Wind Pressure: $q_h(GCp - GCpi)$ [Eqn 30.3-1]*

* Per Para 30.2.2 the Minimum Pressure for C&C is 9.60 psf [0.460 kPa] {Includes LF}

Components and Cladding (C&C) Overhang Calculations per Section 30.9:

h	= Mean Roof Height above grade	= 23.550 ft
Kh	= 15 ft [4.572 m] < $Z < 2g \rightarrow (2.01 * (Z/zg)^{(2/\alpha)})$ {Table 26.10-1}	= 0.654
Kzt	= Topographic Factor is 1 since no Topographic feature specified	= 1.000
Kd	= Wind Directionality Factor per Table 26.6-1	= 0.85
GCpi	= Ref Table 26.13-1 for Enclosed Building	= +/-0.18
LF	= Load Factor based upon ASD Design	= 0.60
qh	= $(0.00256 * Kh * Kzt * Kd * Ke * V^2) * LF$	= 12.29 psf



Wind Pressures for C&C per Section 30.9 & Figure 30.3-2
All wind pressures include a load factor of 0.6

Description	Zone	Width	Span Length	Area	1/3 Rule	Ref Fig	GCpi +/-	GCp Max	GCp Min	p Max	p Min
ft		ft	ft	sq ft						psf	psf
Zone 1_OH	1_OH	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-2.600	9.60	-31.96
Zone 1_OHS	1_OHS	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-2.600	9.60	-34.17
Zone 2e_OH	2e_OH	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-2.600	9.60	-31.96
Zone 2e_OHS	2e_OHS	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-2.600	9.60	-34.17
Zone 2n_OH	2n_OH	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-2.800	9.60	-34.42
Zone 2n_OHS	2n_OHS	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-2.800	9.60	-36.63
Zone 2r_OH	2r_OH	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-2.600	9.60	-31.96
Zone 2r_OHS	2r_OHS	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-2.600	9.60	-34.17
Zone 3e_OH	3e_OH	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-4.000	9.60	-49.17
Zone 3e_OHS	3e_OHS	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-4.000	9.60	-51.38
Zone 3r_OH	3r_OH	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-2.800	9.60	-34.42
Zone 3r_OHS	3r_OHS	1.000	1.000	1.00	No	30.3-2D	0.00	0.000	-2.800	9.60	-36.63

#_OH = Zone # on Overhang with Zero Internal Pressure (GCpi = 0)

#_OHS = Zone # on Overhang w/ Soffit w/ Buildings Internal Pressure (GCpi = +/-0.18)

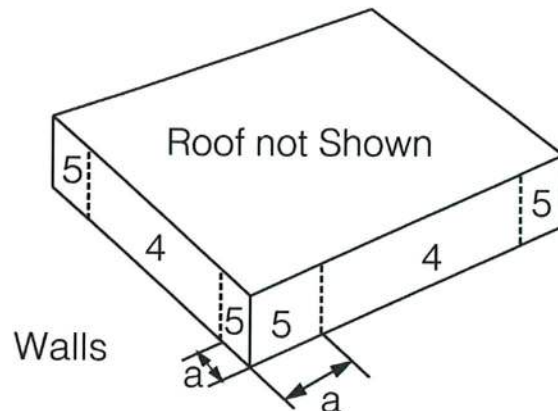
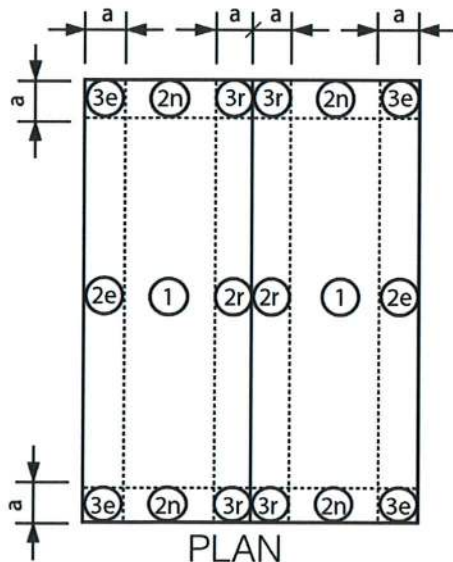
Area = Span Length x Effective Width

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1/3 Rule = Effective width need not be less than 1/3 of the span length
 $p = \text{Wind Pressure: } qh \cdot (GCP - GCpi) \cdot LF$ [Eqn 30.3-1]*
 * Per Para 30.2.2 the Minimum Pressure for C&C is 9.60 psf [0.460 kPa] {Includes LF}
 Values of GCP for overhangs include contributions from both upper and lower surfaces.

Components and Cladding (C&C) Zone Summary per Ch 30 Pt 1:



h/W	= Ratio of mean roof height to building width	= 0.501
h/L	= Ratio of mean roof height to building length	= 0.481
h	= Mean Roof Height above grade	= 23.550 ft
Kh	= 15 ft [4.572 m] < Z < Zg --> (2.01 * (Z/zg)^(2/Alpha)) {Table 26.10-1}	= 0.654
Kzt	= Topographic Factor is 1 since no Topographic feature specified	= 1.000
Kd	= Wind Directionality Factor per Table 26.6-1	= 0.85
GCpi	= Ref Table 26.13-1 for Enclosed Building	= +/-0.18
LF	= Load Factor based upon ASD Design	= 0.60
qh	= (0.00256 * Kh * Kzt * Kd * Ke * V^2) * LF	= 12.29 psf
LHD	= Least Horizontal Dimension: Min(B, L)	= 47.000 ft
al	= Min(0.1 * LHD, 0.4 * h)	= 4.700 ft
a	= Max(al, 0.04 * LHD, 3 ft [0.9 m])	= 4.700 ft
h/B	= Ratio of mean roof height to least hor dim: h / B	= 0.501

Wind Pressure Summary for C&C Zones based Upon Areas Ch 30 Pt 1 (Table 1 of 2) All wind pressures include a load factor of 0.6

Zone	Figure	A <= 2.00 sq ft psf	A = 10.00 sq ft psf	A = 20.00 sq ft psf	A = 50.00 sq ft psf
1	30.3-2D	13.27 -24.34	13.27 -24.34	11.79 -20.64	9.84 -15.75
1_OH	30.3-2D	9.60 -31.96	9.60 -31.96	9.60 -28.26	9.60 -23.37
1_OHS	30.3-2D	9.60 -34.17	9.60 -34.17	9.60 -30.47	9.60 -25.58
2e	30.3-2D	13.27 -24.34	13.27 -24.34	11.79 -20.64	9.84 -15.75
2e_OH	30.3-2D	9.60 -31.96	9.60 -31.96	9.60 -28.26	9.60 -23.37
2e_OHS	30.3-2D	9.60 -34.17	9.60 -34.17	9.60 -30.47	9.60 -25.58
2n	30.3-2D	13.27 -26.80	13.27 -26.80	11.79 -23.95	9.84 -20.19
2n_OH	30.3-2D	9.60 -34.42	9.60 -34.42	9.60 -31.57	9.60 -27.81
2n_OHS	30.3-2D	9.60 -36.63	9.60 -36.63	9.60 -33.78	9.60 -30.02
2r	30.3-2D	13.27 -24.34	13.27 -24.34	11.79 -20.64	9.84 -15.75
2r_OH	30.3-2D	9.60 -31.96	9.60 -31.96	9.60 -28.26	9.60 -23.37
2r_OHS	30.3-2D	9.60 -34.17	9.60 -34.17	9.60 -30.47	9.60 -25.58
3e	30.3-2D	13.27 -41.54	13.27 -32.86	11.79 -29.12	9.84 -24.17
3e_OH	30.3-2D	9.60 -49.17	9.60 -40.48	9.60 -36.74	9.60 -31.79
3e_OHS	30.3-2D	9.60 -51.38	9.60 -42.69	9.60 -38.95	9.60 -34.01
3r	30.3-2D	13.27 -26.80	13.27 -26.80	11.79 -23.95	9.84 -20.19
3r_OH	30.3-2D	9.60 -34.42	9.60 -34.42	9.60 -31.57	9.60 -27.81
3r_OHS	30.3-2D	9.60 -36.63	9.60 -36.63	9.60 -33.78	9.60 -30.02
4	30.3-1	14.50 -15.73	14.50 -15.73	13.85 -15.08	12.99 -14.22
5	30.3-1	14.50 -19.42	14.50 -19.42	13.85 -18.11	12.99 -16.39

Wind Pressure Summary for C&C Zones based Upon Areas Ch 30 Pt 1 (Table 2 of 2) All wind pressures include a load factor of 0.6

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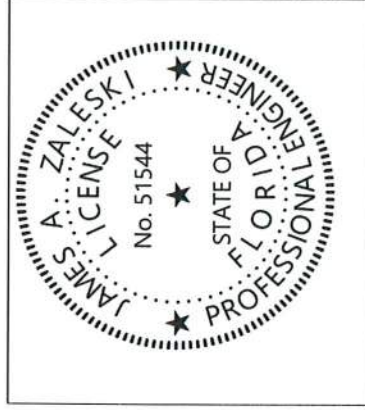
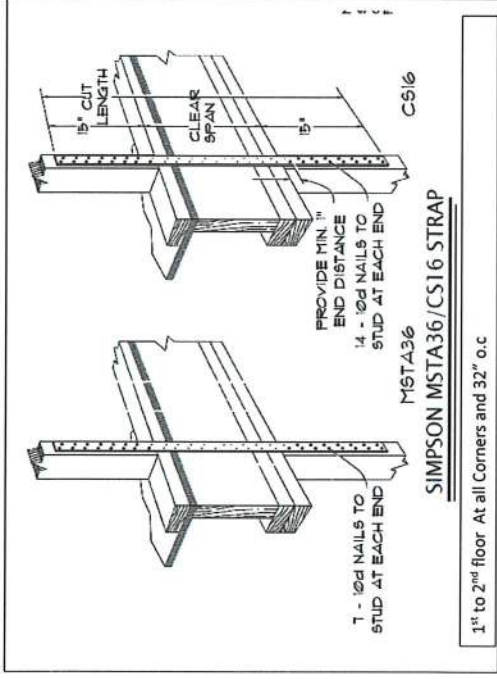
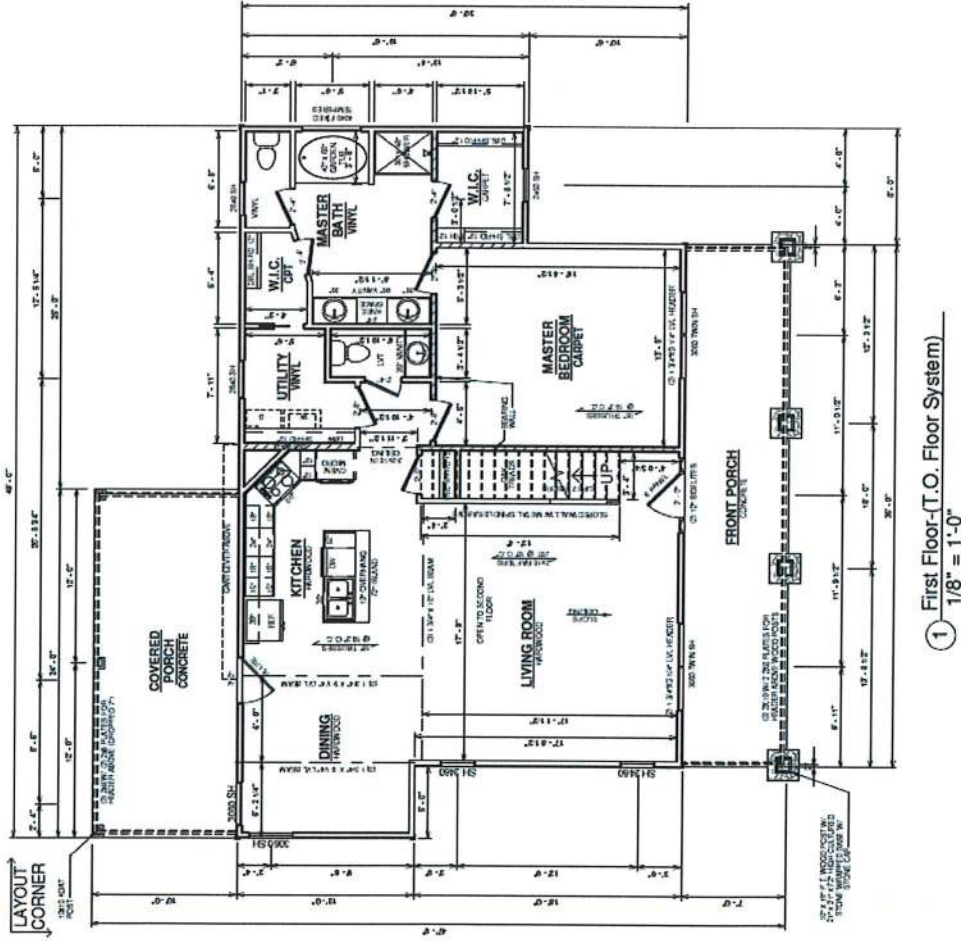
Zone	Figure	A = 100.00 sq ft psf	A = 200.00 sq ft psf	A = 300.00 sq ft psf	A > 500.00 sq ft psf
1	30.3-2D	9.60 -12.05	9.60 -12.05	9.60 -12.05	9.60 -12.05
1_OH	30.3-2D	9.60 -19.67	9.60 -19.67	9.60 -19.67	9.60 -19.67
1_OHS	30.3-2D	9.60 -21.88	9.60 -21.88	9.60 -21.88	9.60 -21.88
2e	30.3-2D	9.60 -12.05	9.60 -12.05	9.60 -12.05	9.60 -12.05
2e_OH	30.3-2D	9.60 -19.67	9.60 -19.67	9.60 -19.67	9.60 -19.67
2e_OHS	30.3-2D	9.60 -21.88	9.60 -21.88	9.60 -21.88	9.60 -21.88
2n	30.3-2D	9.60 -17.35	9.60 -14.50	9.60 -14.50	9.60 -14.50
2n_OH	30.3-2D	9.60 -24.97	9.60 -22.12	9.60 -22.12	9.60 -22.12
2n_OHS	30.3-2D	9.60 -27.18	9.60 -24.34	9.60 -24.34	9.60 -24.34
2r	30.3-2D	9.60 -12.05	9.60 -12.05	9.60 -12.05	9.60 -12.05
2r_OH	30.3-2D	9.60 -19.67	9.60 -19.67	9.60 -19.67	9.60 -19.67
2r_OHS	30.3-2D	9.60 -21.88	9.60 -21.88	9.60 -21.88	9.60 -21.88
3e	30.3-2D	9.60 -20.43	9.60 -16.69	9.60 -14.50	9.60 -14.50
3e_OH	30.3-2D	9.60 -28.05	9.60 -24.31	9.60 -22.12	9.60 -22.12
3e_OHS	30.3-2D	9.60 -30.27	9.60 -26.53	9.60 -24.34	9.60 -24.34
3r	30.3-2D	9.60 -17.35	9.60 -14.50	9.60 -14.50	9.60 -14.50
3r_OH	30.3-2D	9.60 -24.97	9.60 -22.12	9.60 -22.12	9.60 -22.12
3r_OHS	30.3-2D	9.60 -27.18	9.60 -24.34	9.60 -24.34	9.60 -24.34
4	30.3-1	12.33 -13.56	11.68 -12.91	11.30 -12.53	10.82 -12.05
5	30.3-1	12.33 -15.08	11.68 -13.77	11.30 -13.01	10.82 -12.05

- * A is effective wind area for C&C: Span Length * Effective Width
- * Effective width need not be less than 1/3 of the span length
- * Maximum and minimum values of pressure shown.
- * + Pressures acting toward surface, - Pressures acting away from surface
- * _OH represents an Overhang in the zone specified
- * Overhang pressures calculated per Para 30.9
- * Per Para 30.2.2 the Minimum Pressure for C&C is 9.60 psf [0.460 kPa] (Includes LF)
- * Interpolation can be used for values of A that are between those values shown.

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James Zaleski P.E 51544 2305 Haverhill Rd Tallahassee, FL 32312 PH 850-766-7778



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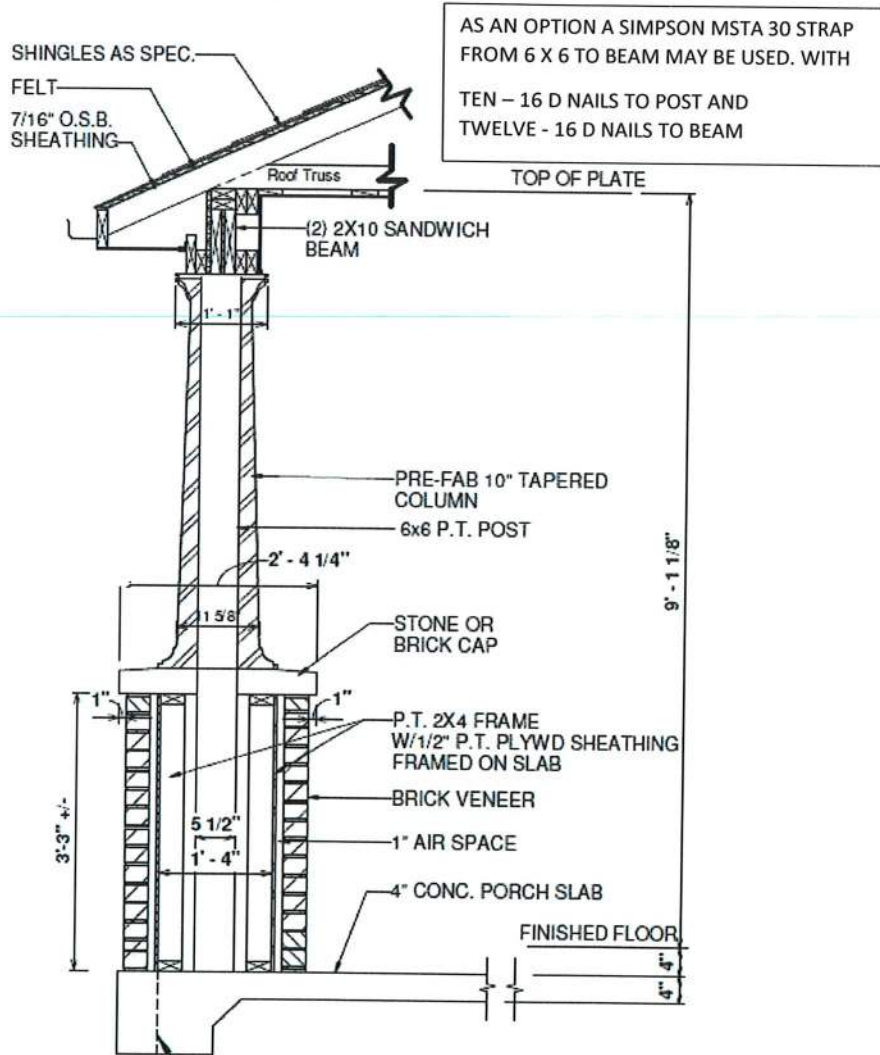
JAMES ZALESKI P.E 51544
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TALLAHASSEE, FL 32312
PH 850-766-7778

April 21, 2021

RE 437 SE PEACOCK TERRACE LAKE CITY FLORIDA ODUM HOME

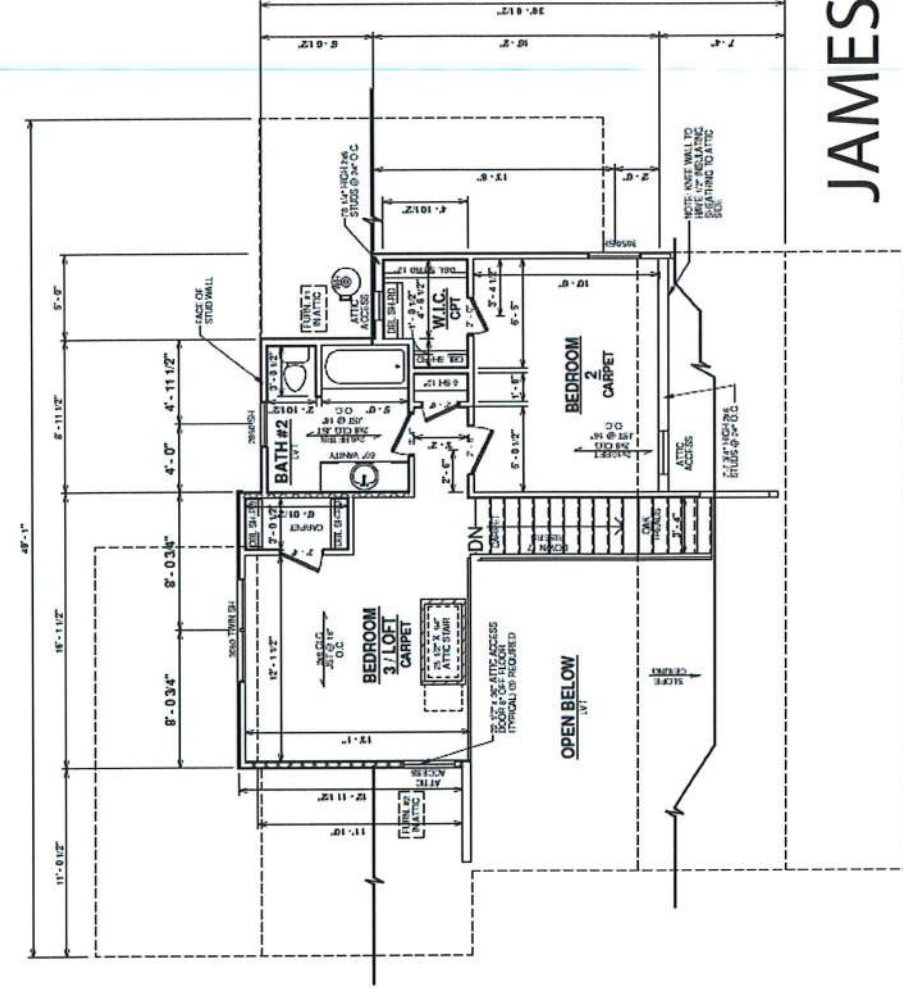
ALTERNATE POST DETAIL

Porch posts to have min. ABU Col Base w/ (12) 16d nails & PC Col Cap w/ (8) 16d nails to post & (12) 16d nails to beam, or approved alternative, unless noted otherwise.

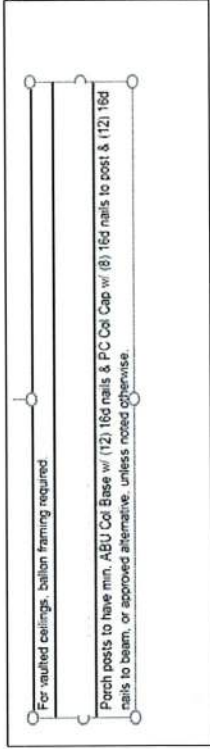


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SHEATH EXTERIOR
100%



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Second Floor-(T.O. Floor System)