

FOLDING SHUTTER CORPORATION

IMPACT BAHAMA SHUTTER

LARGE MISSILE IMPACT RESISTANT (MISSILE LEVEL D)

VALID FOR USE INSIDE AND OUTSIDE THE HVHZ (SEE LIMITATIONS HEREIN)

NON-SITE-SPECIFIC STRUCTURAL PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION.

GENERAL NOTES:

- THIS SYSTEM HAS BEEN TESTED AND EVALUATED AS A LARGE MISSILE IMPACT PROTECTIVE SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE NINTH EDITION (2026) FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE ("HVHZ"), PER TAS 201, 202, & 203 PROTOCOLS.
- WIND LOAD DURATION FACTOR $C_d=1.6$ HAS BEEN USED FOR WOOD ANCHOR DESIGN.
- POSITIVE AND NEGATIVE DESIGN PRESSURES TO BE USED WITH THESE DRAWINGS SHALL BE DETERMINED BY OTHERS FOR SPECIFIC JOBS IN ACCORDANCE WITH THE GOVERNING CODE.
- SHUTTER SYSTEM AS SHOWN HEREIN IS APPROVED FOR USE WITH ANY NUMBER OF PANELS, PROVIDED THAT THE LIMITATIONS OF USE FOR STORM BARS AND FOR SINGLE SPAN SHUTTERS AS SHOWN ON SHEETS 10 AND 11 ARE NOT EXCEEDED. MAXIMUM PANEL WIDTH AND MAXIMUM OVERALL SHUTTER HEIGHT AS NOTED ABOVE SHALL NOT BE EXCEEDED.
- WHEN STORM BARS ARE REQUIRED, OVERALL SHUTTER WIDTH SHALL NOT EXCEED DIMENSIONS NOTED ABOVE. WHEN STORM BARS ARE NOT REQUIRED, ANY NUMBER OF PANELS MAY BE USED (INFINITE OVERALL WIDTH) WITH 2'-4" MAX PANEL WIDTH.
- THE NUMBER OF STORM BARS REQUIRED FOR EACH SHUTTER TYPICALLY VARIES FROM 1 TO 3 & IS DEPENDENT ON SHUTTER SIZE & REQUIRED DESIGN PRESSURE. SEE ELEVATION DETAILS & LOAD TABLES ON SHEETS 10 & 11 FOR STORM BAR REQUIREMENTS.
- MINIMUM SEPARATION BETWEEN SHUTTER (IN CLOSED POSITION) & GLAZING SHALL BE AS FOLLOWS:
 - INSIDE THE HVHZ, ASTM WIND ZONE 4 AND ESSENTIAL FACILITIES: 3.35" MIN SEPARATION.
 - OUTSIDE THE HVHZ, ASTM WIND ZONE 4 AND ESSENTIAL FACILITIES: NO SEPARATION REQUIRED.

WHEN USED OUTSIDE THE HVHZ, ASTM WIND ZONE 4, AND ESSENTIAL FACILITIES, THIS SHUTTER SYSTEM CONSTITUTES A NON-POROUS ASSEMBLY AS DEFINED IN THE ASTM E1996-06 STANDARD.

- EACH SHUTTER SHALL HAVE A LEGIBLE & READILY VISIBLE MARKING INSTRUCTING THE OWNER/TENNANT TO SECURE THE SHUTTER WITH BRACKETS & STORM BARS, PER THESE APPROVED DRAWINGS, DURING PERIODS OF HURRICANE WARNINGS.
- THIS SYSTEM HAS BEEN DESIGNED TO WITHSTAND WIND PRESSURES, IN THE OPEN POSITION, RESULTING FROM FASTEST MILE WIND SPEEDS UP TO 75 MPH (3-SECOND GUST WIND SPEED UP TO 115MPH), 30' MRH, EXTERIOR ZONE 5, IN ACCORDANCE WITH THE BUILDING CODE SPECIFIED HEREIN. SEE WALL CLIP DETAILS FOR APPROPRIATE "OPEN SHUTTER" CONDITIONS. SHUTTERS MUST BE CLOSED WHEN FASTEST MILE WIND SPEEDS REACH 75 MPH OR GREATER. WHEN CLOSED, THE OWNER SHALL BE RESPONSIBLE FOR SECURING THE SHUTTER AS REQ'D.
- THE SYSTEM 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.

SYSTEM PERFORMANCE DERIVATIONS

SYSTEM PERFORMANCE DERIVED FROM CERTIFIED TEST REPORT(S) #0143-0912-00, #0143-0108-01 & #0143-0713-00 BY HURRICANE TEST LABORATORY (HTL) PER TAS 201, TAS 202 & TAS 203 TEST STANDARD(S).

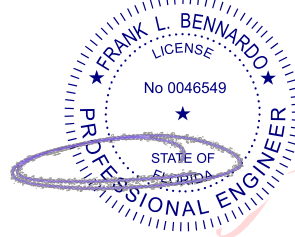
GENERAL NOTES (CONTINUED):

- THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR.
- ALL COMPONENTS SHALL CONFORM TO THEIR RESPECTIVE SPECIFICATIONS AS NOTED HEREIN.
- ALL EXTRUSIONS SHALL BE 6063-T5 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE.
- SHUTTERS SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER ASSEMBLY CONTAINING THE FOLLOWING:

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WEST PALM BEACH, FL
TAS 201, 202, 203
PRODUCT APPROVAL #
- THIS SHUTTER SYSTEM HAS BEEN DESIGNED AND TESTED TO THE MAXIMUM SPANS AND CORRESPONDING LOADS SHOWN HEREIN.
- ALL BOLTS, NUTS, & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, STAINLESS STEEL, OR ALUMINUM ALLOY 2024-T4 OR 7075-T5.
- STEEL SURFACES TO BE PLACED IN CONTACT WITH ALUMINUM SHALL BE GIVEN ONE COAT OF ZINC CHROMATE PRIMER OR SHALL BE GALVANIZED.
- CONTRACTOR IS RESPONSIBLE TO INSULATE OR PROTECT ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
- FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH "SPECIFICATIONS FOR ALUMINUM STRUCTURES" SECTION J.3.7.2 BY THE ALUMINUM ASSOCIATION IN.C, AND ANY APPLICABLE FEDERAL, STATE AND OR LOCAL CODES.
- REFER TO FASTENER MANUFACTURER'S PUBLISHED DATA SHEETS AND RECOMMENDATIONS FOR FASTENER INSTALLATION INSTRUCTIONS.
- ENGINEER SEAL AFFIXED HERETO VALIDATE STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
- EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
- PRESSURE VALUES ON THIS APPROVAL ARE (ASD) ALLOWABLE DESIGN PRESSURES.
- ALTERATIONS ADDITIONS OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
- FOR PERMANENT OUTDOOR INSTALLATIONS, ALL EXPOSED ANCHORS, FASTENERS, CONNECTORS, AND METAL PLATES SHALL BE CORROSION RESISTANT. CORROSION RESISTANCE MAY BE PROVIDED BY INHERENT MATERIAL COMPOSITION OR, WHERE PERMITTED BY CODE, BY AN APPROVED PROTECTIVE COATING OR GALVANIZATION. WHERE APPLICABLE NEAR A SALTWATER COASTLINE, SUCH COMPONENTS SHALL COMPLY WITH FBC SECTION 1711, INCLUDING APPLICABLE REQUIREMENTS FOR EXPOSED, PROTECTED, OR ENCLOSED CONDITIONS. MATERIALS, COATINGS, AND FINISHES SHALL BE COMPATIBLE WITH CONNECTED MATERIALS, AND PROTECTIVE COATINGS SHALL BE CONTINUOUS OVER EXPOSED SURFACES. FASTENERS USED WITH ALUMINUM MEMBERS SHALL ALSO COMPLY WITH SECTION J.3.7.2 OF THE ALUMINUM DESIGN MANUAL, "SPECIFICATION FOR ALUMINUM STRUCTURES." SUBSTITUTION OF COMPONENTS FROM ALTERNATE MANUFACTURERS, OR WITH DIFFERENT MATERIALS, COATINGS, OR FINISHES, SHALL NOT BE ASSUMED EQUIVALENT AND MAY REQUIRE ADDITIONAL ENGINEERING REVIEW OR SITE-SPECIFIC ANALYSIS

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

JULY 31, 2026



Digitally signed by
Frank Bennardo
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11	STORM BAR ALLOWABLE SPAN

TERMINOLOGY:

THE FOLLOWING ABBREVIATIONS APPEAR IN THIS APPROVAL: "CORP." FOR "CORPORATION", "ALUM" FOR "ALUMINUM", "ASD" FOR "ALLOWABLE STRESS DESIGN", "ASTM" FOR "AMERICAN SOCIETY FOR TESTING AND MATERIALS", "CONN" FOR "CONNECTION", "EMBED" FOR "EMBEDMENT", "DIST." FOR "DISTANCE", "GA" FOR "GAUGE", "HVHZ" FOR "HIGH-VELOCITY HURRICANE ZONE", "LB" FOR "POUND", "MAX" FOR "MAXIMUM", "N.T.S." FOR "NOT TO SCALE", "PSF" FOR "POUNDS PER SQUARE FOOT (lb/ft²)", "SPECS" FOR "SPECIFICATIONS", "&" FOR "AND", "MAX" FOR "MAXIMUM", "W/" FOR "WITH", "EXIST" FOR "EXISTING", "STRUCT" FOR "STRUCTURE", "CONC." FOR "CONCRETE". CONTACT ENGINEERING EXPRESS FOR ADDITIONAL ABBREVIATION/TERMINOLOGY CLARIFICATIONS.

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REMARKS	DATE	DRWN	CHKD	DATE	DRWN	CHKD	DATE	DRWN	CHKD
PREV SUBMITTAL (20-20256)	07/28/20	CCB	RWV	10/02/23	MRT	RWV	10/02/23	CCB	RWV
PREV SUBMITTAL (23-61983)	07/31/26	AEG	RS						
2026 FBC UPDATE									

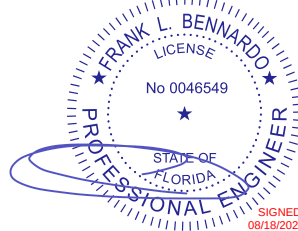
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MAXIMUM ALLOWABLE WIND LOADS

POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED BY OTHERS ON A JOB-SPECIFIC BASIS IN ACCORDANCE WITH THE GOVERNING CODE. SITE-SPECIFIC PRESSURE REQUIREMENTS AS DETERMINED IN ACCORDANCE WITH ASCE 7 AND CHAPTER 1609 OF THE FLORIDA BUILDING CODE SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.

*SEE SHUTTER ELEVATIONS ON SHEET 10 & STORM BAR TABLES ON SHEET 11 FOR DESIGN PRESSURES AS CONTROLLED BY SHUTTER WIDTH & STORM BAR SPACING.

SEE GENERAL NOTES FOR MINIMUM SEPARATION BETWEEN SHUTTER & GLAZING

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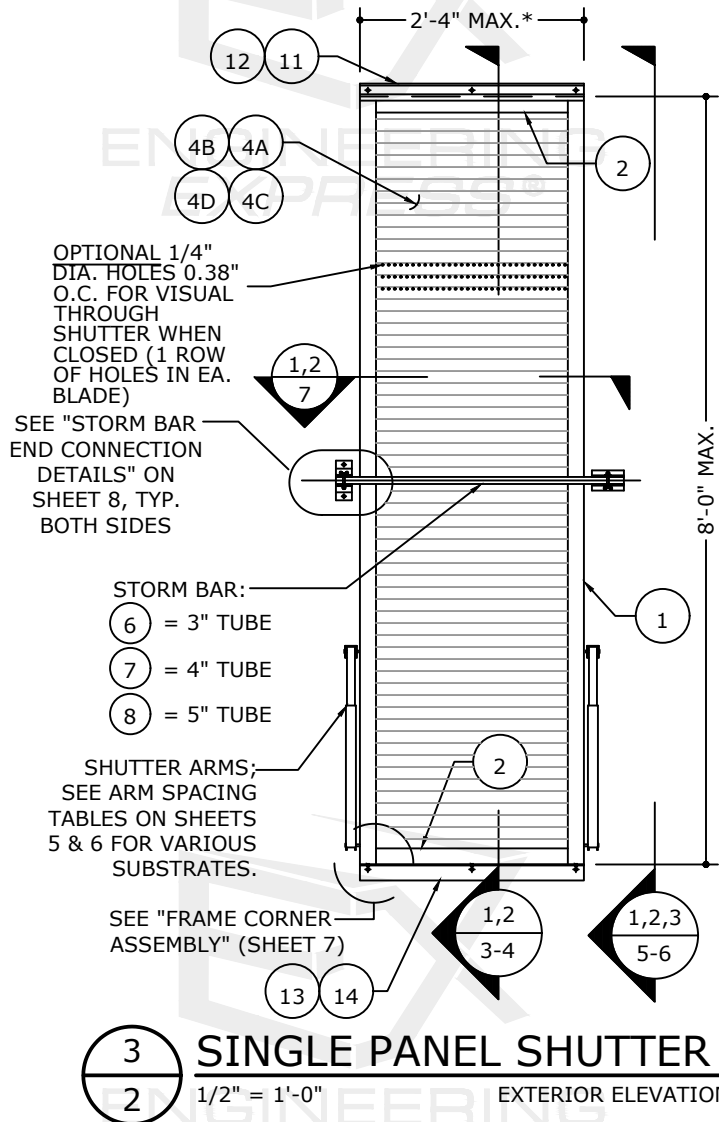
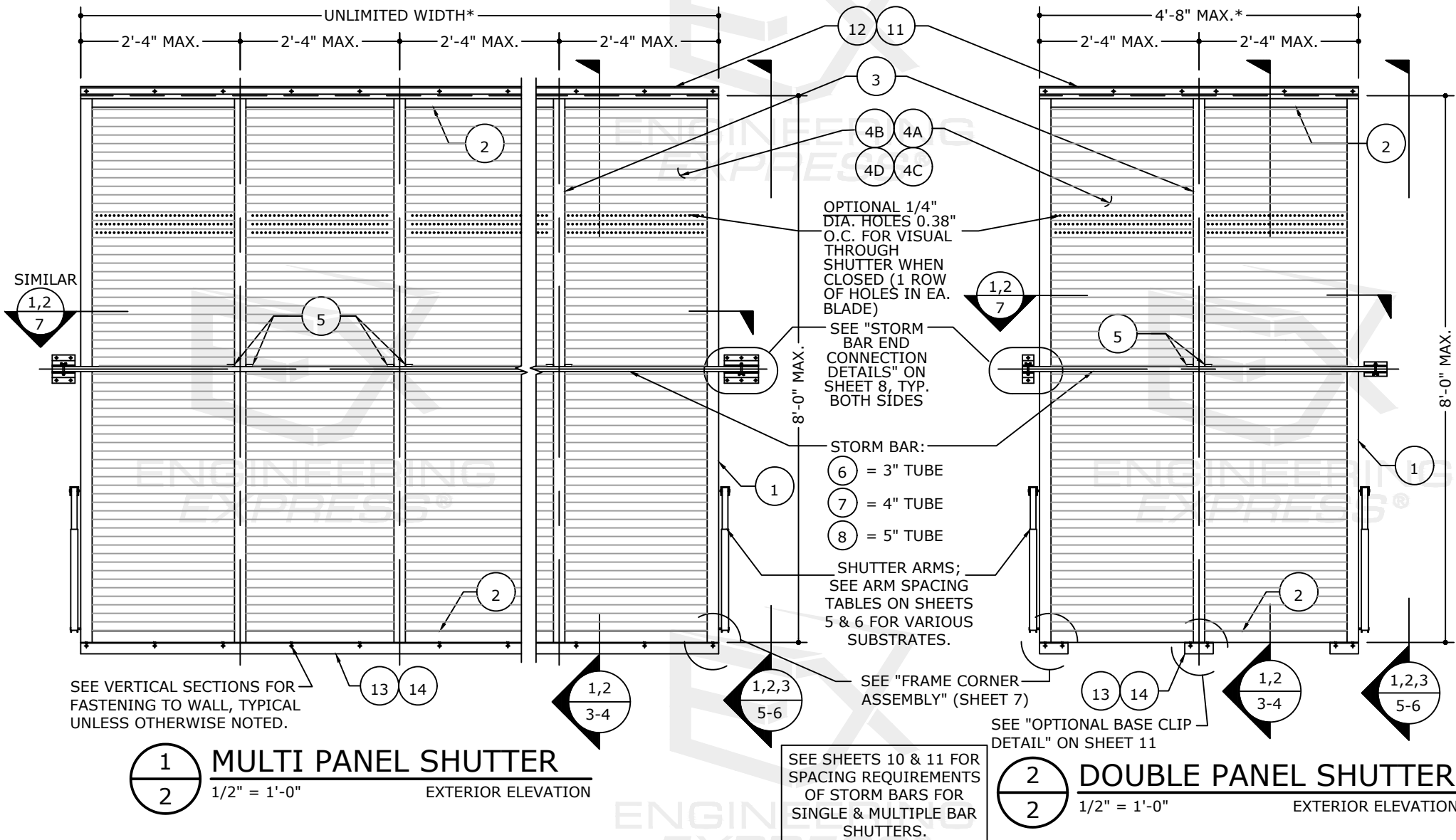
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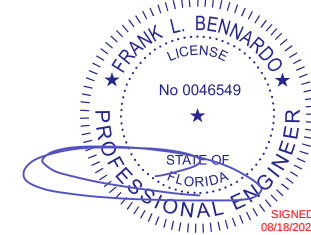
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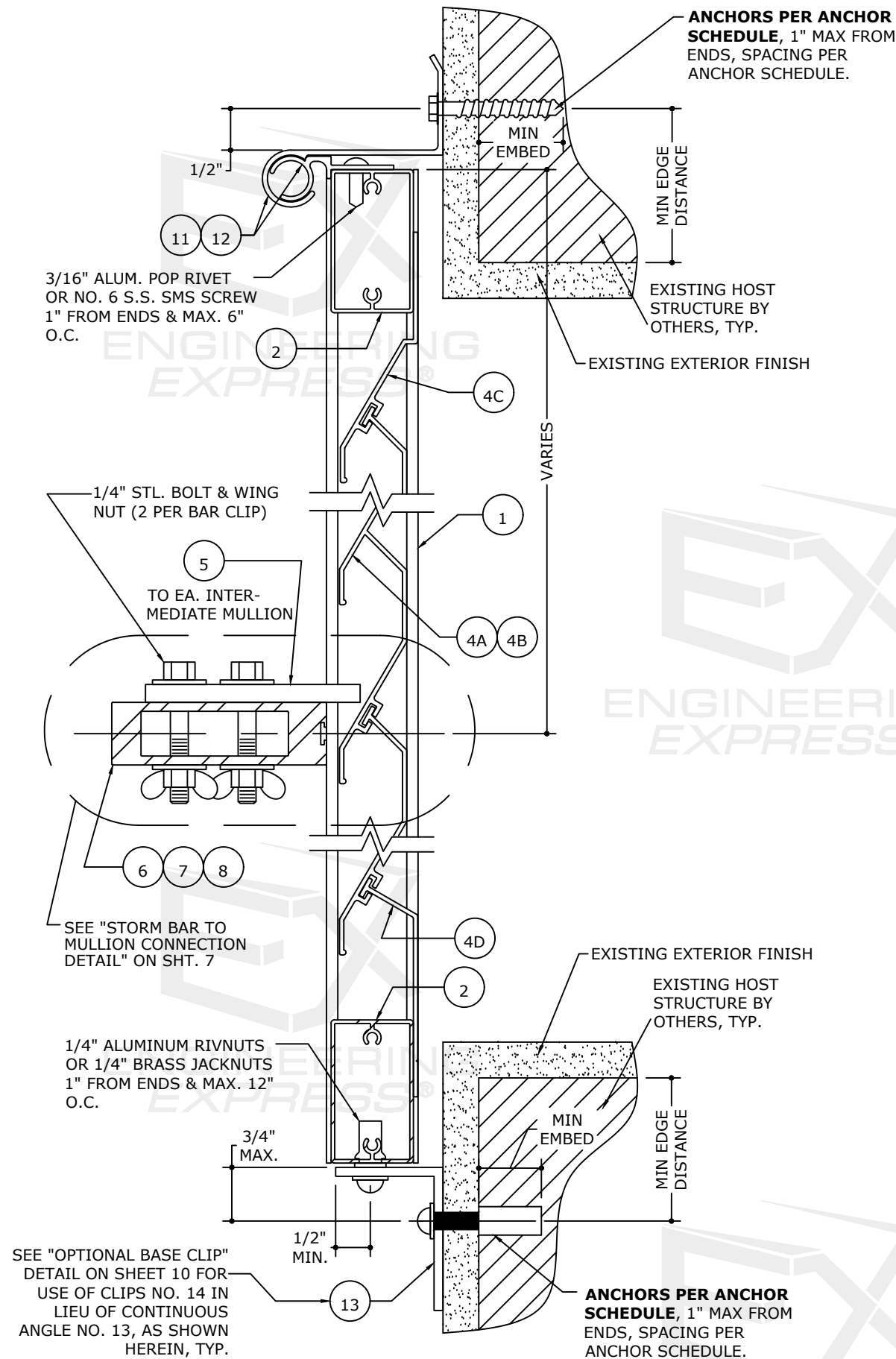
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ANCHOR SCHEDULE						
ANCHOR NO.	ANCHOR TYPE	SUBSTRATE	MINIMUM EMBEDMENT	MINIMUM EDGE DISTANCE	MAXIMUM SPACING FOR HINGE ANCHORS	MAXIMUM SPACING FOR CONTINUOUS BOTTOM ANGLE*
A	#12 316 SS SMS OR SDS	G=0.55 WOOD	1-1/2"	3/4"	16" O.C.	16" O.C.
B	1/4" STAINLESS STEEL ITW TAPCON	CONCRETE	1-1/4"	1"	12" O.C.	12" O.C.
C	1/4" STAINLESS STEEL ITW TAPCON	CONCRETE	1-1/4"	2-1/2"	12" O.C.	12" O.C.
D	1/4" STAINLESS STEEL ITW TAPCON	BLOCK	1-1/4"	1"	8-5/8" O.C.	8-5/8" O.C.
E	1/4" STAINLESS STEEL ITW TAPCON	BLOCK	1-1/4"	2-1/2"	9-3/8" O.C.	9-3/8" O.C.
F	1/4-20 ALL POINTS SOLID-SET SCREW ANCHOR	CONCRETE/ BLOCK	7/8"	1-1/4"	12" O.C.	12" O.C.
G	1/4-20 DEWALT PANELMATE (MALE/FEMALE)	G=0.55 WOOD	1-7/8"	3/4"	16" O.C.	16" O.C.
H	1/4-20 DEWALT PANELMATE (MALE/FEMALE)	CONCRETE	1-3/4"	2-1/2"	12" O.C.	12" O.C.
I	1/4-20 DEWALT PANELMATE (MALE/FEMALE)	BLOCK	1-1/4"	2"	12" O.C.	12" O.C.

ANCHOR SCHEDULE NOTES:

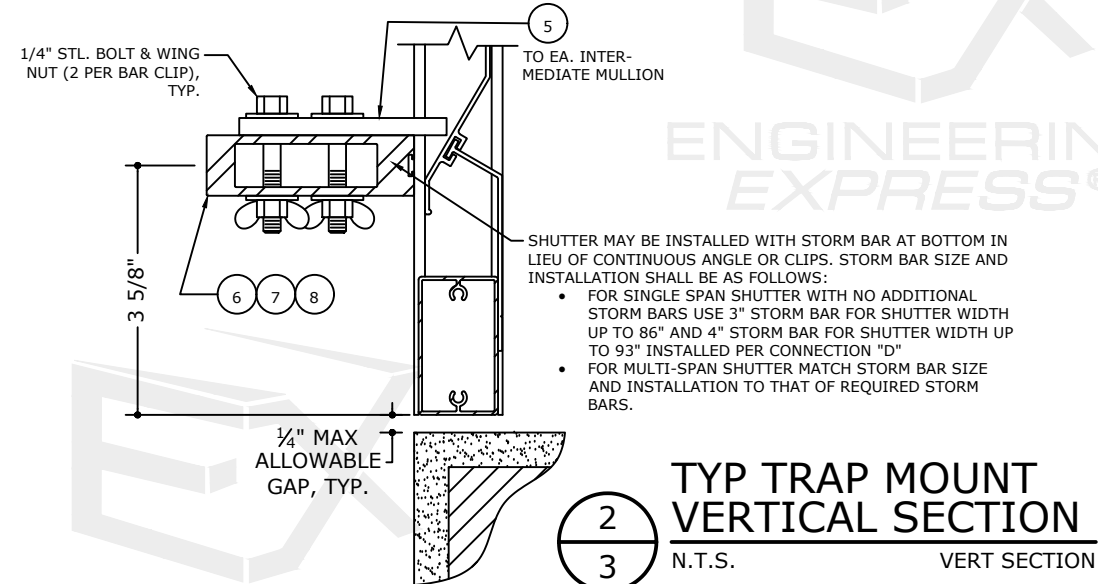
1. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
2. TAPCONS SPECIFIED HEREIN SHALL BE MANUFACTURED BY ITW. "DEWALT PANELMATE" ANCHORS MAY BE MALE OR FEMALE.
3. WHERE ANCHORS FASTEN TO NARROW FACE OF STUD FRAMING, ANCHOR SHALL BE LOCATED IN CENTER OF NOMINAL 2x (MIN) WOOD STUD (i.e. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR ANCHORS TO WOOD FRAMING).
4. WOOD HOST STRUCTURE SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY.
5. MINIMUM EMBEDMENT, EDGE DISTANCE AND SPACING SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
6. ALL CONCRETE ANCHORS SPECIFIED HEREIN SHALL BE INSTALLED TO NON-CRACKED CONCRETE ONLY.
7. WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
8. ANCHORS H, I, J, AND K SHALL BE INSTALLED WITH 1/4-20 316 SS MACHINE SCREW OR WASHERED NUT, AS APPLICABLE. MACHINE SCREWS SHALL HAVE MINIMUM OF 1 1/2" ENGAGEMENT OF THREADS IN BASE ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD ("SIDEWALK BOLT") U.N.O.

* SEE "OPTIONAL BASE CLIP" DETAIL ON SHEET 11 FOR USE OF CLIPS NO. 14 IN LIEU OF CONTINUOUS ANGLE.



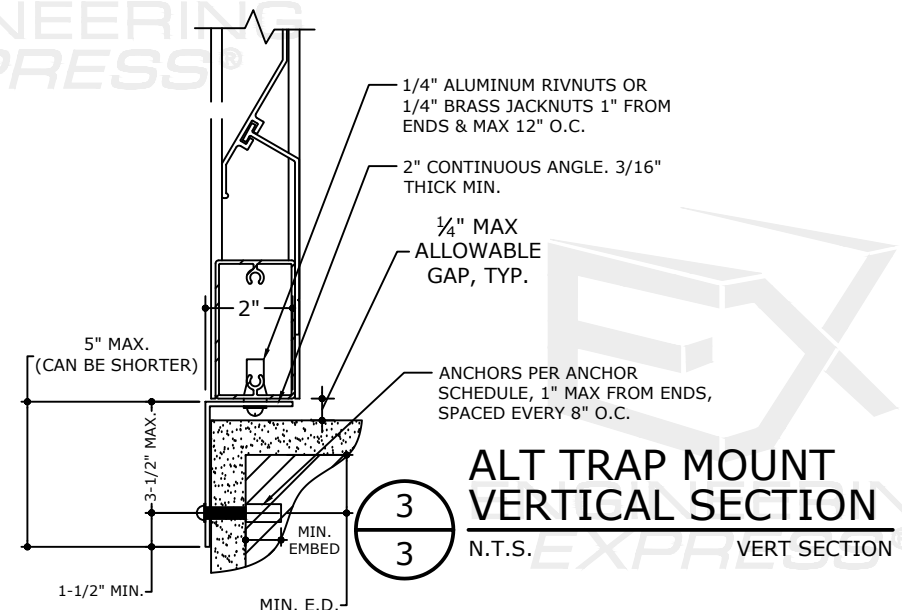
TYP FACE MOUNT VERTICAL SECTION

6" = 1'-0" VERT SECTION



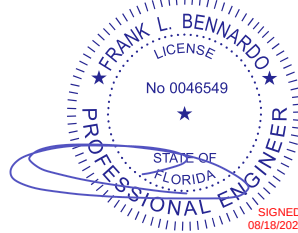
TYP TRAP MOUNT VERTICAL SECTION

N.T.S. VERT SECTION



ALT TRAP MOUNT VERTICAL SECTION

N.T.S. VERT SECTION



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NOTE:
THE ARMS MAY BE MOUNTED ON THE WALL ABOVE THE SILL LEVEL PROVIDED THE ARM'S ANGLE TO THE HORIZONTAL DOES NOT EXCEED 30 DEGREES.

**ARM SPACING TABLE 3
ATTACHMENT TO WOOD SUBSTRATE:**

MAX SHUTTER HEIGHT	MAX ARM SPACING	
	1&2-PANEL SHUTTERS	3+ PANEL SHUTTERS
24 "	56 "	94 "
36 "	56 "	62 "
48 "	56 "	47 "
60 "	56 "	37 "
72 "	56 "	31 "
84 "	52 "	26 "
96 "	46 "	23 "

NOTES:
1. SEE GENERAL NOTES ON SHEET 1 FOR OPEN SHUTTER POSITION DESIGN CRITERIA.

BRACKET NOTES

1. MAY OPTION TO FASTEN BRACKET TO ANGLE WITH ONE 1/4"-20 S.S. THRU-BOLT IN LIEU OF TO THE SHUTTER FRAME.
2. BRACKET MAY BE PLACED ON VERTICAL FRAME OR MULLION MEMBERS WITHIN 6" OF THE SHUTTER BASE EDGE.

TWO 1/4-20 BOLTS INTO 1/4-20 ALUM. RIVNUTS OR BRASS MOLLY JACK-NUTS

1/4"-20 S.S. THRU-BOLT & NUT OR 1/4" DIA. ALUM. LOCK PIN

ALTERNATE LOCATION

WOOD HOST STRUCTURE BY OTHERS, TYP.

(2) #14" S.S. LAG BOLTS WITH 3/4"Ø MIN WASHER WITH 1 7/8" MIN THREAD PENETRATION & 3/4" MIN EDGE DISTANCE TO WOOD MEMBERS OR 1/4" DEWALT PANELMATES 1 7/8" MIN THREAD PENETRATION AND 3/4" MIN EDGE DISTANCE TO WOOD FRAMING MEMBERS. SEE "ARM SPACING" TABLE THIS SHEET FOR ARM SPACING.

**FACE MOUNT TO WOOD
OPEN SHUTTER SECTION**

6" = 1'-0"

VERT SECTION

1/4-20 X 2" S.S. BOLT THROUGH BAR & INTO 1/4-20 RIVNUT OR MOLLY JACK-NUT

1/4"-20 S.S. THRU-BOLT OR 1/4" DIA. ALUM. LOCK PIN

THIS DETAIL IS VALID FOR USE WITH END ARMS ONLY

ALTERNATE LOCATION

WOOD HOST STRUCTURE BY OTHERS, TYP.

(2) #14" S.S. LAG BOLTS WITH 3/4"Ø MIN WASHER WITH 1 7/8" MIN THREAD PENETRATION & 3/4" MIN EDGE DISTANCE TO WOOD MEMBERS OR 1/4" DEWALT PANELMATES 1 7/8" MIN THREAD PENETRATION AND 3/4" MIN EDGE DISTANCE TO WOOD FRAMING MEMBERS. SEE "ARM SPACING" TABLE THIS SHEET FOR ARM SPACING.

**ALT ARM-TO-SHUTTER
CONNECTION DETAIL "B"**

6" = 1'-0"

VERT SECTION

1/4-20 X 2" S.S. BOLT THROUGH BAR & INTO 1/4-20 RIVNUT OR MOLLY JACK-NUT

1/4"-20 S.S. THRU-BOLT OR 1/4" DIA. ALUM. LOCK PIN

ALTERNATE LOCATION

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**ALT ARM-TO-SHUTTER
CONNECTION DETAIL "B"**

6" = 1'-0"

VERT SECTION

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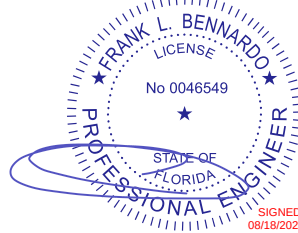
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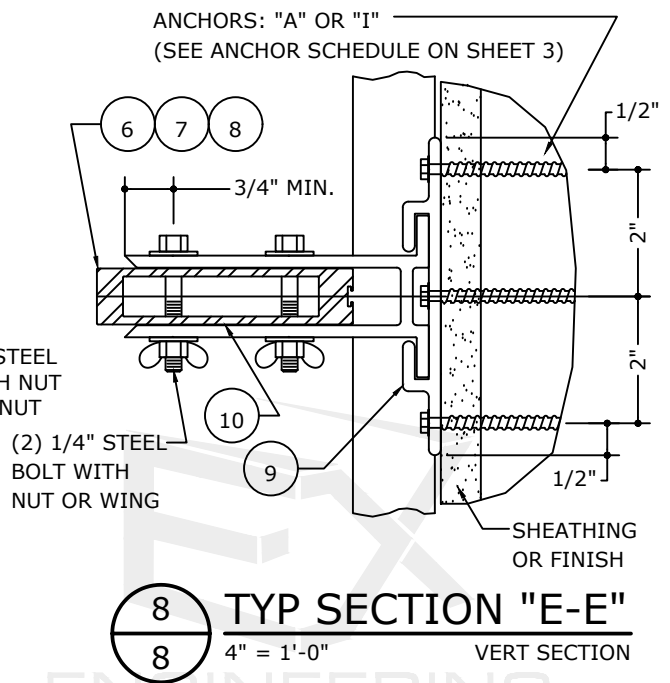
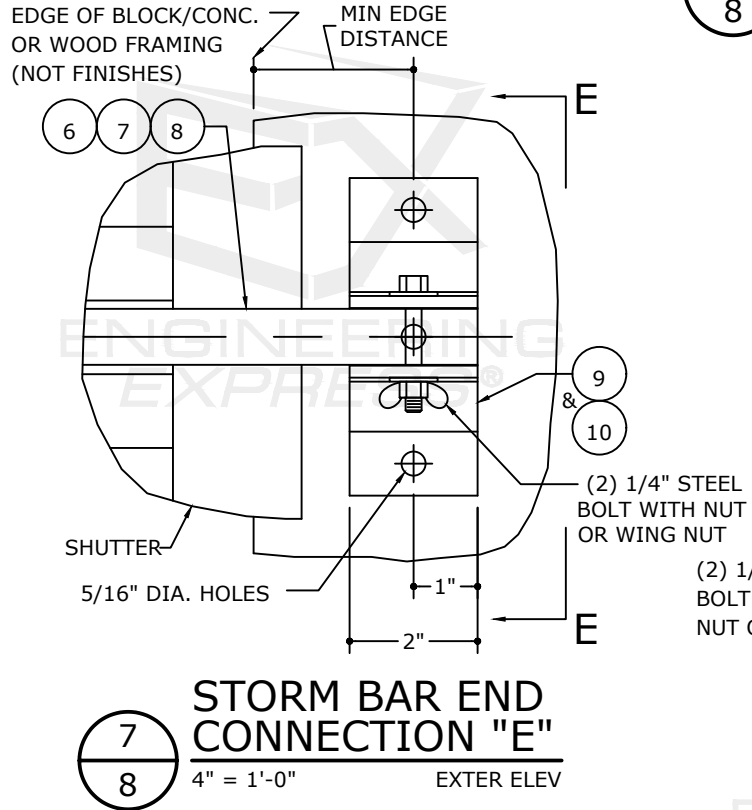
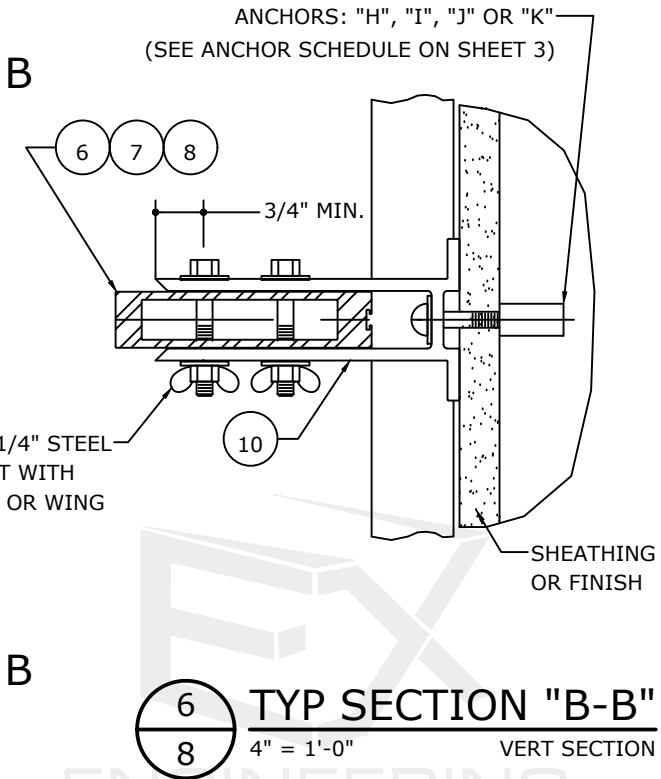
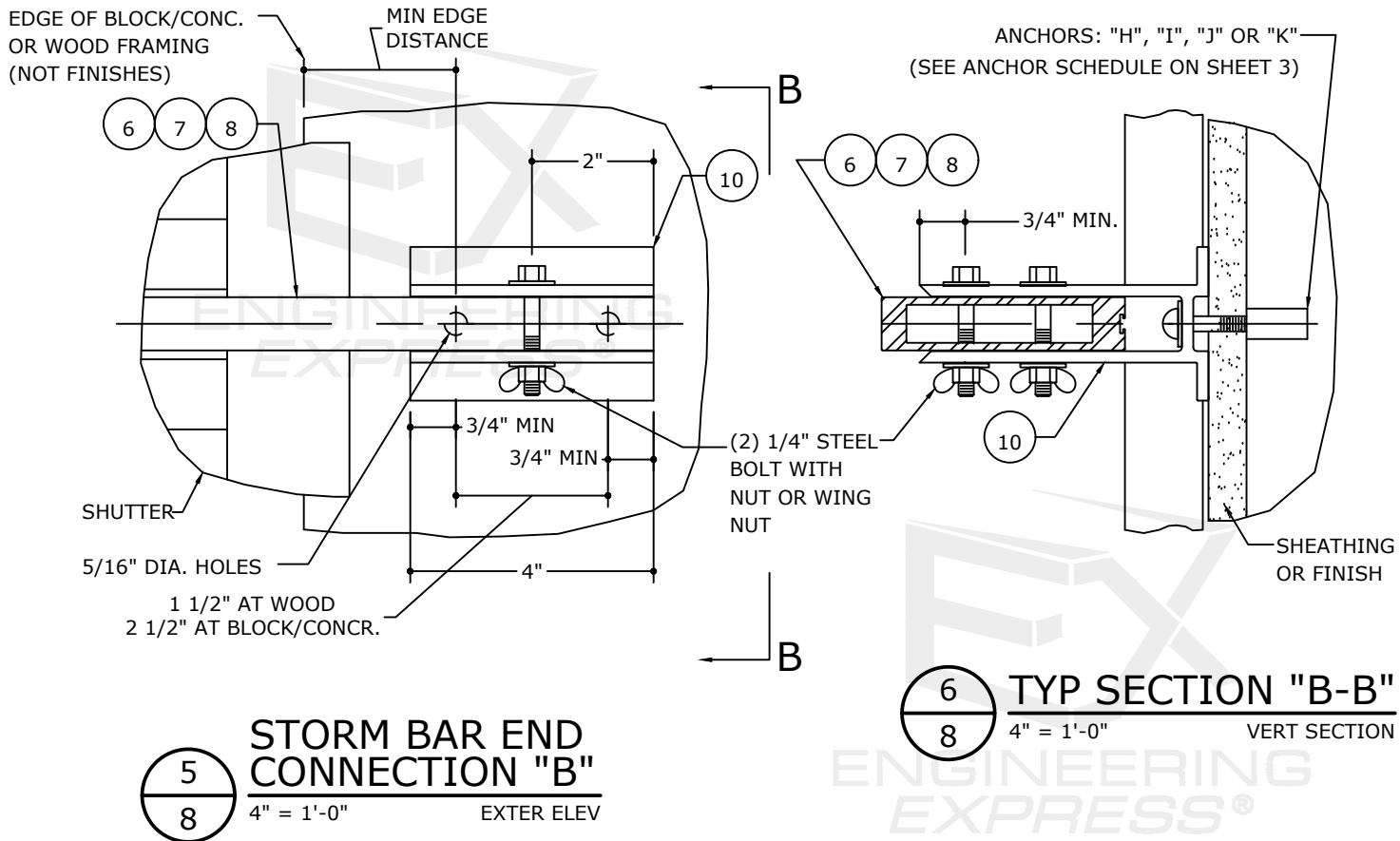
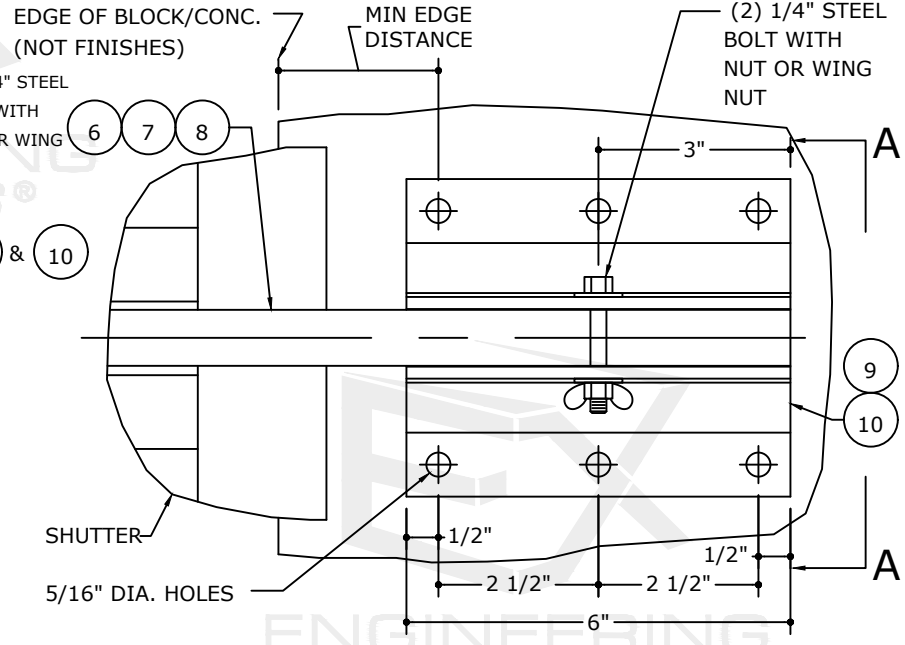
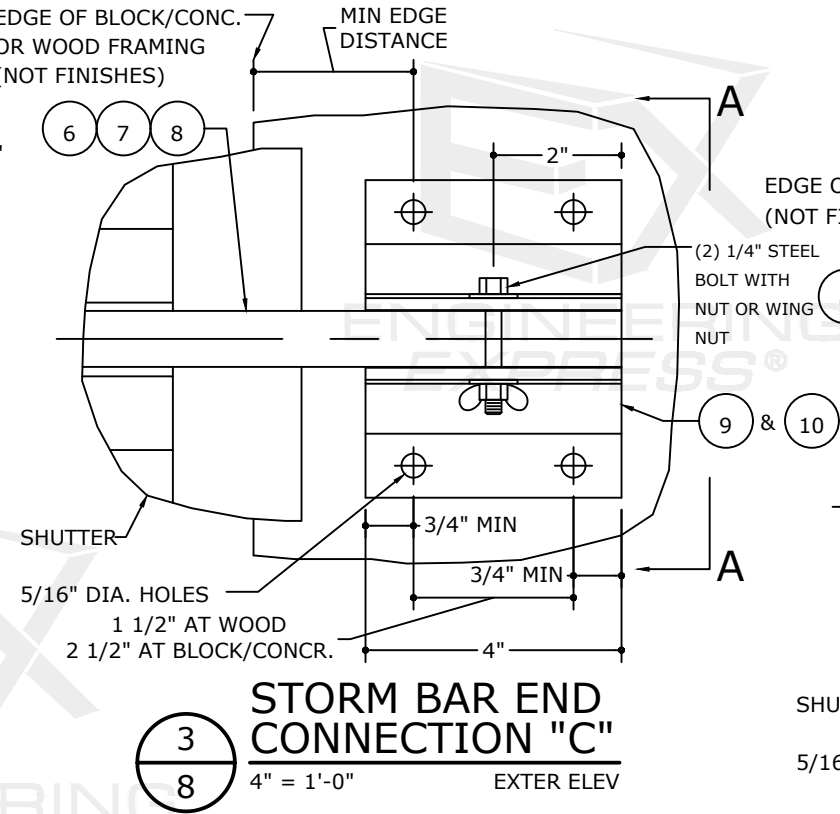
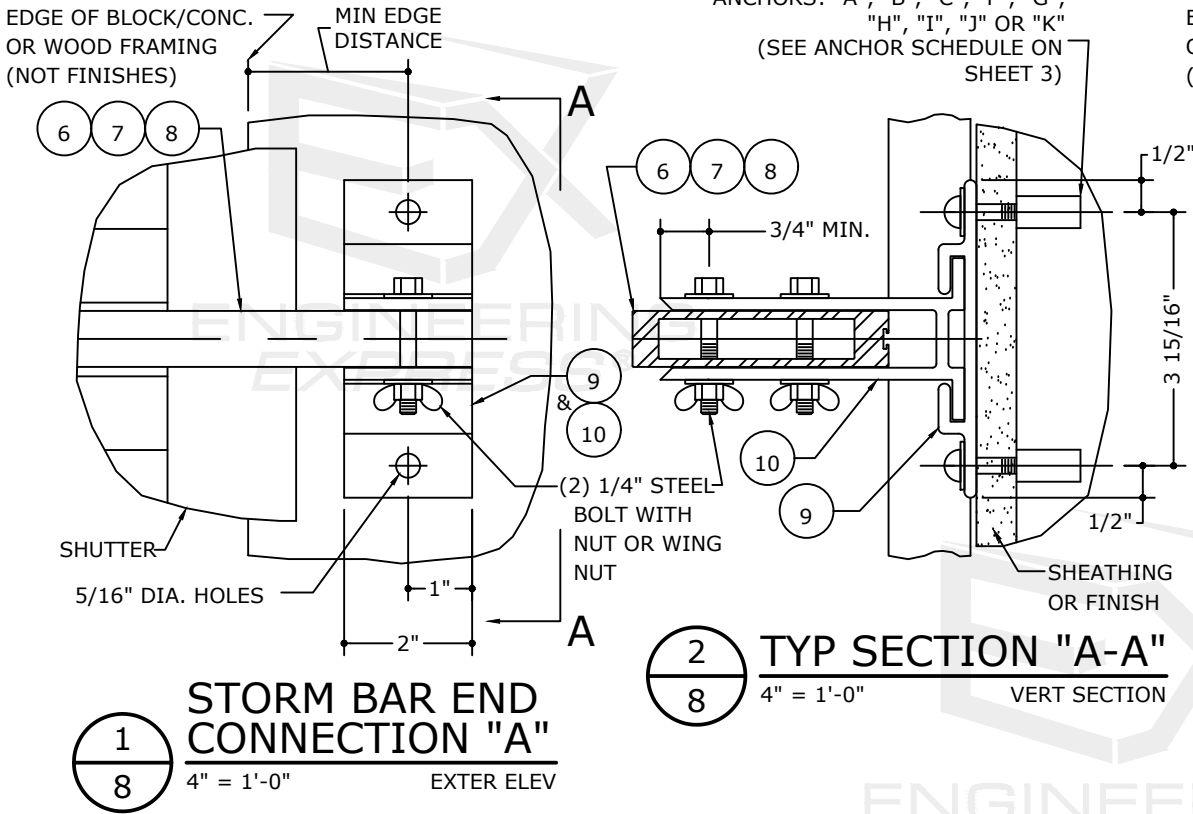
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FLORIDA BUILDING CODE NINTH EDITION (2026)
FLORIDA STATEWIDE APPROVAL (FSA FL#6412.1)

REMARKS	DRWN	CHKD	DATE
PREV SUBMITTAL (20-20256) CCB	RWN		07/28/20
PREV SUBMITTAL (23-61983) MRT	RWN		10/02/23
2026 FBC UPDATE	AEG	RS	07/31/26
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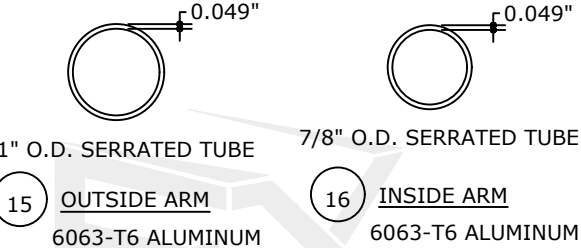
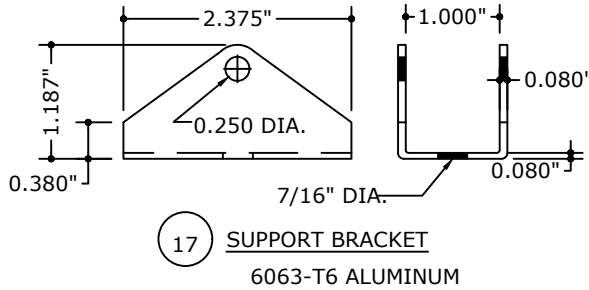
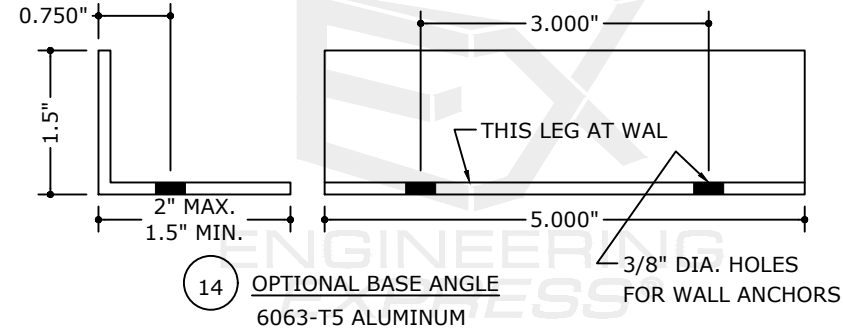
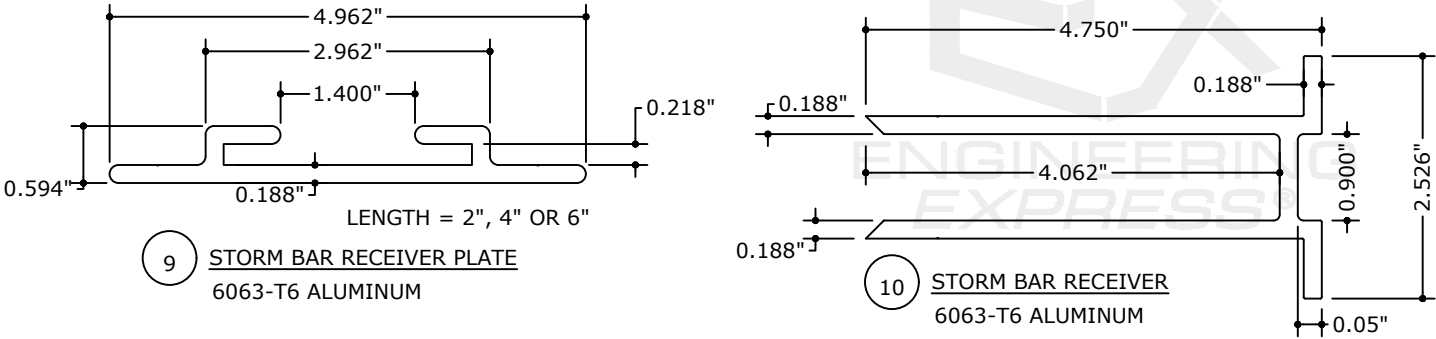
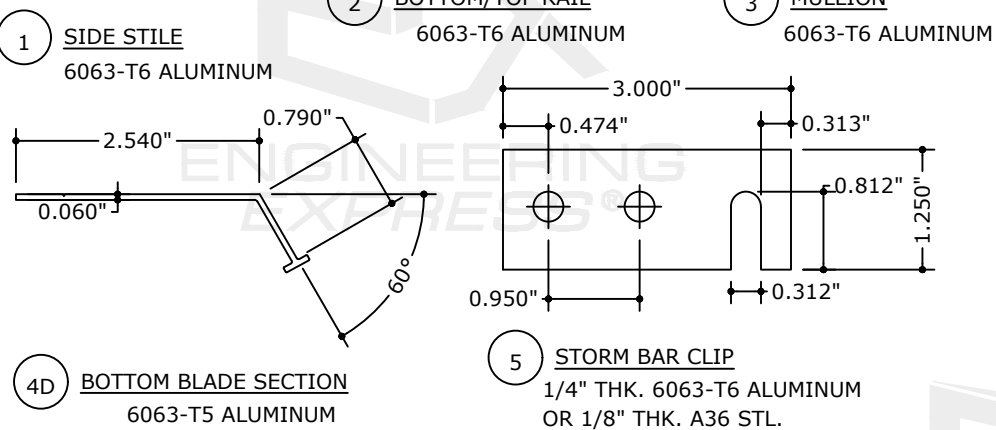
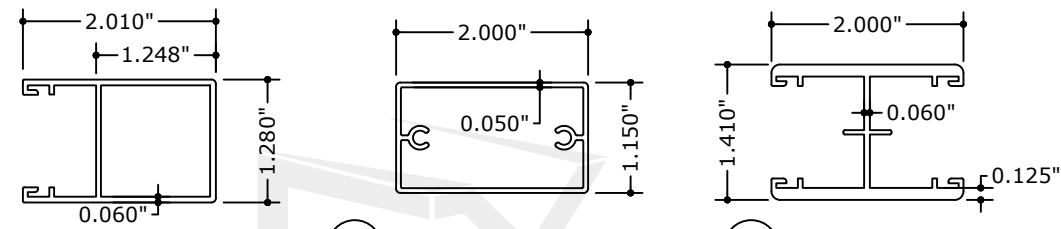
26-98585

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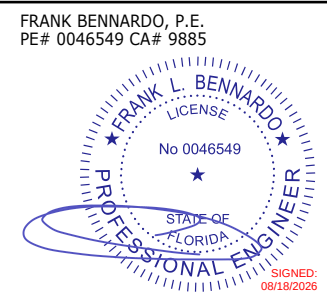
88

OF 11

8/13/2026 2:42 PM ALFREDO ESPINOZA\projects\26-98585 2026 product fbc update f6412.1\work\2026 fbc\drawings & cad\26-98585a - f6412.1 - dwg. 2026.dwg



NOTE: ALL DETAILS ARE
DRAWN TO 1/2 FULL
SIZE UNLESS NOTED
OTHERWISE.



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(561) 683-4811

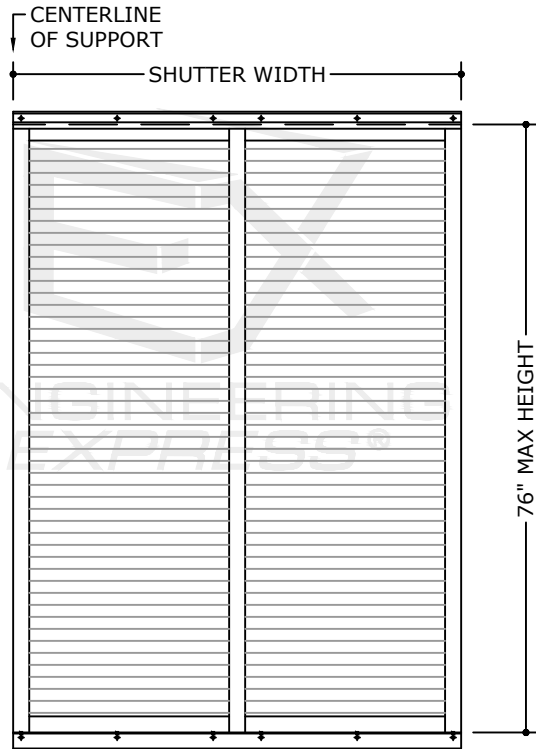
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FLORIDA BUILDING CODE NINTH EDITION (2026)
FLORIDA STATEWIDE APPROVAL (FSA FL#6412.1)

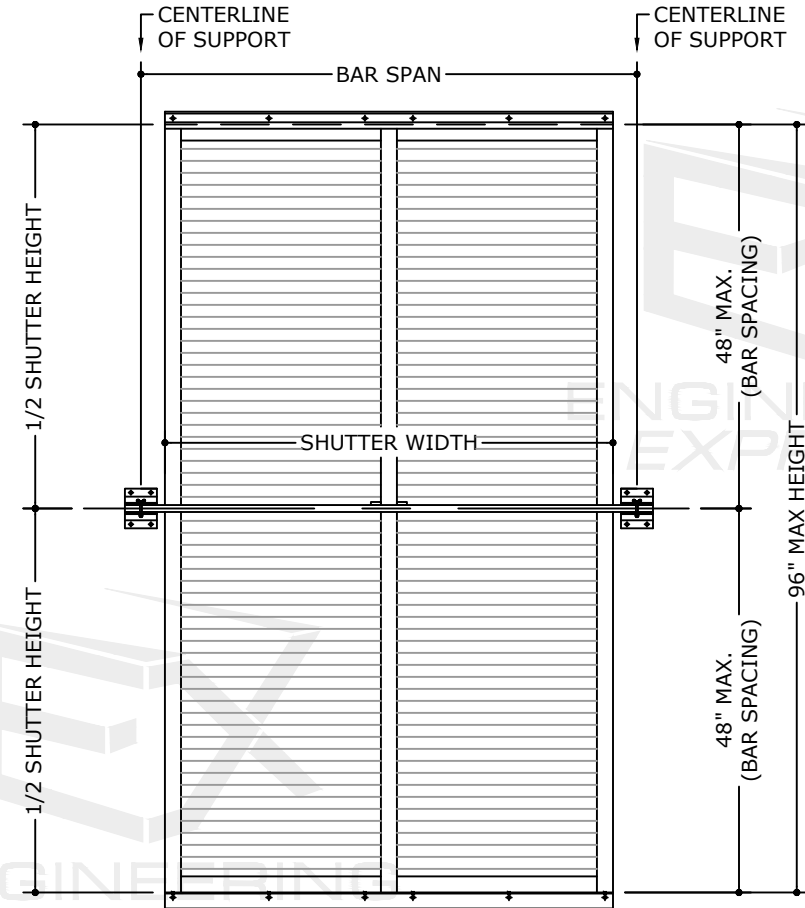
MATERIAL LIST		
NO.	DESCRIPTION	NOTES
1	SIDE STILE	
2	TOP & BOTTOM RAIL	
3	MULLION	
4A	DOUBLE BLADE SECTION	MAIN BLADE SECTION
4B	SINGLE BLADE SECTION	USED AS FILLER WHEN REQUIRED
4C	TOP SHUTTER BLADE	
4D	BOTTOM SHUTTER BLADE	
5	STORM BAR CLIP	SECURES STORM BAR TO SHUTTER PANEL FRAMES
6	3" STORM BAR	
7	4" STORM BAR	
8	5" STORM BAR	
9	STORM BAR RECEIVER PLATE	GRABS THE STORM BAR END CONNECTOR
10	STORM BAR RECEIVER	
11	FEMALE HINGE	
12	MALE HINGE	
13	CONTINUOUS BASE ANGLE	SHUTTER LEG LENGTH VARIES W/SHUTTER WALL OFFSET
14	OPTIONAL BASE ANGLE	PLACED AT MULLION & SIDE FRAME ENDS
15	OUTER ARM	POSITION PER DETAILS & SPACING TABLE
16	INNER ARM	POSITION PER DETAILS & SPACING TABLE
17	SHUTTER ARM SUPPORT BRACKET	ARM TO SHUTTER & WALL

REMARKS	DRWN	CHKD	DATE
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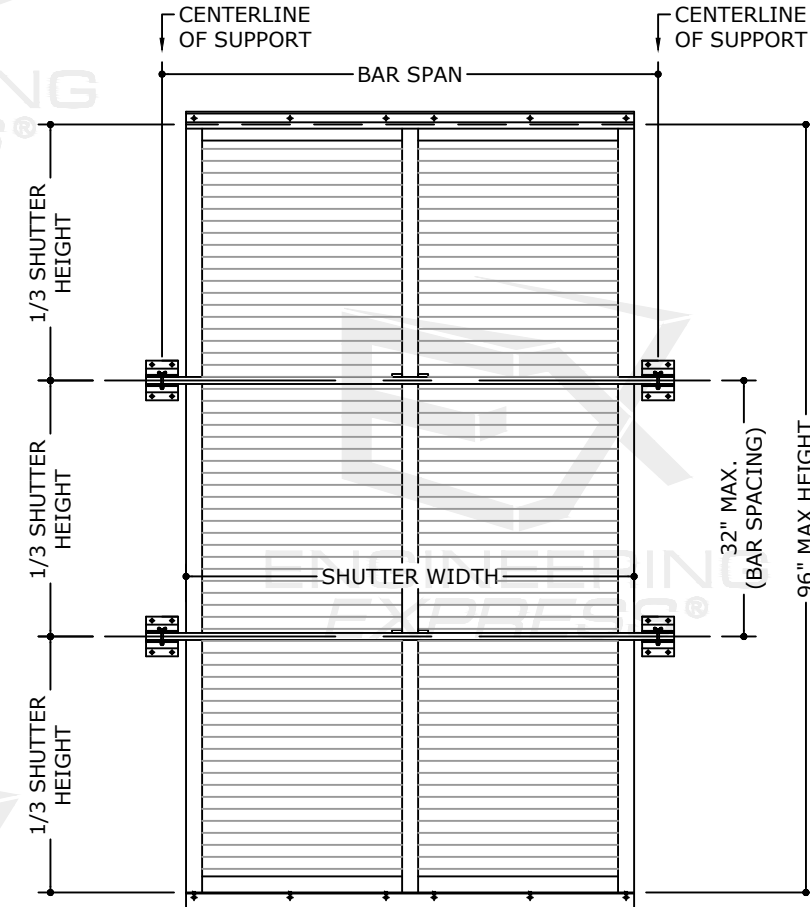
8/13/2026 2:42 PM ALFREDO ESPINOZA\projects\26-98585 2026 product fbc update f6412.1\work\2026 fbc drawings & cad\26-98585a - f6412.1 - dwg_2026.dwg



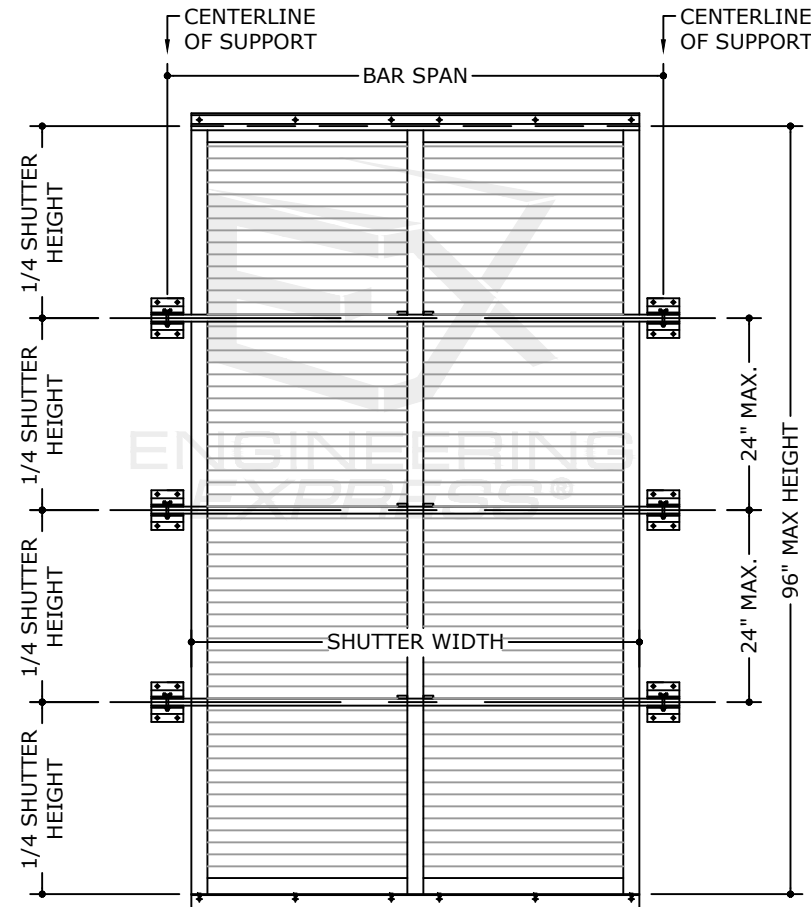
1
10 NO BARS
1/2" = 1'-0" EXTER ELEV
(SINGLE SPAN SHUTTER)



2
10 ONE BAR
1/2" = 1'-0" EXTER ELEV
(TWO SPAN SHUTTER)



3
10 TWO BARS
1/2" = 1'-0" EXTER ELEV
(THREE SPAN SHUTTER)

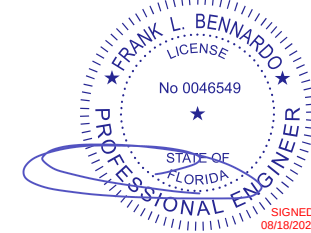


4
10 THREE BARS
1/2" = 1'-0" EXTER ELEV
(FOUR SPAN SHUTTER)

ALLOWABLE PRESSURE TABLE FOR SINGLE SPAN SHUTTERS (NO BARS)		
SHUTTER HEIGHT	PRESSURE (PSF)	
	POS	NEG
58.5" & LESS	65.0	65.0
60"	65.0	65.0
62"	62.0	62.0
64"	58.2	58.2
66"	54.7	54.7
68"	51.6	51.6
70"	47.9	48.7
72"	42.8	46.0
74"	38.4	43.5
76"	34.5	40.0

NOTE: SEE INSTRUCTIONS ON THE FOLLOWING SHEET
FOR USE OF ALL LOAD TABLES.

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



JULY 31, 2026

FL

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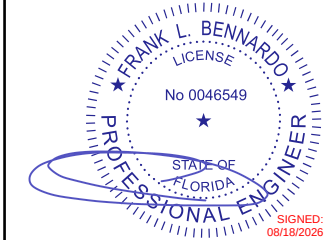
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PREV SUBMITTAL (23-61983)	MRT	RWN	10/02/23
2026 FBC UPDATE	AEG	RS	07/31/26

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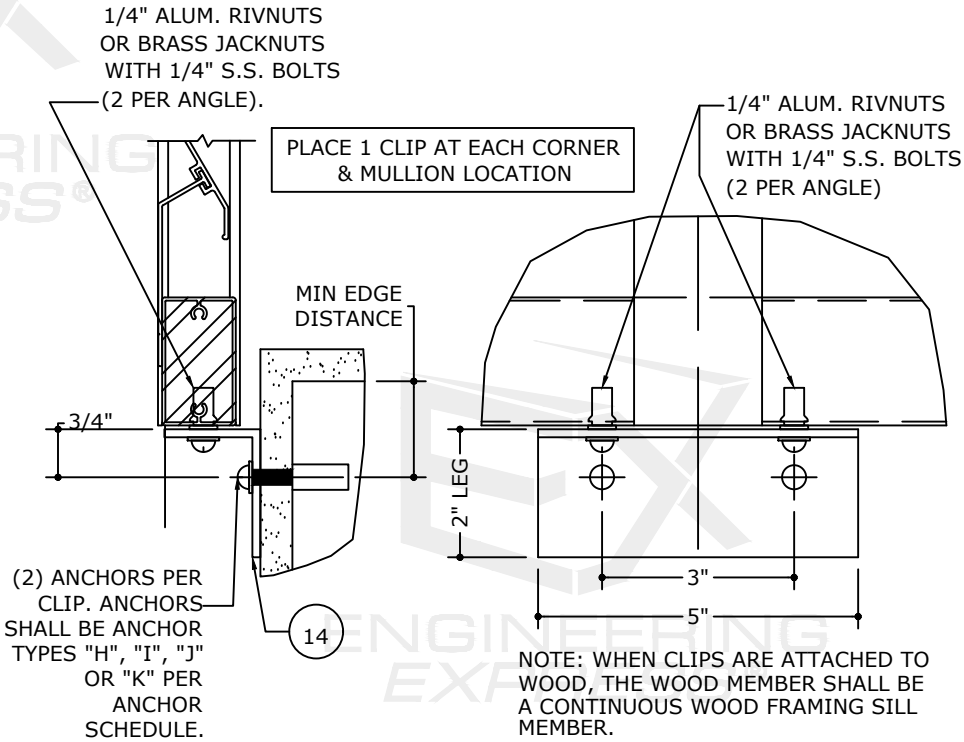
10 OF 11



FL

STORM BAR ALLOWABLE BAR SPAN

ALLOWABLE PRESSURE (PSF)	HEIGHT OR BAR SPACING (IN)	3" BAR				4" BAR				5" BAR			
		CONNECTION TYPE				CONNECTION TYPE				CONNECTION TYPE			
		"A" OR "B"	"C"	"D"	"E"	"A" OR "B"	"C"	"D"	"E"	"A" OR "B"	"C"	"D"	"E"
+/- 30	24	114.4	120.0	120.0	120.0	114.4	124.0	124.0	124.0	114.4	124.0	124.0	124.0
	30	93.9	112.3	112.3	112.3	93.9	124.0	124.0	124.0	93.9	124.0	124.0	124.0
	36	80.3	106.4	106.4	106.4	80.3	124.0	124.0	124.0	80.3	124.0	124.0	124.0
	42	70.5	101.6	101.6	101.6	70.5	124.0	124.0	124.0	70.5	124.0	124.0	124.0
	48	63.2	97.7	97.7	97.7	63.2	114.4	121.9	121.9	63.2	114.4	124.0	124.0
+/- 35	24	99.8	114.6	114.6	114.6	99.8	124.0	124.0	124.0	99.8	124.0	124.0	124.0
	30	82.2	107.2	107.2	107.2	82.2	124.0	124.0	124.0	82.2	124.0	124.0	124.0
	36	70.5	101.6	101.6	101.6	70.5	124.0	124.0	124.0	70.5	124.0	124.0	124.0
	42	62.2	97.1	97.1	97.1	62.2	112.3	121.2	121.2	62.2	112.3	124.0	124.0
	48	55.9	93.4	93.4	93.4	55.9	99.8	116.4	116.4	55.9	99.8	124.0	124.0
+/- 40	24	88.8	110.1	110.1	110.1	88.8	124.0	124.0	124.0	88.8	124.0	124.0	124.0
	30	73.4	103.1	103.1	103.1	73.4	124.0	124.0	124.0	73.4	124.0	124.0	124.0
	36	63.2	97.7	97.7	97.7	63.2	114.4	121.9	121.9	63.2	114.4	124.0	124.0
	42	55.9	93.4	93.4	93.4	55.9	99.8	116.4	116.4	55.9	99.8	124.0	124.0
	48	50.4	88.8	89.9	89.9	50.4	88.8	111.9	111.9	50.4	88.8	124.0	124.0
+/- 45	24	80.3	106.4	106.4	106.4	80.3	124.0	124.0	124.0	80.3	124.0	124.0	124.0
	30	66.6	99.6	99.6	99.6	66.6	121.2	124.0	124.0	66.6	121.2	124.0	124.0
	36	57.5	94.4	94.4	94.4	57.5	103.0	117.7	117.7	57.5	103.0	124.0	124.0
	42	51.0	90.0	90.3	90.3	51.0	90.0	112.4	112.4	51.0	90.0	124.0	124.0
	48	46.1	80.3	86.9	86.9	46.1	80.3	108.0	108.0	46.1	80.3	114.4	124.0
+/- 50	24	73.4	103.1	103.1	103.1	73.4	124.0	124.0	124.0	73.4	124.0	124.0	124.0
	30	61.2	96.6	96.6	96.6	61.2	110.3	120.4	120.4	61.2	110.3	124.0	124.0
	36	53.0	91.6	91.6	91.6	53.0	93.9	114.1	114.1	53.0	93.9	124.0	124.0
	42	47.1	82.2	87.6	87.6	47.1	82.2	108.9	108.9	47.1	82.2	117.3	124.0
	48	42.7	73.4	84.3	84.3	42.7	73.4	104.2	104.7	42.7	73.4	104.2	119.3
+/- 55	24	67.9	100.3	100.3	100.3	67.9	123.7	124.0	124.0	67.9	123.7	124.0	124.0
	30	56.7	93.9	93.9	93.9	56.7	101.4	117.1	117.1	56.7	101.4	124.0	124.0
	36	49.2	86.5	89.1	89.1	49.2	86.5	110.9	110.9	49.2	86.5	123.7	124.0
	42	43.9	75.8	85.2	85.2	43.9	75.8	105.9	105.9	43.9	75.8	107.8	123.4
	48	39.9	67.9	82.0	82.0	39.9	67.9	95.8	101.8	39.9	67.9	95.8	109.5
+/- 60	24	63.2	97.7	97.7	97.7	63.2	114.4	121.9	121.9	63.2	114.4	124.0	124.0
	30	53.0	91.6	91.6	91.6	53.0	93.9	114.1	114.1	53.0	93.9	124.0	124.0
	36	46.1	80.3	86.9	86.9	46.1	80.3	108.0	108.0	46.1	80.3	114.4	124.0
	42	41.3	70.5	83.1	83.1	41.3	70.5	99.8	103.2	41.3	70.5	99.8	114.2
	48	37.6	63.2	80.0	80.0	37.6	63.2	88.8	99.3	37.6	63.2	88.8	101.4
+/- 65	24	59.3	95.5	95.5	95.5	59.3	106.5	119.0	119.0	59.3	106.5	124.0	124.0
	30	49.8	87.6	89.5	89.5	49.8	87.6	111.4	111.4	49.8	87.6	124.0	124.0
	36	43.5	75.0	84.9	84.9	43.5	75.0	105.5	105.5	43.5	75.0	106.5	122.0
	42	39.0	66.0	81.3	81.3	39.0	66.0	93.0	100.8	39.0	66.0	93.0	106.3
	48	35.6	59.3	78.3	78.3	35.6	59.3	82.9	94.5	35.6	59.3	82.9	94.5
+/- 70	24	55.9	93.4	93.4	93.4	55.9	99.8	116.4	116.4	55.9	99.8	124.0	124.0
	30	47.1	82.2	87.6	87.6	47.1	82.2	108.9	108.9	47.1	82.2	117.3	124.0
	36	41.3	70.5	83.1	83.1	41.3	70.5	99.8	103.2	41.3	70.5	99.8	114.2
	42	37.1	62.2	79.6	79.6	37.1	62.2	87.2	98.7	37.1	62.2	87.2	99.6
	48	33.9	55.9	76.6	76.6	33.9	55.9	77.8	88.6	33.9	55.9	77.8	88.6
+/- 75	24	53.0	91.6	91.6	91.6	53.0	93.9	114.1	114.1	53.0	93.9	124.0	124.0
	30	44.8	77.5	85.9	85.9	44.8	77.5	106.7	106.7	44.8	77.5	110.3	124.0
	36	39.3	66.6	81.5	81.5	39.3	66.6	93.9	101.1	39.3	66.6	93.9	107.3
	42	35.4	58.8	78.0	78.0	35.4	58.8	82.2	93.7	35.4	58.8	82.2	93.7
	48	32.5	53.0	73.4	75.2	32.5	53.0	73.4	83.5	32.5	53.0	73.4	83.5
+/- 80	24	50.4	88.8	89.9	89.9	50.4	88.8	111.9	111.9	50.4	88.8	124.0	124.0
	30	42.7	73.4	84.3	84.3	42.7	73.4	104.2	104.7	42.7	73.4	104.2	119.3
	36	37.6	63.2	80.0	80.0	37.6	63.2	88.8	99.3	37.6	63.2	88.8	101.4
	42	33.9	55.9	76.6	76.6	33.9	55.9	77.8	88.6	33.9	55.9	77.8	88.6
	48	31.2	50.4	69.6	73.8	31.2	50.4	69.6	79.0	31.2	50.4	69.6	79.0



1
11
OPTIONAL BASE CLIP
4" = 1'-0" VERT SECT / EXTER ELEV

LOAD TABLE INSTRUCTIONS:

1. DETERMINE THE REQUIRED DESIGN PRESSURE AND SHUTTER HEIGHT OR BAR SPACING.
2. IF THE SHUTTER HEIGHT IS 76" OR LESS, GO TO THE "ALLOWABLE PRESSURE TABLE FOR SINGLE SPAN SHUTTERS" (PREVIOUS SHEET). IF THE REQUIRED DESIGN PRESSURES ARE LESS THAN OR EQUAL TO THOSE IN THE TABLE, NO STORM BAR IS REQUIRED. IF NOT, STORM BAR(S) ARE REQUIRED.
3. IF BARS ARE REQUIRED, GO TO LOAD TABLES ON THIS SHEET.
4. GO TO APPLICABLE DESIGN PRESSURE IN TABLE AND CHOOSE THE DESIRED BAR SPACING.
5. READ ACROSS THE TABLE AND CHOOSE THE BAR AND CONNECTION TYPE WHICH WILL ACHIEVE THE REQUIRED BAR SPAN. USE THAT BAR & THAT CONNECTION. NOTE THAT IF YOU DECIDE THAT THE BAR &/OR CONNECTION IS TOO LARGE FOR YOUR LIKING, ADD A BAR & REPEAT THESE INSTRUCTIONS.
6. NOTE THAT IF STORM BARS ARE REQUIRED, THE MAXIMUM STORM BAR TRIBUTARY WIDTH MAY NOT EXCEED 48".
7. ALL PRESSURES ARE FOR BOTH POSITIVE & NEGATIVE AND ARE PSF.
8. REF. SHEET 8 FOR CONNECTION TYPES & DETAILS.

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