



Product Approval
USER: Public User

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FL #	FL32029-R2														
Application Type	Revision														
Code Version	2023														
Application Status	Approved														
Comments															
Archived	☐														
Product Manufacturer	American Shutter Systems Association, Inc.														
Address/Phone/Email	4268 Westroads Drive West Palm Beach, FL 33407 (561) 209-8263 bfeeley@easternmetal.com														
Authorized Signature	Bill Feeley lrodriguez@easternmetal.com														
Technical Representative															
Address/Phone/Email															
Quality Assurance Representative															
Address/Phone/Email															
Category	Shutters														
Subcategory	Roll-up														
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer ☐ Evaluation Report - Hardcopy Received														
Florida Engineer or Architect Name who developed the Evaluation Report	Frank L. Bennardo														
Florida License	PE-46549														
Quality Assurance Entity	National Accreditation and Management Institute														
Quality Assurance Contract Expiration Date	12/31/2025														
Validated By	John Henry Kampmann Jr. ☒ Validation Checklist - Hardcopy Received														
Certificate of Independence	FL32029_R2_COI_INDEP.pdf														
Referenced Standard and Year (of Standard)	<table border="0"> <thead> <tr> <th><u>Standard</u></th> <th><u>Year</u></th> </tr> </thead> <tbody> <tr> <td>ASTM E1886</td> <td>2005</td> </tr> <tr> <td>ASTM E1996</td> <td>2006</td> </tr> <tr> <td>ASTM E330</td> <td>2002</td> </tr> <tr> <td>TAS 201</td> <td>1994</td> </tr> <tr> <td>TAS 202</td> <td>1994</td> </tr> <tr> <td>TAS 203</td> <td>1994</td> </tr> </tbody> </table>	<u>Standard</u>	<u>Year</u>	ASTM E1886	2005	ASTM E1996	2006	ASTM E330	2002	TAS 201	1994	TAS 202	1994	TAS 203	1994
<u>Standard</u>	<u>Year</u>														
ASTM E1886	2005														
ASTM E1996	2006														
ASTM E330	2002														
TAS 201	1994														
TAS 202	1994														
TAS 203	1994														
Equivalence of Product Standards Certified By	Florida Licensed Professional Engineer or Architect FL32029_R2_Equiv_EQUIV.pdf														
Sections from the Code															
Product Approval Method	Method 1 Option D														
Date Submitted	10/13/2023														
Date Validated	10/17/2023														
Date Pending FBC Approval	10/22/2023														
Date Approved	12/13/2023														

Summary of Products

FL #	Model, Number or Name	Description
32029.1	40mm Slat Bertha Roll-Up Hurricane Shutter	END RETENTION (ER) AND NON-END RETENTION (NER)
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +120/-120 Other: see installation instructions for span/pressure limitations		Installation Instructions FL32029_R2_II_DWG.pdf Verified By: Frank Bennardo PE46549 Created by Independent Third Party: Yes Evaluation Reports FL32029_R2_AE_EVAL.pdf Created by Independent Third Party: Yes

[Back](#) [Next](#)

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Product Approval Accepts:



2 ²

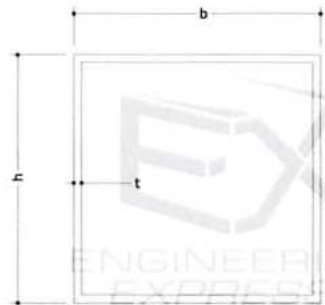
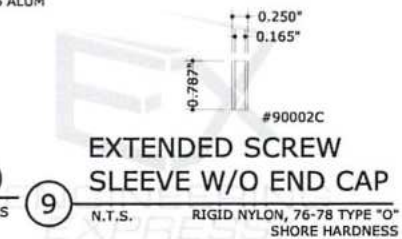
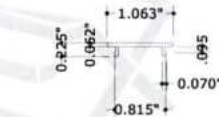
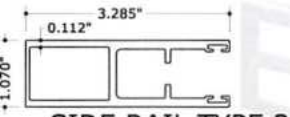
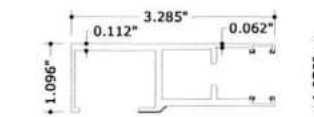
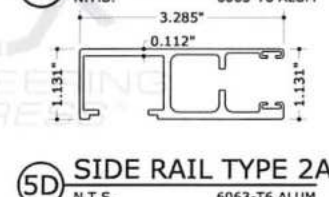
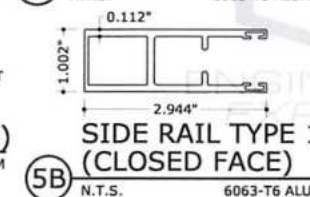
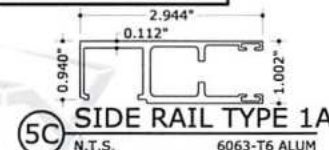
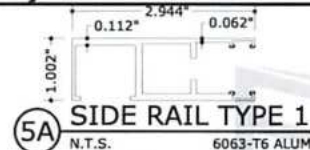
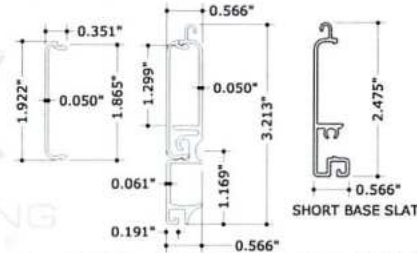
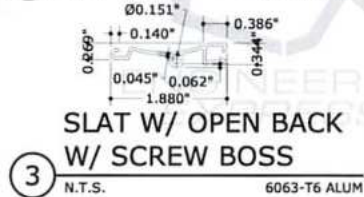
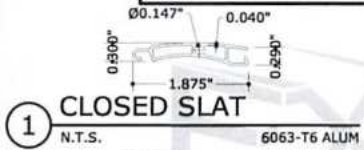
END RETENTION (ER) COMPONENTS

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PE # 0046549 CAP 9885

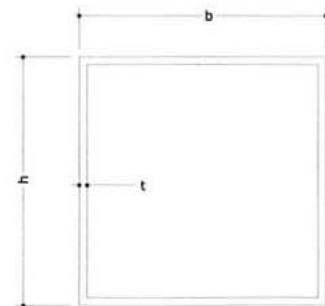
OCTOBER 9, 2023



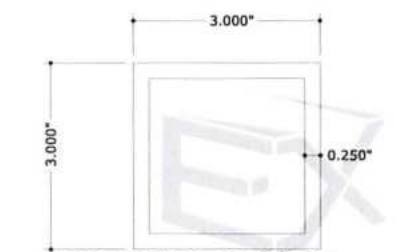
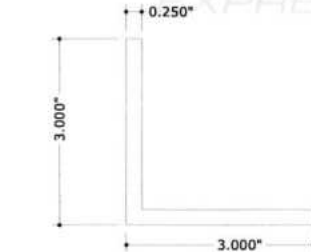
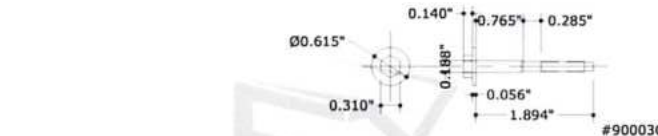
FL



B.O TUBES	b	h	t
(12) WOOD	3"	2" MAX.	0.125"
(12A) CONC./BLOCK	3"	4" MAX.	0.125"
(15) CONC./BLOCK	4"	4" MAX.	0.250"



MULLIONS	b	h	t
(24)	4"	6"	0.250"
(25)	4"	8"	0.250"



FL 32029.1

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4268 WESTROADS DR.
WEST PALM BEACH, FL 33407
(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

REMARKS	DATE	DRWN	CHKD
1. PREP SUBMITTAL (03/19/20) CCB	09/02/20	FWN	FWN
2. 2023 PRC UPDATE	10/05/23	MRT	FWN

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NON-END RETENTION (NER) COMPONENTS

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FLORIDA BUILDING CODE EIGHTH EDITION (2023)

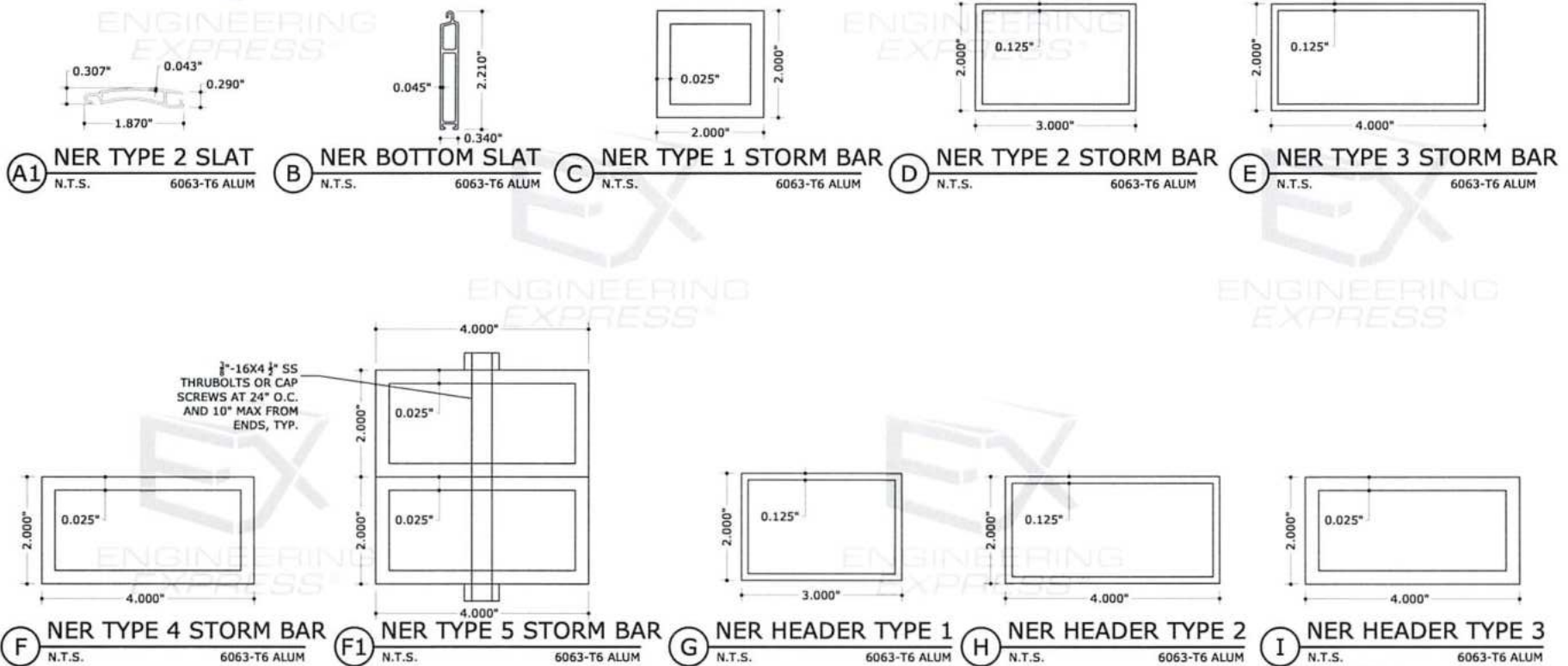
REMARKS	DATE
PREP SUBMITTAL (201902)	09/02/20
2023 PBC UPDATE	10/05/23

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NON-END RETENTION (NER) COMPONENTS (CONT'D)

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(800) 432-2204
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DATE	CHD	DRWN	REMARKS
10/05/23	MMT	MMT	REV SUBMITTAL (20-1262)
09/02/20	COB	MMT	2023 PBC UPDATE

23-65182

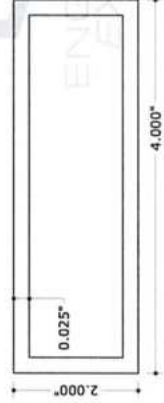
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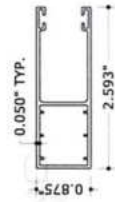
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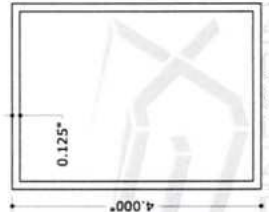
J NER HEADER TYPE 4
N.T.S.
6063-T6 ALUM



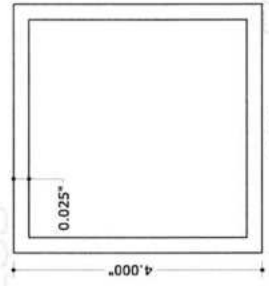
J1 NER HEADER TYPE 5
N.T.S.
6063-T6 ALUM



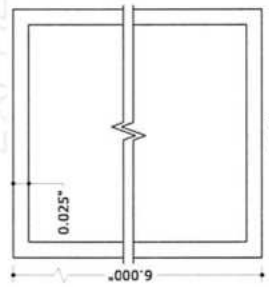
M1 NER TYPE 5 SIDE RAIL
N.T.S.
6063-T6 ALUM



N NER TYPE 1 MULLION
N.T.S.
6063-T6 ALUM



O NER TYPE 2 MULLION
N.T.S.
6063-T6 ALUM



P NER TYPE 3 MULLION
N.T.S.
6063-T6 ALUM

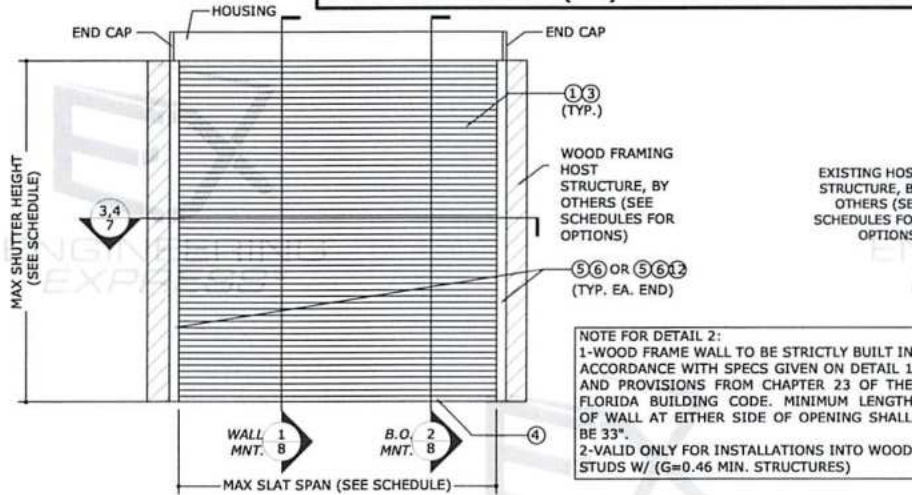
END RETENTION (ER) SHUTTER ATTACHMENT OPTION TO WOOD FRAMING

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PE # 0046549 CA# 9885

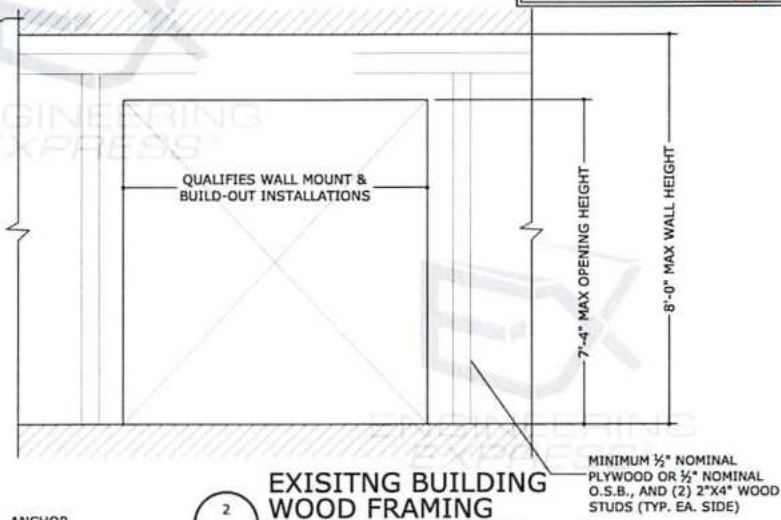
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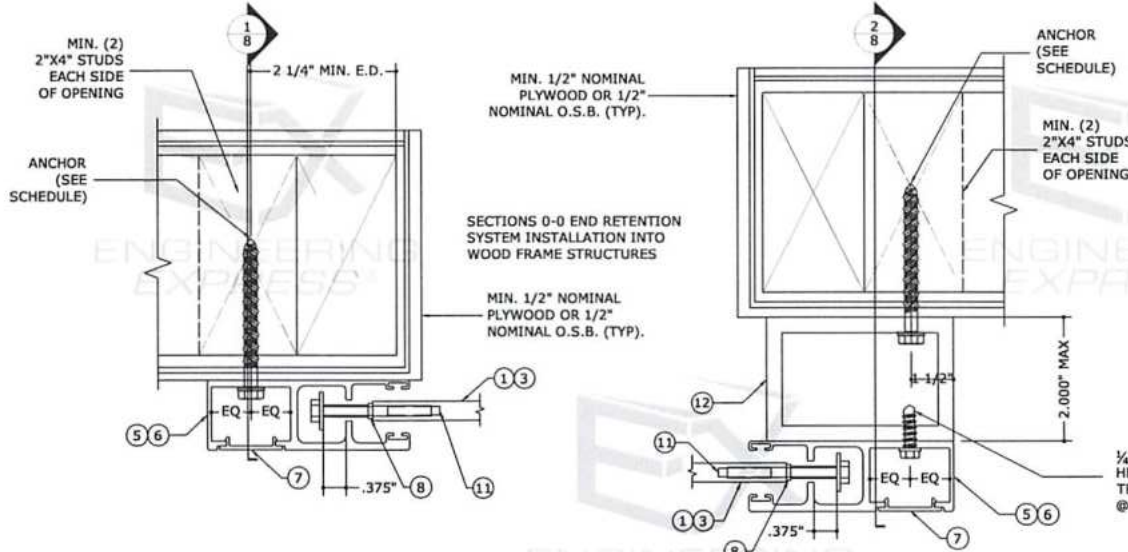
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TYPICAL SINGLE UNIT ELEVATION TO WOOD FRAMING
1 N.T.S. EXTERIOR ELEV



EXISTING BUILDING WOOD FRAMING
2 N.T.S. EXTERIOR ELEV



WALL MOUNT
3 N.T.S. EXTERIOR ELEV

BUILD-OUT MOUNT
4 N.T.S. EXTERIOR ELEV

SLAT SPAN SCHEDULE TO WOOD FRAMING

MAX A.S.D. DESIGN PRESSURE (PSF)	MAX. SLAT #1 SPAN (CLOSED)	MAX. SLAT #3 SPAN (OPEN)
+/- 30.0	144"	100"
+/- 40.0	120"	100"
+/- 45.0	108"	100"
+/- 55.0	96"	100"

WOOD FRAMING SPAN SCHEDULE NOTES (OPEN & CLOSED SLATS):

- SLAT SPAN IS DEFINED AS THE DISTANCE BETWEEN RAILS FOR SINGLE SPAN ASSEMBLIES.
- LINEAR INTERPOLATION BETWEEN SHUTTER SPANS IS NOT PERMITTED. FOR SPANS BETWEEN THOSE INDICATED ABOVE, THE DESIGN PRESSURES FOR THE NEXT HIGHER SPAN SHALL BE USED.
- GLASS SEPARATION (IF REQUIRED BY LOCAL JURISDICTION) SHALL BE DETERMINED FROM THE GLASS SEPARATIONS SCHEDULES ON SHEET 1, OTHERWISE USE GLASS SEPARATION = 1.0" MIN..

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WEST PALM BEACH, FL 33407
(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

REMARKS	DATE	DRWN	CHD
PREP SUBMITTAL (05/19/23) CDB	05/19/23	FRANK BENNARD	05/19/23
2023 FBC UPDATE	10/09/23	FRANK BENNARD	10/09/23

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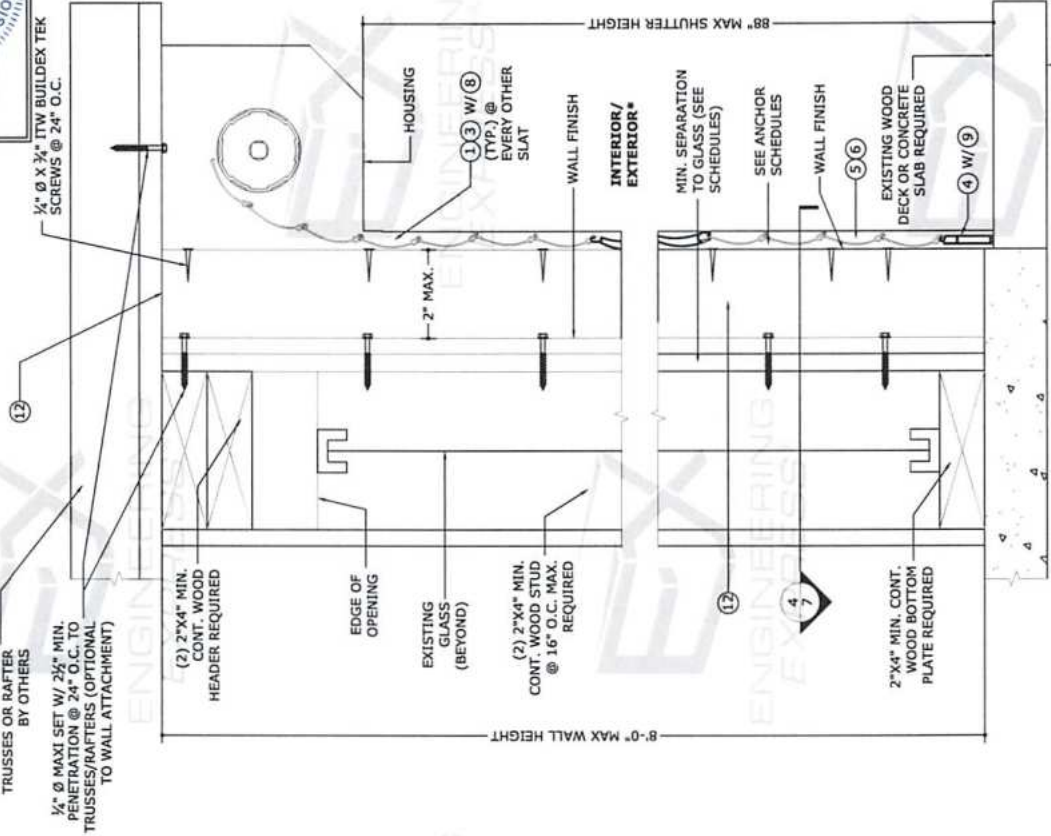
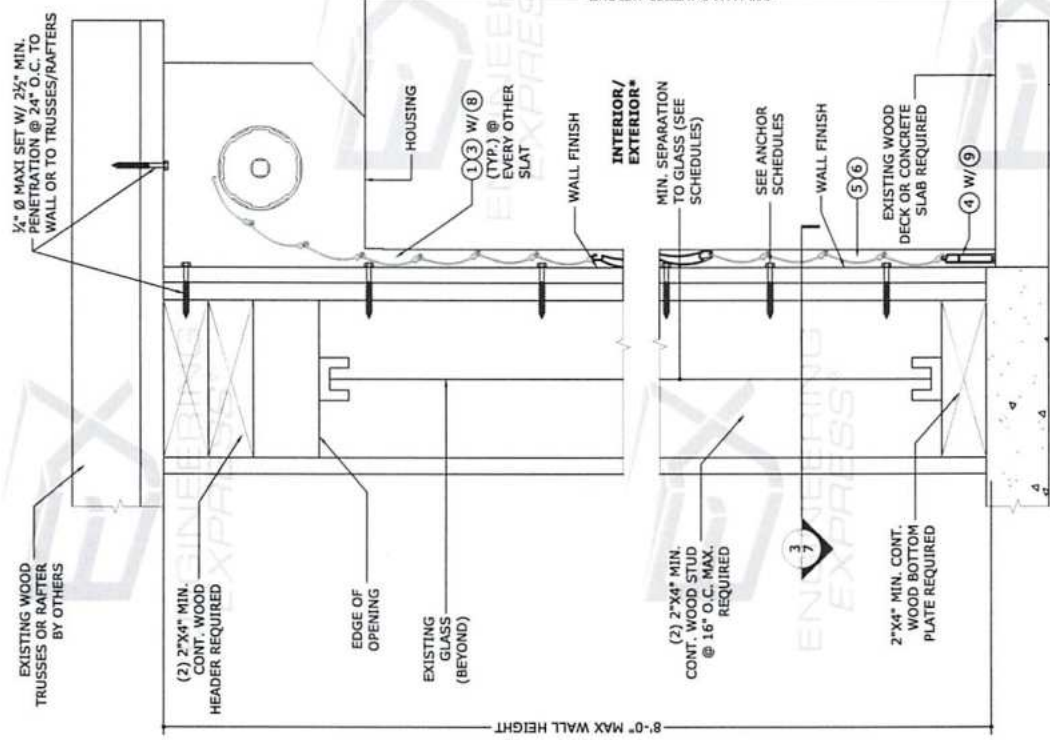
SCALE: NTS UNLESS NOT

7

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1/4" Ø X 3/4" ITW BUILDDEX TEK
SCREWS @ 24" O.C.



1 WALL MOUNT
8 N.T.S. SECTION VIEW

2 BUILD-OUT MOUNT
8 N.T.S. SECTION VIEW

* WHEN REVERSE MOUNTED ADD 1" OF GLASS SEPARATION PER "GLASS SEPARATION SCHEDULE" ON SHEET 1

[illegible]

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WEST PALM BEACH, FL 33407
(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

END RETENTION (ER) SHUTTER ATTACHMENT OPTION TO CONCRETE, CMU, ALUMINUM OR WOOD

FRANK BENNARDI, P.E.
PE# 0046549 CA# 9885

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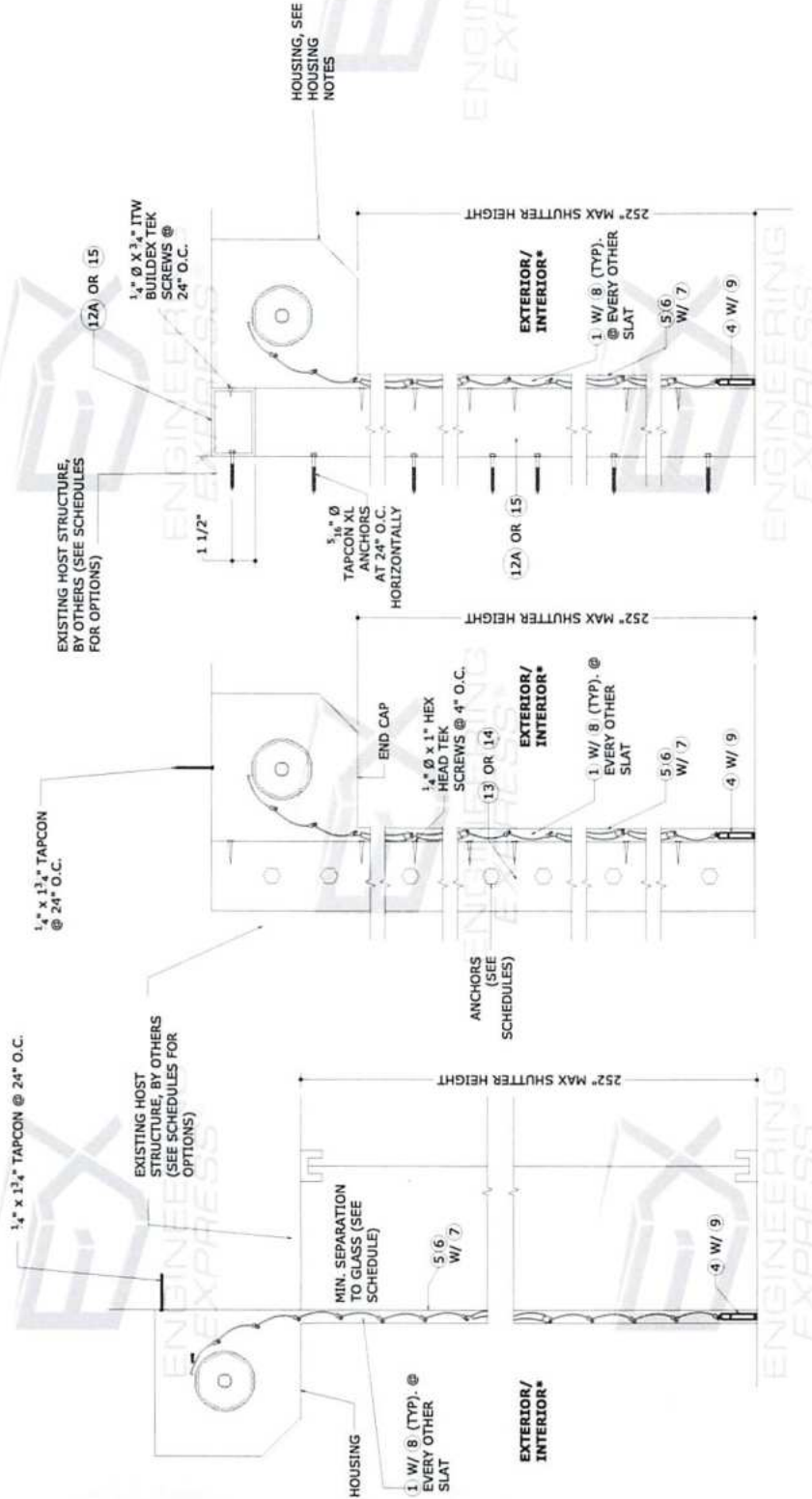
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4268 WESTROADS DR.
WEST PALM BEACH, FL 33407
(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

09/02/20	CBF	RWN	MRT	2020 FBC UPDATE	
10/05/23		RWN			

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* WHEN REVERSE MOUNTED ADD 1" OF GLASS SEPARATION PER "GLASS SEPARATION SCHEDULE" ON SHEET 1

1 WALL MOUNT
9 N.T.S. SECTION VIEW

2 INSIDE/TRAPPED MOUNT
9 N.T.S. SECTION VIEW

3 BUILD-OUT MOUNT
9 N.T.S. SECTION VIEW

2 INSIDE/TRAPPED MOUNT
9 N.T.S. SECTION VIEW

3 BUILD-OUT MOUNT
9 N.T.S. SECTION VIEW

HOUSING NOTES:

- HOUSING NOTES:
1. HOUSING (0.040" THICK ALUM, 3105-H14 MIN)
 2. END CAP (COP ALUM, SHALL BE CAPABLE OF SUPPORTING SLAT AND LIFT MECHANISM WEIGHT)
 3. ^{3/16"} ALUM POST RIVETS (6 TOTAL PER SIDE CAP, 2 AT TO, 2 AT REAR, 2 AT BOTTOM)
 4. HOOD HAS BEEN TESTED FOR IMPACT / CYCLING AND MAY BE INSTALLED WITHIN OPENING

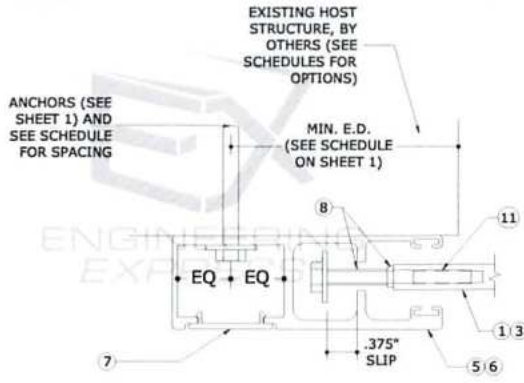
END RETENTION (ER) SHUTTER ATTACHMENT OPTION TO CONCRETE, CMU, STEEL, ALUMINUM OR WOOD

FRANK BENNARDI, P.E.
PE # 0046549 CAP 9885

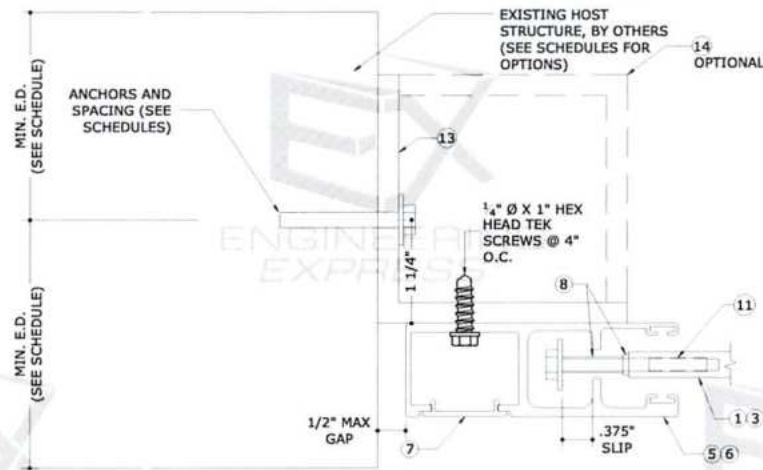
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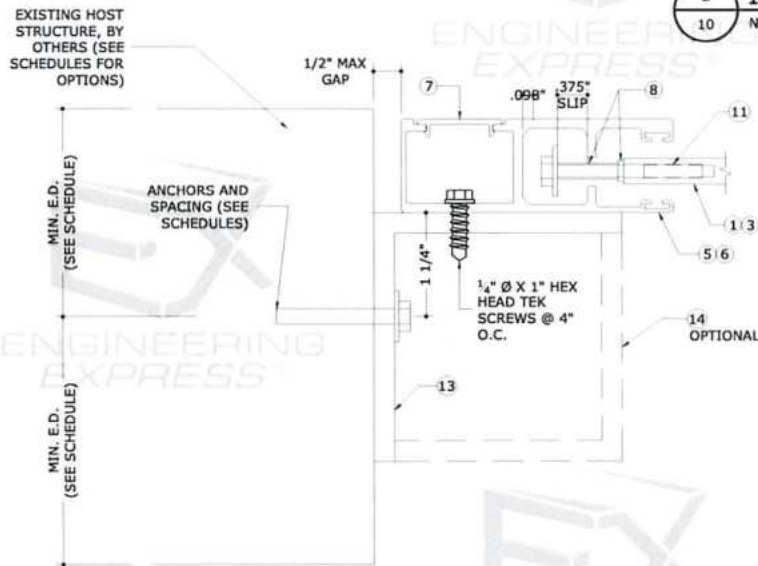
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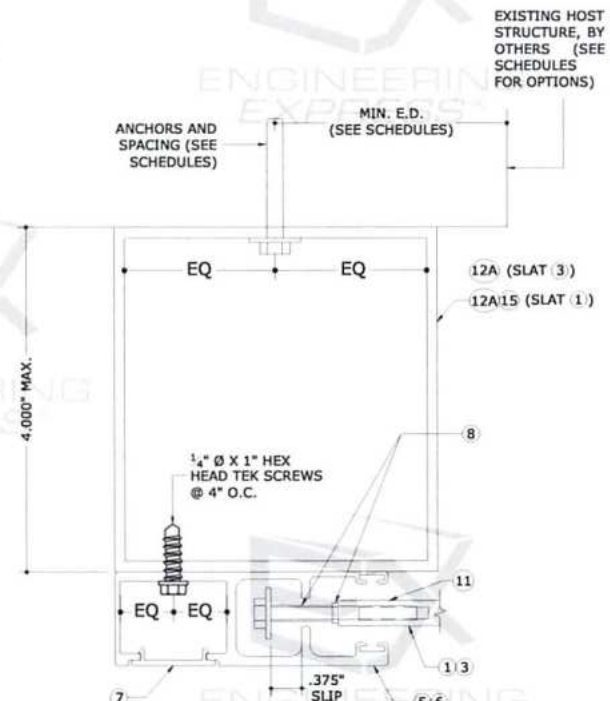
1 WALL MOUNT
10 N.T.S. SECTION VIEW



2 INSIDE/TRAPPED MOUNT
10 N.T.S. SECTION VIEW



3 INSIDE/TRAPPED MOUNT (REVERSED)
10 N.T.S. SECTION VIEW



4 BUILD-OUT MOUNT
10 N.T.S. SECTION VIEW

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(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

REMARKS	DATE	DRWN	CHKD
PREP SUBMITAL (20-1102)	09/02/23	FRANK BENNARDI	FRANK BENNARDI
2023 P.C. UPDATE	10/05/23	FRANK BENNARDI	FRANK BENNARDI

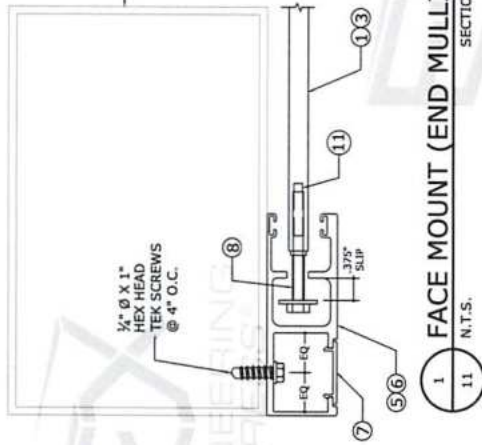
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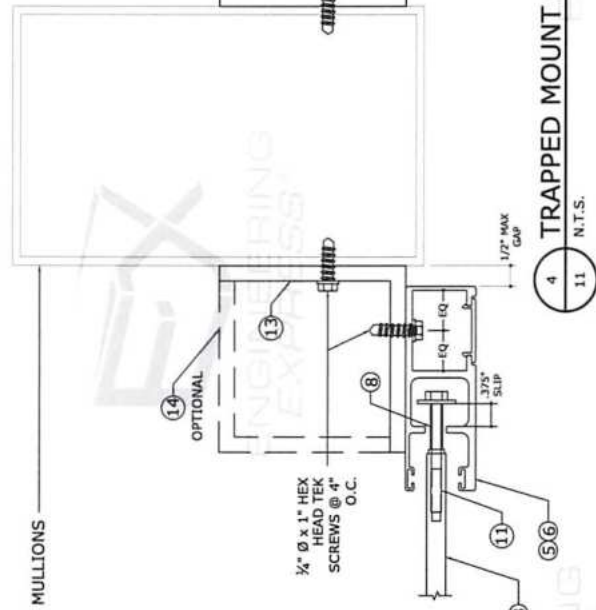
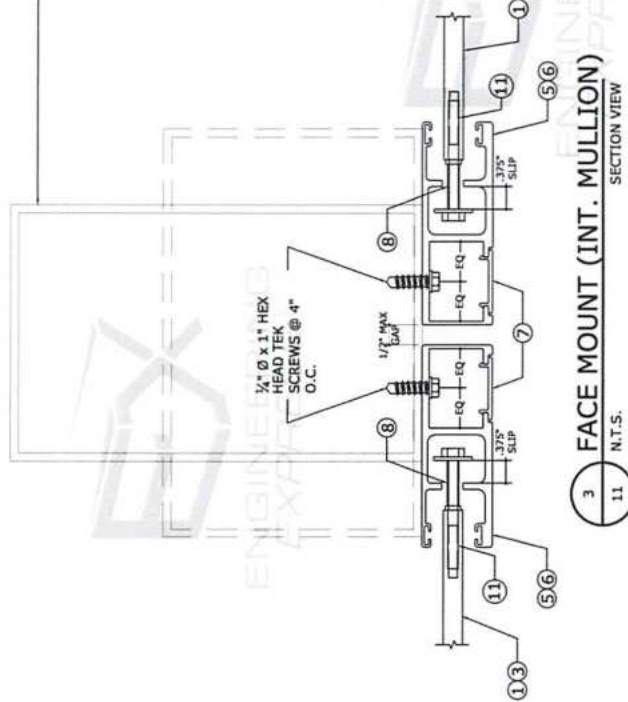
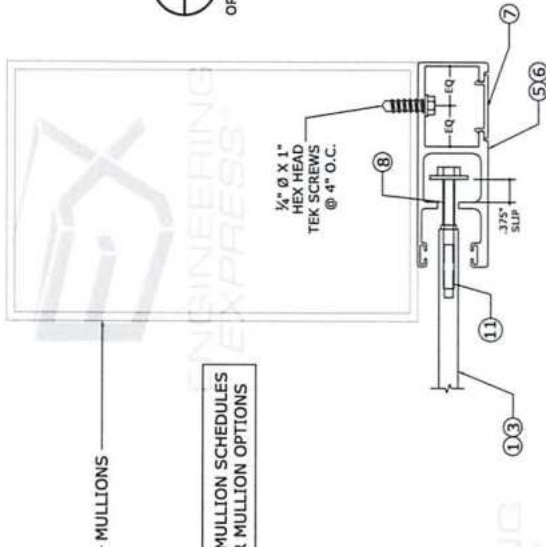
10

END RETENTION (ER) SHUTTER ATTACHMENT OPTION TO ALUMINUM MULLIONS



SEE MULLION SCHEDULES FOR MULLION OPTIONS

2 FACE MOUNT (END MULLION)
11 N.T.S.
ORIENTATION #2 FACE MOUNT END MULLION
SECTION VIEW



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(800) 432-2204
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

DATE	CHKD	DATE	CHKD
10/05/23	RMN	10/05/23	RMN
10/05/23	MRT	10/05/23	MRT
10/05/23	CCB	10/05/23	CCB
10/05/23	CCB	10/05/23	CCB
10/05/23	CCB	10/05/23	CCB
10/05/23	CCB	10/05/23	CCB
10/05/23	CCB	10/05/23	CCB
10/05/23	CCB	10/05/23	CCB
10/05/23	CCB	10/05/23	CCB

REMARKS
2023 PRC UPDATE
REV SUBMITTAL (25-1252)
23-65182
SCALE: NTS UNLESS NOTED
SCALE: 1/2" = 1'-0"

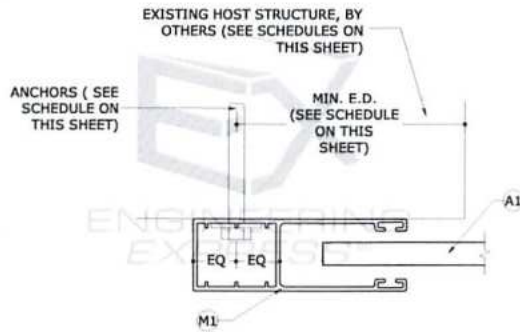
NON-END RETENTION (NER) SHUTTER ATTACHMENT TO HOST STRUCTURE

FRANK BENNARDI, P.E.
PE# 0046549 CA# 9885

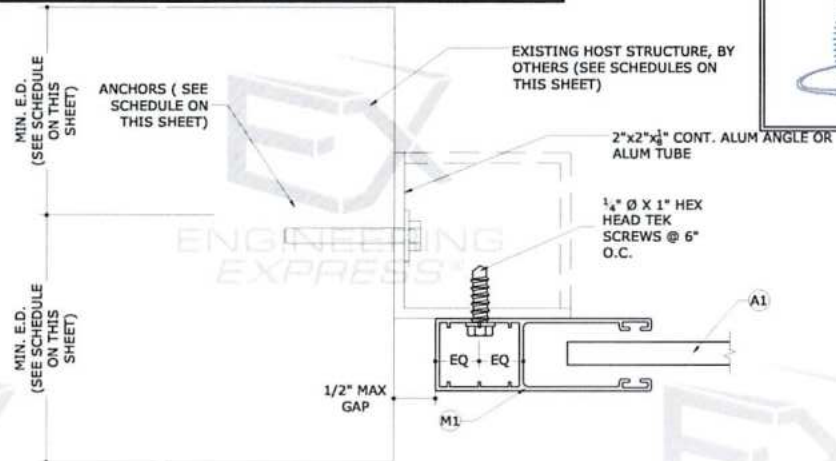
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FL



1 WALL MOUNT
12 N.T.S. SECTION VIEW



2 INSIDE/TRAPPED MOUNT
12 N.T.S. SECTION VIEW
*ATTACHMENT MAY BE REVERSED AS FIELD CONDITIONS DICTATE

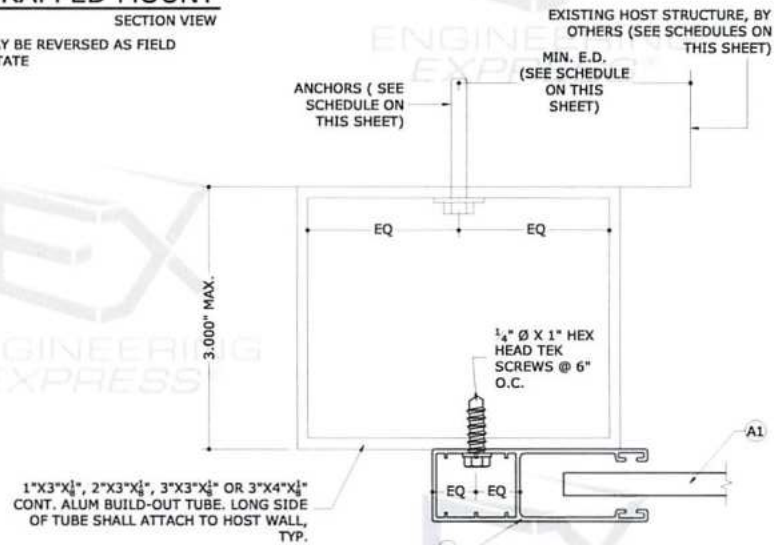
ANCHOR TYPE 1	1/4" ITW TAPCON TO CONC: 1-3/4" EMBED., 2-1/2" MIN E.D. TO GROUT-FILLED BLOCK: 1-3/4" EMBED., 2-1/2" MIN E.D. TO HOLLOW BLOCK: 1-1/4" EMBED., 2-1/2" MIN E.D. TO WOOD: 1-1/2" THREAD PENETRATION, 3/4" MIN E.D.
ANCHOR TYPE 2	1/4" ELCO/DEWALT ULTRA CON TO CONC: 1-3/4" EMBED., 2-1/2" MIN E.D. TO GROUT-FILLED BLOCK: 1-3/4" EMBED., 2-1/2" MIN E.D. TO HOLLOW BLOCK: 1-1/4" EMBED., 2-1/2" MIN E.D. TO WOOD: 1-1/2" THREAD PENETRATION, 3/4" MIN E.D.
ANCHOR TYPE 3	1/4" LAG OR WOOD SCREW TO WOOD: 1-1/2" THREAD PENETRATION, 3/4" MIN E.D.

ANCHOR SPACING SCHEDULE (UP TO +/- 68PSF)				
	ANCHOR TYPE			
HOST SUBSTRATE	1	2	3	
3.0 KSI MIN. CONCRETE	6"	6"	N/A	
GROUT-FILLED CMU BLOCK	6"	6"	N/A	
HOLLOW CMU BLOCK	5"	5"	N/A	
WOOD (G=0.55 MIN.)	4-1/4"	4-1/4"	4-1/4"	

ANCHOR SPACING SCHEDULE (> +/- 68PSF TO +/- 100PSF)				
	ANCHOR TYPE			
HOST SUBSTRATE	1	2	3	
3.0 KSI MIN. CONCRETE	6"	6"	N/A	
GROUT-FILLED CMU BLOCK	5"	5"	N/A	
HOLLOW CMU BLOCK	4"	4"	N/A	
WOOD (G=0.55 MIN.)	4-1/4"	4-1/4"	4-1/4"	

ALTERNATE ANCHOR NOTE:

FOR ALL 1/4" AND 3/8" DIAMETER ANCHOR OPTIONS LISTED IN THE ANCHOR SCHEDULES, AN EQUIVALENT DIAMETER HILLMAN/ALL-POINTS SOLID-SET ANCHOR (CARBON OR STAINLESS STEEL) MAY BE USED IN LIEU OF THE OPTION(S) LISTED SO LONG AS THE LISTED MINIMUM EMBEDMENT, EDGE DISTANCE AND SPACING ARE ACHIEVED.



3 BUILD-OUT MOUNT
12 N.T.S. SECTION VIEW

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AMERICAN SHUTTER SYSTEMS ASSOCIATION, INC.
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 WEST PALM BEACH, FL 33407
 (800) 432-2204
 40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
 FLORIDA BUILDING CODE EIGHTH EDITION (2023)

REMARKS	DATE	BY	CHKD	DATE
PREP. SUBMITTAL (20-1120)	08/02/20	RWN	CCB	
2023 FBC UPDATE	10/05/23	RWN	MRT	

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12

NON-END RETENTION (NER) SHUTTER ATTACHMENT TO MULLIONS

FRANK BERNARDO, P.E.
PE # 0046549 CA# 9883

FL

OCTOBER 9, 2023

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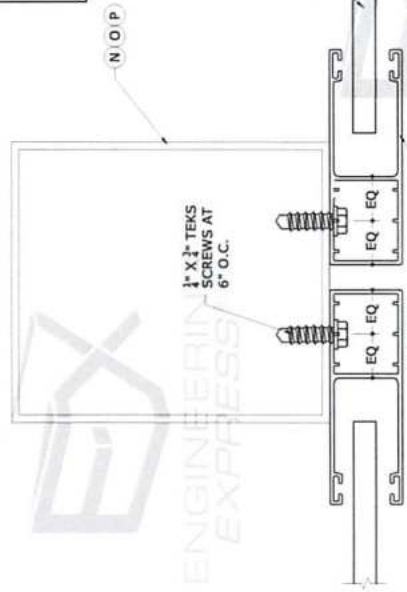
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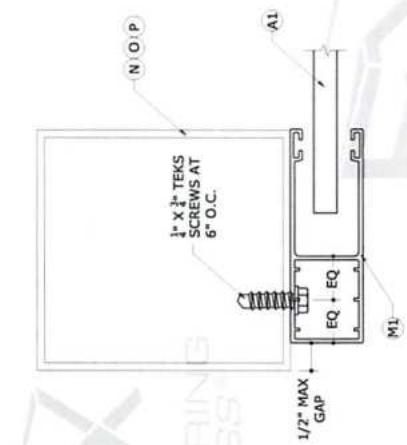
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10/05/23		MMN	MMN	10/05/23
MRT		MMN	MMN	10/05/23
REV		MMN	MMN	10/05/23
2023		MMN	MMN	10/05/23
2023		MMN	MMN	10/05/23
2023		MMN	MMN	10/05/23
2023		MMN	MMN	10/05/23
2023		MMN	MMN	10/05/23
2023		MMN	MMN	10/05/23

REMARKS
2023 FBC UPDATE
REV SUBMITTAL 05-17-2021 CCB
MRT 10/05/23

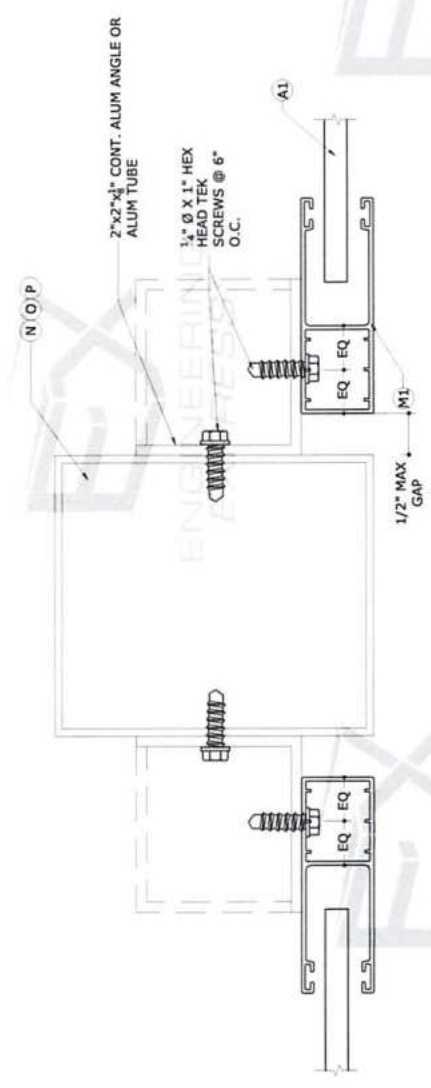
23-65182
SCALE: NTS UNLESS NOTED
13



1 FACE MOUNT (END MULLION)
SECTION VIEW
13 N.T.S.



2 FACE MOUNT (INT. MULLION)
SECTION VIEW
13 N.T.S.



2 INSIDE/TRAPPED MOUNT
SECTION VIEW
13 N.T.S.
*ATTACHMENT MAY BE REVERSED AS FIELD CONDITIONS DICTATE

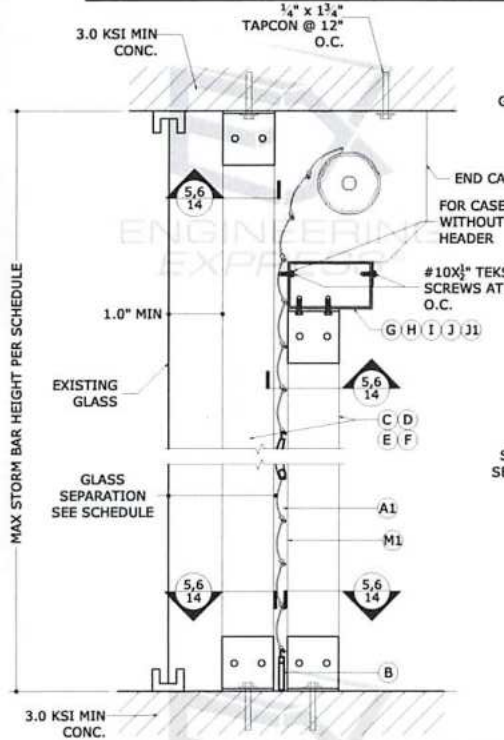
NON-END RETENTION (NER) SHUTTER ATTACHMENT OPTION TO HOST STRUCTURE

FRANK BENNARDO, P.E.
PE# 0046549 CAF 9885

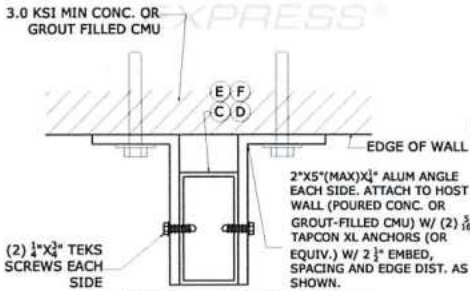
OCTOBER 9, 2023



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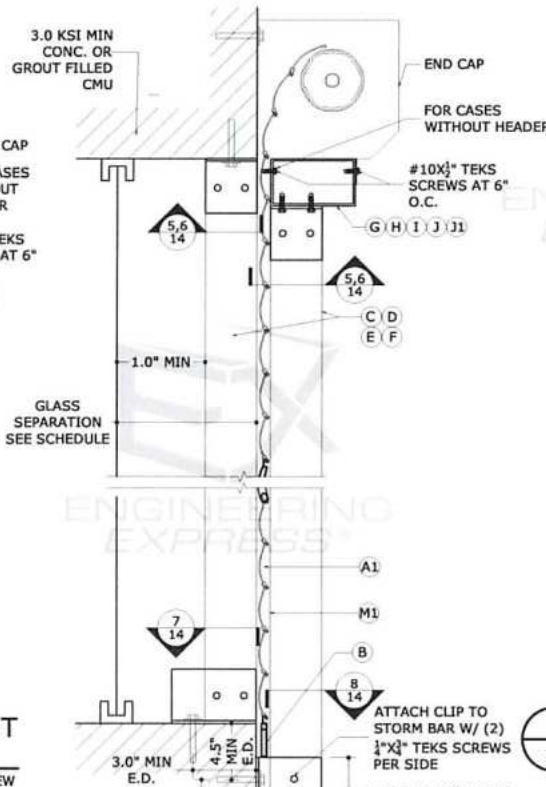


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14 N.T.S. SECTION VIEW

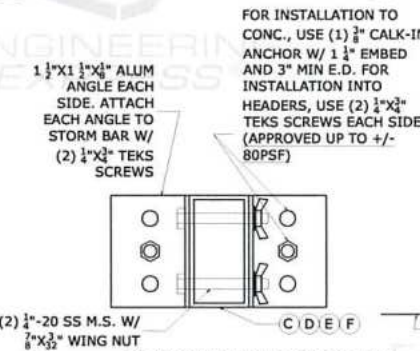


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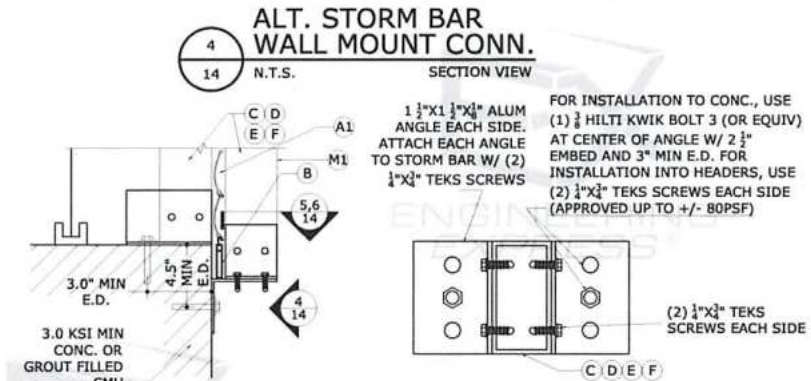
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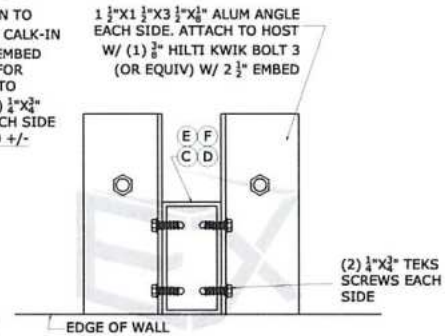
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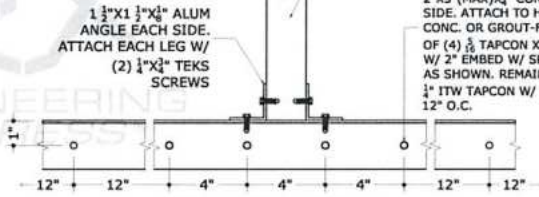
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14 N.T.S. SECTION VIEW



5
14 N.T.S. SECTION VIEW



7
14 N.T.S. SECTION VIEW



4
14 N.T.S. SECTION VIEW

2\"X5\"(MAX)X1/4\" CONT. ALUM ANGLE EACH SIDE. ATTACH TO HOST WALL (POURED CONC. OR GROUT-FILLED CMU) W/ CLUSTER OF (4) 3/8\" TAPCON XL ANCHORS (OR EQUIV.) W/ 2\" EMBED W/ SPACING AND EDGE DIST. AS SHOWN. REMAINING ANCHORS SHALL BE 1/4\" ITW TAPCON W/ 1 1/2\" EMBED SPACED AT 12\" O.C.

FOR INSTALLATION TO CONC., USE (1) 3/8\" HILTI KWIK BOLT 3 (OR EQUIV) AT CENTER OF ANGLE W/ 2 1/2\" EMBED AND 3\" MIN E.D. FOR INSTALLATION INTO HEADERS, USE (2) 1/2\"X3/4\" TEKS SCREWS EACH SIDE (APPROVED UP TO +/- 80PSF)

(2) 1/2\"X3/4\" TEKS SCREWS EACH SIDE

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WEST PALM BEACH, FL 33407
(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

REMARKS	DATE	DRWN	CHKD	DATE	BY	DATE	BY
PREP. SUBMITTAL (201202) CDR	09/02/2020	BYN					
2023 DEC. UPDATE	10/09/23	MRT					

23-65182

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14

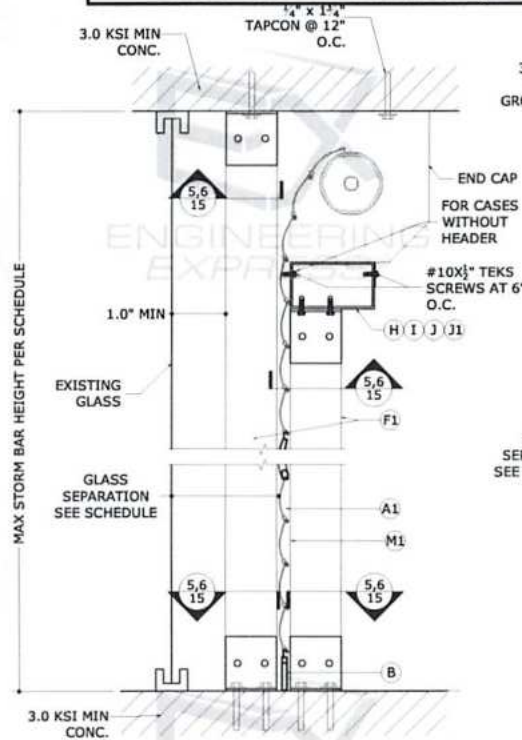
NON-END RETENTION (NER) SHUTTER ATTACHMENT OPTION TO HOST STRUCTURE (CONT'D)

FRANK BENNARDO, P.E.
PE# 0046549 CA# 9885

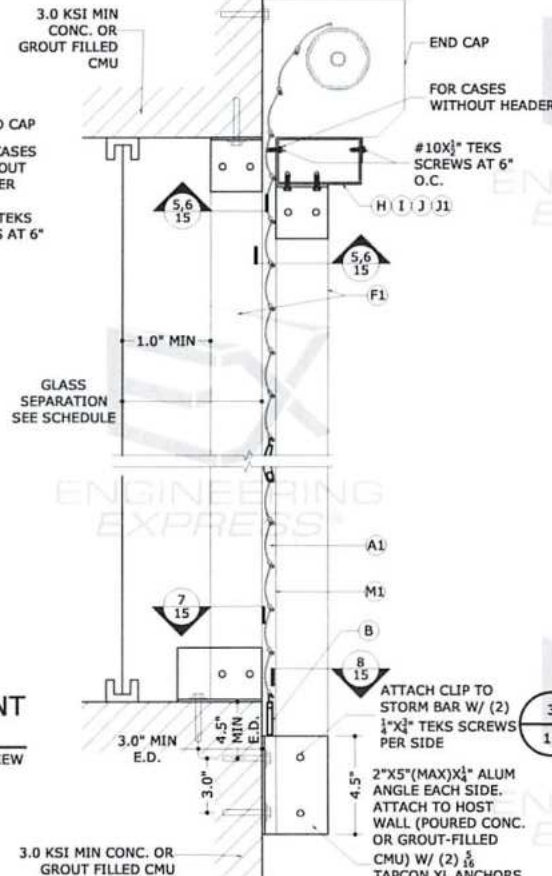
OCTOBER 9, 2023



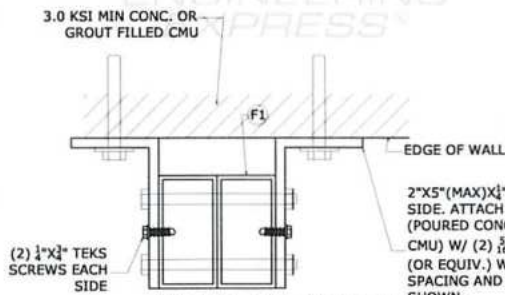
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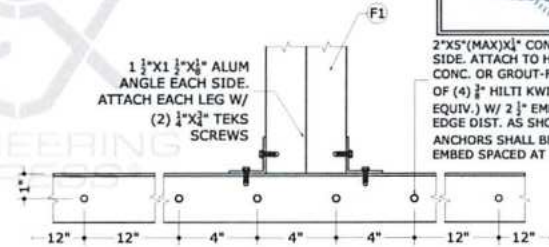
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15 N.T.S. SECTION VIEW



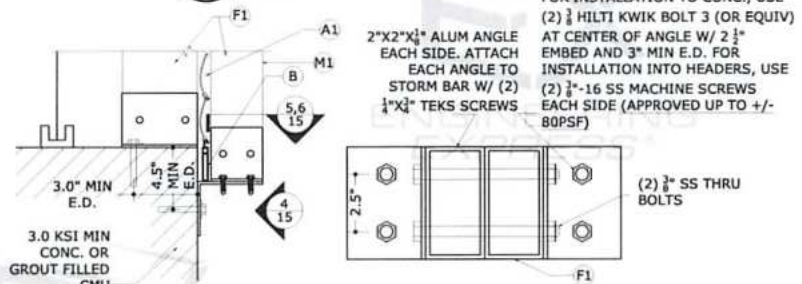
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15 N.T.S. SECTION VIEW



8
15 N.T.S. SECTION VIEW

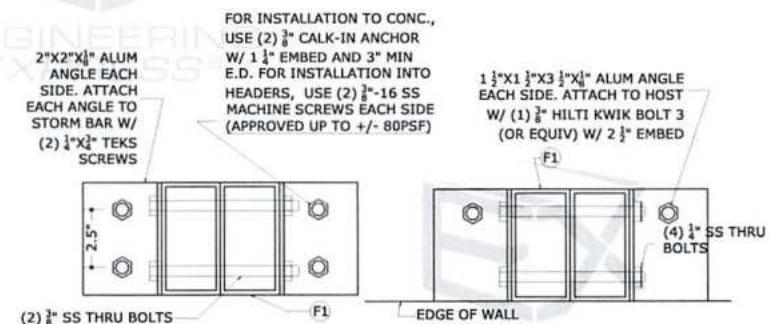


4
15 N.T.S. SECTION VIEW



3
15 N.T.S. SECTION VIEW

5
15 N.T.S. SECTION VIEW



6
15 N.T.S. SECTION VIEW

7
15 N.T.S. SECTION VIEW

2\"X5\"(MAX)X1/4\" CONT. ALUM ANGLE EACH SIDE. ATTACH TO HOST WALL (POURED CONC. OR GROUT-FILLED CMU) W/ CLUSTER OF (4) 3/8\" HILTI KWIK BOLT 3 ANCHORS (OR EQUIV.) W/ 2 1/2\" EMBED W/ SPACING AND EDGE DIST. AS SHOWN. REMAINING ANCHORS SHALL BE 1\" ITW TAPCON W/ 1 1/2\" EMBED SPACED AT 12\" O.C.

FOR INSTALLATION TO CONC., USE (2) 3/8\" HILTI KWIK BOLT 3 (OR EQUIV) AT CENTER OF ANGLE W/ 2 1/2\" EMBED AND 3\" MIN E.D. FOR INSTALLATION INTO HEADERS, USE (2) 3/8\"-16 SS MACHINE SCREWS EACH SIDE (APPROVED UP TO +/- 80PSF)

FOR INSTALLATION TO CONC., USE (2) 3/8\" CALK-IN ANCHOR W/ 1 1/2\" EMBED AND 3\" MIN E.D. FOR INSTALLATION INTO HEADERS, USE (2) 3/8\"-16 SS MACHINE SCREWS EACH SIDE (APPROVED UP TO +/- 80PSF)

1 1/2\"X1 1/2\"X3 1/2\"X1/4\" ALUM ANGLE EACH SIDE. ATTACH TO HOST W/ (1) 3/8\" HILTI KWIK BOLT 3 (OR EQUIV) W/ 2 1/2\" EMBED

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(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

REMARKS	DRAWN	CHECKED	DATE
PREV SUBMITTAL (05-11-20) RWN 09/02/20			
2023 PFC UPDATE RWN 10/05/23			

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NON-END RETENTION (NER) SHUTTER STORM BAR, HEADER & MULLION SCHEDULES

STORM BAR SPAN SCHEDULE

Maximum Design Pressure Rating	TYPE 1 STORM BAR (C)		TYPE 2 STORM BAR (D)		TYPE 3 STORM BAR (E)		TYPE 4 STORM BAR (F)		TYPE 5 STORM BAR (F)	
	* STORM BAR SPACING 2" x 2" x 1/4"		* STORM BAR SPACING 2" x 3" x 1/8"		* STORM BAR SPACING 2" x 4" x 1/8"		* STORM BAR SPACING 2" x 4" x 1/8"		* STORM BAR SPACING (2) 2" x 4" x 250"	
40 psf OR LESS	91"	83"	81"	96"	83"	114"	102"	132"	164"	153"
45 psf	89"	85"	83"	96"	88"	119"	107"	137"	169"	159"
50 psf	87"	81"	77"	96"	87"	117"	107"	140"	171"	166"
55 psf	84"	77"	74"	92"	84"	112"	102"	134"	167"	160"
60 psf	83"	74"	74"	92"	83"	107"	99"	128"	160"	156"
65 psf	81"	71"	64"	88"	80"	103"	96"	126"	150"	149"
70 psf	79"	68"	61"	82"	77"	100"	92"	124"	147"	147"
75 psf	76"	66"	59"	79"	74"	96"	88"	121"	144"	143"
80 psf	74"	64"	56"	76"	72"	93"	85"	119"	142"	142"
85 psf	72"	62"	54"	72"	70"	90"	82"	116"	140"	139"
90 psf	70"	60"	52"	69"	68"	88"	80"	113"	138"	137"
95 psf	68"	59"	51"	66"	65"	85"	77"	110"	136"	135"
100 psf	66"	57"	51"	64"	63"	83"	74"	107"	134"	133"

NOTE: STORM BAR SPACING SHALL NOT EXCEED MAXIMUM SLAT SPAN PER SLAT SPAN SCHEDULE

HEADER SPAN SCHEDULE

Maximum A.S.D. Design Pressure (p.s.f.)	TYPE 1 HEADER (H)		TYPE 2 HEADER (I)		TYPE 3 HEADER (J)		TYPE 4 HEADER (J)		TYPE 5 HEADER (J)	
	STORM BAR HEIGHT 2" x 3" x 1/8" (C)		STORM BAR HEIGHT 2" x 4" x 1/4"		STORM BAR HEIGHT 2" x 4" x 1/4"		STORM BAR HEIGHT 2" x 6" x 1/8"		STORM BAR HEIGHT 2" x 6" x 1/4"	
40 psf OR LESS	119"	100"	146"	104"	154"	138"	126"	117"	128"	119"
45 psf	117"	99"	146"	104"	154"	138"	126"	117"	128"	119"
50 psf	106"	90"	131"	104"	143"	134"	126"	115"	126"	115"
55 psf	101"	86"	125"	99"	137"	131"	120"	109"	124"	114"
60 psf	97"	82"	120"	95"	132"	126"	115"	105"	120"	113"
65 psf	93"	79"	115"	91"	127"	121"	110"	101"	118"	111"
70 psf	90"	76"	111"	88"	123"	117"	106"	97"	114"	109"
75 psf	87"	73"	107"	85"	119"	113"	103"	94"	110"	106"
80 psf	84"	71"	104"	82"	116"	110"	100"	91"	107"	103"
85 psf	81"	69"	101"	79"	113"	107"	98"	88"	104"	100"
90 psf	79"	67"	99"	77"	111"	105"	96"	85"	102"	98"
95 psf	77"	65"	97"	75"	109"	103"	94"	83"	100"	96"
100 psf	75"	63"	95"	73"	107"	101"	92"	81"	98"	94"

MULLION SPAN SCHEDULE

Maximum A.S.D. Design Pressure (p.s.f.)	TYPE 1 MULLION (N)		TYPE 2 MULLION (O)		TYPE 3 MULLION (P)	
	3" x 4" x 1/8"		4" x 4" x 1/4"		4" x 6" x 1/4"	
40 OR LESS	108"	100"	141"	123"	171"	144"
45 psf	104"	96"	136"	119"	164"	139"
50 psf	100"	93"	131"	115"	159"	134"
55 psf	97"	90"	127"	111"	154"	130"
60 psf	94"	87"	123"	108"	149"	126"
65 psf	92"	85"	120"	105"	146"	124"
70 psf	89"	83"	117"	102"	142"	121"
75 psf	87"	81"	115"	100"	139"	119"
80 psf	86"	79"	112"	98"	136"	117"
85 psf	84"	77"	110"	96"	134"	115"
90 psf	82"	75"	107"	94"	131"	113"
95 psf	80"	73"	105"	92"	129"	111"
100 psf	78"	71"	103"	90"	127"	109"



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OCTOBER 9, 2023

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23-65182

REMARKS
DRAWN: CHOD
DATE: 08/02/2023
REVISED: 08/02/2023
BY: RMM
CHECKED: RMM
DATE: 10/05/23



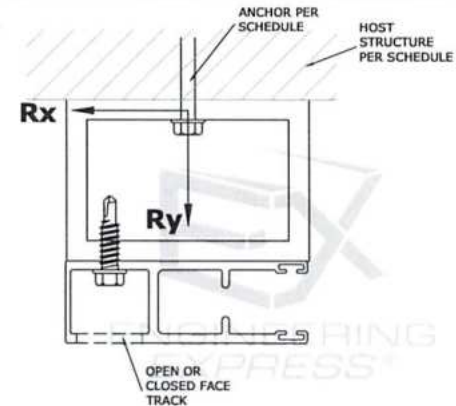
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ANCHOR SCHEDULE: END RETENTION (ER) BUILD-OUT MOUNT (SINGLE WALL SLATS)

				MAXIMUM SPACING (O.C.)																
				1/4" DEWALT OR DEWALT ULTRACON TO 2700 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	1/4" SS ITW TAPCON TO 3192 PSI MIN. CONCRETE; 1.75" MIN. EMBEDMENT; 2.5" MIN. EDGE DISTANCE	5/16" DEWALT OR DEWALT ULTRACON TO 3500 PSI MIN. CONCRETE; 2" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	5/16" ITW TAPCON			1/4" DEWALT POWER-BOLT TO 3000 PSI MIN. CONCRETE; 2.5" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	1/4" ALL-POINTS SOLID-SET		1/4" LAG SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	5/16" LAG SCREW TO G=0.42 MIN WOOD; 2" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 WOOD SCREW TO G=0.55 MIN WOOD; 1.5" MIN. EMBEDMENT; 0.75" MIN. EDGE DISTANCE	#14 410 SS SMS W/ FULL THREAD PENETRATION OR 1/4-20 410 SS THRU-BOLT TO 0.125" MIN. 6063-T6 ALUM; 0.5" MIN. EDGE DISTANCE	5/16" 410 SS SMS W/ FULL THREAD PENETRATION OR 5/16-18 410 SS THRU-BOLT TO 0.25" MIN. 6063-T6 ALUM; 0.625" MIN. EDGE DISTANCE	3/8" DEWALT SCREW BOLT TO 3000 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 4.5" MIN. EDGE DISTANCE	3/8" DEWALT OR DEWALT CONFLX	
							TO 2899 PSI MIN. CONCRETE; 2.25" MIN. EMBEDMENT; 3.125" MIN. EDGE DISTANCE	TO GROUT-FILLED CONCRETE BLOCK; 2.25" MIN. EMBEDMENT; 4" MIN. EDGE DISTANCE	TO HOLLOW CONCRETE BLOCK; 1.75" MIN. EMBEDMENT; 4" MIN. EDGE DISTANCE		TO 3000 PSI MIN. CONCRETE; 0.875" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE	TO HOLLOW BLOCK; 0.875" MIN. EMBEDMENT; 3" MIN. EDGE DISTANCE							TO 1819 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 3.75" MIN. EDGE DISTANCE	TO 4510 PSI MIN. CONCRETE; 3.5" MIN. EMBEDMENT; 3.75" MIN. EDGE DISTANCE
SLAT SPAN	DESIGN PRESSURE	R _x	R _y																	
82"	+/- 40 PSF	351.0 LB/FT	227.8 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	5.0"	4.5"	5.25"	6.0"	6.0"	6.0"	6.0"	6.0"
	+/- 50 PSF	463.2 LB/FT	294.8 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	5.0"	3.75"	3.25"	4.0"	6.0"	6.0"	6.0"	6.0"
	+/- 60 PSF	575.2 LB/FT	341.7 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	4.0"	3.0"	2.75"	3.25"	5.5"	6.0"	6.0"	6.0"
	+/- 70 PSF	687.1 LB/FT	398.7 LB/FT	5.0"	5.5"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.5"	2.5"	2.25"	2.5"	4.75"	6.0"	6.0"	6.0"
	+/- 80 PSF	798.9 LB/FT	455.6 LB/FT	4.25"	4.75"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.0"	2.25"	2.25"	2.25"	4.0"	6.0"	6.0"	6.0"
85"	+/- 40 PSF	382.8 LB/FT	236.2 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	4.5"	4.0"	4.75"	6.0"	6.0"	6.0"	6.0"	6.0"
	+/- 49 PSF	488.8 LB/FT	289.0 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	4.75"	3.5"	3.25"	3.75"	6.0"	6.0"	6.0"	6.0"
	+/- 58 PSF	594.7 LB/FT	341.9 LB/FT	5.75"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	4.0"	3.0"	2.5"	3.0"	5.5"	6.0"	6.0"	6.0"
	+/- 67 PSF	700.5 LB/FT	394.7 LB/FT	5.0"	5.25"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.5"	2.5"	2.25"	2.5"	4.75"	6.0"	6.0"	6.0"
	+/- 76 PSF	806.1 LB/FT	447.6 LB/FT	4.25"	4.75"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.0"	2.25"	2.25"	2.25"	4.0"	6.0"	6.0"	6.0"
90"	+/- 40 PSF	435.4 LB/FT	250.1 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	5.5"	4.0"	4.25"	6.0"	6.0"	6.0"	6.0"	6.0"
	+/- 47 PSF	531.2 LB/FT	296.5 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	4.5"	3.5"	3.0"	3.5"	6.0"	6.0"	6.0"	6.0"
	+/- 55 PSF	626.9 LB/FT	342.9 LB/FT	5.5"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	4.0"	3.0"	2.5"	3.0"	5.25"	6.0"	6.0"	6.0"
	+/- 62 PSF	722.5 LB/FT	389.3 LB/FT	4.75"	5.25"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.5"	2.5"	2.0"	2.5"	4.5"	6.0"	6.0"	6.0"
	+/- 70 PSF	818.0 LB/FT	435.7 LB/FT	4.25"	4.5"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.0"	2.25"	2.25"	2.25"	4.0"	6.0"	6.0"	6.0"
95"	+/- 40 PSF	487.7 LB/FT	263.9 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	5.0"	3.75"	3.25"	3.75"	6.0"	6.0"	6.0"	6.0"
	+/- 46 PSF	573.3 LB/FT	304.3 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	4.25"	3.0"	2.75"	3.25"	6.0"	6.0"	6.0"	6.0"
	+/- 52 PSF	658.9 LB/FT	344.8 LB/FT	5.25"	5.75"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.75"	3.0"	2.25"	2.75"	5.25"	6.0"	6.0"	6.0"
	+/- 58 PSF	744.4 LB/FT	385.2 LB/FT	4.75"	5.25"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.5"	2.5"	2.0"	2.5"	4.5"	6.0"	6.0"	6.0"
	+/- 64 PSF	829.7 LB/FT	425.6 LB/FT	4.25"	4.5"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.0"	2.0"	2.0"	2.25"	4.25"	6.0"	6.0"	6.0"
100"	+/- 40 PSF	539.8 LB/FT	277.8 LB/FT	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	4.5"	3.5"	3.0"	3.5"	6.0"	6.0"	6.0"	6.0"
	+/- 45 PSF	615.3 LB/FT	312.6 LB/FT	5.75"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	4.0"	3.0"	2.5"	3.0"	5.75"	6.0"	6.0"	6.0"
	+/- 50 PSF	690.8 LB/FT	347.3 LB/FT	5.25"	5.5"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.5"	2.5"	2.25"	2.75"	5.0"	6.0"	6.0"	6.0"
	+/- 55 PSF	766.1 LB/FT	382.0 LB/FT	4.75"	5.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.25"	2.25"	2.0"	2.5"	4.5"	6.0"	6.0"	6.0"
	+/- 60 PSF	841.4 LB/FT	416.8 LB/FT	4.25"	4.5"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	6.0"	3.0"	2.0"	2.0"	2.25"	4.25"	6.0"	6.0"	6.0"

ANCHOR NOTES: SEE SHEET
18 FOR ANCHOR NOTES.

BUILD-OUT MOUNT DIRECTIVE



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4268 WESTROADS DR.
WEST PALM BEACH, FL 33407
(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

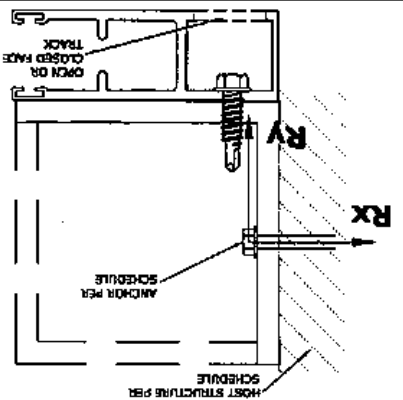
REVISION	DATE	DESCRIPTION
1	08/22/20	ISSUED FOR PERMIT
2	10/05/23	REVISED FOR UPDATE

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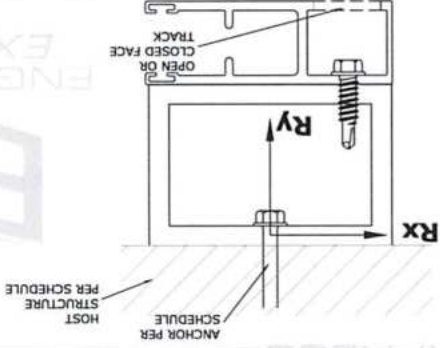
INTERIOR MOUNT DIRECTIVE

**ANCHOR NOTES: SEE SHEET
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ANCHOR SCHEDULE: END RETENTION (ER) BUILD-OUT MOUNT (DOUBLE WALL SLATS)

[illegible]

ANCHOR NOTES: SEE SHEET
18 FOR ANCHOR NOTES.



BUILD-OUT MOUNT DIRECTIVE

REMARKS	DRWN	CHGD	DATE
PREV. SUBMITTAL (03-11-82)	CCB	RWN	09/02/20
2023 FDC UPDATE	MRT	RWN	10/05/23

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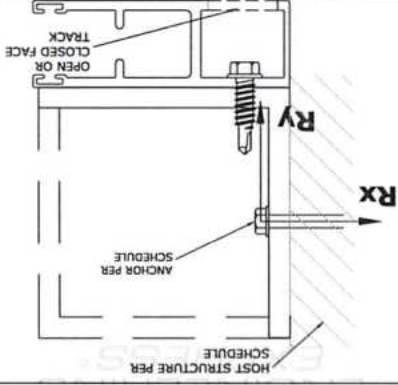
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

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ANCHOR SCHEDULE: END RETENTION (ER) INTERIOR MOUNT (DOUBLE WALL SLATS)

ANCHOR NOTES: SEE SHEET
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INTERIOR MOUNT DIRECTIVE

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40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

REMARKS	DRWN	CHGD	DATE
PREF SUBMITTAL (05-1162)	CCB	RWN	09/02/20
2023 FBC UPDATE	MRT	RWN	10/05/23

23-65182

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MULLION SCHEDULE: INTERMEDIATE MULLIONS

SLAT SPAN	DESIGN PRESSURE	4"x6"x0.25" ALUM TUBE		6"x4"x0.25" ALUM TUBE		4"x8"x0.25" ALUM TUBE		8"x4"x0.25" ALUM TUBE	
		MAX MULLION LENGTH	END REACTION R _i	MAX MULLION LENGTH	END REACTION R _i	MAX MULLION LENGTH	END REACTION R _i	MAX MULLION LENGTH	END REACTION R _i
82"	+/- 40 PSF	144.0"	1640.0 LB	144.0"	1640.0 LB	144.0"	1640.0 LB	144.0"	1640.0 LB
	+/- 50 PSF	144.0"	2050.0 LB	141.0"	2007.4 LB	144.0"	2050.0 LB	144.0"	2050.0 LB
	+/- 60 PSF	144.0"	2460.0 LB	132.7"	2266.8 LB	144.0"	2460.0 LB	144.0"	2460.0 LB
	+/- 70 PSF	144.0"	2870.0 LB	126.0"	2512.2 LB	144.0"	2870.0 LB	137.0"	2731.2 LB
	+/- 80 PSF	144.0"	3280.0 LB	120.6"	2746.0 LB	144.0"	3280.0 LB	131.1"	2985.5 LB
85"	+/- 40 PSF	144.0"	1700.0 LB	144.0"	1700.0 LB	144.0"	1700.0 LB	144.0"	1700.0 LB
	+/- 49 PSF	144.0"	2080.5 LB	140.3"	2027.2 LB	144.0"	2080.5 LB	144.0"	2080.5 LB
	+/- 58 PSF	144.0"	2461.0 LB	132.7"	2267.4 LB	144.0"	2461.0 LB	144.0"	2461.0 LB
	+/- 67 PSF	144.0"	2841.4 LB	126.5"	2495.5 LB	144.0"	2841.4 LB	137.5"	2713.1 LB
	+/- 76 PSF	144.0"	3221.9 LB	121.3"	2713.5 LB	144.0"	3221.9 LB	131.9"	2950.2 LB
90"	+/- 40 PSF	144.0"	1800.0 LB	144.0"	1800.0 LB	144.0"	1800.0 LB	144.0"	1800.0 LB
	+/- 47 PSF	144.0"	2134.2 LB	139.1"	2062.0 LB	144.0"	2134.2 LB	144.0"	2134.2 LB
	+/- 55 PSF	144.0"	2468.4 LB	132.5"	2271.9 LB	144.0"	2468.4 LB	144.0"	2468.4 LB
	+/- 62 PSF	144.0"	2802.5 LB	127.0"	2472.6 LB	144.0"	2802.5 LB	138.1"	2688.3 LB
	+/- 70 PSF	144.0"	3136.7 LB	122.4"	2665.5 LB	144.0"	3136.7 LB	133.0"	2897.9 LB
95"	+/- 40 PSF	144.0"	1900.0 LB	144.0"	1900.0 LB	144.0"	1900.0 LB	144.0"	1900.0 LB
	+/- 46 PSF	144.0"	2190.9 LB	137.9"	2098.3 LB	144.0"	2190.9 LB	144.0"	2190.9 LB
	+/- 52 PSF	144.0"	2481.7 LB	132.3"	2280.1 LB	144.0"	2481.7 LB	143.8"	2479.0 LB
	+/- 58 PSF	144.0"	2772.6 LB	127.5"	2455.0 LB	144.0"	2772.6 LB	138.6"	2669.1 LB
	+/- 64 PSF	144.0"	3063.5 LB	123.3"	2623.8 LB	144.0"	3063.5 LB	134.1"	2852.7 LB
100"	+/- 40 PSF	144.0"	2000.0 LB	142.2"	1974.6 LB	144.0"	2000.0 LB	144.0"	2000.0 LB
	+/- 45 PSF	144.0"	2250.0 LB	136.7"	2135.9 LB	144.0"	2250.0 LB	144.0"	2250.0 LB
	+/- 50 PSF	144.0"	2500.0 LB	132.0"	2291.3 LB	144.0"	2500.0 LB	143.5"	2491.1 LB
	+/- 55 PSF	144.0"	2750.0 LB	127.9"	2441.8 LB	144.0"	2750.0 LB	139.0"	2654.6 LB
	+/- 60 PSF	144.0"	3000.0 LB	124.2"	2587.5 LB	144.0"	3000.0 LB	135.0"	2813.1 LB

MULLION SCHEDULE: END MULLIONS

SLAT SPAN	DESIGN PRESSURE	4"x6"x0.25" ALUM TUBE				6"x4"x0.25" ALUM TUBE				4"x8"x0.25" ALUM TUBE				8"x4"x0.25" ALUM TUBE			
		MAX MULLION LENGTH	END REACTION R _v	END REACTION R _i	END REACTION R _{sum}	MAX MULLION LENGTH	END REACTION R _v	END REACTION R _i	END REACTION R _{sum}	MAX MULLION LENGTH	END REACTION R _v	END REACTION R _i	END REACTION R _{sum}	MAX MULLION LENGTH	END REACTION R _v	END REACTION R _i	END REACTION R _{sum}
82"	+/- 40 PSF	144.0"	2105.9 LB	820.0 LB	2259.9 LB	139.7"	2043.7 LB	795.8 LB	2193.2 LB	144.0"	2105.9 LB	820.0 LB	2259.9 LB	144.0"	2105.9 LB	820.0 LB	2259.9 LB
	+/- 50 PSF	139.0"	2682.2 LB	989.3 LB	2858.9 LB	127.4"	2458.8 LB	906.9 LB	2620.7 LB	144.0"	2779.0 LB	1025.0 LB	2962.0 LB	136.5"	2673.2 LB	986.0 LB	2849.2 LB
	+/- 60 PSF	125.2"	3006.6 LB	1069.4 LB	3185.4 LB	118.5"	2840.9 LB	1012.4 LB	3015.9 LB	141.6"	3394.2 LB	1209.6 LB	3603.3 LB	128.9"	3088.6 LB	1100.7 LB	3278.9 LB
	+/- 70 PSF	114.8"	3287.9 LB	1144.4 LB	3481.4 LB	111.7"	3198.3 LB	1113.2 LB	3386.5 LB	129.9"	3719.3 LB	1294.6 LB	3938.2 LB	121.5"	3477.2 LB	1210.3 LB	3681.8 LB
	+/- 80 PSF	106.7"	3551.8 LB	1215.2 LB	3753.9 LB	106.2"	3356.3 LB	1209.9 LB	3737.6 LB	120.7"	4017.9 LB	1374.7 LB	4246.6 LB	115.5"	3844.7 LB	1315.4 LB	4063.3 LB
85"	+/- 40 PSF	144.0"	2297.0 LB	850.0 LB	2449.3 LB	135.8"	2165.6 LB	801.3 LB	2309.1 LB	144.0"	2297.0 LB	850.0 LB	2449.3 LB	144.0"	2297.0 LB	850.0 LB	2449.3 LB
	+/- 49 PSF	135.9"	2767.8 LB	981.8 LB	2936.5 LB	125.1"	2548.8 LB	904.0 LB	2704.4 LB	144.0"	2933.1 LB	1040.2 LB	3112.1 LB	136.0"	2771.1 LB	982.8 LB	2940.2 LB
	+/- 58 PSF	123.6"	3061.9 LB	1055.9 LB	3238.9 LB	117.2"	2904.7 LB	1001.6 LB	3072.6 LB	139.8"	3463.8 LB	1194.4 LB	3663.9 LB	127.4"	3158.0 LB	1089.0 LB	3340.5 LB
	+/- 67 PSF	114.1"	3330.0 LB	1125.7 LB	3515.1 LB	111.0"	3239.6 LB	1095.1 LB	3419.6 LB	129.1"	3767.2 LB	1273.5 LB	3976.6 LB	120.7"	3522.1 LB	1190.6 LB	3717.9 LB
	+/- 76 PSF	106.5"	3577.8 LB	1191.7 LB	3771.0 LB	105.9"	3557.5 LB	1185.0 LB	3749.7 LB	120.5"	4047.6 LB	1348.2 LB	4266.2 LB	115.2"	3867.8 LB	1288.3 LB	4076.7 LB
90"	+/- 40 PSF	144.0"	2612.6 LB	900.0 LB	2763.3 LB	130.1"	2359.6 LB	812.8 LB	2495.7 LB	144.0"	2612.6 LB	900.0 LB	2763.3 LB	141.4"	2565.4 LB	883.7 LB	2713.3 LB
	+/- 47 PSF	131.1"	2902.9 LB	971.9 LB	3061.3 LB	121.7"	2694.1 LB	901.9 LB	2841.1 LB	144.0"	3187.4 LB	1067.1 LB	3361.3 LB	132.3"	2929.1 LB	980.6 LB	3088.9 LB
	+/- 55 PSF	121.0"	3160.2 LB	1036.9 LB	3325.9 LB	115.2"	3008.6 LB	987.1 LB	3166.4 LB	138.9"	3575.2 LB	1173.0 LB	3762.7 LB	125.2"	3271.0 LB	1073.2 LB	3442.6 LB
	+/- 62 PSF	112.9"	3397.7 LB	1098.3 LB	3570.8 LB	109.9"	3307.1 LB	1069.0 LB	3475.6 LB	127.7"	3844.9 LB	1242.6 LB	4039.8 LB	119.4"	3595.5 LB	1162.2 LB	3778.7 LB
	+/- 70 PSF	106.2"	3619.4 LB	1156.6 LB	3799.7 LB	105.4"	3592.4 LB	1148.0 LB	3771.3 LB	120.1"	4094.9 LB	1308.6 LB	4298.9 LB	114.6"	3905.7 LB	1248.1 LB	4100.2 LB
95"	+/- 40 PSF	137.3"	2790.2 LB	905.9 LB	2933.6 LB	125.2"	2544.8 LB	826.2 LB	2675.6 LB	144.0"	2926.1 LB	950.0 LB	3076.5 LB	136.2"	2766.7 LB	896.3 LB	2908.9 LB
	+/- 48 PSF	126.9"	3031.3 LB	963.1 LB	3181.3 LB	118.7"	2834.7 LB	902.7 LB	2974.9 LB	143.6"	3429.5 LB	1092.1 LB	3599.2 LB	129.0"	3081.9 LB	981.4 LB	3234.3 LB
	+/- 52 PSF	118.5"	3254.3 LB	1021.4 LB	3410.8 LB	113.3"	3110.1 LB	976.2 LB	3259.7 LB	134.1"	3681.9 LB	1155.7 LB	3859.0 LB	123.2"	3381.3 LB	1061.3 LB	3544.0 LB
	+/- 58 PSF	111.6"	3462.7 LB	1074.8 LB	3625.7 LB	108.8"	3373.5 LB	1047.1 LB	3532.3 LB	126.3"	3917.8 LB	1216.1 LB	4102.2 LB	118.3"	3667.7 LB	1138.5 LB	3840.3 LB
	+/- 64 PSF	105.8"	3659.0 LB	1125.8 LB	3828.3 LB	104.9"	3626.7 LB	1115.9 LB	3794.5 LB	119.8"	4140.0 LB	1273.8 LB	4331.5 LB	114.1"	3943.0 LB	1213.2 LB	4125.4 LB
100"	+/- 40 PSF	131.2"	2950.4 LB	910.9 LB	3087.9 LB	121.1"	2723.1 LB	840.7 LB	2850.0 LB	144.0"	3239.0 LB	1000.0 LB	3389.9 LB	131.6"	2960.6 LB	914.0 LB	3098.5 LB
	+/- 45 PSF	123.0"	3154.0 LB	961.1 LB	3297.2 LB	115.9"	2971.5 LB	905.4 LB	3106.4 LB	139.2"	3568.7 LB	1087.4 LB	3730.7 LB	126.0"	3230.6 LB	984.4 LB	3377.3 LB
	+/- 50 PSF	116.2"	3345.1 LB	1008.9 LB	3493.9 LB	111.5"	3209.6 LB	968.0 LB	3352.4 LB	131.5"	3784.9 LB	1141.5 LB	3953.3 LB	121.2"	3489.5 LB	1052.4 LB	3644.7 LB
	+/- 55 PSF	110.4"	3525.8 LB	1054.6 LB	3679.9 LB	107.7"	3438.9 LB	1028.7 LB	3589.5 LB	125.0"	3989.2 LB	1193.3 LB	4163.8 LB	117.1"	3738.8 LB	1118.4 LB	3902.5 LB
	+/- 60 PSF	105.5"	3697.1 LB	1098.5 LB	3856.8 LB	104.4"	3660.6 LB	1087.7 LB	3818.8 LB	119.3"	4183.2 LB	1243.0 LB	4364.0 LB	113.5"	3979.9 LB	1182.5 LB	4151.8 LB

END RETENTION (ER) SINGLE WALL SLAT MULLION SCHEDULES

MULLION SCHEDULE NOTES:

- VALUES SHOWN IN MULLION SCHEDULES ARE MAXIMUM ALLOWABLE MULLION LENGTHS AT EACH RESPECTIVE SLAT SPAN AND DESIGN PRESSURE.
- "INTERMEDIATE MULLIONS" ARE AS DEFINED IN ELEVATION 2/3.
- "END MULLIONS" ARE AS DEFINED IN ELEVATION 2/3
- ALL MULLIONS SHALL BE 6061-T6 ALUMINUM OR EQUIVALENT.
- ALLOWABLE DESIGN PRESSURES AND SLAT SPANS INDICATED ARE FOR DETERMINING PERMISSIBLE MULLION LENGTHS ONLY. ACTUAL SLAT SPANS AND DESIGN PRESSURES SHALL NOT EXCEED THOSE INDICATED IN SPAN SCHEDULES.
- "END REACTIONS" ARE LISTED FOR EACH COMBINATION OF DESIGN LOAD, MULLION TYPE, SLAT TYPE (OPEN OR CLOSED) & SLAT SPAN. CHOOSE MOUNTING CONNECTIONS (PER APPLICABLE CONNECTION DETAILS HEREIN) THAT PROVIDES "CONNECTION CAPACITY" GREATER THAN OR EQUAL TO "END REACTIONS" GIVEN ABOVE.
- "INTERMEDIATE MULLIONS" SHALL HAVE EQUAL SLAT SPANS ON ADJACENT SIDES OF MULLION. OTHERWISE, USE "END MULLION" TABLES.

FRANK BENNARD, P.E.
PE # 0046549 CAP 9885



OCTOBER 9, 2023

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REMARKS	DRAWN	CHKD	DATE
PREC SUBMITTAL (20-3105)	CB	RYAN	08/02/20
2023 P&C UPDATE	MKT	RYAN	10/05/23

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END RETENTION (ER) DOUBLE WALL SLAT MULLION SCHEDULES

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PE # 0046549 CA# 9885

OCTOBER 9, 2023



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MULLION SCHEDULE: INTERMEDIATE MULLIONS									
SLAT SPAN	DESIGN PRESSURE	4"x6"x0.25" ALUM TUBE MAX MULLION LENGTH	END REACTION R _t	6"x4"x0.25" ALUM TUBE MAX MULLION LENGTH	END REACTION R _t	4"x6"x0.25" ALUM TUBE MAX MULLION LENGTH	END REACTION R _t	6"x4"x0.25" ALUM TUBE MAX MULLION LENGTH	END REACTION R _t
82"	+/- 40 PSF	144.0"	1640.0 LB	144.0"	1640.0 LB	144.0"	1640.0 LB	144.0"	1640.0 LB
	+/- 60 PSF	144.0"	2460.0 LB	132.7"	2266.8 LB	144.0"	2460.0 LB	144.0"	2460.0 LB
	+/- 80 PSF	144.0"	3280.0 LB	120.6"	2746.0 LB	144.0"	3280.0 LB	131.1"	2985.5 LB
	+/- 100 PSF	138.6"	3947.3 LB	111.9"	3186.5 LB	144.0"	4100.0 LB	121.7"	3464.4 LB
	+/- 120 PSF	130.5"	4457.5 LB	105.3"	3598.3 LB	144.0"	4920.0 LB	114.5"	3912.2 LB
100"	+/- 40 PSF	144.0"	2000.0 LB	142.2"	1974.6 LB	144.0"	2000.0 LB	144.0"	2000.0 LB
	+/- 50 PSF	144.0"	2777.6 LB	127.4"	2458.0 LB	144.0"	2777.6 LB	138.5"	2672.3 LB
	+/- 71 PSF	144.0"	3555.3 LB	117.4"	2897.6 LB	144.0"	3555.3 LB	127.6"	3150.3 LB
	+/- 87 PSF	136.1"	4095.4 LB	109.9"	3306.1 LB	144.0"	4332.9 LB	119.5"	3594.4 LB
	+/- 102 PSF	128.8"	4571.8 LB	104.0"	3690.7 LB	144.0"	5110.6 LB	113.1"	4012.5 LB
120"	+/- 40 PSF	144.0"	2400.0 LB	133.8"	2229.8 LB	144.0"	2400.0 LB	144.0"	2400.0 LB
	+/- 52 PSF	144.0"	3148.4 LB	122.2"	2672.1 LB	144.0"	3148.4 LB	132.9"	2905.2 LB
	+/- 65 PSF	141.0"	3815.8 LB	113.8"	3080.4 LB	144.0"	3896.9 LB	123.8"	3349.0 LB
	+/- 77 PSF	133.0"	4290.0 LB	107.4"	3463.1 LB	144.0"	4645.3 LB	116.7"	3765.2 LB
	+/- 90 PSF	126.5"	4739.2 LB	102.1"	3825.8 LB	143.2"	5365.6 LB	111.0"	4159.4 LB
144"	+/- 40 PSF	144.0"	2880.0 LB	125.9"	2518.0 LB	144.0"	2880.0 LB	136.9"	2737.6 LB
	+/- 50 PSF	144.0"	3600.0 LB	116.9"	2921.9 LB	144.0"	3600.0 LB	127.1"	3176.7 LB
	+/- 60 PSF	136.2"	4087.3 LB	110.0"	3299.5 LB	144.0"	4320.0 LB	119.6"	3587.3 LB
	+/- 70 PSF	129.4"	4529.6 LB	104.5"	3656.6 LB	144.0"	5040.0 LB	113.6"	3975.5 LB
	+/- 80 PSF	123.5"	4939.3 LB	99.9"	3997.1 LB	138.6"	5544.8 LB	108.6"	4345.6 LB
160"	+/- 35 PSF	144.0"	2800.0 LB	127.1"	2471.1 LB	144.0"	2800.0 LB	138.2"	2686.7 LB
	+/- 43 PSF	144.0"	3466.7 LB	118.4"	2849.3 LB	144.0"	3466.7 LB	128.7"	3097.8 LB
	+/- 52 PSF	138.3"	3968.7 LB	111.6"	3203.8 LB	144.0"	4133.3 LB	121.3"	3483.2 LB
	+/- 60 PSF	131.5"	4384.7 LB	106.2"	3539.6 LB	144.0"	4800.0 LB	115.4"	3848.3 LB
	+/- 68 PSF	126.0"	4781.8 LB	101.7"	3860.2 LB	142.3"	5401.8 LB	110.6"	4196.8 LB
192"	+/- 30 PSF	144.0"	2880.0 LB	125.9"	2518.0 LB	144.0"	2880.0 LB	136.9"	2737.6 LB
	+/- 34 PSF	144.0"	3240.0 LB	121.1"	2723.7 LB	144.0"	3240.0 LB	131.6"	2961.2 LB
	+/- 38 PSF	144.0"	3600.0 LB	116.9"	2921.9 LB	144.0"	3600.0 LB	127.1"	3176.7 LB
	+/- 41 PSF	140.3"	3856.9 LB	113.2"	3113.5 LB	144.0"	3960.0 LB	123.1"	3385.1 LB
	+/- 45 PSF	136.2"	4087.3 LB	110.0"	3299.5 LB	144.0"	4320.0 LB	119.6"	3587.3 LB

MULLION SCHEDULE NOTES:
SEE SHEET 24 FOR MULLION
SCHEDULE NOTES.

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4268 WESTROADS DR.
WEST PALM BEACH, FL 33407
(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

REMARKS	DATE	DRWN	CHKD
REV. SUBMITTAL (03/15/23)	08/02/23	RYAN	RYAN
2023 FBC UPDATE	10/09/23	MRT	RYAN

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25 OF 25

END RETENTION (ER) DOUBLE WALL SLAT MULLION SCHEDULES

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PE# 0046549 CA# 9885

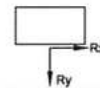
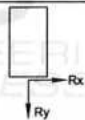
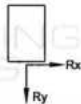
OCTOBER 9, 2023



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MULLION SCHEDULE: END MULLIONS



SLAT SPAN	DESIGN PRESSURE	4"x6"x0.25" ALUM TUBE			6"x4"x0.25" ALUM TUBE			4"x8"x0.25" ALUM TUBE			8"x4"x0.25" ALUM TUBE		
		MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt	MAX MULLION LENGTH	END REACTION Rv	END REACTION Rt
82"	+/- 40 PSF	144.0"	1893.0 LB	820.0 LB	2063.0 LB	144.0"	1893.0 LB	820.0 LB	2063.0 LB	144.0"	1893.0 LB	820.0 LB	2063.0 LB
	+/- 60 PSF	128.3"	2884.8 LB	1096.3 LB	3086.1 LB	121.1"	2721.7 LB	1034.4 LB	2911.7 LB	144.0"	3236.5 LB	1230.0 LB	3462.4 LB
	+/- 80 PSF	108.7"	3452.6 LB	1237.6 LB	3667.7 LB	107.9"	3428.2 LB	1228.9 LB	3641.8 LB	122.9"	3905.4 LB	1399.9 LB	4148.7 LB
	+/- 100 PSF	96.9"	3937.6 LB	1366.1 LB	4167.8 LB	99.1"	4065.7 LB	1410.5 LB	4303.4 LB	108.6"	4454.3 LB	1545.4 LB	4714.8 LB
	+/- 120 PSF	86.9"	4367.7 LB	1484.5 LB	4612.8 LB	92.1"	4628.8 LB	1573.3 LB	4888.9 LB	98.3"	4940.7 LB	1679.3 LB	5218.3 LB
100"	+/- 40 PSF	133.5"	2872.7 LB	927.3 LB	3018.6 LB	122.9"	2643.5 LB	853.3 LB	2777.8 LB	144.0"	3097.9 LB	1000.0 LB	3255.3 LB
	+/- 56 PSF	111.2"	3481.2 LB	1072.6 LB	3842.7 LB	108.4"	3394.3 LB	1045.8 LB	3551.7 LB	125.8"	3938.8 LB	1213.6 LB	4121.5 LB
	+/- 71 PSF	97.3"	3996.7 LB	1201.6 LB	4173.4 LB	99.1"	4067.5 LB	1222.8 LB	4247.3 LB	110.1"	4522.2 LB	1359.5 LB	4722.1 LB
	+/- 87 PSF	87.6"	4451.4 LB	1318.5 LB	4642.6 LB	92.3"	4687.1 LB	1388.3 LB	4888.4 LB	99.2"	5036.8 LB	1491.9 LB	5253.1 LB
	+/- 102 PSF	80.4"	4862.4 LB	1426.3 LB	5067.3 LB	85.7"	5186.3 LB	1521.3 LB	5404.9 LB	90.9"	5501.9 LB	1613.9 LB	5733.8 LB
120"	+/- 40 PSF	113.7"	3486.0 LB	947.4 LB	3612.4 LB	109.2"	3348.0 LB	909.9 LB	3469.4 LB	128.7"	3944.9 LB	1072.1 LB	4088.0 LB
	+/- 52 PSF	98.5"	4037.6 LB	1076.6 LB	4178.6 LB	99.1"	4063.3 LB	1083.5 LB	4205.2 LB	111.5"	4569.2 LB	1218.4 LB	4728.9 LB
	+/- 65 PSF	88.1"	4521.1 LB	1192.3 LB	4675.6 LB	92.0"	4718.7 LB	1244.4 LB	4880.0 LB	99.7"	5116.5 LB	1349.3 LB	5291.4 LB
	+/- 77 PSF	80.5"	4956.5 LB	1298.0 LB	5123.6 LB	86.2"	5310.8 LB	1390.8 LB	5489.9 LB	91.1"	5609.3 LB	1469.0 LB	5798.5 LB
	+/- 90 PSF	74.5"	5355.4 LB	1396.0 LB	5534.4 LB	79.9"	5739.4 LB	1496.1 LB	5931.2 LB	84.4"	6060.9 LB	1579.9 LB	6263.4 LB
144"	+/- 40 PSF	98.2"	4124.5 LB	982.3 LB	4239.9 LB	98.3"	4128.4 LB	983.2 LB	4243.9 LB	111.2"	4668.3 LB	1111.8 LB	4798.9 LB
	+/- 50 PSF	87.6"	4631.9 LB	1094.7 LB	4759.5 LB	91.0"	4815.2 LB	1138.0 LB	4947.9 LB	99.1"	5242.7 LB	1239.1 LB	5387.1 LB
	+/- 60 PSF	79.8"	5087.9 LB	1196.8 LB	5226.8 LB	85.5"	5454.8 LB	1283.1 LB	5603.7 LB	90.3"	5758.9 LB	1354.8 LB	5916.1 LB
	+/- 70 PSF	73.8"	5505.3 LB	1291.0 LB	5654.7 LB	79.4"	5923.6 LB	1389.1 LB	6084.3 LB	83.5"	6231.4 LB	1461.3 LB	6400.4 LB
	+/- 80 PSF	68.9"	5892.3 LB	1379.0 LB	6051.5 LB	74.2"	6340.4 LB	1483.8 LB	6511.7 LB	78.0"	6669.4 LB	1560.8 LB	6849.6 LB
160"	+/- 35 PSF	96.9"	4224.6 LB	941.9 LB	4328.3 LB	97.1"	4233.8 LB	944.0 LB	4337.7 LB	109.7"	4782.0 LB	1068.2 LB	4899.5 LB
	+/- 43 PSF	86.8"	4718.3 LB	1045.2 LB	4832.7 LB	90.2"	4902.9 LB	1086.0 LB	5021.7 LB	98.3"	5341.0 LB	1183.1 LB	5470.4 LB
	+/- 52 PSF	79.4"	5165.1 LB	1139.1 LB	5289.2 LB	85.0"	5529.0 LB	1219.4 LB	5661.9 LB	89.8"	5846.7 LB	1289.4 LB	5987.2 LB
	+/- 60 PSF	73.6"	5578.1 LB	1225.9 LB	5709.3 LB	79.3"	6013.6 LB	1322.1 LB	6157.2 LB	83.3"	6312.0 LB	1387.7 LB	6462.8 LB
	+/- 68 PSF	68.9"	5958.9 LB	1306.9 LB	6100.5 LB	74.3"	6426.9 LB	1409.6 LB	6579.7 LB	77.9"	6745.3 LB	1479.4 LB	6905.7 LB
192"	+/- 30 PSF	91.3"	4550.4 LB	913.1 LB	4641.1 LB	92.9"	4627.9 LB	928.7 LB	4720.1 LB	103.4"	5151.5 LB	1033.7 LB	5254.2 LB
	+/- 34 PSF	86.0"	4832.7 LB	967.5 LB	4928.6 LB	89.2"	5013.6 LB	1003.8 LB	5113.1 LB	97.4"	5471.1 LB	1095.4 LB	5579.7 LB
	+/- 38 PSF	81.5"	5099.4 LB	1019.1 LB	5200.3 LB	86.1"	5385.0 LB	1076.1 LB	5491.5 LB	92.3"	5773.1 LB	1153.7 LB	5887.2 LB
	+/- 41 PSF	77.7"	5352.9 LB	1068.1 LB	5458.4 LB	83.4"	5744.0 LB	1148.2 LB	5857.3 LB	87.9"	6060.0 LB	1209.2 LB	6179.5 LB
	+/- 45 PSF	74.3"	5594.9 LB	1115.0 LB	5704.9 LB	80.4"	6054.0 LB	1206.5 LB	6173.0 LB	84.2"	6334.0 LB	1262.3 LB	6458.8 LB

MULLION SCHEDULE NOTES:
SEE SHEET 24 FOR MULLION
SCHEDULE NOTES.

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4268 WESTROADS DR.
WEST PALM BEACH, FL 33407
(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

REMARKS	DATE	CHKD	DATE	CHKD	DATE	CHKD	DATE	CHKD	DATE
REVISED SUBMITTAL (24-1280)	08/02/20	CCB	08/02/20	CCB	08/02/20	CCB	08/02/20	CCB	08/02/20
2023 FIC UPDATE	10/05/23	MRT	10/05/23	MRT	10/05/23	MRT	10/05/23	MRT	10/05/23

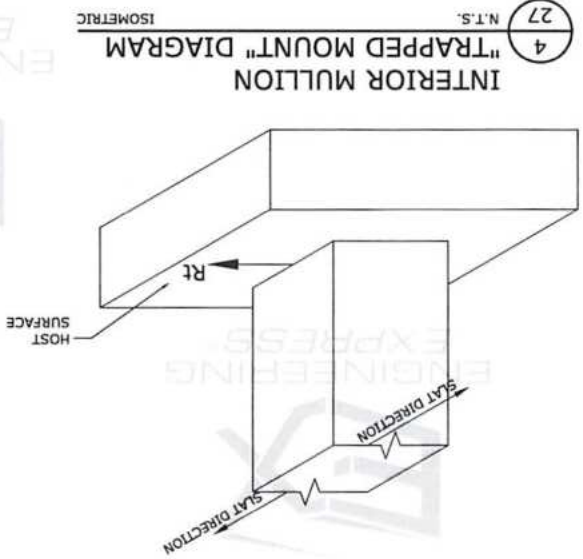
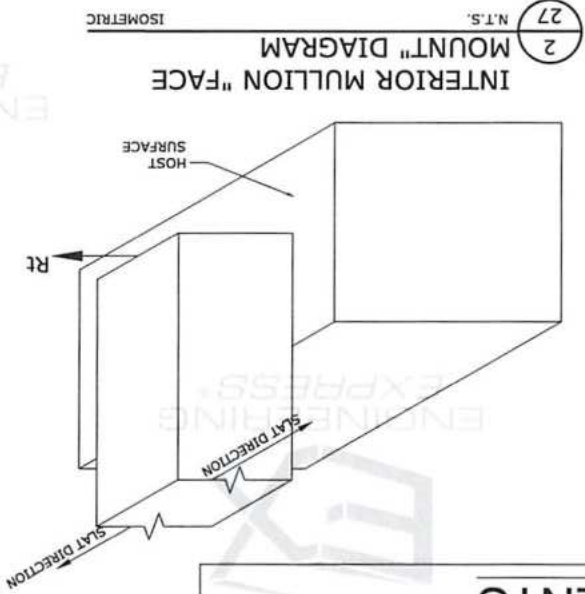
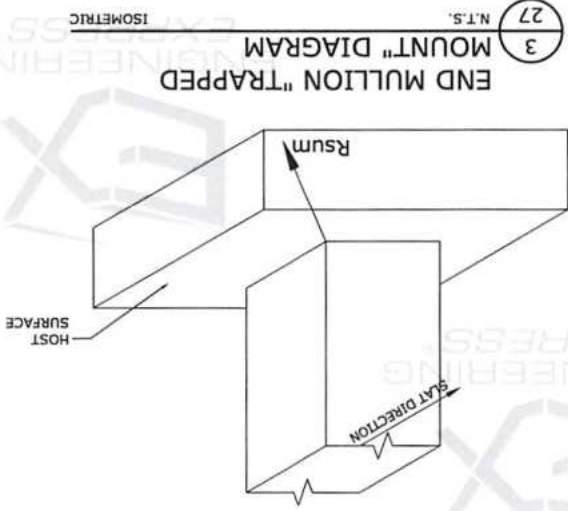
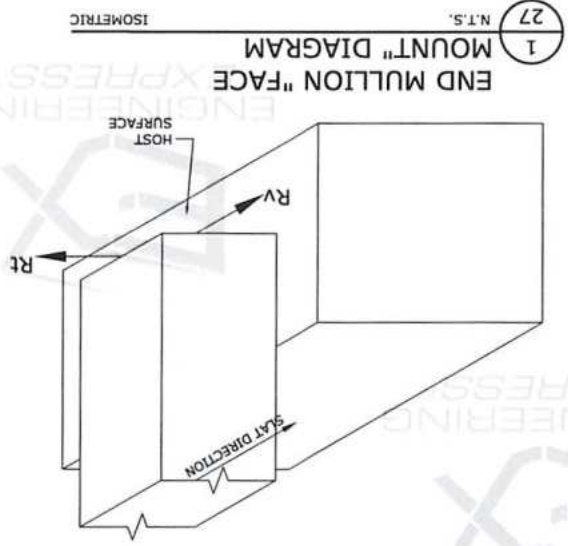
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END RETENTION (ER) MULLION END ATTACHMENTS



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WEST PALM BEACH, FL 33407
(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

DATE	CHG	BY	REMARKS
10/05/23	RMN	RMN	2023 PFC UPDATE
08/02/20	RMN	RMN	COB
05/17/20	COB	RMN	REVISED

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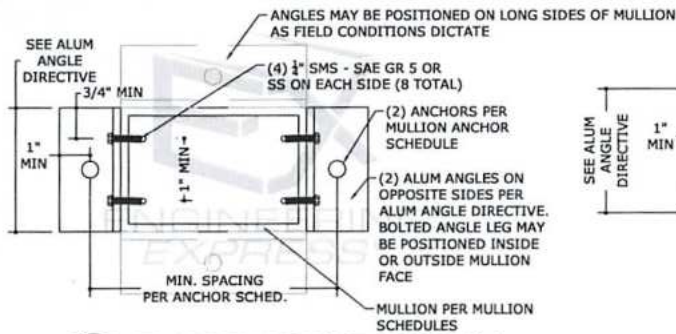
END RETENTION (ER) MULLION END ATTACHMENTS

FRANK BENNARDI, P.E.
PE # 0046549 CAF 9885

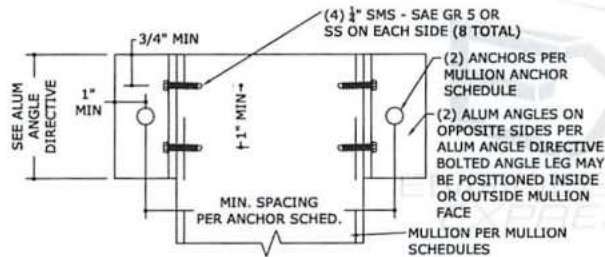
OCTOBER 9, 2023



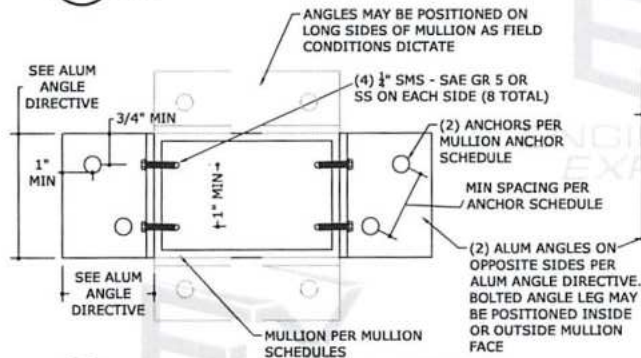
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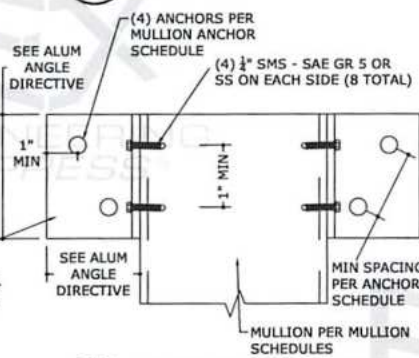
1A TRAPPED MOUNT OPTION 1
28 N.T.S.



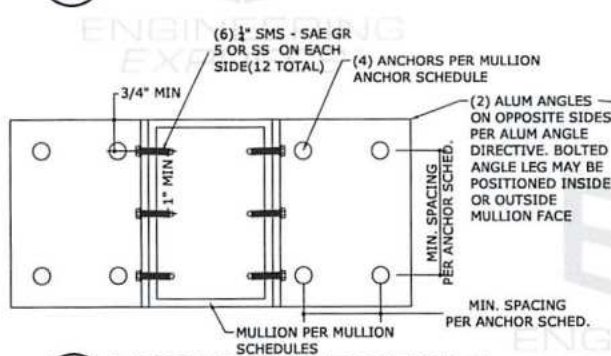
1B FACE MOUNT OPTION 1
28 N.T.S.



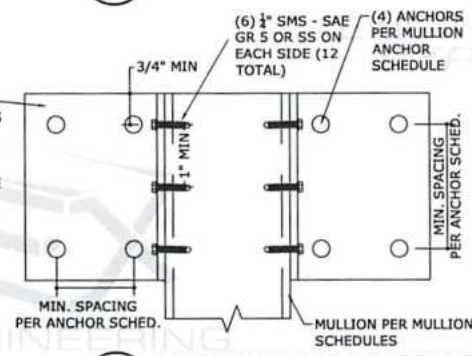
2A TRAPPED MOUNT OPTION 2
28 N.T.S.



2B FACE MOUNT OPTION 2
28 N.T.S.



3A TRAPPED MOUNT OPTION 3
28 N.T.S.



3B FACE MOUNT OPTION 3
28 N.T.S.

MULLION ANCHOR SCHEDULE

ANCHOR TYPE	MINIMUM SPACING	MINIMUM EDGE DISTANCE	CONNECTION DETAIL	CONNECTION CAPACITY
1/2" DEWALT SCREW BOLTS (OR EQUIV.) W/ 2-1/2" EMBED TO 3KSI MIN. CONCRETE	6"	4.5"	1A/13, 1B/13	Tcap 3660 LB Vcap 2249 LB
	4.0"	4.5"	2A/13, 2B/13	Tcap 6442 LB Vcap 4106 LB
	4.0"	4.5"	3A/13, 3B/13	Tcap 12883 LB Vcap 8213 LB
3/8" DEWALT SCREW BOLTS (OR EQUIV.) W/ 2" EMBED TO 3KSI MIN. CONCRETE	6.0"	2.5"	1A/13, 1B/13	Tcap 1905 LB Vcap 1007 LB
	3.0"	2.5"	2A/13, 2B/13	Tcap 3801 LB Vcap 1700 LB
	3.0"	2.5"	3A/13, 3B/13	Tcap 7602 LB Vcap 3399 LB
3/8" DEWALT SCREW BOLTS (OR EQUIV.) W/ 3-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK*	6.0"	4.5"	1A/13, 1B/13	Tcap 1953 LB Vcap 1233 LB
	3.0"	4.5"	2A/13, 2B/13	Tcap 3906 LB Vcap 2487 LB
	3.0"	4.5"	3A/13, 3B/13	Tcap 7812 LB Vcap 4934 LB
5/16" LAG SCREW W/ 2" MIN. THREAD PENETRATION TO G=0.42 MIN WOOD	2.0"	1.25"	1A/13, 1B/13	Tcap 1310 LB Vcap 302 LB
	2.0"	1.25"	2A/13, 2B/13	Tcap 2620 LB Vcap 604 LB
	2.0"	1.25"	3A/13, 3B/13	Tcap 3930 LB Vcap 906 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2" EMBED TO 3.5KSI MIN CONCRETE	5.0"	3.125"	1A/13, 1B/13	Tcap 1670 LB Vcap 1700 LB
	3.75"	3.125"	2A/13, 2B/13	Tcap 1820 LB Vcap 2840 LB
	3.75"	3.125"	3A/13, 3B/13	Tcap 3640 LB Vcap 5680 LB
5/16" DEWALT ULTRACON (OR EQUIV.) W/ 2-1/4" EMBED TO GROUT-FILLED CONCRETE BLOCK	5.0"	2.5"	1A/13, 1B/13	Tcap 580 LB Vcap 750 LB
	5.0"	2.5"	2A/13, 2B/13	Tcap 1160 LB Vcap 1500 LB
	5.0"	2.5"	3A/13, 3B/13	Tcap 2320 LB Vcap 3000 LB

MULLION ANCHOR SCHEDULE NOTES:

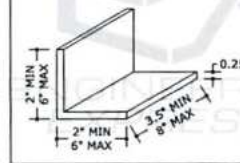
- FOR "TRAPPED MOUNT" CONDITIONS WITH END MULLIONS, 'Rsum' VALUES IN MULLION SCHEDULE SHALL NOT EXCEED MAX 'Vcap' VALUES NOTED IN THIS SCHEDULE.
- FOR "FACE MOUNT" CONDITIONS WITH END MULLIONS, $R_v/Vcap + R_t/Tcap$ SHALL BE LESS THAN OR EQUAL TO 1.0, WHERE 'Rv' AND 'Rt' ARE PER MULLION SCHEDULES, AND 'Tcap' AND 'Vcap' ARE PER THIS SCHEDULE.
- FOR "TRAPPED MOUNT" CONDITIONS WITH INTERMEDIATE MULLIONS, 'Rt' VALUES IN MULLION SCHEDULES SHALL NOT EXCEED 'Vcap' VALUES NOTED IN THIS SCHEDULE.
- FOR "FACE MOUNT" CONDITIONS WITH INTERMEDIATE MULLIONS, 'Rt' VALUES IN MULLION SCHEDULES SHALL NOT EXCEED 'Tcap' VALUES NOTED IN THIS SCHEDULE.
- * ANCHORS SHALL PENETRATE THROUGH FACE SHELL INTO GROUTED CELL.
- ALTERNATE ANCHORS AND OR END CONNECTION CONFIGURATIONS MAY BE DESIGNED/CERTIFIED ON A SITE SPECIFIC BASIS BASED ON THE END LOADINGS LISTED IN THE MULLION SCHEDULES.
- 1/2" UNC THRU BOLTS MAY BE USED IN LIEU OF 3/8" SMS PER THE FOLLOWING DIRECTIVE
 - (4) SMS PER SIDE = (2) 3/8" UNC THRU BOLTS / (6) SMS PER SIDE = (3) 3/8" UNC THRU BOLTS

ALTERNATE ANCHOR NOTE:

FOR ALL 3/8" AND 1/2" DIAMETER ANCHOR OPTIONS LISTED IN THE ANCHOR SCHEDULES, AN EQUIVALENT DIAMETER HILLMAN/ALL-POINTS SOLID-SET ANCHOR (CARBON OR STAINLESS STEEL) MAY BE USED IN LIEU OF THE OPTION(S) LISTED SO LONG AS THE LISTED MINIMUM EMBEDMENT, EDGE DISTANCE AND SPACING ARE ACHIEVED.

ALUM ANGLE DIRECTIVE

N.T.S. 6061-T6 OR 6005-T5 ALUM



ANGLE DIMENSION NOTE:
MINIMUM REQUIRED ANGLE LEG SIZES AND LENGTH SHALL BE DETERMINED BASED ON THE ANCHOR REQUIREMENTS IN THE MULLION ANCHOR SCHEDULE AND THE MULLION ATTACHMENT DETAILS HEREIN

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(800) 432-2204
40mm SLAT BERTHA ROLL-UP HURRICANE SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)

REMARKS	DATE	BY	CHKD	DATE	BY	CHKD
ISSUED FOR CONSTRUCTION	09/20/23	FRANK BENNARDI	FRANK BENNARDI	09/20/23	FRANK BENNARDI	FRANK BENNARDI
2023 IBC UPDATE	09/20/23	FRANK BENNARDI	FRANK BENNARDI	09/20/23	FRANK BENNARDI	FRANK BENNARDI

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