SECTION 1525
HIGH-VELOCITY HURRICANE ZONES—UNIFORM PERMIT APPLICATION

Florida Building Code 6th Edition (2017)
High-Velocity Hurricane Zone Uniform Permit Application Form

INSTRUCTION PAGE

COMPLETE THE NECESSARY SECTIONS OF THE UNIFORM ROOFING PERMIT APPLICATION FORM AND ATTACH THE REQUIRED DOCUMENTS AS NOTED BELOW:

Roof System	Required Sections of the Permit Application Form	Attachments Required See List Below
Low Slope Application	A,B,C	1,2,3,4,5,6,7
Prescriptive BUR-RAS 150	A,B,C	4,5,6,7
Asphaltic Shingles	A,B,D	1,2,4,5,6,7
Concrete or Clay Tile	A,B,D,E	1,2,3,4,5,6,7
Metal Roofs	A,B,D	1,2,3,4,5,6,7
Wood Shingles and Shakes	A,B,D	1,2,4,5,6,7
Other	As Applicable	1,2,3,4,5,6,7

ATTACHMENTS REQUIRED:

1.	Fire Directory Listing Page
2.	From Product Approval: Front Page Specific System Description Specific System Limitations General Limitations Applicable Detail Drawings
3.	Design Calculations per Chapter 16, or if applicable, RAS 127 or RAS 128
4.	Other Component of Product Approval
5.	Municipal Permit Application
6.	Owners Notification for Roofing Considerations (Reroofing Only)
7.	Any Required Roof Testing/Calculation Documentation

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Section A (General Information)

Master Permit No._____ Process No. _____

Contractor's Name_____

Job Address_____

ROOF CATEGORY

- ☐ Low Slope
- ☐ Asphaltic Shingles
- ☐ Mechanically Fastened Tile
- ☐ Metal Panel/Shingles
- ☐ Prescriptive BUR-RAS 150
- ☐ Mortar/Adhesive Set Tiles
- ☐ Wood Shingles/Shakes

ROOF TYPE

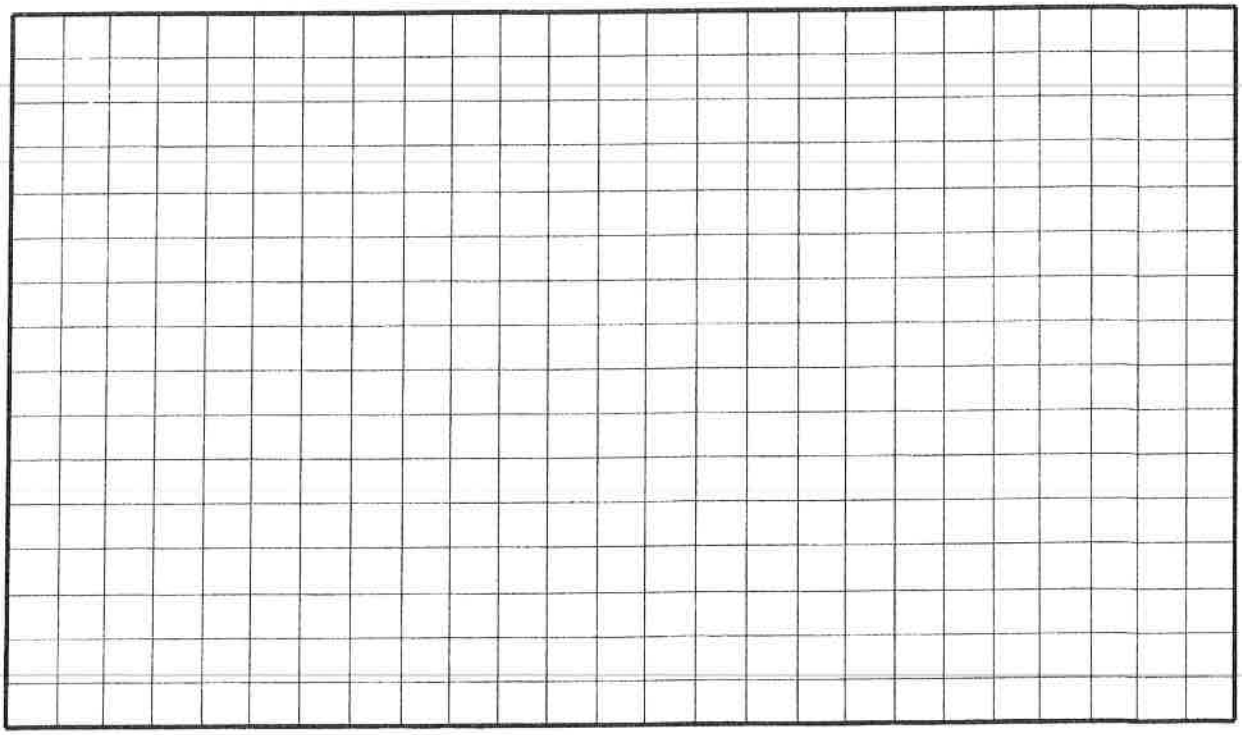
☐ New roof ☐ Repair ☐ Maintenance ☐ Reroofing ☐ Recovering

ROOF SYSTEM INFORMATION

Low Slope Roof Area (SF)_____ Steep Sloped Roof AREA (SSF)_____ Total (SF)_____

Section B (Roof Plan)

Sketch Roof Plan: Illustrate all levels and sections, roof drains, scuppers, overflow scuppers and overflow drains. Include dimensions of sections and levels, clearly identify dimensions of elevated pressure zones and location of parapets.



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Section C (Low Slope Application)

Fill in specific roof assembly components and identify manufacturer
(If a component is not used, identify as "NA")

System Manufacturer:_____

Product Approval No.:_____

Design Wind Pressures, From RAS 128 or Calculations:

P1:_____ P2:_____ P3:_____

Max. Design Pressure, from the specific product approval system:_____

Deck:

Type:_____

Gauge/Thickness:_____

Slope:_____

Anchor/Base Sheet & No. of Ply(s): _____

Anchor/Base Sheet Fastener/Bonding Material:
_____

Insulation Base Layer: _____

Base Insulation Size and Thickness: _____

Base Insulation Fastener/Bonding Material:
_____

Top Insulation Layer: _____

Top Insulation Size and Thickness: _____

Top Insulation Fastener/Bonding Material:
_____

Base Sheet(s) & No. of Ply(s): _____

Base Sheet Fastener/Bonding Material:
_____

Ply Sheet(s) & No. of Ply(s): _____

Ply Sheet Fastener/Bonding Material:
_____

Top Ply: _____

Top Ply Fastener/Bonding Material:
_____

Surfacing: _____

Fastener Spacing for Anchor/Base Sheet Attachment:

Field: ____" oc @ Lap, # Rows ____ @ ____" oc

Perimeter: ____" oc @ Lap, # Rows ___ @ ____" oc

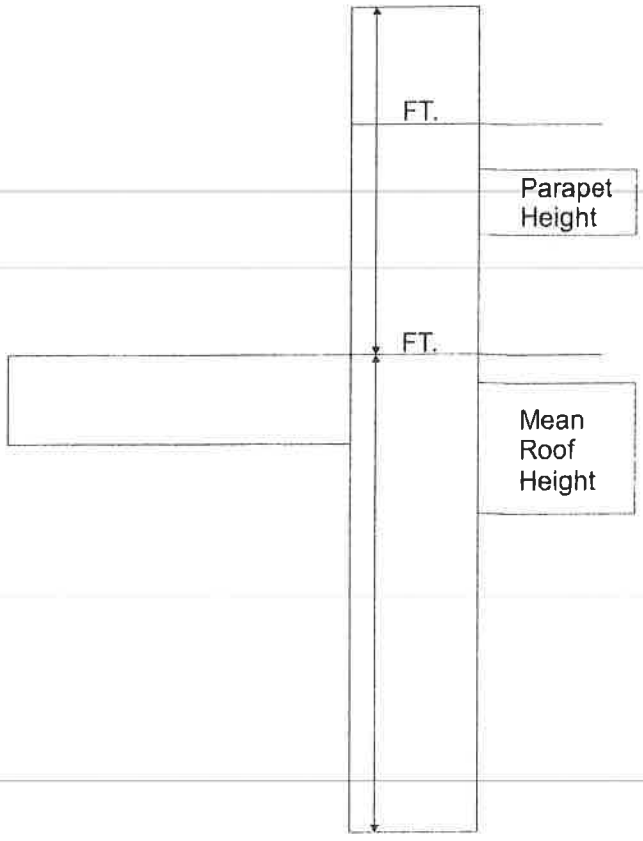
Corner: ____" oc @ Lap, # Rows ____ @ ____" oc

Number of Fasteners Per Insulation Board:

Field _____ Perimeter _____ Corner _____

Illustrate Components Noted and Details as Applicable:
Woodblocking, Gutter, Edge Termination, Stripping, Flashing, Continuous Cleat, Cant Strip, Base Flashing, Counterflashing, Coping, Etc.

Indicate: Mean Roof Height, Parapet Height, Height of Base Flashing, Component Material, Material Thickness, Fastener Type, Fastener Spacing or Submit Manufacturers Details that Comply with RAS 111 and Chapter 16.



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Section D (Steep Sloped Roof System)

Roof System Manufacturer: _____

Notice of Acceptance Number: _____

Minimum Design Wind Pressures, If Applicable (From RAS 127 or Calculations):

P1: _____ P1: _____ P1: _____

Roof Slope: _____: 12

Ridge Ventilation? _____

Mean Roof Height: _____

Deck Type:

Type Underlayment:

Insulation:

Fire Barrier:

Fastener Type & Spacing:

Adhesive Type:

Type Cap Sheet:

Roof Covering:

Type & Size Drip Edge:

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Section E (Tile Calculations)

For Moment based tile systems, choose either Method 1 or 2. Compare the values for M_r with the values from M_f. If the M_f values are greater than or equal to the M_r values, for each area of the roof, then the tile attachment method is acceptable.

Method 1 "Moment Based Tile Calculations Per RAS 127"

(P1:____ x λ ____ = ____) – Mg: ____ = M_{r1} ____ Product Approval M_f _____

(P2:____ xλ ____ = ____) – Mg: ____ = M_{r2} ____ Product Approval M_f _____

(P3:____ xλ ____ = ____) – Mg: ____ = M_{r3} ____ Product Approval M_f _____

Method 2 "Simplified Tile Calculations Per Table Below"

Required Moment of Resistance (M_r) From Table Below _____ Product Approval M_f _____

M_r required Moment Resistance*					
Mean Roof Height Roof Slope	15′	20′	25′	30′	40′
2:12	34.4	36.5	38.2	39.7	42.2
3:12	32.2	34.4	36.0	37.4	39.8
4:12	30.4	32.2	33.8	35.1	37.3
5:12	28.4	30.1	31.6	32.8	34.9
6:12	26.4	28.0	29.4	30.5	32.4
7:12	24.4	25.9	27.1	28.2	30.0

*Must be used in conjunction with a list of moment based tile systems endorsed by the Broward County Board of Rules and Appeals.

For Uplift based tile systems use Method 3. Compared the values for F' with the values for Fr. If the F' values are greater than or equal to the Fr values, for each area of the roof, then the tile attachment method is acceptable.

Method 3 "Uplift Based Tile Calculations Per RAS 127"

(P1:____ x L ____ = ____ x w: = ____) – W: ____ x cos Θ ____ = F_{r1} ____ Product Approval F' _____

(P2:____ x L ____ = ____ x w: = ____) – W: ____ x cos Θ ____ = F_{r2} ____ Product Approval F' _____

(P3:____ x L ____ = ____ x w: = ____) – W: ____ x cos Θ ____ = F_{r3} ____ Product Approval F' _____

Where to Obtain Information		
Description	**Symbol**	**Where to find**
Design Pressure	P1 or P2 or P3	RAS 127 Table 1 or by an engineering analysis prepared by PE based on ASCE 7
Mean Roof Height	H	Job Site
Roof Slope	Θ	Job Site
Aerodynamic Multiplier	λ	Product Approval
Restoring Moment due to Gravity	M_g	Product Approval
Attachment Resistance	M_f	Product Approval
Required Moment Resistance	M_g	Calculated
Minimum Attachment Resistance	F'	Product Approval
Required Uplift Resistance	F_r	Calculated
Average Tile Weight	W	Product Approval
Tile Dimensions	L = length W = width	Product Approval
All calculations must be submitted to the building official at the time of permit application.		

ROOFING APPLICATION STANDARD (RAS) No. 127

PROCEDURE FOR DETERMINING THE MOMENT OF RESISTANCE AND MINIMUM CHARACTERISTIC RESISTANCE LOAD TO INSTALL A TILE SYSTEM ON A BUILDING OF A SPECIFIED ROOF SLOPE AND HEIGHT

1. Scope

This standard covers the procedure for determining the Moment of Resistance (M_r) and Minimum Characteristic Resistance Load (F') to install a tile system on buildings of a specified roof slope and height. Compliance with the requirements and procedures herein specified, where the pressures (P_{asd}) have been determined based on Table 1 or Table 2 of this standard, as applicable, do not require additional signed and sealed engineering design calculation. All other calculations must be prepared, signed and sealed by a professional engineer or registered architect. Table 1 is applicable to a wind speed of 175 mph, risk category II buildings, and exposure category C. Table 2 is applicable to a wind speed of 175 mph, risk category II buildings, and exposure category D.

2. How to determine the Moment Resistance (M_r) (Moment Based Systems)

2.1 Determine the minimum design wind pressures for the field, perimeter and corner areas ($P_{asd}1$, $P_{asd}2$ and $P_{asd}3$, respectively) using the values given in Table 1 or Table 2, as applicable, or those obtained by engineering analysis prepared, signed and sealed by a professional engineer or registered architect based on ASCE 7.

2.2 Locate the aerodynamic multiplier (λ) in tile Product Approval.

2.3 Determine the restoring moment due to gravity (M_g) per Product Approval.

2.4 Determine the attachment resistance (M_f) per Product Approval.

2.5 Determine the Moment of Resistance (M_r) per following formula:

$$M_r = (P_{asd} \times \lambda) - M_g$$

2.6 Compare the values for M_r, with the values for M_f, noted in the Product Approval. If the M_f values are greater than or equal to the M_r values, for each area of the roof [i.e., field $P_{asd}(1)$, perimeter $P_{asd}(2)$ and corner $P_{asd}(3)$ areas], then the tile attachment method is acceptable.

3. How to determine the Minimum Characteristic Resistance Load (F') (Uplift Based System)

3.1 Determine the minimum design pressures for the field, perimeter and corner areas [$P_{asd}(1)$, $P_{asd}(2)$ and $P_{asd}(3)$, respectively] using the values given in Table 1 or Table 2, as applicable, or those obtained by engineering analysis prepared, signed and sealed by a professional engineer or registered architect based on the criteria set forth in ASCE 7.

3.2 Determine the angle (θ) of roof slope, from Table 1 or Table 2, as applicable.

3.3 Determine the length (l), width (w) and average tile weight (W) of tile, per Product Approval.

3.4 Determine the required uplift resistance (F_r) per following formula:

$$F_r = [(P_{asd} \times l \times w) - W] \times \cos \theta$$

3.5 Compare the values for F_r with the values for F' noted in the Product Approval. If the F' values are greater than or equal to the F_r values, for each area of roof [i.e., field $P_{asd}(1)$ perimeter ($P_{asd}(2)$ and corner $P_{asd}(3)$ areas], then the tile attachment method is acceptable.

TABLE 1 — RISK CATEGORY II EXPOSURE CATEGORY "C"[1] MINIMUM DESIGN WIND UPLIFT PRESSURES IN PSF FOR FIELD [$P_{asd}(1)$], PERIMETER [$P_{asd}(2)$] AND CORNER [$P_{asd}(3)$] AREAS OF ROOFS FOR EXPOSURE C BUILDINGS WITH A ROOF MEAN HEIGHT AS SPECIFIED[3]					
ROOF SLOPE	> 2:12 to ≤ 6:12			> 6:12 to ≤12:12	
Roof mean height	$P_{asd}(1)$	$P_{asd}(2)$	$P_{asd}(3)^2$	$P_{asd}(1)$	$P_{asd}(2)$ & $P_{asd}(3)$
≤ 20'	-39.1	-68.1	-100.7	-42.8	-50.0
> 20' to ≤ 25'	-40.9	-71.3	-105.4	-44.8	-52.3
> 25' to ≤ 30'	-42.4	-73.9	-109.3	-46.4	-54.3
> 30' to ≤ 35'	-43.9	-76.6	-113.2	-48.1	-56.2
> 35' to ≤ 40'	-45.1	-78.7	-116.3	-49.4	-57.8

[1] Calculated in accordance with ASCE.

[2] For Hip Roofs with slope ≤ 5.5:12, $P_{asd}(3)$ shall be treated as $P_{asd}(2)$.

[3] $P_{asd} = 0.6P_{ult}$

TABLE 2 — RISK CATEGORY II EXPOSURE CATEGORY "D"[1] MINIMUM DESIGN WIND UPLIFT PRESSURES IN PSF FOR FIELD [$P_{asd}(1)$], PERIMETER [$P_{asd}(2)$] AND CORNER [$P_{asd}(3)$] AREAS OF ROOFS FOR EXPOSURE D BUILDINGS WITH A ROOF MEAN HEIGHT AS SPECIFIED[3]					
ROOF SLOPE	> 2:12 to ≤ 6:12			> 6:12 to ≤12:12	
Roof mean height	$P_{asd}(1)$	$P_{asd}(2)$	$P_{asd}(3)^2$	$P_{asd}(1)$	$P_{asd}(2)$ & $P_{asd}(3)$
≤ 20'	-47.0	-81.9	-121.0	-51.4	-60.1
> 20' to ≤ 25'	-48.8	-85.0	-125.7	-53.4	-62.4
> 25' to ≤ 30'	-50.3	-87.7	-129.6	-55.0	-64.4
> 30' to ≤ 35'	-51.5	-89.9	-132.7	-56.4	-65.9
> 35' to ≤ 40'	-52.7	-91.9	-135.8	-57.7	-67.9

[1] Calculated in accordance with ASCE 7.

[2] For Hip Roofs with slope ≤ 5.5:12, $P_{asd}(3)$ shall be treated as $P_{asd}(2)$.

[3] $P_{asd} = 0.6P_{ult}$

TABLE 3 WHERE TO OBTAIN INFORMATION		
Description	**Symbol**	**Where to find**
Design Pressure	$P_{asd}(1)$ or $P_{asd}(2)$ or $P_{asd}(3)$	Table 1 or Table 2, as applicable, or by an engineer analysis prepared, signed and sealed by a professional engineer based on ASCE 7
Mean Roof Height	H	Job Site
Roof Slope	θ	Job Site
Aerodynamic Multiplier	λ	Product Approval
Restoring Moment due to Gravity	M_g	Product Approval
Attachment Resistance	M_f	Product Approval
Required Moment Resistance	M_r	Calculated
Minimum Characteristic Resistance Load	F'	Product Approval
Required Uplift Resistance	F_r	Calculated
Average Tile Weight	W	Product Approval
Tile Dimensions	l = length w = width	Product Approval

All calculations must be submitted to the building official at the time of permitting.

ROOFING APPLICATION STANDARD (RAS) No. 128

STANDARD PROCEDURE FOR DETERMINING APPLICABLE WIND DESIGN PRESSURES FOR LOW SLOPE ROOF

1. Scope

1.1 This roofing application standard has been developed to provide a responsive method of complying with the requirements of Chapters 15 & 16 (High-Velocity Hurricane Zones) of the *Florida Building Code, Building*. Compliance with the requirements and procedures herein specified, where the pressures (P_{asd}) have been determined based on Table 1 or 2, of this standard, as applicable, do not require additional signed and sealed engineering design calculations. All other calculations must be prepared, signed and sealed by a professional engineer or registered architect.

2. Definitions

2.1 For definitions of terms used in this application standard, refer to ASTM D1079 and the *Florida Building Code, Building*.

3. Applicability

3.1 This application standard applies to:
- a. exposure C and D category buildings; and
- b. building heights of less than or equal to 40 feet; and
- c. roof incline (pitch) is not greater than $^1/_2$ in.:12 in.
- d. risk category II buildings.

3.2 Using Table 1 or 2 below, as applicable, determine the minimum design pressure for each respective roof area, which corresponds to the applicable roof height range.

3.3 Referencing the selected Roof Assembly Product Approval, check that the listed maximum allowable design pressure for the particular approved system meets or exceeds those listed in Table 1 or Table 2 above, as applicable.

TABLE 1 — RISK CATEGORY II EXPOSURE CATEGORY "C"[1, 2]
MINIMUM DESIGN WIND UPLIFT PRESSURES, IN PSF FOR FIELD [$P_{asd}(1)$], PERIMETER [$P_{asd}(2)$] AND CORNER [$P_{asd}(3)$] AREAS OF ROOFS FOR EXPOSURE "C" BUILDINGS

Roof mean height (below)	$P_{asd}(1)$ (Field)	$P_{asd}(2)$ (Perimeter)	$P_{asd}(3)$ (Corners)
20	-42.8	-71.7	-108.0
25	-44.8	-75.1	-113.0
30	-46.4	-77.8	-117.2
35	-48.1	-80.6	-121.3
40	-49.4	-82.9	-124.7

[1] Calculated in accordance with ASCE 7.
[2] $P_{asd} = 0.6P_{ult}$

TABLE 2 — RISK CATEGORY II EXPOSURE CATEGORY "D"[1, 2] MINIMUM DESIGN WIND UPLIFT PRESSURES, IN PSF FOR FIELD [$P_{asd}(1)$], PERIMETER [$P_{asd}(2)$] AND CORNER [$P_{asd}(3)$] AREAS OF ROOFS FOR EXPOSURE "D" BUILDINGS			
Roof mean height (below)	$P_{asd}(1)$ (Field)	$P_{asd}(2)$ (Perimeter)	$P_{asd}(3)$ (Corners)
20	-51.4	-86.2	-129.7
25	-53.4	-89.5	-134.7
30	-55.0	-92.3	-138.9
35	-56.4	-94.5	-142.3
40	-57.7	-96.8	-145.6

[1] Calculated in accordance with ASCE 7.
[2] $P_{asd} = 0.6P_{ult}$

CHAPTER 15, SECTION 1524
HIGH VELOCITY HURRICANE ZONES
REQUIRED OWNERS NOTIFICATION FOR ROOFING CONSIDERATIONS

1524.1 Scope. As it pertains to this section, it is the responsibility of the roofing contractor to provide the owner with the required roofing permit, and to explain to the owner the content of this section. The provisions of Chapter 15 of the *Florida Building Code, Building* govern the minimum requirements and standards of the industry for roofing system installations. Additionally, the following items should be addressed as part of the agreement between the owner and the contractor. The owner's initials in the designated space indicates that the item has been explained.

_____ 1. **Aesthetics-workmanship:** The workmanship provisions of Chapter 15 (High-Velocity Hurricane Zone) are for the purpose of providing the roofing system meets the wind resistance and water intrusion performance standards. Aesthetics (appearance) are not a consideration with respect to workmanship provisions. Aesthetic issues such as color or architectural appearance, that are not part of a zoning code should be addressed as part of the agreement between the owner and the contractor.

_____ 2. **Renailing wood decks:** When replacing roofing, the existing wood roof deck may have to be renailed in accordance with current provisions of Chapter 16 (High-Velocity Hurricane Zones) of the *Florida Building Code, Building*. (The roof deck is usually concealed prior to Removing the existing roof system.)

_____ 3. **Common roofs:** Common roofs are those which have no visible delineation between neighboring units (ie., townhouses, condominiums, etc.). In buildings with common roofs, the roofing contractor and/or owner should notify the occupants of adjacent units of roofing work to be performed.

_____ 4. **Exposed ceilings:** Exposed, open beam ceilings are where the underside of the roof decking can be viewed from below. The owner may wish to maintain the architectural appearance; therefore, roofing nail penetrations of the underside of the decking may not be acceptable. The owner provides the option of maintaining this appearance.

_____ 5. **Ponding water:** The current roof system and/or deck of the building may not drain well and may cause water to pond (accumulate) in low-lying areas of the roof. Ponding can be an indication of structural distress and may require the review of a professional structural engineer. Ponding may shorten the life expectancy and performance of the new roofing system. Ponding conditions may not be evident until the original roofing system is removed. Ponding conditions should be corrected.

_____ 6. **Overflow scuppers (wall outlets):** It is required that rainwater flow off so that the roof is not overloaded from a buildup of water. Perimeter/edge walls or other roof extensions may block this discharge if overflow scuppers wall outlets) are not provided. It may be necessary to install overflow scuppers in accordance with the requirements of: Chapters 16 and 16 herein and the *Florida Building Code, Plumbing*.

_____ 7. **Ventilation:** Most roof structures should have some ability to vent natural airflow through the interior of the structural assembly (the building itself). The existing amount of attic ventilation shall not be reduced.

Exception: Attic spaces, designed by a Florida-licensed engineer or registered architect to eliminate the attic venting, venting shall not be required.

Owner's/Agent's Signature Date Contractor's Signature

JOB ADDRESS: _____ PERMIT #_____

Complete the re-nailing affidavit and provide two copies signed and sealed prior to Final.

Re-Nailing Affidavit

I am ☐ Florida Prof. Engineer, ☐ Reg. Architect, ☐ Licensed General Contractor
☐ Building Contractor, ☐ Residential Contractor, ☐ Roofing Contractor or
☐ Person certified in the structural discipline under FS 468. License #_____

I here by certify that the existing or supplemental fasteners have satisfied the requirements of table 201.1 (8d round head ring shank @ 6 " o.c. Max).

I hereby certify that a secondary water barrier has been provided as required by Section 201.2 2.01.2. A secondary water barrier is installed using one of the following methods.

☐ All joints in roof sheathing shall be covered with a minimum 4" wide strip of self-adhering polymer modified bitumen tape applied directly to the sheathing. (This method is not acceptable on board sheathed roofs)

☐ The 30# ASTM D226 or 30# ASTM D2626 tin tagged per the HVHZ Code shall be covered with an approved self-adhering polymer modified bitumen cap sheet.

☐ The 30# ASTM D226 or 30# ASTM D2626 tin tagged per the HVHZ Code shall be covered with an approved cap sheet applied using an approved hot-mop application. (Owner-builder may not choose this option)

_____ _____
Certifier Signature Date

Sworn to and subscribed before me this _____ day of _____, 200___ by

_____ Produced as ID _____

_____
Notary Public, State of Florida