

**Architectural Review Board Application  
Full Board Review**

City of  
**Pensacola**  
America's First Settlement  
And Most Historic City



Application Date: Aug 25, 2022

Project Address: 315 W Blount Street

Applicant: William G. Robertson Jr.

Applicant's Address: 315 W Blount St.

Email: Covingtonmedical@gmail.com Phone: 985 630 8404

Property Owner: \_\_\_\_\_

District: ☒ PHD ☐ NHPD ☐ OEHPD ☐ PHBD ☐ GCD  
(If different from Applicant)

Application is hereby made for the project as described herein:

- ☐ Residential Homestead – \$50.00 hearing fee  
☐ Commercial/Other Residential – \$250.00 hearing fee

\* An application shall be scheduled to be heard once all required materials have been submitted and it is deemed complete by the Secretary to the Board. You will need to include ten (10) copies of the required information. Please see pages 3 – 4 of this application for further instruction and information.

**Project specifics/description:**

Install Garage Doors For 2 Car Port  
under West End Rear of my home.  
For ability to secure my garage  
Items, and provide weather protection  
in Flood and high winds.

I, the undersigned applicant, understand that payment of these fees does not entitle me to approval and that no refund of these fees will be made. I have reviewed the applicable zoning requirements and understand that I must be present on the date of the Architectural Review Board meeting.

William G. Robertson Jr.  
Applicant Signature

Aug 25, 2022  
Date

William G. Robertson Jr  
315 W Blount Street  
Pensacola, Florida 32501

August 31, 2022

To: Pensacola Architectural Review Board  
Re: 315 W. Blount St Garage Door Installation

Good Afternoon,

Thank you for hearing our request on August 18, 2022 for approval to install electric roll down shutters on our two garage door openings at the rear of our home purchased on February 1 , 2022.

As you know, this house has two open bays under the house which would normally be used as a two car garage. For whatever reason, doors were not installed when built as I am sure it was a simpler time in 1964. However, it has become clear to me that we really need more protection for the property. This is a very busy corner at Blount and Reus with not only vehicle but pedestrian traffic at all hours. I have recently ordered outside cameras and lighting to be installed soon. The open bays leave us exposed to anyone wanting to enter the bays which contain the usual garage essentials, power tools, yard equipment, lawnmowers, etc. There is also a door inside the bay which allows access to our bottom floor right next to the stairs leading to our living areas.

Another concern is the flooding that occurs here on our lot as we are not only approximately 6ft below street level at the garage area, but this block was apparently built over a preexisting pond and we all require pumps and generators for heavy rain. We moved here in February and we have already experienced water intrusion on the first floor and paid thousands to have drainage improvements in the back. The garage doors we are requesting are hurricane rated and have guards against water intrusion under the doors.

I have owned several houses along with a medical equipment business which also involved construction matters. When looking into garage door options I contacted one of my construction resources to find a solution. Because the bays were not built for garage doors we are left with limited interior and overhead space available. After reviewing several options, including those proposed by the board, we have come up with the following conclusions for each proposed remedy:

### **STANDARD OVERHEAD DOORS**

I contacted Overhead Garage Door company of Pensacola who I had contracted with on my other homes in Gulf Breeze and Pensacola Beach . They measured and concluded that the ceiling was too low for any overhead system.

### **SWING DOOR GARAGE DOOR OPENER**

Again, we have the overhead door clearance limitations. Also, doors cannot swing outward as that will limit our parking spaces. We have more than two vehicles and would have to move the ones parked outside away from the doors every time we wanted to open or close them. Nothing we found was hurricane rated or prevented water intrusion.

### **SIDE SECTIONAL**

Although this sounds like a good idea, again, the limited size of the bays does not allow for the space required for the all-around horizontal tracks and doors. There is a structural beam in the middle of the bays which prevents moving a vehicle further from the side walls. Once a vehicle is pulled in we would not be able to open the doors. Also, one side wall has a window and the other has the door to enter the first floor which would be obstructed. Again, not hurricane rated or protection from water intrusion.

### **SIDE SLIDING GARAGE DOORS**

Same as above.

## **CARRIAGE/BARN DOOR STYLE DOORS**

The the only way to construct outward wood swing doors is to have a carpenter build four swing doors which would not be high wind proof or prevent water intrusion. Electrical opening cylinders on these doors would fold up behind the cars restricting car length for our SUV's. Also doors would open outward restricting parking and any custom made door would not seal along the bottom which would allow my first floor to flood during our high rains. The cost alone would be prohibitive.

## **BIFOLD DOORS (as used in airport hangers)**

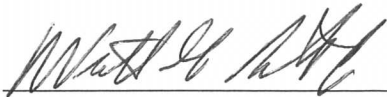
This was also mentioned by the board, however, again, they would be custom built, would not open enough for a car on the left and right sides and would not prevent water intrusion. There is also no room inside or outside for any motor system to operate the door.

## **HURRICANE RATED ROLL UP DOORS**

The model we are requesting is not only hurricane rated, but is sealed at the bottom to prevent water intrusion. The motor is serviceable locally by a Pensacola company. After speaking further with our installer, the motor box can be mounted inside saving any damage to the existing brick outside. The height limit will still be restrictive but our SUV's would be able to get inside. Also, the doors will be coated in a matching color to the existing exterior brick. The temporary plywood doors we have as an enclosure now are painted to match and not one person has had a complaint or even noticed as it is not very visible from the street. One neighbor, however, asked if we got new garage doors!

All in all, we really love the house, the neighborhood and our new neighbors and do not intend to put up anything "tacky" to take away from the aesthetic of the house or area. We are just trying to bring more safety and peace of mind to our new home.

Thank you for your consideration.

A handwritten signature in dark ink, appearing to read "William G. Robertson Jr.", written over a horizontal line.

William G Robertson Jr.



W. Blount St View



no ceiling height



boarded up garage door openings

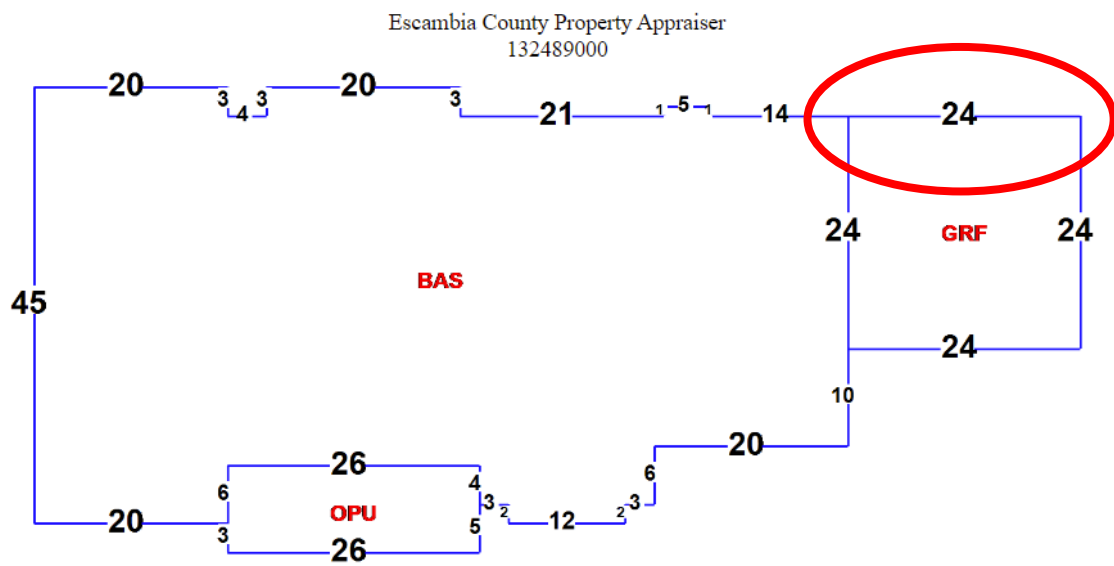


n. Reus St driveway entrance

Hedge to be trimmed higher



N. Reus ST View



Example images





# Aluminum Roll Shutters



Available through . . .

## Town & Country

INDUSTRIES  
Wholesale Aluminum and Building Products

A Division of ABC Supply Co., Inc.

TCI105 (5/15)

# EA 44mm & MS 56mm Aluminum Roll Shutters

Engineered to be the best, Town & Country's EA 44mm and MS 56mm End Retention Roll Shutters are designed for strength and beauty. Our product has been rigorously tested and the MS 56mm can achieve widths up to 256" and heights up to 252". Our versatile systems offer you a choice of vented or non-vented EA 44mm & MS 56mm slats, in four (4) colors, combined with a wide array of electronic motors and controls that will seamlessly integrate with your shutters.

Our Rolling Shutters will provide your home or business with unparalleled comfort and convenience while affording you maximum protection against intruders and harsh elements.

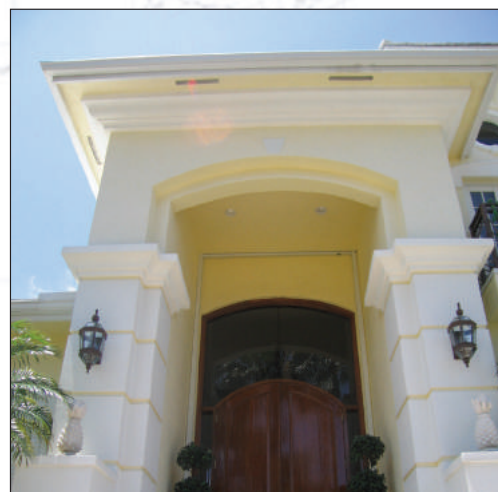
Town & Country's MS 56mm Aluminum Roll Shutters have some of the industry's highest *LOAD BEARING* capacities. The design of the End Retention System is so strong that a 9.5' wide x 20' tall shutter is capable of withstanding over 22,000-lbs. of test load pressure.

## *Aluminum Roll Shutters provide a wide array of benefits:*

- End Retention and Non-End Retention.
- EA 44mm and MS 56mm End and MS 56mm Non-Vented Slats available.
- MS 56mm available in sizes up to 256" in width and 252" in height.
- EA 44mm available in sizes up to 146.5" in width.
- Colors Available: White, Beige, Ivory, and Bronze.
- Motorization available with Eyewall Armor® tubular motors from 20Nm-300Nm and wireless electronics which accommodate a wide range of applications.
- EA 44mm has an ultra compact roll diameter allowing 72" openings in a 7" box and up to 108" in an 8" box.
- Recommended for doors, windows, porches, lanais, balconies, storefronts and more.

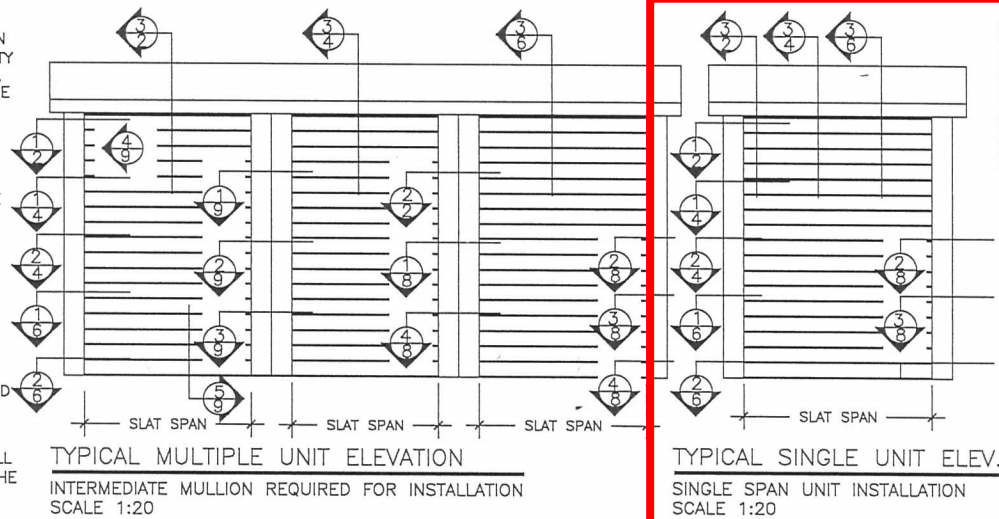


[www.eyewallarmor.com](http://www.eyewallarmor.com)



# STRUCTURAL NOTES:

- THIS NON POROUS SYSTEM HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2020 EDITION OF THE FLORIDA BUILDING CODE (FBC) . THIS SYSTEM SHALL NOT BE INSTALLED IN THE HIGH VELOCITY HURRICANE ZONE (MIAMI-DADE/ BROWARD COUNTIES), NOR WIND ZONE 4 NOR ESSENTIAL FACILITIES I. THE ADEQUACY FOR IMPACT, DEFLECTION AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE ABOVE REFERENCED CODE, AND ASTM E330-02, ASTM E1886-05 AND ASTM E1996-06. SEE LIST OF REPORTS ON SHEET 1 OF 11.
  - DESIGN PRESSURE REQUIREMENTS OF A SPECIFIC SITE SHALL BE DETERMINED BY OTHERS IN CONFORMANCE TO THE FBC FOR A BASIC WIND SPEED (ALLOWABLE STRESS DESIGN) AS REQUIRED BY THE JURISDICTION WHERE THE SYSTEM WILL BE INSTALLED. ULTIMATE DESIGN LOADS (UD) DETERMINED BY ASCE 7-16 SHALL BE REDUCED TO ALLOWABLE STRESS DESIGN LOADS (ASD) BY MULTIPLYING THE UD BY 0.6. TO COMPARE THEM TO THE ASD PRESSURE RATINGS SHOWN ON SHEETS 3, 5 & 7 OF 11. USE OF DIRECTIONALITY FACTOR  $K_d=0.85$  IS ALLOWED.
  - IMPACT AND FATIGUE RESISTANCE HAS BEEN DETERMINED IN ACCORDANCE WITH THE FBC SECTION 1626 LARGE MISSILE AND 1609.1.2 MISSILE TYPE "D" AS LISTED HEREIN.
  - NO  $33\frac{1}{3}\%$  INCREASE IN ALLOWABLE STRESS INCREASE HAS BEEN USED IN THE DESIGN OF THIS PRODUCT.
  - THIS PRODUCT EVALUATION DOCUMENT (PED) DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. IF SITE CONDITIONS DEVIATE FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS TO BE USED IN CONJUNCTION WITH THIS DOCUMENT.
  - THE CONTRACTOR AND / OR PERMIT HOLDER IS TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS SYSTEM, INCLUDING VERIFYING THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND THE NEW SUPERIMPOSED LOADS SHOWN BELOW AND THE SOUNDNESS OF THE STRUCTURE WHERE THE SYSTEM IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE.
  - SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA LICENSED ENGINEER OR ARCHITECT WHO WILL BECOME THE ENGINEER OF RECORD (EOR) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE PED. THE ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE PED ENGINEER SHALL SUBMIT TO THIS ENGINEER THE SITE SPECIFIC DRAWINGS FOR REVIEW.
  - THIS PED SHALL BEAR THE DATE AND ORIGINAL SEAL OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT REGARDLESS OF ITS AVAILABILITY FROM THE FLORIDA PRODUCT APPROVAL WEBSITE.
  - AN OPTIONAL UV AND / OR SOLAR EXTERNAL LAYER MAY BE ADDED ONTO THE SYSTEM.
  - LIMITATIONS OF USE:  
THE MAXIMUM SIZE SHALL BE SHOWN ON SHEETS 3, 5 & 7 OF 11.  
MAXIMUM HEIGHT OF ROLL-UP SHALL BE 15'-0".
  - FOR DETERMINING INTERNAL PRESSURE IN THE ABOVE REFERENCED CODES, THIS PRODUCT IS CLASSIFIED AS NON-POROUS WITH A POROSITY OF LESS THAN 10% FOR THE CONDITIONS SHOWN IN THIS PRODUCT EVALUATION DOCUMENT. THIS PRODUCT MUST COMPLETELY COVER AN OPENING IN ALL DIRECTIONS.
  - ALL SCREWS TO BE STAINLESS STEEL 304 OR GALVANIZED A307 STEEL.
  - ALL BOLTS TO BE ASTM A307, GALVANIZED OR 304 SERIES STAINLESS STEEL.
  - SUPPORT BRACKETS AND ANCHORS :  
A. ANCHORS INTO THE SUPPORT SUBSTRUCTURE (WALL, CEILINGS, BEAMS AND FLOORS) SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS.  
B. THE ANCHOR SPACING SHOWN ON SHEETS 3, 5, & 7 OF 11 INDICATED FOR 1/4" and 3/8" DIAMETERS REFER TO CENTER OF SUPPORTING BRACKETS.  
C. ANCHOR MINIMUM EMBEDMENT AND EDGE DISTANCES
- | SUBSTRUCTURE                     | EMBEDMENT  | EDGE DISTANCE      |
|----------------------------------|------------|--------------------|
| HOLLOW BLOCK                     | 1-1/4 INCH | 12 D OR PER MANUF. |
| GROUT FILLED OR KSI CONCRETE     | 1-3/4 INCH | 12 D OR PER MANUF. |
| 4 KSI CONCRETE OR 2 KSI CONCRETE | 1-3/4 INCH | 12 D OR PER MANUF. |
| WOOD OR TIMBER                   | 8 D        | 3/4 INCH           |
- NO EMBEDMENT INTO NON-STRUCTURAL MATERIAL SUCH AS STUCCO, SIDING AND PAVERS SHALL BE INCLUDED AS PART OF THE EMBEDMENT REQUIREMENT.
  - STEEL SURFACES TO BE PLACED IN CONTACT WITH ALUMINUM SHALL BE GIVEN ONE COAT OF ZINC CHROMATE PRIMER IN ACCORDANCE WITH FEDERAL SPEC NO.: TTP-645, OR BE GALVANIZED.
  - MAXIMUM DESIGN PRESSURE VERSUS PANEL SPAN SHOWN ON SHEETS 3, 5 & 7 OF 11.
  - ALL ALUMINUM ALLOYS SHALL BE 6063-T6 OR 6005-T6 U.N.O.
  - ANCHORING OR LOADING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
  - MANUFACTURER LABEL SHALL BE PLACED ON A READILY AND VISIBLE LOCATION ON THE ROLL-UP. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABEL SHALL READ AS FOLLOWS:  
National Approved Shutter Assn LLC  
8717 NW 117 St; Suite 1  
Hialeah Gardens, FL 33018  
FLORIDA PRODUCT APPROVAL NUMBER: FL-XXXX. OPENING NO.: XX
  - THIS DOCUMENT IN ITS ENTIRETY WILL BE CONSIDERED INVALID IF IT IS ALTERED BY ANY MEANS OR DOES NOT BEAR THE DATE AND ORIGINAL SEAL OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.



## LIST OF REPORTS

EVALUATION BASED ON:  
ARCHITECTURAL TESTING INC.

LAB NO.: B4522.01-401-18  
DATED 12/16/2011

TAS 201, TAS 203 - LARGE MISSILE IMPACT RESISTANCE & CYCLIC LOADING PERFORMANCE  
TAS 202 - UNIFORM STATIC LOADS

LAB NO.: B4519.01-401-18  
DATED 02/02/2012

TAS 201, TAS 203 - LARGE MISSILE IMPACT RESISTANCE & CYCLIC LOADING PERFORMANCE  
TAS 202 - UNIFORM STATIC LOADS

LAB NO.: B4521.02-401-44  
DATED 02/22/2012

ASTM E330-02 - UNIFORM STATIC LOADS  
ASTM E1886-05 & ASTM E1996-06 - LARGE MISSILE TYPE "D" IMPACT RESISTANCE & CYCLIC LOADING PERFORMANCE

LAB NO.: B4520.02-401-44  
DATED 02/22/2012

ASTM E330-02 - UNIFORM STATIC LOADS  
ASTM E1886-05 & ASTM E1996-06 - LARGE MISSILE TYPE "D" IMPACT RESISTANCE & CYCLIC LOADING PERFORMANCE

## SPAN SCHEDULE

### END RETENTION SHUTTER

SLAT SPAN	ALLOWABLE DESIGN PRESSURE
84.0"	+/- 120.0 PSF
90.0"	+/- 107.9 PSF
100.0"	+/- 92.6 PSF
110.0"	+/- 81.4 PSF
120.0"	+/- 72.9 PSF
130.0"	+/- 66.2 PSF
140.0"	+/- 60.8 PSF
168.0"	+/- 50.0 PSF
190.0"	+/- 46.6 PSF
200.0"	+/- 45.2 PSF
210.0"	+/- 44.0 PSF
220.0"	+/- 43.0 PSF
230.0"	+/- 42.0 PSF
240.0"	+/- 41.0 PSF
250.0"	+/- 40.2 PSF
252.0"	+/- 40.0 PSF



John Henry  
Kampmann Jr.  
2021.08.17  
21:16:  
18-04'00'

John H. Kampmann Jr., PE  
FL License #: 47516  
DATE:

2352 Applecreek Circle  
Sarasota, Florida 34240  
(941) 922-3854 CA-6762

WWW.MEEENGINEERS.COM

REVISION  
1  
XX/XX/XX - RESERVED.

DESCRIPTION  
National Approved Shutter Assn LLC  
8717 NW 117 St, Suite 1  
Hialeah Gardens, FL 33018  
Phone: (786)621-6706

Project Name:  
National Approved Shutter Assn LLC  
8717 NW 117 St, Suite 1  
Hialeah Gardens, FL 33018  
Phone: (786)621-6706

Project No.:  
21-0817

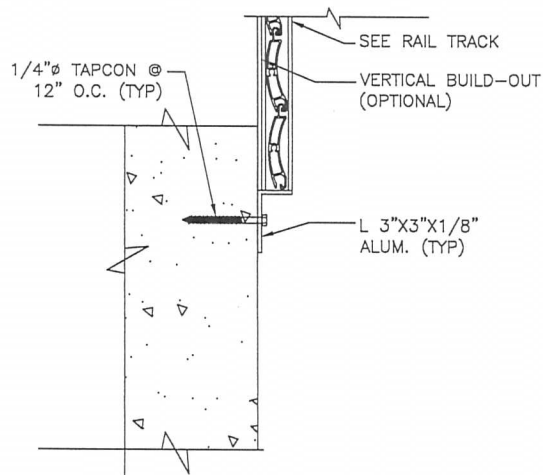
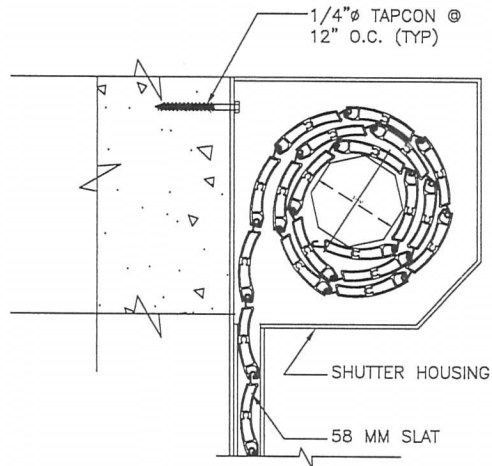
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8/17/21

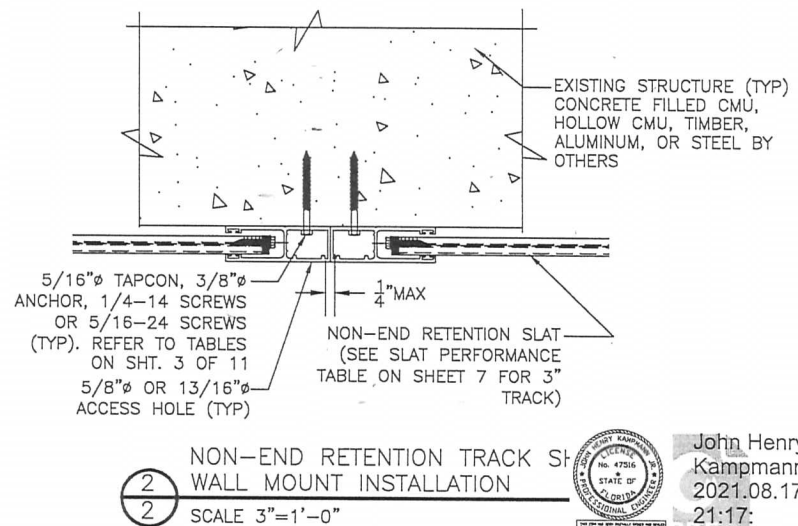
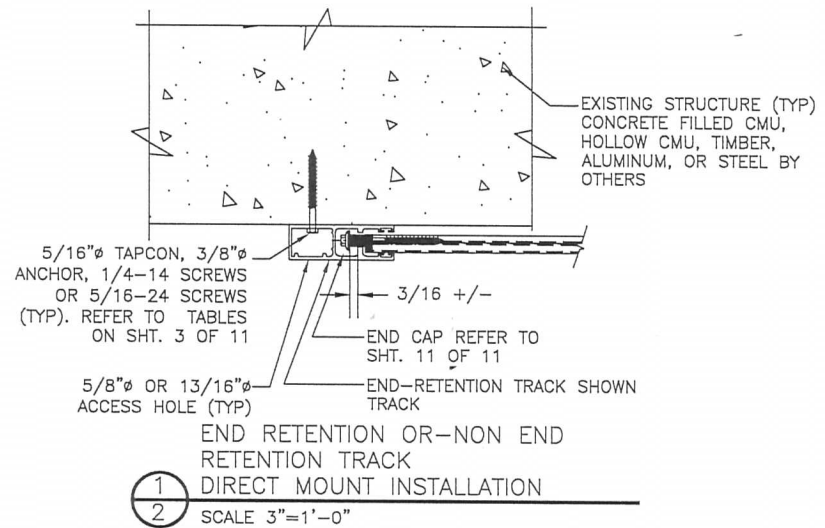
Sheet No.:  
1 of 11

FBC 2020 (NON-HIGH VELOCITY HURRICANE ZONE)

John H. Kampmann Jr., PE  
FL License #: 47516  
DATE:

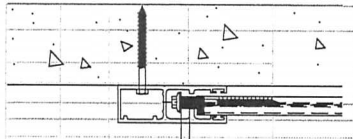


3  
 2 DIRECT MOUNT  
 3-1/4" END RETENTION TRACK  
 WALL MOUNT INSTALLATION  
 SCALE 3"=1'-0"



John H. Kampmann Jr., PE  
 FL License #: 47516  
 DATE:

<b>MEAE</b> ENGINEERS, INC. 2352 Appaloosa Circle Sarasota, Florida 34240 (941) 922-5854 CA-6782	
Project Name: National Approved Shutter Assn LLC 8717 NW 117 St, Suite 1 Hialeah Gardens, FL 33018 Phone: (786) 621-6706	Description: NAS-Assn 58 MILLIMETER ROLL-UP SHUTTER SYSTEM
Drawn: JK Project #: 21-0817 Scale: NOTED Date: 8/17/21 Sheet No.:	REV 1 XX/XX/XX - RESERVED.
FBC 2020 (NON-HIGH VELOCITY HURRICANE ZONE)	
2 of 11	

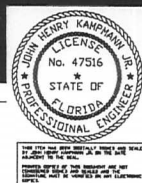


END RETENTION (WALL MOUNT)

SLAT SPAN	DESIGN PRESSURE	R <sub>x</sub>	R <sub>y</sub>
7.0 FT	84" +/- 30 PSF 143.1 LB/FT	105.0 LB/FT	10.0"
	84" +/- 35 PSF 249.4 LB/FT	122.5 LB/FT	10.0"
	84" +/- 40 PSF 355.5 LB/FT	140.0 LB/FT	10.0"
	84" +/- 45 PSF 461.4 LB/FT	157.5 LB/FT	8.8"
	84" +/- 50 PSF 567.1 LB/FT	175.0 LB/FT	7.3"
	84" +/- 60 PSF 778.1 LB/FT	210.0 LB/FT	5.5"
	84" +/- 70 PSF 988.2 LB/FT	245.0 LB/FT	4.4"
	84" +/- 80 PSF 1197.6 LB/FT	280.0 LB/FT	3.7"
	84" +/- 90 PSF 1406.1 LB/FT	315.0 LB/FT	3.1"
	84" +/- 100 PSF 1613.7 LB/FT	350.0 LB/FT	
	84" +/- 110 PSF 1820.4 LB/FT	385.0 LB/FT	
	84" +/- 120 PSF 2026.1 LB/FT	420.0 LB/FT	
8.0 FT	96" +/- 30 PSF 401.4 LB/FT	120.0 LB/FT	10.0"
	96" +/- 35 PSF 531.6 LB/FT	140.0 LB/FT	8.1"
	96" +/- 40 PSF 661.9 LB/FT	160.0 LB/FT	7.1"
	96" +/- 45 PSF 792.0 LB/FT	180.0 LB/FT	5.6"
	96" +/- 50 PSF 922.2 LB/FT	200.0 LB/FT	4.8"
	96" +/- 60 PSF 1182.5 LB/FT	240.0 LB/FT	3.8"
	96" +/- 70 PSF 1442.8 LB/FT	280.0 LB/FT	3.1"
	96" +/- 80 PSF 1703.0 LB/FT	320.0 LB/FT	3.0"
10.0 FT	120" +/- 30 PSF 849.8 LB/FT	150.0 LB/FT	5.4"
	120" +/- 35 PSF 1032.0 LB/FT	175.0 LB/FT	4.5"
	120" +/- 40 PSF 1214.2 LB/FT	200.0 LB/FT	3.8"
	120" +/- 45 PSF 1396.3 LB/FT	225.0 LB/FT	3.3"
	120" +/- 50 PSF 1578.5 LB/FT	250.0 LB/FT	3.0"
	120" +/- 60 PSF 1942.8 LB/FT	300.0 LB/FT	
	120" +/- 70 PSF 2307.0 LB/FT	350.0 LB/FT	
	120" +/- 80 PSF 2671.2 LB/FT	400.0 LB/FT	
12.0 FT	144" +/- 30 PSF 1269.0 LB/FT	180.0 LB/FT	3.7"
	144" +/- 35 PSF 1508.7 LB/FT	210.0 LB/FT	3.1"
	144" +/- 40 PSF 1748.4 LB/FT	240.0 LB/FT	3.0"
	144" +/- 45 PSF 1988.0 LB/FT	270.0 LB/FT	
	144" +/- 50 PSF 2227.7 LB/FT	300.0 LB/FT	
	144" +/- 60 PSF 2706.9 LB/FT	360.0 LB/FT	
	144" +/- 70 PSF 3186.1 LB/FT	420.0 LB/FT	
14.0 FT	168" +/- 30 PSF 1699.0 LB/FT	210.0 LB/FT	3.0"
	168" +/- 35 PSF 1901.2 LB/FT	245.0 LB/FT	
	168" +/- 40 PSF 2293.3 LB/FT	280.0 LB/FT	
	168" +/- 45 PSF 2595.5 LB/FT	315.0 LB/FT	
	168" +/- 50 PSF 2897.6 LB/FT	350.0 LB/FT	
16.0 FT	192" +/- 20 PSF 1362.2 LB/FT	160.0 LB/FT	3.5"
	192" +/- 25 PSF 1751.5 LB/FT	200.0 LB/FT	3.0"
	192" +/- 30 PSF 2120.7 LB/FT	240.0 LB/FT	
	192" +/- 35 PSF 2489.9 LB/FT	280.0 LB/FT	
	192" +/- 40 PSF 2859.1 LB/FT	320.0 LB/FT	
	192" +/- 45 PSF 3228.2 LB/FT	360.0 LB/FT	
18.0 FT	216" +/- 20 PSF 1687.9 LB/FT	180.0 LB/FT	3.0"
	216" +/- 25 PSF 2128.4 LB/FT	225.0 LB/FT	3.1"
	216" +/- 30 PSF 2568.8 LB/FT	270.0 LB/FT	
	216" +/- 35 PSF 3009.1 LB/FT	315.0 LB/FT	
	216" +/- 40 PSF 3449.3 LB/FT	360.0 LB/FT	
	216" +/- 45 PSF 3889.4 LB/FT	405.0 LB/FT	
21.0 FT	252.0" +/- 20 PSF 2167.0 LB/FT	210.0 LB/FT	
	252.0" +/- 25 PSF 2722.2 LB/FT	262.5 LB/FT	
	252.0" +/- 30 PSF 3277.1 LB/FT	315.0 LB/FT	
	252.0" +/- 35 PSF 3831.9 LB/FT	367.5 LB/FT	
	252.0" +/- 40 PSF 4386.4 LB/FT	420.0 LB/FT	

MAXIMUM SPACING (O.C.)

1/4" ELCO ULTRACON TO 2700 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMEN	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMEN	5/16" ELCO ULTRACON TO 3500 PSI MIN. CONCRETE; 2" MIN. EMBEDMEN	5/16" ITW TAPCON TO 2899 PSI MIN. CONCRETE; 2.25" MIN. EMBEDMEN	TO GROUT-FILLED CONCRETE BLOCK; 1.75" MIN. EMBEDMEN	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EMBEDMEN	1/4" POWERS POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMEN	1/4" ALL-POINTS SOLID-SET TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EMBEDMEN	TO HOLLOW BLOCK; 0.875" MIN. EMBEDMEN	1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMEN	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMEN	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMEN	#14 410 SS SMS W/ FULL THREAD PENETRATIO N OR 1/4-20 410 SS THRU-BOLT TO 0.125" MIN. ALUM; 0.5" MIN	5/16" 410 SS SMS W/ FULL THREAD PENETRATIO N OR 5/16-18 410 SS THRU-BOLT TO 0.25" MIN. ALUM; 0.625" MIN	3/8" POWERS WEDGE BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMEN	3/8" ELCO CONFLX TO 1819 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMEN	TO 4510 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMEN
T; 2.5" MIN. EDGE DISTANCE	T; 2.5" MIN. EDGE DISTANCE	T; 3.125" MIN. EDGE DISTANCE	T; 3.125" MIN. EDGE DISTANCE	T; 4" MIN. EDGE DISTANCE	T; 4" MIN. EDGE DISTANCE	T; 3" MIN. EDGE DISTANCE	T; 3" MIN. EDGE DISTANCE	T; 3" MIN. EDGE DISTANCE	T; 0.75" MIN. EDGE DISTANCE	T; 0.75" MIN. EDGE DISTANCE	T; 0.75" MIN. EDGE DISTANCE	T; 0.75" MIN. EDGE DISTANCE	T; 0.75" MIN. EDGE DISTANCE	T; 4.5" MIN. EDGE DISTANCE	T; 3.75" MIN. EDGE DISTANCE	T; 3.75" MIN. EDGE DISTANCE
10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"
10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"
10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"
8.8"	9.5"	10.0"	10.0"	10.0"	8.5"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"
7.3"	7.9"	10.0"	10.0"	10.0"	7.2"	10.0"	9.1"	6.4"	3.5"			8.1"	9.0"	10.0"	10.0"	10.0"
5.5"	5.9"	10.0"	10.0"	10.0"	5.5"	7.6"	6.8"	4.8"				6.3"	7.1"	10.0"	10.0"	10.0"
4.4"	4.7"	8.3"	8.2"	7.9"	4.5"	6.1"	5.5"	3.9"				5.1"	5.9"	10.0"	10.0"	10.0"
3.7"	3.9"	6.9"	6.8"	6.6"	3.8"	5.1"	4.6"	3.2"				4.3"	5.0"	10.0"	10.0"	10.0"
3.1"	3.4"	5.9"	5.9"	5.6"	3.3"	4.4"	3.9"					3.7"	4.4"	10.0"	10.0"	10.0"
		5.2"	5.1"	4.9"		3.9"	3.4"					3.3"	3.9"	9.9"	10.0"	10.0"
		4.6"	4.6"	4.4"		3.5"	3.1"						3.5"	8.8"	9.4"	10.0"
		4.2"	4.1"	4.0"		3.1"							3.2"	7.9"	8.5"	10.0"
10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	10.0"	9.1"	4.9"	4.2"	5.1"	10.0"	10.0"	10.0"	10.0"	10.0"
8.1"	8.7"	10.0"	10.0"	10.0"	8.2"	10.0"	10.0"	7.1"	3.7"	3.2"	3.9"	9.3"	10.0"	10.0"	10.0"	10.0"
6.6"	7.1"	10.0"	10.0"	10.0"	6.8"	9.2"	8.2"	5.8"	3.0"			7.7"	8.9"	10.0"	10.0"	10.0"
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3.8"	4.1"	7.2"	7.1"	6.8"	4.0"	5.4"	4.7"	3.3"				4.6"	5.5"	10.0"	10.0"	10.0"
3.1"	3.4"	5.9"	5.9"	5.6"	3.3"	4.4"	3.9"					3.8"	4.6"	10.0"	10.0"	10.0"
3.0"	3.0"	5.0"	5.0"	4.8"		3.8"	3.3"					3.3"	3.9"	9.8"	10.0"	10.0"
5.4"	5.8"	10.0"	10.0"	9.7"	5.6"	7.7"	6.7"	4.8"				6.7"	8.2"	10.0"	10.0"	10.0"
4.5"	4.8"	8.4"	8.4"	8.0"	4.8"	6.4"	5.6"	3.9"				5.6"	6.8"	10.0"	10.0"	10.0"
3.8"	4.1"	7.2"	7.1"	6.8"	4.1"	5.5"	4.8"	3.4"				4.8"	5.9"	10.0"	10.0"	10.0"
3.3"	3.6"	6.3"	6.2"	5.9"	3.6"	4.8"	4.2"					4.2"	5.2"	10.0"	10.0"	10.0"
3.0"	3.2"	5.6"	5.5"	5.3"	3.2"	4.2"	3.7"					3.8"	4.6"	10.0"	10.0"	10.0"
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		3.8"	3.8"	3.6"									3.2"	7.2"	7.9"	9.6"
		3.3"	3.3"	3.1"										6.2"	6.8"	8.3"
3.7"	4.0"	7.0"	7.0"	6.6"	4.1"	5.4"	4.7"	3.3"				4.8"	6.0"	10.0"	10.0"	10.0"
3.1"	3.4"	5.9"	5.9"	5.6"	3.5"	4.5"	3.9"					4.1"	5.1"	10.0"	10.0"	10.0"
3.0"	3.0"	5.1"	5.1"	4.8"	3.0"	3.9"	3.4"					3.5"	4.4"	9.8"	10.0"	10.0"
		4.5"	4.5"	4.3"		3.4"						3.1"	3.9"	8.5"	9.3"	10.0"
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		3.3"	3.3"	3.1"										6.2"	6.8"	8.3"
		3.0"	3.0"											5.3"	5.8"	7.0"
3.0"	3.0"	5.4"	5.3"	5.1"	3.2"	4.1"	3.6"					3.8"	4.8"	10.0"	10.0"	10.0"
		4.6"	4.5"	4.3"		3.5"	3.0"					3.2"	4.1"	8.5"	9.4"	10.0"
		4.0"	3.9"	3.7"									3.5"	7.4"	8.1"	9.9"
		3.5"	3.5"	3.3"									3.1"	6.5"	7.2"	8.7"
		3.1"	3.1"	3.0"										5.9"	6.5"	7.8"
3.5"	3.7"	6.6"	6.6"	6.2"	3.9"	5.1"	4.4"	3.1"				4.7"	6.0"	10.0"	10.0"	10.0"
3.0"	3.0"	5.2"	5.2"	4.9"	3.1"	4.0"	3.5"					3.7"	4.8"	9.7"	10.0"	10.0"
		4.3"	4.3"	4.1"		3.3"						3.1"	3.9"	8.0"	8.9"	10.0"
		3.7"	3.7"	3.5"									3.4"	6.9"	7.6"	9.1"
		3.2"	3.2"	3.0"										6.0"	6.6"	8.0"
		3.0"	3.0"											5.3"	5.8"	7.1"
3.0"	3.1"	5.5"	5.4"	5.1"	3.3"	4.2"	3.6"					3.9"	5.1"	10.0"	10.0"	10.0"
		4.3"	4.3"	4.1"		3.3"						3.1"	4.0"	8.0"	8.9"	10.0"
		3.6"	3.6"	3.4"									3.3"	6.7"	7.4"	8.9"
		3.1"	3.1"	3.0"										5.7"	6.3"	7.6"
														5.0"	5.5"	6.6"
														4.4"	4.9"	5.9"
		4.3"	4.3"	4.0"		3.3"								8.0"	8.8"	10.0"
		3.4"	3.4"	3.2"										6.3"	7.0"	8.5"
		3.0"	3.0"											5.3"	5.8"	7.0"
														4.5"	5.0"	6.0"
														3.9"	4.4"	5.3"



John H. Kampmann, Jr.  
2021.08.17  
21:17:  
45-04'00'

John H. Kampmann, Jr., PE  
FL License #: 47516  
DATE:

MEAN ENGINEERS, INC.  
2352 Applecreek Circle  
Gainesville, Florida 32608  
(941) 922-3504 FAX 8792

WWW.MEENGINEERS.COM

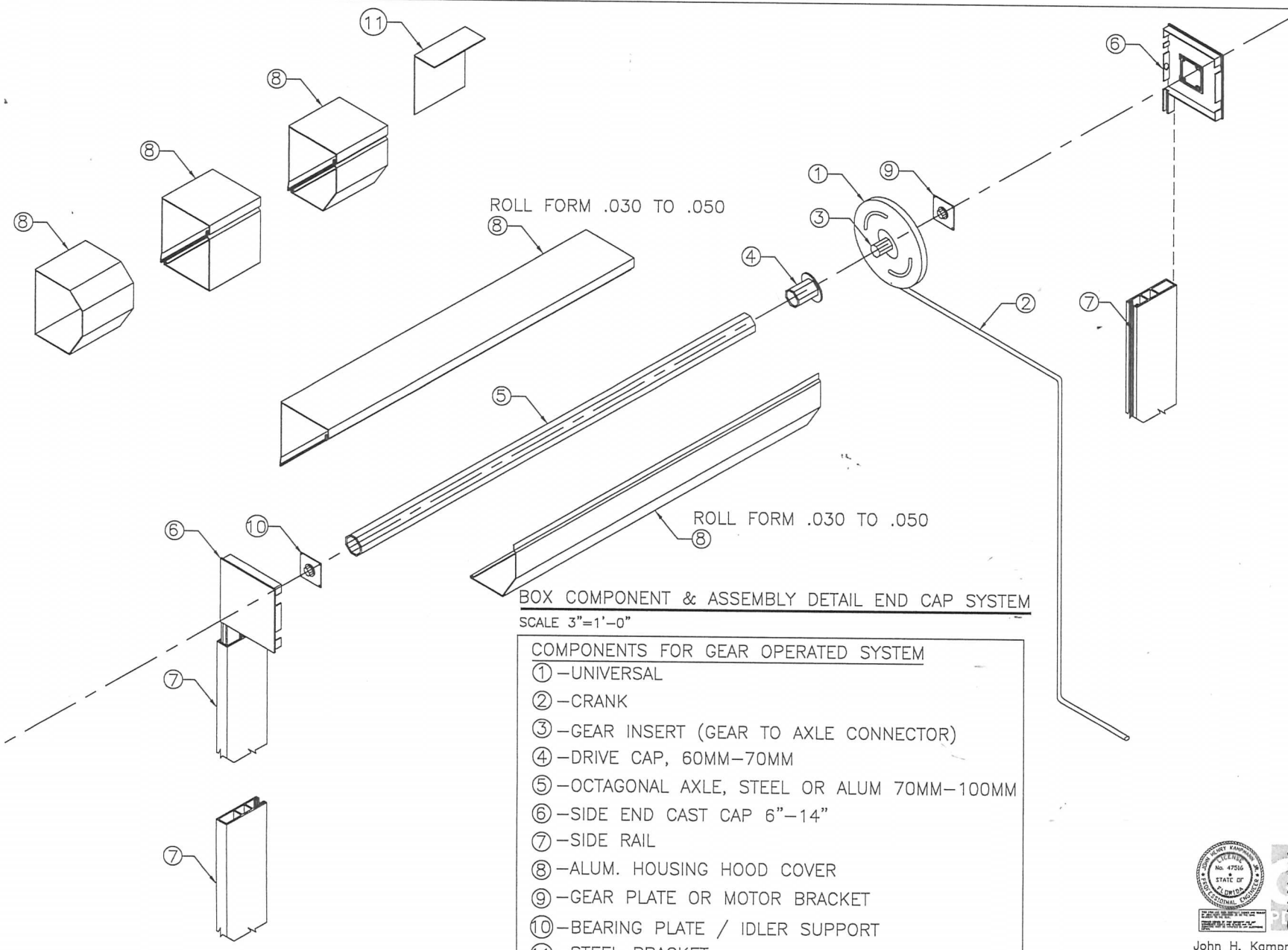
Project Name: National Approved Shutter Assn LLC  
8717 NW 117 St, Suite 1  
Hialeah Gardens, FL 33018  
Phone: (786) 621-6706

Drawn: JK  
Project #: 21-0817  
Scale: NOTED  
Date: 8/17/21  
Sheet No.:

FBC 2020 (NON-HIGH VELOCITY HURRICANE ZONE)

NAS-Assn 58 MILLIMETER  
ROLL-UP SHUTTER SYSTEM

3 of 11



BOX COMPONENT & ASSEMBLY DETAIL END CAP SYSTEM  
SCALE 3"=1'-0"

- COMPONENTS FOR GEAR OPERATED SYSTEM
- ① - UNIVERSAL
  - ② - CRANK
  - ③ - GEAR INSERT (GEAR TO AXLE CONNECTOR)
  - ④ - DRIVE CAP, 60MM-70MM
  - ⑤ - OCTAGONAL AXLE, STEEL OR ALUM 70MM-100MM
  - ⑥ - SIDE END CAST CAP 6"-14"
  - ⑦ - SIDE RAIL
  - ⑧ - ALUM. HOUSING HOOD COVER
  - ⑨ - GEAR PLATE OR MOTOR BRACKET
  - ⑩ - BEARING PLATE / IDLER SUPPORT
  - ⑪ - STEEL BRACKET



John Henry  
Kampmann Jr.  
2021.08.17  
21:21:  
03-04'00'

John H. Kampmann Jr., PE  
FL License #: 47516  
DATE:

WWW.MEAENGINEERS.COM

**MEA**  
ENGINEERS, INC.

2352 Appaloosa Circle  
Sarasota, Florida 34240  
(941) 922-3854 CA-6752

DESCRIPTION  
xx/xx/xx - RESERVED.

REV. 1

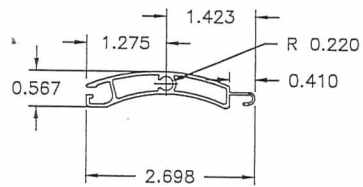
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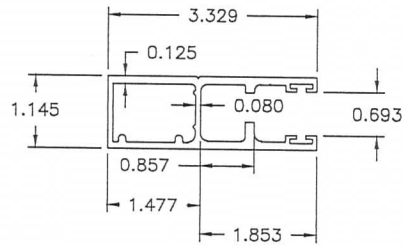
FBC 2020 (NON-HIGH VELOCITY HURRICANE ZONE)

NAS-Assn 58 MILLIMETER  
ROLL-UP SHUTTER SYSTEM

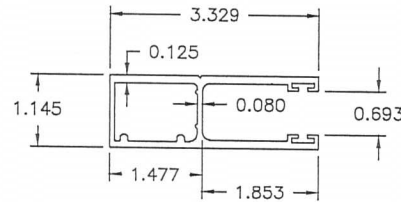
10 of 11



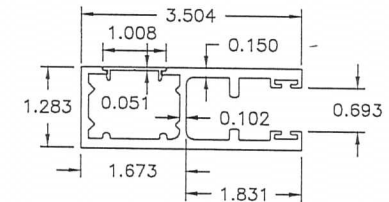
58MM SLAT  
SCALE 1:2



58MM SIDE RAIL W/ RETENTION LEGS  
SCALE 1:2



58MM SIDE RAIL W/O RETENTION LEGS  
SCALE 1:2



1500 ULTRA END RETENTION SIDE RAIL  
W/ COVER  
SCALE 1:2



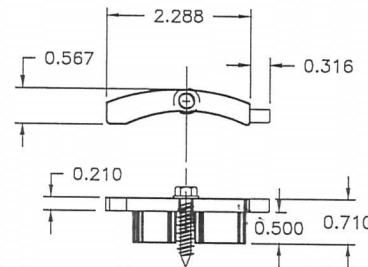
DETAIL-1  
SCALE 1:2  
2' TO 7'  
NON-END RETENTION



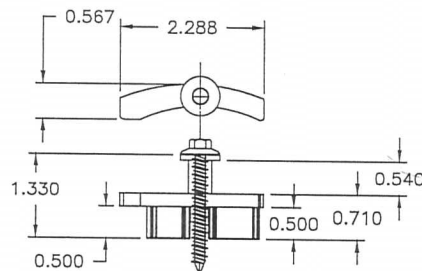
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SCALE 1:2  
2' TO 14'  
END RETENTION



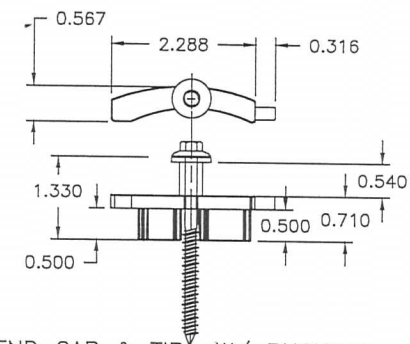
DETAIL-3  
SCALE 1:2  
14' TO 21'  
END RETENTION



1 END CAP & TIP W/OUT BUSHING  
SCALE 1:2 SEE DETAIL-1 ON THIS SHT.



3 END CAP W/ BUSHING  
SCALE 1:2 SEE DETAIL-3 ON THIS SHEET



2 END CAP & TIP W/ BUSHING  
SCALE 1:2 SEE DETAIL-2 ON THIS SHEET



John Henry  
Kampmann Jr.  
2021.08.17  
21:21:  
49-04'00"  
John H. Kampmann Jr., PE  
FL License #: 47516  
DATE:

FBC 2020 (NON-HIGH VELOCITY HURRICANE ZONE)

www.meengineers.com  
**ME**  
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2352 Applecreek Circle  
Sarasota, Florida 34240  
(941) 922-3854 CA-6752

DESCRIPTION  
xx/xx/xx - RESERVED.  
REV  
1  
Project Name  
National Approved Shutter Assn LLC  
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Description  
NAS-Assn 58 MILLIMETER  
ROLL-UP SHUTTER SYSTEM

Drawn: JK  
Project #: 21-0817  
Scale: NOTED  
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Sheet No.:

11 of 11

