



BROWARD COUNTY

Board of Rules & Appeals

1 North University Drive, Suite 3500B, Plantation, Florida 33324

To: Members of the Broward County Board of Rules and Appeals.
From: Michael Guerasio, Chief Structural Code Compliance Officer.
Ted Fowler, Chief Structural Code Compliance Officer.
Date: January 9th, 2020.
Re: The Board to consider adopting policy 20-01, in reference to retrofit window & door replacements. To be in effect, mandatory, on July 1st, 2020.

RECOMMENDATION:

It is recommended that the Broward County Board of Rules and Appeals consider and approve by vote, policy 20-01 "Broward County Uniform Retrofit Window & Door Schedule" to be in effect, mandatory, on July 1st, 2020. An informational packet was developed which includes application instructions and the Broward County Uniform Retrofit Window & Door Schedule to be utilized throughout Broward County.

REASONS:

At the June 13th, 2019 Board of Rules and Appeals regular meeting, Mr. David Rosenof, President of Big Dog Construction Services Inc, representing the Broward League of Cities suggested the possibilities of developing a uniform schedule for retrofit window & door replacements. After discussion, the Board directed the structural committee to meet and present recommendations to this request. On August 13th, 2019 the structural committee met to discuss and present recommendations to the Board whether a uniform schedule should be developed. The committee discussed this item and directed staff to develop the document and present it to the Board with no further structural committee meetings necessary by a unanimous vote. Attached you will find the new proposed retrofit window & door informational packet, including instructions and a uniform retrofit window & door schedule to be utilized throughout Broward County.

ADDITIONAL INFORMATION

By approving this packet and uniform schedule, it will provide uniformity in obtaining a permit to change out window and door openings throughout Broward County. It will also provide the property owners and contractors, guidance as to what information, at a minimum, is required to be submitted to the building department to obtain a permit to change out these fenestrations.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Michael Guerasio", written over a horizontal line.

Michael Guerasio, Chief Structural Code Compliance Officer.

A handwritten signature in brown ink, appearing to read "Ted Fowler", written over a horizontal line.

Ted Fowler, Chief Structural Code Compliance Officer

Board of Rules & Appeals Policy 20-01

Effective July 1, 2020

Subject: "Broward County Uniform Retrofit Window & Door Schedule"

POLICY

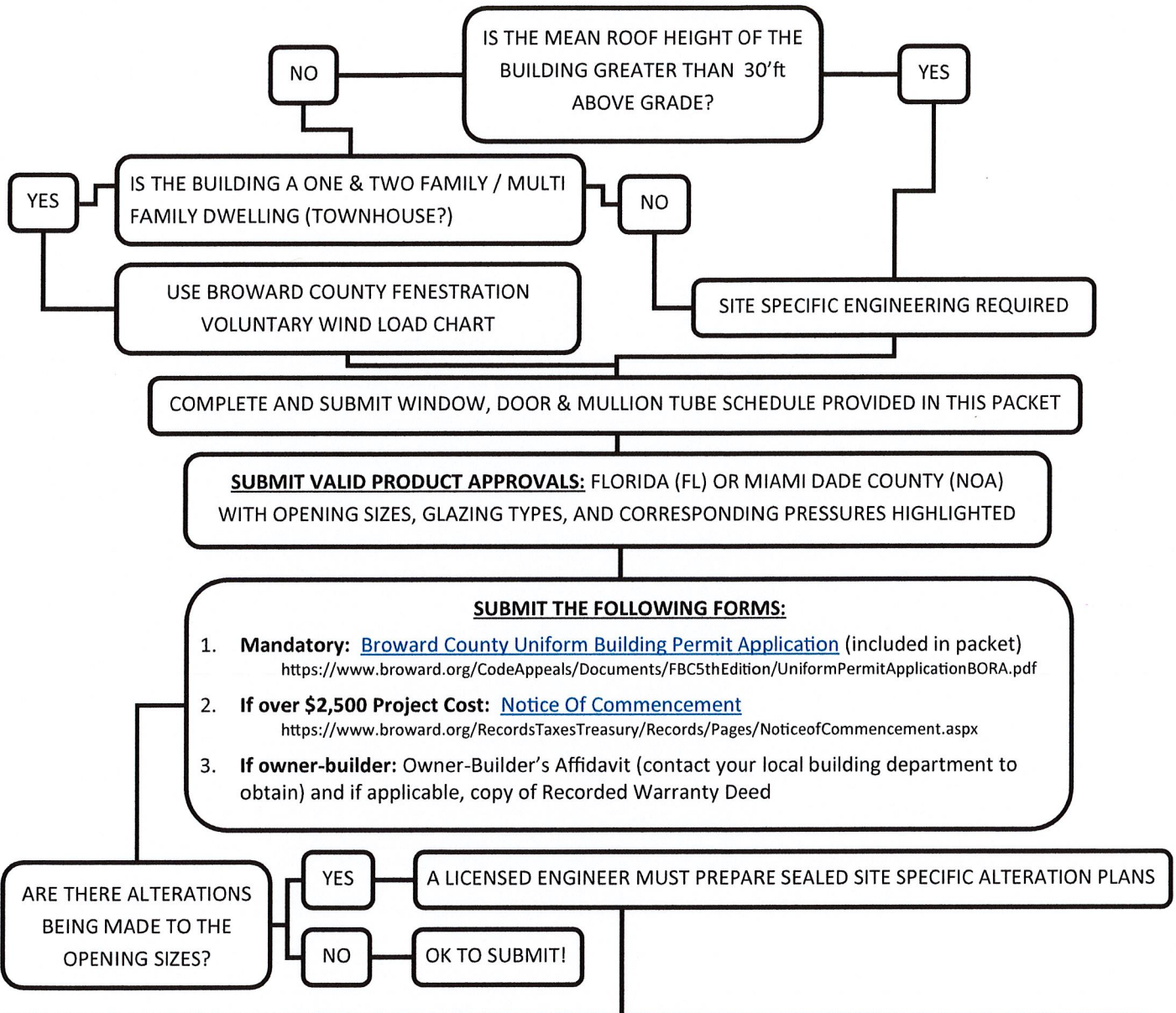
Each permit application for a window and door replacement "retrofit", shall be submitted to all jurisdictions in Broward County using the attached "*Broward County Uniform Retrofit Window & Door Schedule*"

This form does not relieve the permit holder, building owner or contractor from complying with all and any applicable local regulations or ordinances related to zoning, building, fire prevention, etc.; or prohibits a Broward County jurisdiction from requiring additional information to be provided in relation to applicable local regulations or ordinances related to zoning, building, fire prevention, etc.

Use of the "*Broward County Uniform Retrofit Window & Door Schedule*" is mandatory countywide starting July 1, 2020.

Uniform Retrofit Window & Door Schedule attached.

INSTRUCTION FLOWCHART



DESIGN CRITERIA REQUIREMENTS FOR PLANS

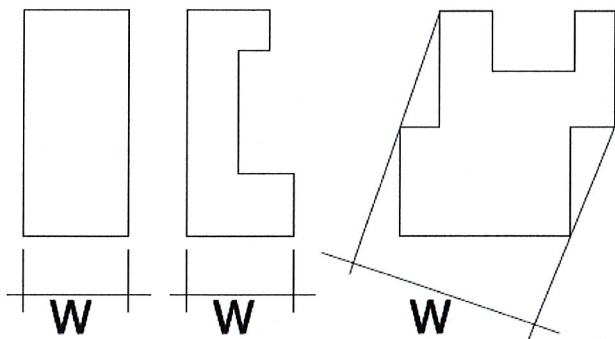
1. Unit sketch, generally to scale illustrating the unit and overall building (if multi-family).
2. Broward requires ASCE 7 calculations using Peak wind velocity $V_{ult}(min) = 170\text{mph}$
3. Either Exposure C (inland) or D (coastal - see description next page)
4. Mean (average) Roof height (see page 3)
5. Overall Building Width & Length (lessor dimension is used to determine width of zone 5)
6. Label each opening dimensions, wind zone (4 or 5) on the layout as shown in example on page 3
7. Each opening shall have a corresponding "mark" which ties into the window, door & mullion schedule provided within this packet

OK TO SUBMIT!

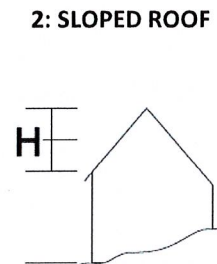
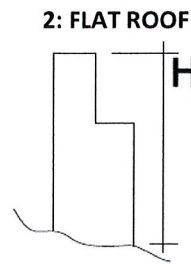
Explanation of Terms

- 1: **Exposure C:** All of Broward County. The "Broward County Fenestration Voluntary Wind Load Chart" included within this packet can be used for all detached one & two story dwellings and multiple single-family dwellings (townhomes).
- 2: **Exposure D:** A structure that's within 600' or 20X building height of a flat area/body of water that's a mile long. Generally all areas east of the Intercoastal Waterway. Wind load pressures must be completed by a licensed design professional for all structures.
- 3: **Mean Roof Height ("h"):** Average between the lowest and the highest roof point of a sloped roof, also the highest point of a flat roof (also see page 3).
- 4: **Minimum Building Width:** 10% of least horizontal dimension (W) or 0.4h, whichever is smaller, but not less than either 4% of least horizontal dimension or 3'ft minimum.

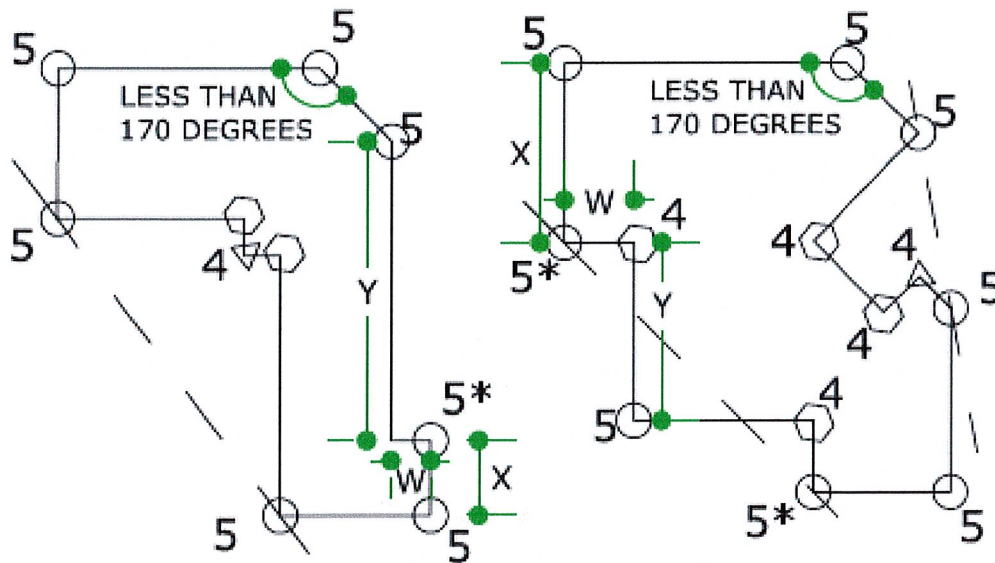
MIN. BUILDING WIDTH EXAMPLES (PLAN VIEW):



Mean Roof Height



ZONE EXAMPLES (PLAN VIEW)



- INDICATES BUILDING CORNER DISCONTINUITY (ZONE 5)
- ▽ INDICATES AN OBSTRUCTED EXTERIOR CORNER (ZONE 4)
- ⬡ INDICATES A TYPICAL INTERIOR CORNER (ZONE 4)

NOTE: The corner designated by an * would not be considered a corner if dimension W is less than half the width of the corner zone and dimension X and Y are greater than the width of a corner zone

170 degree:

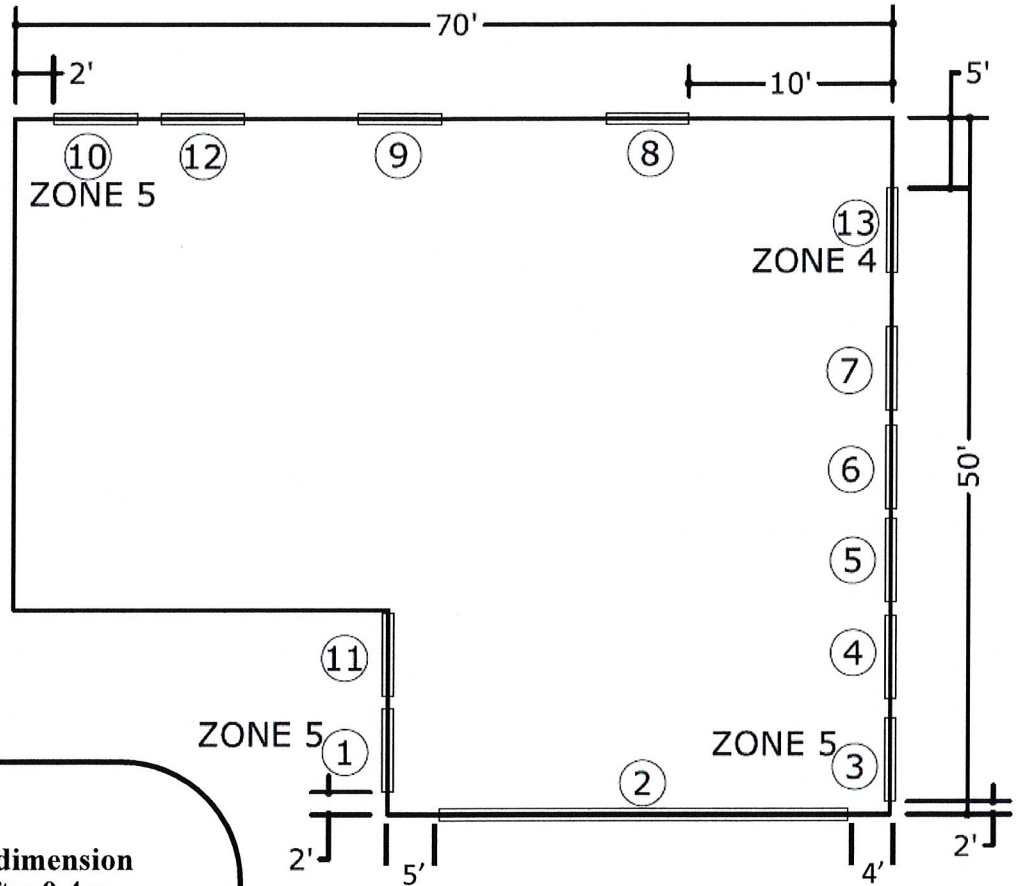
An unobstructed exterior corner with an interior angle of less than 170 degree would be considered a corner zone

See page 3 for example on how to calculate the zone dimensions of a building

Minimum Sketch Requirement

Zone determinations:

1. Zone 5 (corner zone) in this example is calculated as 5'ft in width, any opening within 5'ft of an outside unobstructed corner would be considered in zone 5.
2. In this example, openings 1, 2, 3 & 10 are located in a zone 5 (corner zone).
3. All other opening would be considered zone 4 (interior zone).

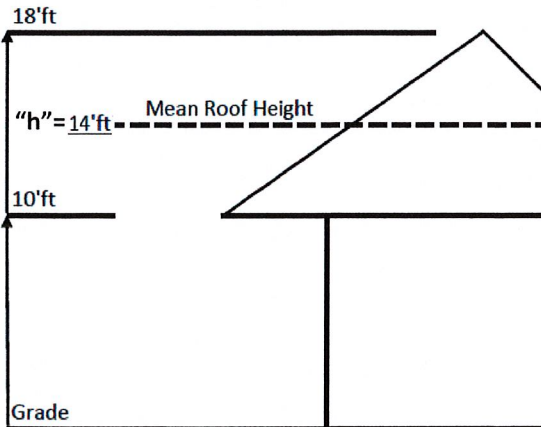


ZONE CALCULATIONS:

Zone 5 = $.10 \times$ least horizontal dimension (50ft \times .10 = 5ft) or $.4 \times$ "h" (14ft \times 0.4 = 5.6ft) whichever is smaller, but not less than either 4% of the least horizontal dimension (50ft \times 4% = 2ft), or 3ft.

Zone 5 (corner zone) would be 5'ft wide.

All others would be zone 4.



Next Steps:

- Complete Window & Door Schedule included within this packet
- Submit all forms to your local building department according to their instructions.
- The local building department may require additional documentation

BROWARD COUNTY UNIFORM BUILDING PERMIT APPLICATION

Select One Trade: Building Electrical Plumbing Mechanical Other _____

Application Number: _____

Application Date: _____

1	Job Address: _____		Unit: _____	City: _____	
	Tax Folio No.: _____	Flood Zn: _____	BFE: _____	Floor Area: _____	Job Value: _____
	Building Use: _____			Construction Type: _____	Occupancy Group: _____
	Present Use: _____			Proposed Used: _____	
	Description of Work: _____				
	<input type="checkbox"/> New <input type="checkbox"/> Addition <input type="checkbox"/> Repair <input type="checkbox"/> Alteration <input type="checkbox"/> Demolition <input type="checkbox"/> Revision <input type="checkbox"/> Other: _____				
Legal Description: _____				<input type="checkbox"/> Attachment	

2	Property Owner: _____	Phone: _____	Email: _____	
	Owner's Address: _____	City: _____	State: _____	Zip: _____

3	Contracting Co.: _____	Phone: _____	Email: _____	
	Company Address: _____	City: _____	State: _____	Zip: _____
	Qualifier's Name: _____	Owner-Builder: <input type="checkbox"/>	License Number: _____	

4	Architect/Engineer's Name: _____	Phone: _____	Email: _____	
	Architect/Engineer's Address: _____	City: _____	State: _____	Zip: _____
	Bonding Company: _____			
	Bonding Company Address: _____	City: _____	State: _____	Zip: _____
	Fee Simple Titleholder's name (if other than owner): _____			
	Fee Simple Titleholder's Address (If other than owner): _____	City: _____	State: _____	Zip: _____
	Mortgage Lender's Name: _____			
	Mortgage Lender's Address: _____	City: _____	State: _____	Zip: _____

Application is hereby made to obtain a permit to do the work and installations as indicated. I certify that no work or installation has commenced prior to the issuance of a permit and that all work will be performed to meet the standards of all laws regulating construction in this jurisdiction. I understand that a separate permit must be secured for ELECTRICAL WORK, PLUMBING, SIGNS, WELLS, POOLS, FURNACES, BOILERS, HEATERS, TANKS, and AIR CONDITIONERS, etc.

OWNER'S AFFIDAVIT: I certify that all the foregoing information is accurate and that all work will be done in compliance with all applicable laws regulating construction and zoning.

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE COMMENCING WORK OR RECORDING YOUR NOTICE OF COMMENCEMENT.

X _____
Signature of Property Owner or Agent

X _____
Signature of Qualifier

STATE OF FLORIDA
COUNTY OF BROWARD

STATE OF FLORIDA
COUNTY OF BROWARD

Sworn to (or affirmed) and subscribed before me this _____ day of _____, 20____ by _____

Sworn to (or affirmed) and subscribed before me this _____ day of _____, 20____ by _____

(Type / Print Property Owner or Agent Name)

(Type / Print Qualifier's Name)

NOTARY'S SIGNATURE as to Owner or Agent's Signature

NOTARY'S SIGNATURE as to Qualifier's Signature

Notary Name _____
(Print, Type or Stamp Notary's Name)

Notary Name _____
(Print, Type or Stamp Notary's Name)

Personally Known _____ or Produced Identification _____

Personally Known _____ or Produced Identification _____

Type of Identification Produced _____

Type of Identification Produced _____

APPROVED BY: _____ Permit Officer Issue Date: _____ Code in Effect: _____

A jurisdiction may use a supplemental page requesting additional information and citing other conditions, please inquire.
Note: If any development work as described in FS 380.04 Sec. 2 a-g is to be performed, a development permit must be obtained prior to the issuance of a building permit.

NAME: _____ SITE ADDRESS: _____ CONTACT #: _____

1	2	3		4		5		6		7		8		9		10	
OPENING LOCATION ID	PRODUCT ACCEPTANCE NUMBER	PRODUCT APPROVAL PRESSURE RATING		REQUIRED DESIGN PRESSURE		OPENING SIZES		ZONE LOCATION		Impact Glazing		OPENING HAS EXISTING SHUTTERS		NEW SHUTTERS REQUIRED		MULLION TUBES REQUIRED	
		(+) PSF	(-) PSF	(+) PSF	(-) PSF	WIDTH X HEIGHT IN INCHES	AREA IN SQ FEET	4 INTER	5 END	YES	NO	YES	NO	YES	NO	YES	NO
						X											
						X											
						X											
						X											
						X											
						X											
						X											
						X											
						X											
						X											

IDENTIFY OPENINGS ALPHABETICALLY OR NUMERICALLY ON ELEVATION SHEETS.

IDENTIFY VERTICALLY STACKED GLASS IN THE SAME OPENINGS FROM BOTTOM TO TOP WITH SUB NUMBERS (Example: A, A1, A2, ETC.).



BROWARD COUNTY BOARD OF RULES AND APPEALS

One North University Drive
Suite 3500-B
Plantation, Florida 33324
Phone: 954-765-4500
Fax: 954-765-4504
www.broward.org/codeappeals

FBC 6th Edition (2017) FORMAL INTERPRETATION (#5)

DATE: October 12, 2017
TO: All Building Officials
FROM: James DiPietro, Administrative Director 
SUBJECT: Retrofit of Windows, Doors, Garage Doors, Shutters and Skylights
FBC Existing Building, Alteration Level I

2017 Voting Members

Chair

Mr. Jeffrey Lucas, FM, CFI, CFEI
Fire Service Professional

Vice-Chair

Mr. Kenneth B. Wynn
Representative Disabled Community

Mr. John Famularo,
Roofing Contractor

Mrs. Shalanda Giles Nelson,
General Contractor

Mr. Daniel Lavrich, P.E.
Structural Engineer

Mr. Daniel Rourke
Master Plumber

Gregg D'Attilio,
Mechanical Contractor

Mr. Stephen E. Bailey, P.E.
Electrical Engineer

Mr. Ron Burr
Swimming Pool Contractor

Mr. John Sims,
Master Electrician

VACANT

Consumer Advocate

Mr. Abbas H. Zackria, CSI
Architect

Robert A. Kamm, P.E.
Mechanical Engineer

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Architect

Mr. Steven Feller, P.E.
Mechanical Engineer

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General Contractor

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Fire Service

Mr. Gary Elzweig, P.E.
Structural Engineer

Mr. David Rice, P.E.
Electrical Engineer

Mr. James Terry,
Master Plumber

Mr. David Tringo,
Master Electrician

Mr. William Flett,
Roofing Contractor

Board Attorney

Charles M. Kramer, Esq.

Board Administrative Director

James DiPietro

—Established 1971—

At its meeting of October 12th, 2017 the Board approved an interpretation of Retrofit of Windows, Doors, Garage Doors, Shutters and Skylights, for detached one and two family dwellings, and multiple single family dwellings, (townhouses) with common roof height < 30 feet.

1. A Florida Professional Engineer or Architect may modify the buck or fasteners as specified in a Notice of Acceptance. Such modification must be documented with a signed and sealed letter or drawing.

2. To obtain the required design pressure for a specific opening at a specific site, an individual must utilize one of the following and submit documentation as indicated.

a) A site-specific plan (signed and sealed) by a Florida Professional Engineer or Architect, indicating the location of all retro openings and the required design pressures.

b) A site-specific plan (not sealed) indicating the location of all retro openings accompanied by a worst case design pressure chart (signed and sealed) prepared by a Florida P.E. or Architect.

c) A site-specific plan (not sealed) indicating the location of all openings and indicating the required design pressures based on the Broward County Fenestration Voluntary Wind Load Chart. (see attached chart).

3. Buildings with a (height) > 30 feet or more shall have a site-specific design (signed and sealed) by a Florida Professional Engineer or Architect, indicating the location of all retro openings and the required design pressures for each opening.

NOTE: Generic charts, graphs alone, etc. are not acceptable for buildings above 30 feet.

ORIGINAL DATE: September 12, 2012

RE-ISSUED: October 12, 2017

EFFECTIVE DATE: January 1, 2018

****PLEASE POST AT YOUR PERMIT COUNTER****

Page 1 of 2 F.I. #5

Broward County Fenestration Voluntary Wind Load Chart*

Per ASCE 7-10 Method 1, Part 1 and FBC (2017) for Retrofitting in Accordance with Formal Interpretation #5

For Detached One-and Two family dwellings and Multiple Single-Family Dwellings (Townhouses) with Mean Roof Height ≤ 30 feet

Wind 170 mph (3-second gust) / Exposure C** / Kd = 0.85 / Kzt = 1.0 / Pressures are in PSF / Not for use in Coastal (Exposure 'D' areas)

* Using Allowable Stress Design methodology (P = 0.6w) / ** Exposure shall be determined according to ASCE 7-10 Section 26.7.3 (Exposure Categories)

Effective Wind Area (ft ²)	Location: Gable or Hip Roof	Mean Roof Height of 15 feet						Mean Roof Height of 20 feet						Mean Roof Height of 25 feet						Mean Roof Height of 30 feet					
		Zone						Zone						Zone						Zone					
		1		2		3		1		2		3		1		2		3		1		2		3	
		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
10	Gable/Hip Roof θ ≤ 7° (0 to 1.5:12)	16.0	-37.8	16.0	-63.4	16.0	-95.4	16.3	-40.2	16.3	-67.4	16.3	-101.4	17.1	-42.1	17.1	-70.6	17.1	-106.3	17.8	-43.7	17.8	-73.4	17.8	-110.4
20		16.0	-36.8	16.0	-56.7	16.0	-79.1	16.0	-39.1	16.0	-60.2	16.0	-84.0	16.0	-41.0	16.0	-63.1	16.0	-88.0	16.7	-42.6	16.7	-65.6	16.7	-91.5
50		16.0	-35.6	16.0	-47.7	16.0	-57.4	16.0	-37.8	16.0	-50.7	16.0	-61.0	16.0	-39.6	16.0	-53.2	16.0	-63.9	16.0	-41.1	16.0	-55.2	16.0	-66.4
100		16.0	-34.6	16.0	-41.0	16.0	-41.0	16.0	-36.8	16.0	-43.6	16.0	-43.6	16.0	-38.5	16.0	-45.7	16.0	-45.7	16.0	-40.0	16.0	-47.4	16.0	-47.4
10	Gable/Hip Roof*** 7° < θ ≤ 27° (1.5 to 6:12)	21.8	-34.6	21.8	-60.2	21.8	-89.0	23.1	-36.8	23.1	-64.0	23.1	-94.6	24.3	-38.5	24.3	-67.1	24.3	-99.2	25.2	-40.0	25.2	-69.7	25.2	-103.0
20		19.9	-33.6	19.9	-55.4	19.9	-83.3	21.1	-35.7	21.1	-58.9	21.1	-88.5	22.1	-37.4	22.1	-61.7	22.1	-92.7	23.0	-38.9	23.0	-64.1	23.0	-96.3
50		17.3	-32.4	17.3	-49.0	17.3	-75.6	18.4	-34.4	18.4	-52.1	18.4	-80.3	19.3	-36.0	19.3	-54.6	19.3	-84.2	20.0	-37.4	20.0	-56.7	20.0	-87.5
100		16.0	-31.4	16.0	-44.2	16.0	-69.8	16.3	-33.3	16.3	-47.0	16.3	-74.2	17.1	-35.0	17.1	-49.2	17.1	-77.8	17.8	-36.3	17.8	-51.1	17.8	-80.8
10	Gable Roof 27° < θ ≤ 45° (6 to 12:12)	34.6	-37.8	34.6	-44.2	34.6	-44.2	36.8	-40.2	36.8	-47.0	36.8	-47.0	38.5	-42.1	38.5	-49.2	38.5	-49.2	40.0	-43.7	40.0	-51.1	40.0	-51.1
20		33.6	-35.9	33.6	-42.3	33.6	-42.3	35.7	-38.1	35.7	-44.9	35.7	-44.9	37.4	-39.9	37.4	-47.1	37.4	-47.1	38.9	-41.5	38.9	-48.9	38.9	-48.9
50		32.4	-33.3	32.4	-39.7	32.4	-39.7	34.4	-35.4	34.4	-42.2	34.4	-42.2	36.0	-37.1	36.0	-44.2	36.0	-44.2	37.4	-38.6	37.4	-46.0	37.4	-46.0
100		31.4	-31.4	31.4	-37.8	31.4	-37.8	33.3	-33.3	33.3	-40.2	33.3	-40.2	35.0	-35.0	35.0	-42.1	35.0	-42.1	36.3	-36.3	36.3	-43.7	36.3	-43.7

*** For Hip Roofs with angle > 7 degrees (1.5:12) and ≤ 25 degrees (5.5:12), Zone 3 shall be treated as Zone 2 (Figure 30.4-2 B, Note 7, p. 337)

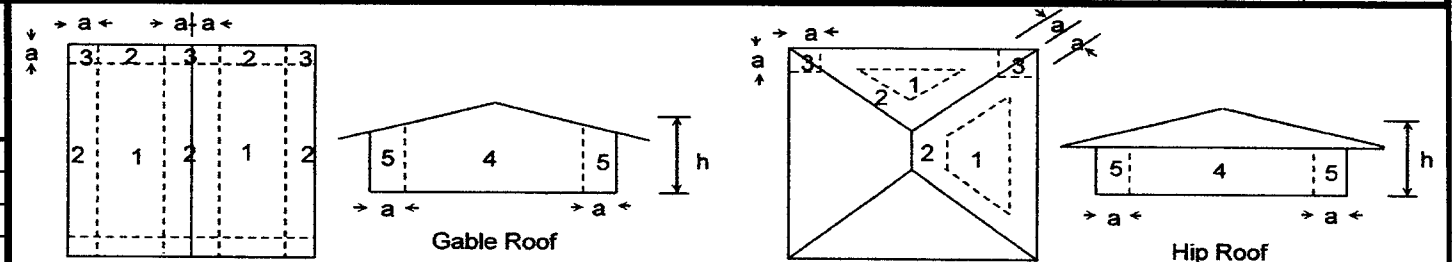
Effective Wind Area (ft ²)	Location	Mean Roof Height of 15 feet				Mean Roof Height of 20 feet				Mean Roof Height of 25 feet				Mean Roof Height of 30 feet			
		Zone				Zone				Zone				Zone			
		4		5		4		5		4		5		4		5	
		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
10	Wall	37.8	-41.0	37.8	-50.6	40.2	-43.6	40.2	-53.8	42.1	-45.7	42.1	-56.4	43.7	-47.4	43.7	-58.6
20		36.1	-39.3	36.1	-47.2	38.3	-41.7	38.3	-50.1	40.2	-43.8	40.2	-52.6	41.8	-45.5	41.8	-54.6
50		33.8	-37.0	33.8	-42.7	36.0	-39.4	36.0	-45.4	37.7	-41.3	37.7	-47.5	39.2	-42.9	39.2	-49.4
100		32.1	-35.3	32.1	-39.3	34.1	-37.5	34.1	-41.7	35.8	-39.4	35.8	-43.8	37.2	-40.9	37.2	-45.5
500		28.2	-31.4	28.2	-31.4	29.9	-33.3	29.9	-33.3	31.4	-35.0	31.4	-35.0	32.6	-36.3	32.6	-36.3

Garage Door Wind Loads

for a Building with 30-foot Mean Roof Height
Exposure C

Tables 1609.7(1) & (2), and Section 1609.3.1

Effective Wind Area		Roof Angle	Wind Load	
Width	Height		+	-
8	8	0 - 10 degrees	35.2	-39.8
10	10		34.1	-38.2
14	14		32.3	-36.1
9	7	> 10 degrees	38.4	-43.4
16	7		36.8	-41.0



For Effective Wind Areas between those given, values may be interpolated. Otherwise use the value associated with the lower Effective Wind Area.

End Zone (a) shall be the smaller of 10% of Least Hor. Dist. or 40% of Mean Roof Height ('h'), but not less than 4% of Least Hor. Dist. or 3 ft.

Identify the zone per the figure or information by others. Any questionable zone is to be considered the more critical zone.

Design is based on the 3-second gust (wind velocity) for Risk Category II (general residential & commercial construction) per FBC 1620.2 Broward. These tables not for use with essential facilities or assembly occupancies.