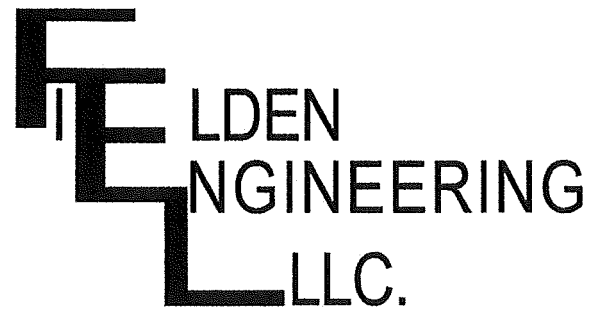


October 21, 2022

Mr. Drew Worthmann
780 SW 135th Way,
Newberry, FL 32669



Subject: Summary Report of a Wind Load Analysis
Existing Residence
190 SW Meridian Ct.
Fort White, Columbia County, FL 32038
Project No. FE22-148

Dear Mr. Worthmann,

Fielden Engineering, LLC. (FEL) is pleased to submit to you this Summary Report of a Wind Load Analysis for the above referenced project.

Background Information

The subject Existing Residence is a single-family residence located at 190 SW Meridian Ct. , Fort White, Columbia County, FL 32038. Based on our review of the Columbia County Property Appraiser website, the residence was constructed on the property in 1930. For the purposes of this report, the residence faces northeast.

We understand that your Authority Having Jurisdiction (AHJ) requires wind pressure information for you to close a permit related to the installation of siding and windows at the subject residence. For this reason, you retained FEL to conduct a limited structural evaluation of the structure to provide Component & Cladding wind pressures.

Summary of Site Visit and Wind Load Analysis

Mr. Joseph S. Fielden, P.E. of FEL visited the subject residence on October 12, 2022 to observe and document the current structure. Access was provided by the homeowner, Mrs. Michelle Worthmann, who was present at the time of our site visit.

Based on our observations and field measurements obtained from the site visit of the current roof system during our site visit, FEL calculated the Component & Cladding wind pressures for the subject residence. The analysis was conducted using MecaWind v2405 by Meca Enterprises, Inc. (see attachment). These pressures are summarized in the attached Table 1 (attached).

Zone 5 indicates pressures on the edge zones. The edge zones are defined as the portions of the roof within 3 feet each corner and the roof edge. These wind pressures correspond to an ultimate wind speed velocity (V_{ult}) of 130 miles per hour in Exposure B as defined by American Society of Civil Engineers - *Minimum Design Loads and Associated Criteria for Buildings and Other Structures* (ASCE 7-16).

The wind pressures listed herein are for a fully enclosed structure. Therefore, the windows, doors, skylights, and sheathing shall resist the component and cladding wind pressures shown in Table 1. All construction operations shall be performed in accordance with local standards and practices and consistent with the Florida Building Code (2020) – 7th Edition.

Fielden Engineering, LLC.
FL Certificate of Authorization No. 34626
542 NW 39th Rd. UNIT 405
Gainesville, FL 32607
P: (352) 505-3995

October 21, 2022

Limitations

This report is intended only for the addressee, is not assignable, and not intended for the benefit of any third party. As a specific component of the consideration given by the client (addressee), client agrees that the author's damages in any matter arising out of or related to this report are limited to the amount the author is compensated for the evaluation, and client agrees to waive all related consequential and special damages.

This evaluation and subsequent report are not intended to be technically exhaustive or imply that every component was observed and that every possible defect was discovered. There was not any destructive testing, i.e., openings of walls and/or ceilings to expose structural systems performed for this evaluation. Additionally, no geotechnical or subsurface exploration was provided within the scope of this limited structural evaluation. All components and conditions which by the nature of their location are concealed, camouflaged, or are difficult to access for observation, are excluded from this report.

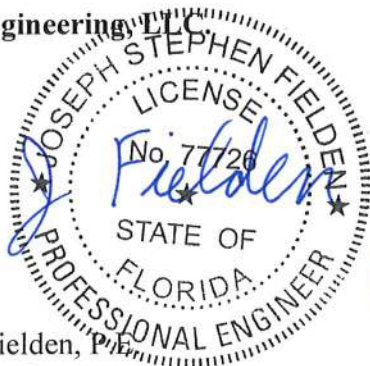
This report shall not be construed to represent a review of the overall structural integrity of the structure, auxiliary structures, or the original structural design thereof. Furthermore, this report does not constitute a guarantee of the present or future adequacy or performance of the subject structure, its systems, or their component parts. This evaluation report shall not be construed as a compliance inspection of any governmental or non-governmental codes or regulations. A more detailed evaluation and assessment can be performed to address other portions of this structure, or other structures on the property, not included in this limited structural evaluation.

Closing

Fielden Engineering appreciates the opportunity to assist you with this project. If you have any questions, or require further clarification of the contents of this letter, please contact us.

Sincerely,

Fielden Engineering, LLC



10-21-22

Joseph S. Fielden, P.E.
Principal Engineer
Florida Registration Number 77726

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ATTACHMENTS:

MecaWind v2405 OUTPUT

TABLE 1: COMPONENTS AND CLADDING WIND PRESSURES ON ROOF AND WALLS (PSF)

MecaWind v2405

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

Calculations Prepared by:

FIELDEN ENGINEERING, LLC.
542 NW 39TH RD. UNIT 405
GAINESVILLE, FL, 32607
Date: Oct 21, 2022
Designer: JSF

Calculations Prepared For:

Client: DREW WORTHMANN
Project #: FE22-148
Location: FORT WHITE, FL
Description: RIVER HOUSE

Basic Wind Parameters

| | | | |
|--------------------|-------------|-------------------|------------|
| Wind Load Standard | = ASCE 7-16 | Exposure Category | = B |
| Wind Design Speed | = 130.0 mph | Risk Category | = II |
| Structure Type | = Building | Building Type | = Enclosed |

General Wind Settings

| | | |
|-----------|---|--------------|
| Incl_LF | = Include ASD Load Factor of 0.6 in Pressures | = False |
| DynType | = Dynamic Type of Structure | = Rigid |
| Zg | = Altitude (Ground Elevation) above Sea Level | = 0.000 ft |
| Bdist | = Base Elevation of Structure | = 0.000 ft |
| SDB | = Simple Diaphragm Building | = False |
| 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 | = 26.000 ft |
| L | : Length Along Ridge | = 48.000 ft | Eht | : Eave Height | = 11.833 ft |
| RE | : Roof Entry Method | = Slope | Slope | : Slope of Roof | = 4.0 :12 |
| Theta | : Roof Slope | = 18.43 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 | = Overhang |
| OH | = Overhang of Roof Beyond Wall | = 2.000 ft |

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

| | | |
|------|--|-----------------|
| h | = Mean Roof Height above grade | = 14.000 ft |
| Kh | = $Z < 15 \text{ ft } [4.572 \text{ m}] \rightarrow (2.01 * (15/zg)^{(2/\text{Alpha})})$ (Table 26.10-1) | = 0.575 |
| 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: $Ke = e^{-(0.0000362 * Zg)}$ (Table 26.9-1) | = 1.000 |
| GCPi | = Ref Table 26.13-1 for Enclosed Building | = +/-0.18 |
| RA | = Roof Area | = 1644.38 sq ft |
| LF | = Load Factor based upon STRENGTH Design | = 1.00 |
| qh | = $(0.00256 * Kh * Kzt * Kd * Ke * V^2) * LF$ | = 21.13 psf |
| qin | = For Negative Internal Pressure of Enclosed Building use qh*LF | = 21.13 psf |
| qip | = For Positive Internal Pressure of Enclosed Building use qh*LF | = 21.13 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 | = $\text{Max}(0.6 * Ht, Z_{min})$ | = 30.000 ft |
| Izm | = $Cc * (33 / Zm) ^ 0.167$ | = 0.305 |
| Lzm | = $L * (Zm / 33) ^ Eps$ | = 309.993 |
| B | = Structure Width Normal to Wind | = 48.000 ft |
| Q | = $(1 / (1 + 0.63 * ((B + Ht) / Lzm)^{0.63}))^{0.5}$ | = 0.902 |
| G2 | = $0.925 * ((1 + 0.7 * Izm * 3.4 * Q) / (1 + 0.7 * 3.4 * Izm))$ | = 0.867 |
| Gust Factor | Used in Analysis | |

G = Lessor Of G1 Or G2 = 0.850

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

| | | |
|-------------|--|----------------|
| h | = Mean Roof Height Of Building | = 14.000 ft |
| RHt | = Ridge Height Of Roof | = 16.166 ft |
| B | = Horizontal Dimension Of Building Normal To Wind Direction | = 48.000 ft |
| L | = Horizontal Dimension Of building Parallel To Wind Direction | = 26.000 ft |
| L/B | = Ratio Of L/B used For Cp determination | = 0.542 |
| h/L | = Ratio Of h/L used For Cp determination | = 0.538 |
| Slope | = Slope of Roof | = 18.43 Deg |
| OH_Bot_-Y | = Overhang Coefficient Bottom Surface (Windward Only) | = 0.8, 0.8 |
| OH_Top_+X+Y | = Overhang Coefficient Overhang +X+Y (Leeward) | = -0.57, -0.57 |
| OH_Top_+X-Y | = Overhang Coefficient Overhang +X-Y (Windward) | = -0.07, -0.52 |
| OH_Top_+Y | = Overhang Coefficient Top +Y (Leeward) | = -0.57, -0.57 |
| OH_Top_-X+Y | = Overhang Coefficient Overhang -X+Y (Leeward) | = -0.57, -0.57 |
| OH_Top_-X-Y | = Overhang Coefficient Overhang -X-Y (Windward) | = -0.07, -0.52 |
| OH_Top_-Y | = Overhang Coefficient Top Windward Edge | = -0.07, -0.52 |
| Roof_LW | = Roof Coefficient (Leeward) | = -0.57, -0.57 |
| Roof_WW | = Roof Coefficient (Windward) | = -0.07, -0.52 |
| 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 1.0

| Elev | Kz | Kzt | qz | GCPI | Windward Press | Leeward Press | Side Press | Total Press | Minimum Pressure* |
|-------|-------|-------|-------|------|-------------------|------------------|---------------|----------------|----------------------|
| ft | | | psf | | psf | psf | psf | psf | psf |
| 11.83 | 0.575 | 1.000 | 21.13 | 0.18 | 10.57 | -12.79 | -16.38 | 23.35 | 16.00 |

Wall Wind Pressures based on Negative Internal Pressure (-GCPI) - Normal to Ridge All wind pressures include a load factor of 1.0

| Elev | Kz | Kzt | qz | GCPI | Windward Press | Leeward Press | Side Press | Total Press | Minimum Pressure* |
|-------|-------|-------|-------|-------|-------------------|------------------|---------------|----------------|----------------------|
| ft | | | psf | | psf | psf | psf | psf | psf |
| 11.83 | 0.575 | 1.000 | 21.13 | -0.18 | 18.18 | -5.18 | -8.77 | 23.35 | 16.00 |

Notes Wall Pressures:

Kz = Velocity Press Exp Coeff
 qz = $0.00256 \cdot Kz \cdot Kzt \cdot Kd \cdot V^2$
 Side = $q_h \cdot G \cdot Cp_{SW} - q_{ip} \cdot +GCPI$
 Leeward = $q_h \cdot G \cdot Cp_{LW} - q_{ip} \cdot +GCPI$
 * Minimum Pressure: Para 27.1.5 no less than 16.00 psf (Incl LF) applied to Walls
 + Pressures Acting TOWARD Surface
 - Pressures Acting AWAY from Surface

Kzt = Topographical Factor
 GCPI = Internal Press Coefficient
 Windward = $q_z \cdot G \cdot Cp_{WW} - q_{ip} \cdot +GCPI$
 Total = Windward Press - Leeward Press

Roof Wind Pressures for Positive & Negative Internal Pressure (+/- GCPI) - Normal to Ridge All wind pressures include a load factor of 1.0

| 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_-Y | N/A | N/A | 0.800 | 0.800 | 0.000 | 14.37 | 14.37 | 14.37 | 14.37 |
| OH_Top_+X+Y | N/A | N/A | -0.570 | -0.570 | 0.000 | -10.24 | -10.24 | -10.24 | -10.24 |
| OH_Top_+X-Y | N/A | N/A | -0.070 | -0.520 | 0.000 | -1.26 | -1.26 | -9.34 | -9.34 |
| OH_Top_+Y | N/A | N/A | -0.570 | -0.570 | 0.000 | -10.24 | -10.24 | -10.24 | -10.24 |
| OH_Top_-X+Y | N/A | N/A | -0.570 | -0.570 | 0.000 | -10.24 | -10.24 | -10.24 | -10.24 |
| OH_Top_-X-Y | N/A | N/A | -0.070 | -0.520 | 0.000 | -1.26 | -1.26 | -9.34 | -9.34 |
| OH_Top_-Y | N/A | N/A | -0.070 | -0.520 | 0.000 | -1.26 | -1.26 | -9.34 | -9.34 |
| Roof_LW | N/A | N/A | -0.570 | -0.570 | 0.180 | -6.44 | -14.04 | -6.44 | -14.04 |
| Roof_WW | N/A | N/A | -0.070 | -0.520 | 0.180 | 2.55 | -5.06 | -5.54 | -13.15 |

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 = $qh * G * Cp_max - qip * (+GCPi)$ Pn_max = $qh * G * Cp_max - qin * (-GCPi)$
 Pp_min^* = $qh * G * Cp_min - qip * (+GCPi)$ Pn_min^* = $qh * G * Cp_min - qin * (-GCPi)$
 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 | = 14.000 ft |
| RHt | = Ridge Height Of Roof | = 16.166 ft |
| B | = Horizontal Dimension Of Building Normal To Wind Direction | = 26.000 ft |
| L | = Horizontal Dimension Of building Parallel To Wind Direction | = 48.000 ft |
| L/B | = Ratio Of L/B used For Cp determination | = 1.846 |
| h/L | = Ratio Of h/L used For Cp determination | = 0.292 |
| Slope | = Slope of Roof | = 18.43 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 7.000 ft) | = -0.18, -0.9 |
| OH_Top | = Overhang Top Coeff (h/2 to h) (7.000 ft to 14.000 ft) | = -0.18, -0.9 |
| OH_Top | = Overhang Top Coeff (h to 2h) (14.000 ft to 27.999 ft) | = -0.18, -0.5 |
| OH_Top | = Overhang Top Coeff (>2h) (>27.999 ft) | = -0.18, -0.3 |
| OH_Top | = Overhang Top Coeff (>2h) (>50.000 ft) | = -0.18, -0.3 |
| Roof | = Roof Coeff (0 to h/2) (2.000 ft to 7.000 ft) | = -0.18, -0.9 |
| Roof | = Roof Coeff (h/2 to h) (7.000 ft to 14.000 ft) | = -0.18, -0.9 |
| Roof | = Roof Coeff (h to 2h) (14.000 ft to 27.999 ft) | = -0.18, -0.5 |
| Roof | = Roof Coeff (>2h) (>27.999 ft) | = -0.18, -0.3 |
| Cp_WW | = Windward Wall Coefficient (All L/B Values) | = 0.80 |
| Cp_LW | = Leeward Wall Coefficient using L/B | = -0.33 |
| 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) - Parallel to Ridge

All wind pressures include a load factor of 1.0

| Elev | Kz | Kzt | qz | GCPi | Windward Press | Leeward Press | Side Press | Total Press | Minimum Pressure* |
|-------|-------|-------|-------|------|----------------|---------------|------------|-------------|-------------------|
| ft | | | psf | | psf | psf | psf | psf | psf |
| 16.17 | 0.587 | 1.000 | 21.59 | 0.18 | 10.88 | -9.75 | -16.38 | 20.62 | 16.00 |
| 14.00 | 0.575 | 1.000 | 21.13 | 0.18 | 10.57 | -9.75 | -16.38 | 20.31 | 16.00 |
| 11.83 | 0.575 | 1.000 | 21.13 | 0.18 | 10.57 | -9.75 | -16.38 | 20.31 | 16.00 |

Wall Wind Pressures based on Negative Internal Pressure (-GCPi) - Parallel to Ridge

All wind pressures include a load factor of 1.0

| Elev | Kz | Kzt | qz | GCPi | Windward Press | Leeward Press | Side Press | Total Press | Minimum Pressure* |
|-------|-------|-------|-------|-------|----------------|---------------|------------|-------------|-------------------|
| ft | | | psf | | psf | psf | psf | psf | psf |
| 16.17 | 0.587 | 1.000 | 21.59 | -0.18 | 18.49 | -2.14 | -8.77 | 20.62 | 16.00 |
| 14.00 | 0.575 | 1.000 | 21.13 | -0.18 | 18.18 | -2.14 | -8.77 | 20.31 | 16.00 |
| 11.83 | 0.575 | 1.000 | 21.13 | -0.18 | 18.18 | -2.14 | -8.77 | 20.31 | 16.00 |

Notes Wall Pressures:

Kz = Velocity Press Exp Coeff Kzt = Topographical Factor
 qz = $0.00256 * Kz * Kzt * Kd * V^2$ $GCPi$ = Internal Press Coefficient
 Side = $qh * G * Cp_SW - qip * +GCPi$ Windward = $qz * G * Cp_WW - qip * +GCPi$
 Leeward = $qh * G * Cp_LW - qip * +GCPi$ Total = Windward Press - Leeward Press
 * Minimum Pressure: Para 27.1.5 no less than 16.00 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 1.0

| 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_Bot | N/A | N/A | 0.800 | 0.800 | 0.000 | 14.37 | 14.37 | 14.37 | 14.37 |
| OH_Bot | N/A | N/A | 0.800 | 0.800 | 0.000 | 14.37 | 14.37 | 14.37 | 14.37 |
| OH_Top (-X+Y) | 0.000 | 2.000 | -0.180 | -0.900 | 0.000 | -3.23 | -3.23 | -16.17 | -16.17 |
| OH_Top (-X-Y) | 0.000 | 2.000 | -0.180 | -0.900 | 0.000 | -3.23 | -3.23 | -16.17 | -16.17 |
| OH_Top (-Y) | 2.000 | 7.000 | -0.180 | -0.900 | 0.000 | -3.23 | -3.23 | -16.17 | -16.17 |
| OH_Top (+Y) | 2.000 | 7.000 | -0.180 | -0.900 | 0.000 | -3.23 | -3.23 | -16.17 | -16.17 |
| OH_Top (-Y) | 7.000 | 14.000 | -0.180 | -0.900 | 0.000 | -3.23 | -3.23 | -16.17 | -16.17 |
| OH_Top (+Y) | 7.000 | 14.000 | -0.180 | -0.900 | 0.000 | -3.23 | -3.23 | -16.17 | -16.17 |
| OH_Top (-Y) | 14.000 | 27.999 | -0.180 | -0.500 | 0.000 | -3.23 | -3.23 | -8.98 | -8.98 |
| OH_Top (+Y) | 14.000 | 27.999 | -0.180 | -0.500 | 0.000 | -3.23 | -3.23 | -8.98 | -8.98 |
| OH_Top (-Y) | 27.999 | 50.000 | -0.180 | -0.300 | 0.000 | -3.23 | -3.23 | -5.39 | -5.39 |
| OH_Top (+Y) | 27.999 | 50.000 | -0.180 | -0.300 | 0.000 | -3.23 | -3.23 | -5.39 | -5.39 |
| OH_Top (+X+Y) | 50.000 | 52.000 | -0.180 | -0.300 | 0.000 | -3.23 | -3.23 | -5.39 | -5.39 |
| OH_Top (+X-Y) | 50.000 | 52.000 | -0.180 | -0.300 | 0.000 | -3.23 | -3.23 | -5.39 | -5.39 |
| Roof (+Y) | 2.000 | 7.000 | -0.180 | -0.900 | 0.180 | 0.57 | -7.04 | -12.36 | -19.97 |
| Roof (-Y) | 2.000 | 7.000 | -0.180 | -0.900 | 0.180 | 0.57 | -7.04 | -12.36 | -19.97 |
| Roof (+Y) | 7.000 | 14.000 | -0.180 | -0.900 | 0.180 | 0.57 | -7.04 | -12.36 | -19.97 |
| Roof (-Y) | 7.000 | 14.000 | -0.180 | -0.900 | 0.180 | 0.57 | -7.04 | -12.36 | -19.97 |
| Roof (+Y) | 14.000 | 27.999 | -0.180 | -0.500 | 0.180 | 0.57 | -7.04 | -5.18 | -12.79 |
| Roof (-Y) | 14.000 | 27.999 | -0.180 | -0.500 | 0.180 | 0.57 | -7.04 | -5.18 | -12.79 |
| Roof (+Y) | 27.999 | 50.000 | -0.180 | -0.300 | 0.180 | 0.57 | -7.04 | -1.59 | -9.19 |
| Roof (-Y) | 27.999 | 50.000 | -0.180 | -0.300 | 0.180 | 0.57 | -7.04 | -1.59 | -9.19 |

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 = $qh \cdot G \cdot Cp_{max} - qip \cdot (+GCPi)$ Pn_max = $qh \cdot G \cdot Cp_{max} - qin \cdot (-GCPi)$ Pp_min* = $qh \cdot G \cdot Cp_{min} - qip \cdot (+GCPi)$ Pn_min* = $qh \cdot G \cdot Cp_{min} - qin \cdot (-GCPi)$

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) Zone Summary per Ch 30 Pt 1:

| | | |
|------|--|-------------|
| h/W | = Ratio of mean roof height to building width | = 0.538 |
| h/L | = Ratio of mean roof height to building length | = 0.292 |
| h | = Mean Roof Height above grade | = 14.000 ft |
| Kh | = $Z < 15 \text{ ft } [4.572 \text{ m}] \rightarrow (2.01 \cdot (15/zg)^{(2/\alpha)})$ {Table 26.10-1} | = 0.575 |
| 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 STRENGTH Design | = 1.00 |
| qh | = $(0.00256 \cdot Kh \cdot Kzt \cdot Kd \cdot Ke \cdot V^2) \cdot LF$ | = 21.13 psf |
| LHD | = Least Horizontal Dimension: Min(B, L) | = 26.000 ft |
| al | = Min($0.1 \cdot LHD$, $0.4 \cdot h$) | = 2.600 ft |
| a | = Max(al, $0.04 \cdot LHD$, 3 ft [0.9 m]) | = 3.000 ft |
| h/B | = Ratio of mean roof height to least hor dim: h / B | = 0.538 |

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 1.0

| 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 | 30.3-2B | 18.60 -46.07 | 16.00 -46.07 | 16.00 -46.07 | 16.00 -28.03 |
| 1_OH | 30.3-2B | 16.00 -52.84 | 16.00 -52.84 | 16.00 -52.84 | 16.00 -40.80 |
| 2e | 30.3-2B | 18.60 -46.07 | 16.00 -46.07 | 16.00 -46.07 | 16.00 -28.03 |
| 2e_OH | 30.3-2B | 16.00 -52.84 | 16.00 -52.84 | 16.00 -52.84 | 16.00 -40.80 |
| 2n | 30.3-2B | 18.60 -67.21 | 16.00 -67.21 | 16.00 -58.11 | 16.00 -46.07 |
| 2n_OH | 30.3-2B | 16.00 -73.97 | 16.00 -73.97 | 16.00 -67.15 | 16.00 -58.12 |
| 2r | 30.3-2B | 18.60 -67.21 | 16.00 -67.21 | 16.00 -58.11 | 16.00 -46.07 |
| 2r_OH | 30.3-2B | 16.00 -73.97 | 16.00 -73.97 | 16.00 -67.15 | 16.00 -58.12 |
| 3e | 30.3-2B | 18.60 -67.21 | 16.00 -67.21 | 16.00 -58.11 | 16.00 -46.07 |
| 3e_OH | 30.3-2B | 16.00 -86.65 | 16.00 -86.65 | 16.00 -74.82 | 16.00 -59.18 |
| 3r | 30.3-2B | 18.60 -79.89 | 16.00 -79.89 | 16.00 -68.44 | 16.00 -53.30 |
| 3r_OH | 30.3-2B | 16.00 -99.33 | 16.00 -99.33 | 16.00 -84.06 | 16.00 -63.88 |
| 4 | 30.3-1 | 24.94 -27.05 | 24.94 -27.05 | 23.82 -25.93 | 22.33 -24.44 |
| 5 | 30.3-1 | 24.94 -33.39 | 24.94 -33.39 | 23.82 -31.15 | 22.33 -28.18 |

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 1.0

| Zone | Figure | A = 100.00 sq ft psf | A = 200.00 sq ft psf | A = 250.00 sq ft psf | A > 500.00 sq ft psf |
|-------|---------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1 | 30.3-2B | 16.00 -16.00 | 16.00 -16.00 | 16.00 -16.00 | 16.00 -16.00 |
| 1_OH | 30.3-2B | 16.00 -31.70 | 16.00 -31.70 | 16.00 -31.70 | 16.00 -31.70 |
| 2e | 30.3-2B | 16.00 -16.00 | 16.00 -16.00 | 16.00 -16.00 | 16.00 -16.00 |
| 2e_OH | 30.3-2B | 16.00 -31.70 | 16.00 -31.70 | 16.00 -31.70 | 16.00 -31.70 |
| 2n | 30.3-2B | 16.00 -36.97 | 16.00 -27.87 | 16.00 -24.94 | 16.00 -24.94 |
| 2n_OH | 30.3-2B | 16.00 -51.29 | 16.00 -44.47 | 16.00 -42.27 | 16.00 -42.27 |
| 2r | 30.3-2B | 16.00 -36.97 | 16.00 -27.87 | 16.00 -24.94 | 16.00 -24.94 |
| 2r_OH | 30.3-2B | 16.00 -51.29 | 16.00 -44.47 | 16.00 -42.27 | 16.00 -42.27 |
| 3e | 30.3-2B | 16.00 -36.97 | 16.00 -27.87 | 16.00 -24.94 | 16.00 -24.94 |
| 3e_OH | 30.3-2B | 16.00 -47.34 | 16.00 -35.51 | 16.00 -31.70 | 16.00 -31.70 |
| 3r | 30.3-2B | 16.00 -41.85 | 16.00 -41.85 | 16.00 -41.85 | 16.00 -41.85 |
| 3r_OH | 30.3-2B | 16.00 -48.61 | 16.00 -48.61 | 16.00 -48.61 | 16.00 -48.61 |
| 4 | 30.3-1 | 21.21 -23.32 | 20.08 -22.20 | 19.72 -21.84 | 18.60 -20.71 |
| 5 | 30.3-1 | 21.21 -25.93 | 20.08 -23.68 | 19.72 -22.96 | 18.60 -20.71 |

- * 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 16.00 psf [0.766 kPa] {Includes LF}
- * Interpolation can be used for values of A that are between those values shown.

Summary Report of a Limited Structural Evaluation
 Existing Residence
 190 SW Meridian Ct.
 Fort White, Columbia County, FL 32038
 Project No. FE22-148

21-Oct-22

TABLE 1

| COMPONENTS AND CLADDING WIND PRESSURES ON ROOF AND WALLS (PSF) | | | | | | | |
|--|----------------|--------|-------------|--------|-------|--------|--------|
| ZONE | ALL ROOF ZONES | 1 & 2E | 2N, 2R & 3E | 3R | 4 & 5 | 4 | 5 |
| TRIB AREA (SQFT) | + | - | - | - | + | - | - |
| 10 | 16.00 | -46.07 | -67.21 | -79.89 | 24.94 | -27.05 | -33.39 |
| 20 | 16.00 | -46.07 | -58.11 | -68.44 | 23.82 | -25.93 | -31.15 |
| 50 | 16.00 | -28.03 | -46.07 | -53.30 | 22.33 | -24.44 | -28.18 |
| 100 | 16.00 | -16.00 | -36.97 | -41.85 | 21.21 | -23.32 | -25.93 |
| 200 | 16.00 | -16.00 | -27.87 | -41.85 | 20.08 | -22.20 | -23.68 |
| 500 | 16.00 | -16.00 | -24.94 | -41.85 | 18.60 | -20.71 | -20.71 |

