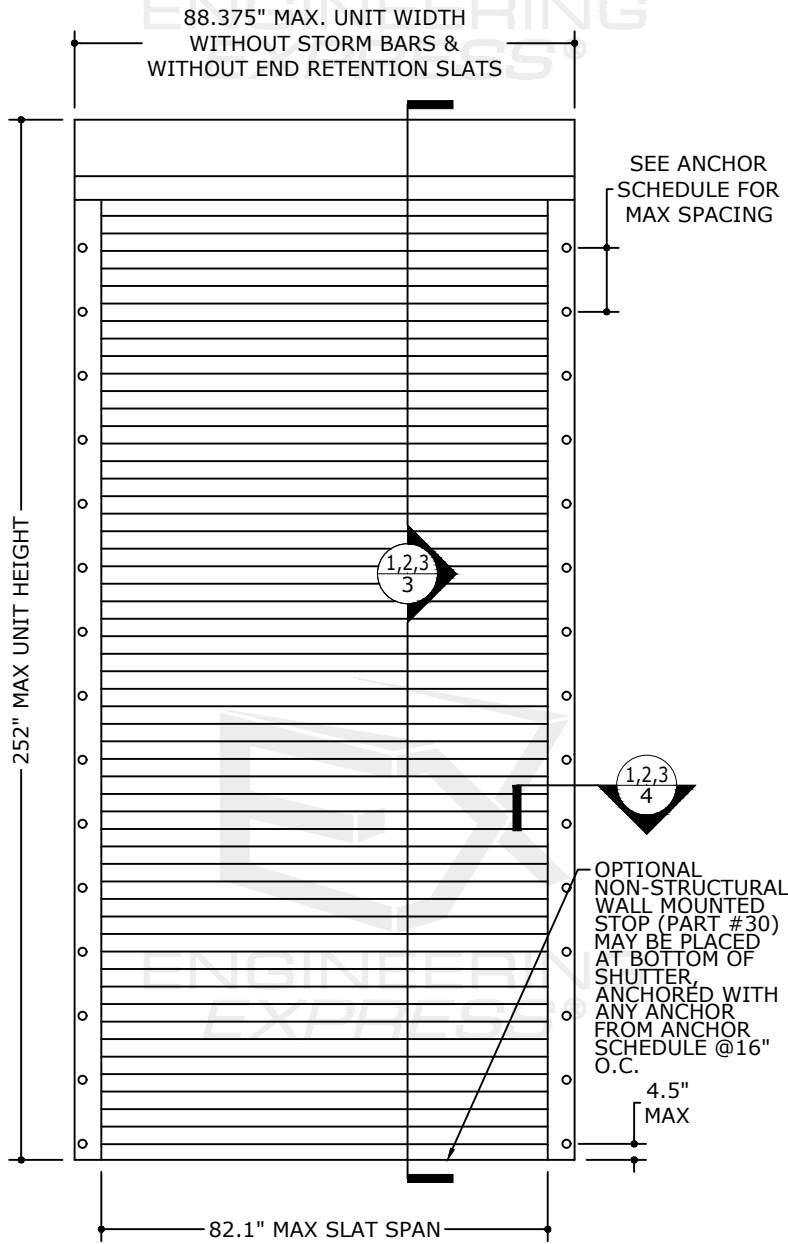


MAESTROSHIELD

ALUMINUM ROLL-UP SHUTTER
WITH NON-END RETENTION SLATS AND RAILS
LARGE MISSILE IMPACT RESISTANCE (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.



1
1
NON-END RETENTION SHUTTER W/O STORM BARS
N.T.S. EXTERIOR ELEV

TABLE 1 NON-END RETENTION NO STORM BARS		
SLAT SPAN	ALLOWABLE DESIGN PRESSURE	
	POSITIVE	NEGATIVE
47.1"	+ 120.0 PSF	- 120.0 PSF
50.0"	+ 100.5 PSF	- 104.2 PSF
55.0"	+ 74.0 PSF	- 83.1 PSF
60.0"	+ 55.8 PSF	- 67.3 PSF
65.0"	+ 39.7 PSF	- 55.2 PSF
70.0"	+ 28.9 PSF	- 45.7 PSF
75.0"	+ 21.4 PSF	- 38.2 PSF
80.0"	+ 16.2 PSF	- 32.2 PSF
82.1"	+ 14.5 PSF	- 30.0 PSF

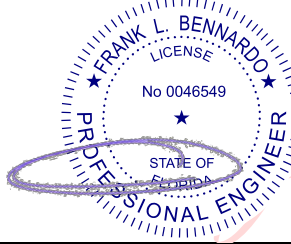
TABLE 2 MINIMUM GLAZING SEPARATION NON-END RETENTION		
SLAT SPAN	INSTALLATIONS ≤ 30' ABOVE GRADE	INSTALLATIONS > 30' ABOVE GRADE
47.1"	3.1"	2.5"
50.0"	3.1"	2.7"
55.0"	3.1"	2.8"
60.0"	3.1"	3.0"
65.0"	3.1"	3.0"
70.0"	3.1"	3.0"
75.0"	3.1"	3.0"
80.0"	3.1"	3.0"
82.1"	3.1"	3.0"

- TABLE 1 & 2 NOTES:
- 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.

- GENERAL NOTES
- THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE NINTH EDITION (2026), THE INTERNATIONAL BUILDING CODE (IBC) AND THE INTERNATIONAL RESIDENTIAL CODE (IRC), FOR USE WITHIN THE HIGH VELOCITY HURRICANE ZONE. SEE EVALUATION REPORT FOR ADDITIONAL INFORMATION.
 - WIND LOAD DURATION FACTOR Cd=1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
 - POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN ACCORDANCE WITH THE GOVERNING CODE. 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.
 - PRESSURE VALUES ON THIS APPROVAL ARE (ASD) ALLOWABLE DESIGN PRESSURES.
 - DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
 - THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT. THIS CERTIFICATION IS VALID FOR USE IN CONJUNCTION WITH THE MOST CURRENT REVISION OF FLORIDA PRODUCT APPROVAL #FL7873.1, ALUMINUM STORM BARS, HEADERS, & MULLIONS
 - ROLL-UP MECHANISM AND HOOD ASSEMBLY ARE NOT PART OF THIS APPROVAL.
 - THIS DOCUMENT CONTAINS INFORMATION RELEVANT TO THE NECESSARY STRUCTURAL REQUIREMENTS OF THE SYSTEM INSTALLATION. COMPONENTS AND FASTENERS NOT REFERENCED WHICH ARE PART OF THE INTERNAL FABRICATION OF THE SPECIFIED SYSTEMS OR ASSEMBLIES SHALL BE PER MANUFACTURER PUBLISHED SPECIFICATIONS.
 - 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. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
 - ALL EXTRUSIONS SHALL BE MINIMUM 6063-T5 ALUMINUM ALLOY,

- UNLESS NOTED OTHERWISE.
- EACH SHUTTER ASSEMBLY SHALL BEAR A PERMANENT LABEL ON THE BOTTOM OF THE HOOD FACING THE EXTERIOR WITH THE FOLLOWING MINIMUM INFORMATION:
USA SHUTTER COMPANY DBA MAESTROSHIELD
FT MYERS, FL
TAS 201, 202 AND 203
FLORIDA PRODUCT APPROVAL NUMBER
 - ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, OR STAINLESS STEEL WITH A MINIMUM TENSILE YIELD STRENGTH OF 60 KSI. ALL ALUMINUM 3/16"Ø OR 1/4"Ø POP RIVETS SHALL HAVE A MINIMUM SHEAR ULTIMATE STRENGTH OF 42ksi.
 - 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.
 - ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED AS PRESCRIBED IN THE FLORIDA BUILDING CODE. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
 - ENGINEER SEAL AFFIXED HERE TO VALIDATES 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.
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 - EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.

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



Digitally signed by
Frank Bennardo
Date: 2026.08.14
12:44:34 -04'00'

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PAGE INDEX:

SHEET INDEX	
# SHEET	DESCRIPTION
1	COVER SHEET
2	PARTS
3-4	INSTALLATION DETAILS
5	ANCHOR SCHEDULE
6	NON-END RETENTION SHUTTER DETAILS

TERMINOLOGY:

THE FOLLOWING ABBREVIATIONS APPEAR IN THIS APPROVAL: "E.P.S." FOR "EXPANDED POLYSTYRENE", "INC." FOR "INCORPORATION", "CORP." FOR "CORPORATION", "ALUM" FOR "ALUMINUM", "ASD" FOR "ALLOWABLE STRESS DESIGN", "ASTM" FOR "AMERICAN SOCIETY FOR TESTING AND MATERIALS", "CS" FOR "CARBON STEEL", "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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FLORIDA BUILDING CODE NINTH EDITION (2026)
FLORIDA STATEWIDE APPROVAL (FSA FL# 7873.1)

REMARKS	DATE	DRWN	CHKD	DATE
PREV. SUBMITTAL (20-30884a)	09/16/20	CCB	RWN	10/19/23
2023 FBC (23-60063a)	8/14/26	MRT	RWN	
2026 FBC		NRD	CCB	

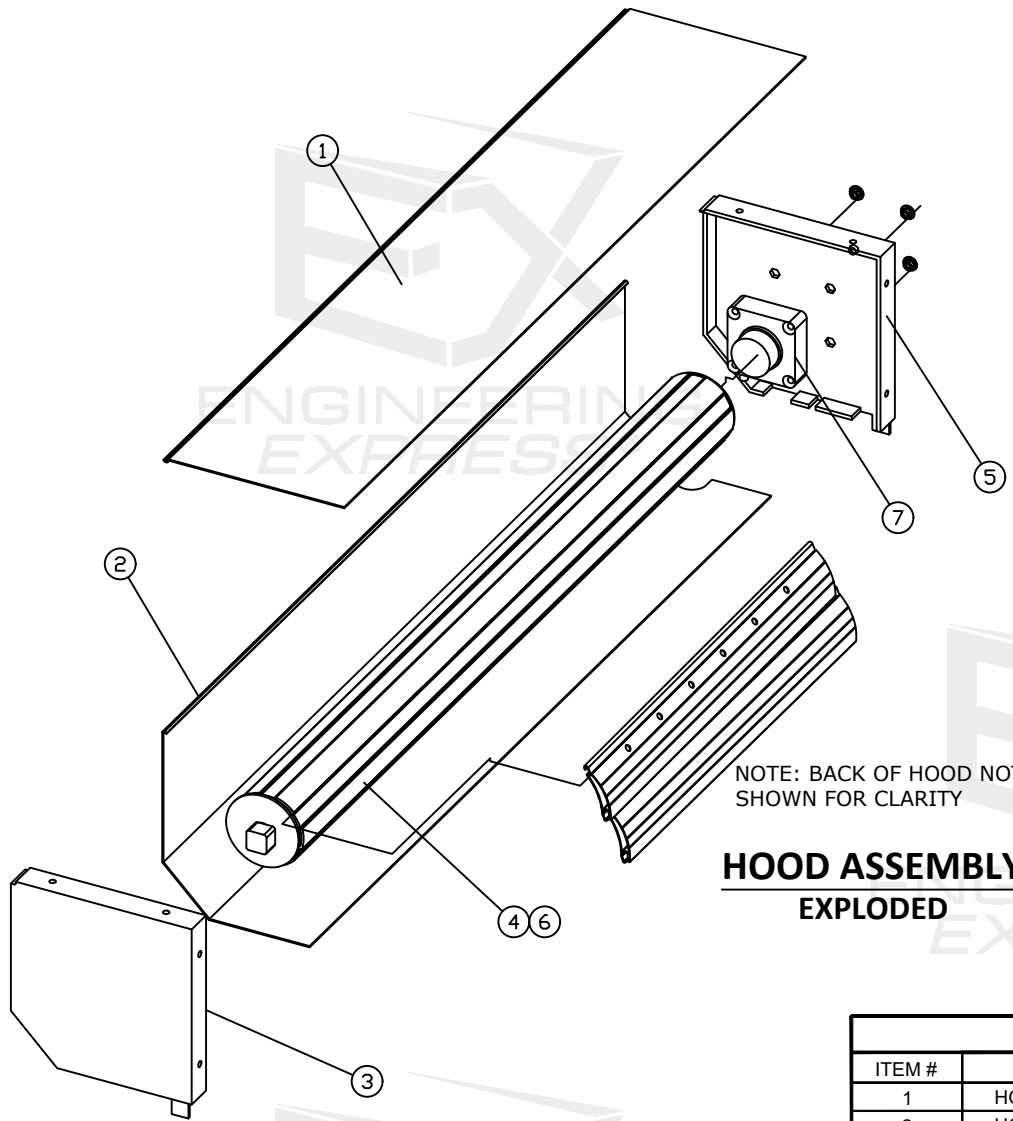
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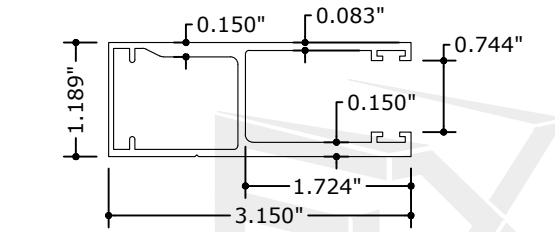
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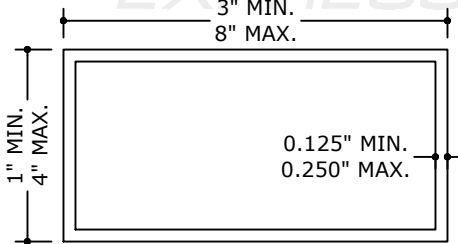


HOOD ASSEMBLY
EXPLODED

BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
1	HOOD TOP	3105-H14 ALUM
2	HOOD FACE	3105-H14 ALUM
3	SIDE CAP, RIGHT	CAST ALUM
4	MOTOR TUBE, 60-88mm DIAMETER, 3mm THICK	6063-T5 ALUM
4	MOTOR TUBE, 60-100mm DIAMETER, 3mm THICK	GALV. STEEL
5	SIDE CAP, LEFT	CAST ALUM
6	IDLE BEARING	NYLON/STEEL
7	MANUAL GEAR OR ELECTRONIC MOTOR	
8	SIDE RAIL, NON-END RETENTION	6063-T6 MIN. ALUM
11	TYPICAL SLAT	6063-T6 ALUM
12	1"x3"x0.125" TUBE	6063-T6 ALUM
13	2"x3"x0.125" TUBE	6063-T6 ALUM
14	2"x4"x0.125" TUBE	6063-T6 ALUM
15	2"x5"x0.125" TUBE	6063-T6 ALUM
16	2"x3"x0.25" TUBE	6061-T6 OR 6005-T5 ALUM
17	2"x4"x0.25" TUBE	6061-T6 OR 6005-T5 ALUM
18	2"x5"x0.25" TUBE	6061-T6 OR 6005-T5 ALUM
19	2"x6"x0.125" TUBE	6063-T6 ALUM
20	2"x6"x0.25" TUBE	6061-T6 OR 6005-T5 ALUM
21	3"x3"x0.125" TUBE	6063-T6 ALUM
22	3"x3"x0.25" TUBE	6061-T6 OR 6005-T5 ALUM
23	4"x4"x0.125" TUBE	6063-T6 ALUM
24	4"x4"x0.25" TUBE	6061-T6 OR 6005-T5 ALUM
25	4"x6"x0.25" TUBE	6061-T6 OR 6005-T5 ALUM
26	4"x8"x0.25" TUBE	6061-T6 OR 6005-T5 ALUM
27	STEEL REINFORCEMENT (Fy = 30 ksi MIN.)	A36 OR STAINLESS STEEL
28	ALUMINUM ANGLE	6061-T6 OR 6005-T5 ALUM
29	OPTIONAL BOTTOM SLAT	6063-T5 ALUM
30	WALL MOUNTED STOP	6063-T6 ALUM

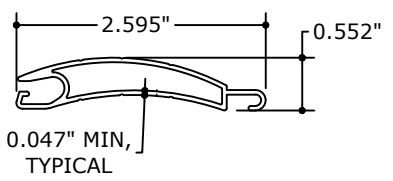


8 SIDE RAIL
6" = 1'-0" 6063-T6 ALUM

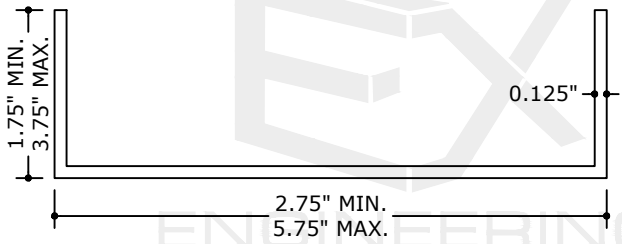


12-26 ALUMINUM TUBE
6" = 1'-0" MAT'L PER BOM

NOTE: SEE BILL OF MATERIALS (BOM)
FOR TUBE SIZES AND MATERIALS

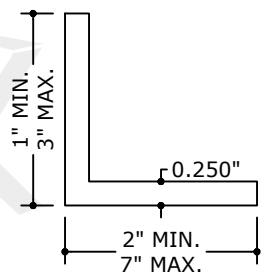


11 TYPICAL SLAT
6" = 1'-0" 6063-T6 ALUM

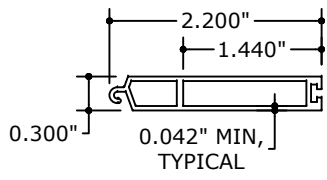


27 STEEL REINFORCEMENT
6" = 1'-0" A36 GALV. STEEL OR STAINLESS STEEL

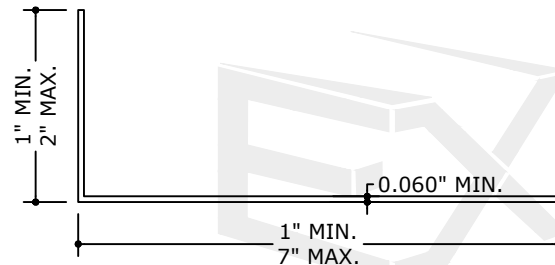
Fy = 30 ksi MINIMUM



28 ALUMINUM ANGLE
6" = 1'-0" 6061-T6 OR 6005-T5 ALUM

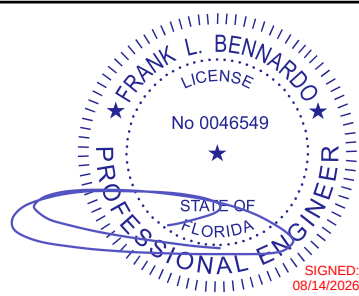


29 OPTIONAL
BOTTOM SLAT
6" = 1'-0" 6063-T5 ALUM



30 WALL MOUNTED STOP
6" = 1'-0" 6063-T6 ALUM

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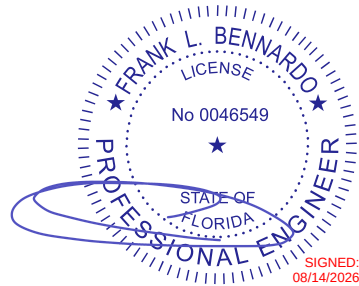
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FLORIDA BUILDING CODE NINTH EDITION (2026)
FLORIDA STATEWIDE APPROVAL (FSA FL#7873.1)

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2023 FBC (23-60063a)	MRT	RWN	10/19/23
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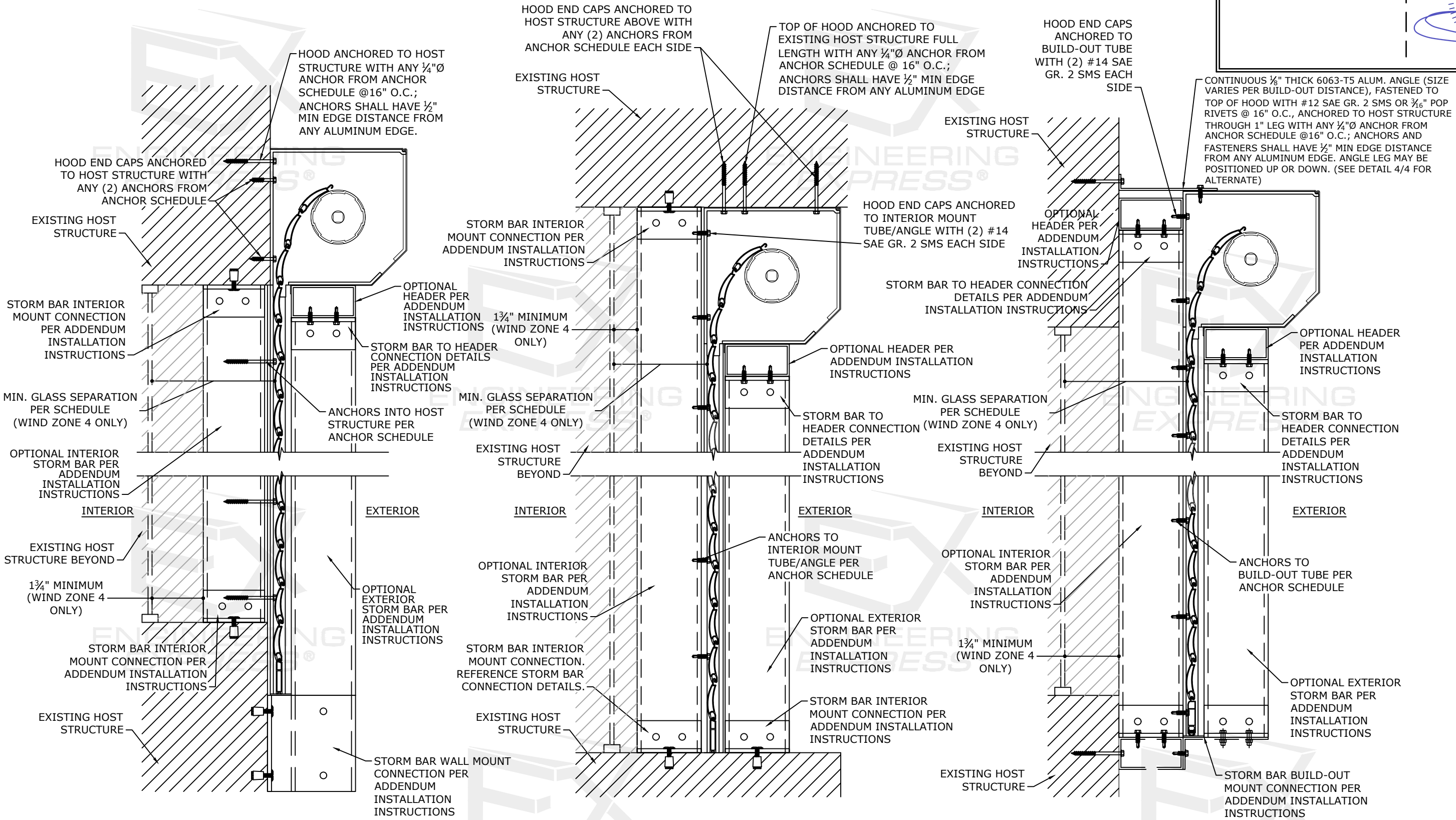
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1
3
WALL MOUNT (SHOWN W/ OPTIONAL STORM BARS)
N.T.S. VERT SECTION

NOTE: FOR OPTIONAL MOUNTING CONDITIONS, REFERENCE ADDENDUM STORM BAR AND MULLION INSTALLATION INSTRUCTIONS.

2
3
INTERIOR MOUNT (SHOWN W/ OPTIONAL STORM BARS)
N.T.S. VERT SECTION

NOTE: FOR OPTIONAL MOUNTING CONDITIONS, REFERENCE ADDENDUM STORM BAR AND MULLION INSTALLATION INSTRUCTIONS.

3
3
BUILD-OUT MOUNT (SHOWN W/ OPTIONAL STORM BARS)
N.T.S. VERT SECTION

NOTE: FOR OPTIONAL MOUNTING CONDITIONS, REFERENCE ADDENDUM STORM BAR AND MULLION INSTALLATION INSTRUCTIONS.

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ANCHOR SCHEDULE:
NON-END RETENTION WALL MOUNT

<u>ANCHOR</u>	<u>SUBSTRATE</u>	<u>MINIMUM EMBEDMENT</u>	<u>MINIMUM EDGE DISTANCE</u>	<u>MAXIMUM SPACING (O.C.)</u>
1/4" DEWALT ULTRACON	2700 PSI MIN. CONCRETE	1.75"	2.5"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.25"	2.5"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	2.5"	6.0"
1/4" ITW SS TAPCON	3192 PSI MIN. CONCRETE	1.75"	2.5"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	2.5"	5.7"
5/16" DEWALT ULTRACON	3500 PSI MIN. CONCRETE	2.0"	3.125"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.25"	2.5"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	3.125"	6.0"
5/16 ITW TAPCON	2899 PSI MIN. CONCRETE	2.25"	3.125"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.25"	4.0"	6.0"
	HOLLOW CONCRETE BLOCK	1.75"	4.0"	6.0"
1/4" DEWALT POWER-BOLT	3000 PSI MIN. CONCRETE	2.5"	3.0"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.5"	5.25"	6.0"
	HOLLOW CONCRETE BLOCK	1.5"	12.0"	6.0"
1/4" ALL-POINTS SOLID-SET	3000 PSI MIN. CONCRETE	0.875"	3.0"	6.0"
	HOLLOW CONCRETE BLOCK	0.875"	3.0"	6.0"
1/4" LAG SCREW	G=0.42 MIN. WOOD	1.5"	0.75"	6.0"
#14 WOOD SCREW	G=0.42 MIN. WOOD	1.5"	0.75"	6.0"
#14 410 SS SMS (OR 1/4-20 410 SS THRU-BOLT)	1/8" THICK MIN. 6063-T6 ALUMINUM	FULL THREAD PENETRATION	0.5"	6.0"
3/8" DEWALT SCREW BOLT	3000 PSI MIN. CONCRETE	3.5"	4.5"	6.0"
	GROUT-FILLED CONCRETE BLOCK*	2.5"	12.0"	6.0"
3/8" DEWALT CONFLX	1819 PSI MIN. CONCRETE	3.5"	3.75"	6.0"
	4510 PSI MIN. CONCRETE	3.5"	3.75"	6.0"
1/4" DEWALT CARBON STEEL OR 304 SS TAPPER	3000 PSI MIN. CONCRETE	1.75"	3.0"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	3.0"	5.3"

ANCHOR SCHEDULE:
NON-END RETENTION INTERIOR MOUNT

<u>ANCHOR</u>	<u>SUBSTRATE</u>	<u>MINIMUM EMBEDMENT</u>	<u>MINIMUM EDGE DISTANCE</u>	<u>MAXIMUM SPACING (O.C.)</u>
1/4" DEWALT ULTRACON	2700 PSI MIN. CONCRETE	1.75"	2.5"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.25"	2.5"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	2.5"	5.5"
1/4" ITW SS TAPCON	3192 PSI MIN. CONCRETE	1.75"	2.5"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	2.5"	4.6"
5/16" DEWALT ULTRACON	3500 PSI MIN. CONCRETE	2.0"	3.125"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.25"	2.5"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	3.125"	6.0"
5/16 ITW TAPCON	2899 PSI MIN. CONCRETE	2.25"	3.125"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.25"	4.0"	6.0"
	HOLLOW CONCRETE BLOCK	1.75"	4.0"	6.0"
1/4" DEWALT POWER-BOLT	3000 PSI MIN. CONCRETE	2.5"	3.0"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.5"	5.25"	6.0"
	HOLLOW CONCRETE BLOCK	1.5"	12.0"	6.0"
1/4" ALL-POINTS SOLID-SET	3000 PSI MIN. CONCRETE	0.875"	3.0"	6.0"
	HOLLOW CONCRETE BLOCK	0.875"	3.0"	6.0"
1/4" LAG SCREW	G=0.42 MIN. WOOD	1.5"	0.75"	5.2"
#14 WOOD SCREW	G=0.42 MIN. WOOD	1.5"	0.75"	5.0"
#14 410 SS SMS (OR 1/4-20 410 SS THRU-BOLT)	1/8" THICK MIN. 6063-T6 ALUMINUM	FULL THREAD PENETRATION	0.5"	6.0"
3/8" DEWALT SCREW BOLT	3000 PSI MIN. CONCRETE	3.5"	4.5"	6.0"
	GROUT-FILLED CONCRETE BLOCK*	2.5"	12.0"	6.0"
3/8" DEWALT CONFLX	1819 PSI MIN. CONCRETE	3.5"	3.75"	6.0"
	4510 PSI MIN. CONCRETE	3.5"	3.75"	6.0"
1/4" DEWALT CARBON STEEL OR 304 SS TAPPER	3000 PSI MIN. CONCRETE	1.75"	3.0"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	3.0"	4.3"

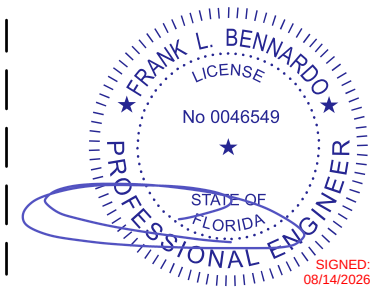
ANCHOR NOTES:

1. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
2. 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).
3. MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
4. ANCHOR SCHEDULE APPLIES TO ALL PRODUCTS CERTIFIED HEREIN, BUT ONLY PROVIDES MAXIMUM ALLOWABLE ANCHOR SPACING. MAXIMUM ALLOWABLE SPANS AND PRESSURES INDICATED IN SPAN SCHEDULE SHALL APPLY.
5. WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.
6. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
7. MACHINE SCREWS SHALL HAVE MINIMUM OF 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.
8. SHEET METAL SCREWS SHALL BE INSTALLED WITH FULL ENGAGEMENT OF THREADS INTO METAL HOST STRUCTURE
9.  DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.
10. * ANCHOR SHALL PENETRATE THROUGH FACE SHELL INTO GROUTED CELL.

ANCHOR SCHEDULE:
NON-END RETENTION BUILD-OUT MOUNT

<u>ANCHOR</u>	<u>SUBSTRATE</u>	<u>MINIMUM EMBEDMENT</u>	<u>MINIMUM EDGE DISTANCE</u>	<u>MAXIMUM SPACING (O.C.)</u>
1/4" DEWALT ULTRACON	2700 PSI MIN. CONCRETE	1.75"	2.5"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.25"	2.5"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	2.5"	
1/4" ITW SS TAPCON	3192 PSI MIN. CONCRETE	1.75"	2.5"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	2.5"	3.4"
5/16" DEWALT ULTRACON	3500 PSI MIN. CONCRETE	2.0"	3.125"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.25"	2.5"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	3.125"	6.0"
5/16 ITW TAPCON	2899 PSI MIN. CONCRETE	2.25"	3.125"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.25"	4.0"	6.0"
	HOLLOW CONCRETE BLOCK	1.75"	4.0"	5.6"
1/4" DEWALT POWER-BOLT	3000 PSI MIN. CONCRETE	2.5"	3.0"	6.0"
	GROUT-FILLED CONCRETE BLOCK	2.5"	5.25"	6.0"
	HOLLOW CONCRETE BLOCK	1.5"	12.0"	6.0"
1/4" ALL-POINTS SOLID-SET	3000 PSI MIN. CONCRETE	0.875"	3.0"	6.0"
	HOLLOW CONCRETE BLOCK	0.875"	3.0"	6.0"
1/4" LAG SCREW	G=0.42 MIN. WOOD	1.5"	0.75"	6.0"
#14 WOOD SCREW	G=0.42 MIN. WOOD	1.5"	0.75"	6.0"
#14 410 SS SMS (OR 1/4-20 410 SS THRU-BOLT)	1/8" THICK MIN. 6063-T6 ALUMINUM	FULL THREAD PENETRATION	0.5"	6.0"
3/8" DEWALT SCREW BOLT	3000 PSI MIN. CONCRETE	3.5"	4.5"	6.0"
	GROUT-FILLED CONCRETE BLOCK*	2.5"	12.0"	6.0"
3/8" DEWALT CONFLX	1819 PSI MIN. CONCRETE	3.5"	3.75"	6.0"
	4510 PSI MIN. CONCRETE	3.5"	3.75"	6.0"
1/4" DEWALT CARBON STEEL OR 304 SS TAPPER	3000 PSI MIN. CONCRETE	1.75"	3.0"	6.0"
	HOLLOW CONCRETE BLOCK	1.25"	3.0"	

FRANK BENNARDO, P.E.
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PREV. SUBMITTAL (20-30984a)	CCB	RWN	09/16/20
2023 FBC (23-60063a)	MRT	RWN	10/19/23
2026 FBC	NRD	CCB	8/14/26
-	-	-	-
-	-	-	-

26-103036a

SCALE: NTS UNLESS NOTED

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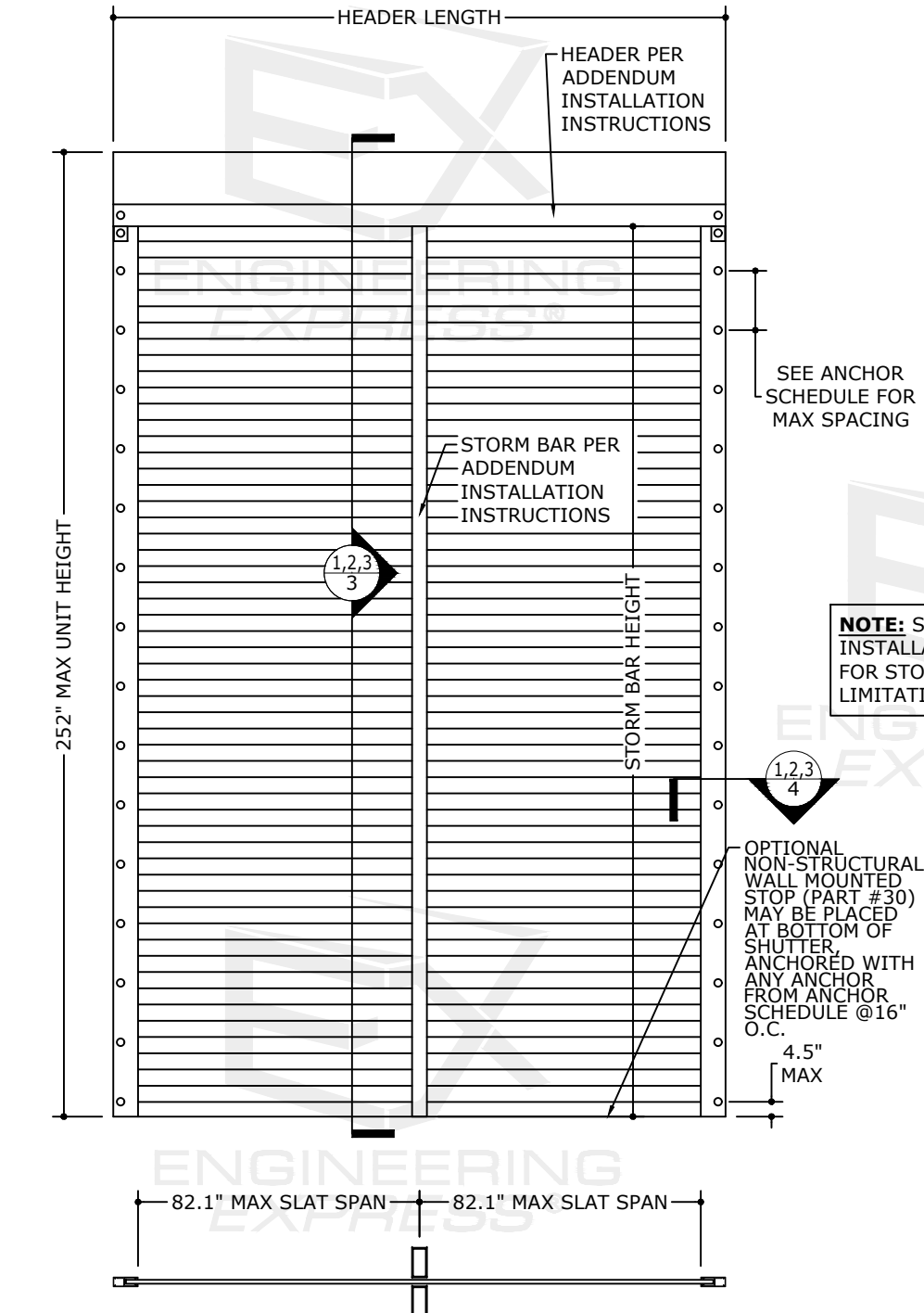
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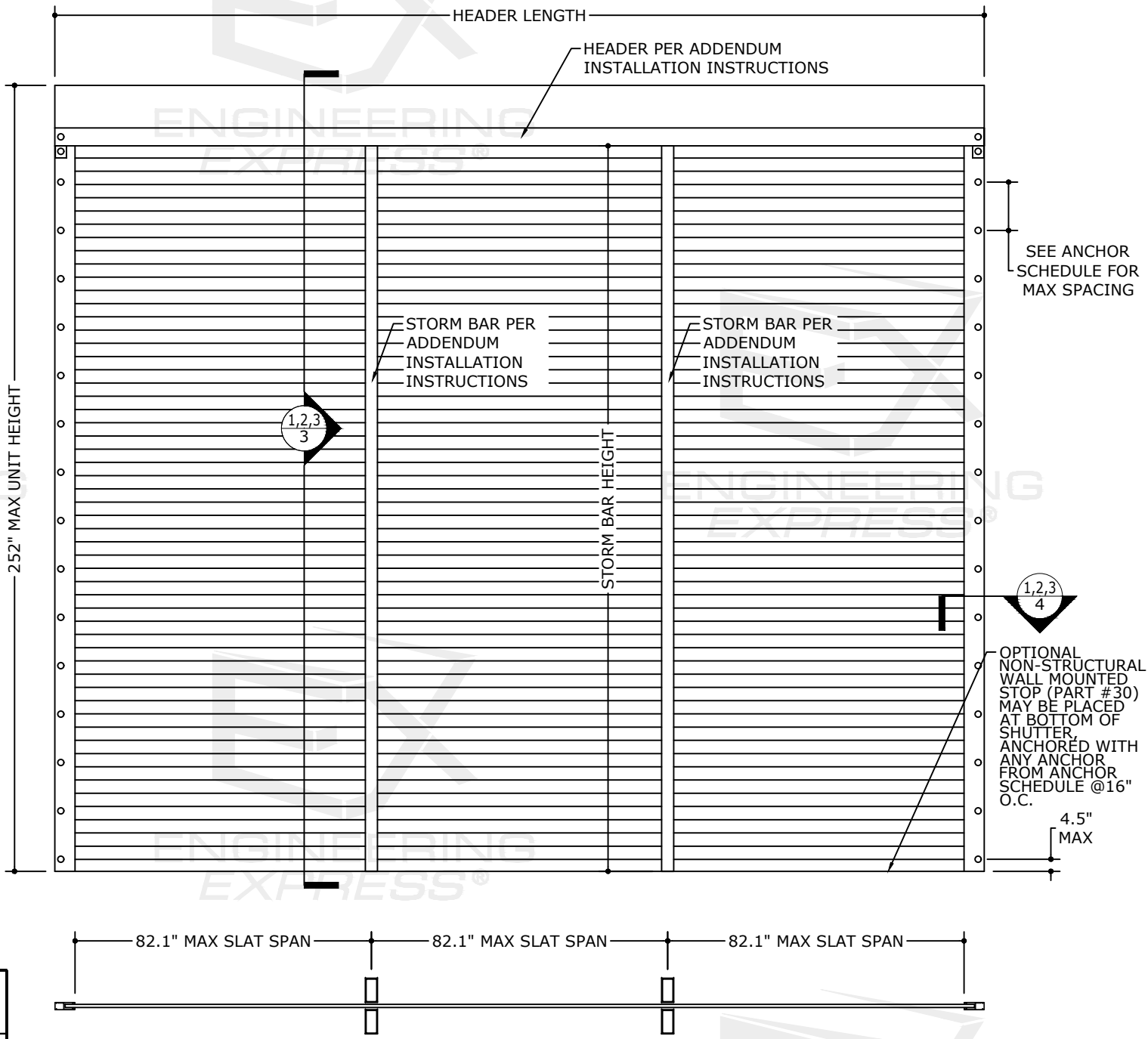
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6
NON-END RETENTION SHUTTER WITH STORM BARS (DOUBLE-SPAN)
N.T.S. EXTERIOR ELEV

TABLE 3 NON-END RETENTION W/ INTERIOR & EXTERIOR STORM BARS		
SLAT SPAN	ALLOWABLE DESIGN PRESSURE	
	POSITIVE	NEGATIVE
47.1"	+ 120.0 PSF	- 120.0 PSF
50.0"	+ 100.5 PSF	- 104.2 PSF
55.0"	+ 74.0 PSF	- 83.1 PSF
60.0"	+ 55.8 PSF	- 67.3 PSF
65.0"	+ 39.7 PSF	- 55.2 PSF
70.0"	+ 28.9 PSF	- 45.7 PSF
75.0"	+ 21.4 PSF	- 38.2 PSF
80.0"	+ 16.2 PSF	- 32.2 PSF
82.1"	+ 14.5 PSF	- 30.0 PSF

TABLE 3 NOTES:
• SLAT SPAN IS AS DEFINED IN DETAILS 1/6 AND 2/6.
• 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.



2
6
NON-END RETENTION SHUTTER WITH STORM BARS (TRIPLE-SPAN)
N.T.S. EXTERIOR ELEV

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SCALE: NTS UNLESS NOTED

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