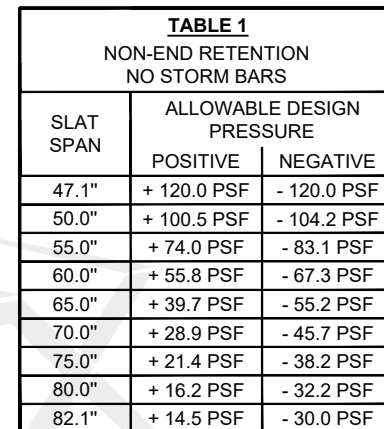


COLBY BENNARDO, PE
PE# 95197 CA# 9885

AUGUST 15, 2023

Digitally signed by
Colby Bennardo
Date: 2023.08.15
16:12:03 -04'00'



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"

- 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.
- SEPARATION FROM GLAZING IS ONLY REQUIRED WITHIN THE HVHZ.

1. THE SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE EIGHTH EDITION (2023), THE INTERNATIONAL BUILDING CODE (IBC) AND THE INTERNATIONAL RESIDENTIAL CODE (IRC), FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE. SEE EVALUATION REPORT FOR ADDITIONAL INFORMATION.
2. 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.
3. DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
4. 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 DESIGN PROFESSIONAL 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 #FL14235.1, ALUMINUM STORM BARS, HEADERS, & MULLIONS
5. ROLL-UP MECHANISM AND HOOD ASSEMBLY ARE NOT PART OF THIS APPROVAL.
6. 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.

7. PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
8. ALL EXTRUSIONS SHALL BE MINIMUM 6063-T5 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE.
9. UNITS SHALL BE LABELED IN ACCORDANCE WITH THE FLORIDA BUILDING COMMISSION AND THE FDBPR SPECIFICATIONS. EACH SHUTTER ASSEMBLY SHALL BEAR A PERMANENT LABEL ON THE BOTTOM OF THE HOOD FACING THE EXTERIOR. UNITS SHALL BE LABELED IN ACCORDANCE WITH THE FLORIDA BUILDING COMMISSION AND THE FLORIDA DEPARTMENT OF BUSINESS & PROFESSIONAL REGULATION SPECIFICATION.
10. 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.
11. WIND LOAD DURATION FACTOR $C_d=1.6$ HAS BEEN USED FOR WOOD ANCHOR DESIGN.
12. ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED AS PRESCRIBED IN THE FLORIDA BUILDING CODE.
13. REFER TO FASTENER MANUFACTURER'S PUBLISHED DATA SHEETS AND RECOMMENDATIONS FOR FASTENER INSTALLATION INSTRUCTIONS.
14. 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
15. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
16. ALTERATIONS, ADDITIONS OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.

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MAESTROSHIELD ALUMINUM ROLL-UP SHUTTER
FLORIDA BUILDING CODE EIGHTH EDITION (2023)
FLORIDA STATEWIDE APPROVAL (FSA FL#14235.1)

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NOTE: NTS UNLESS NOTED

1 OF 6

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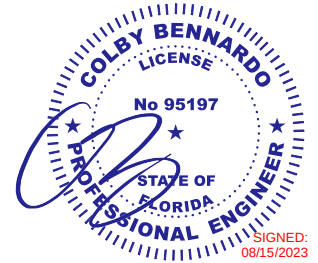
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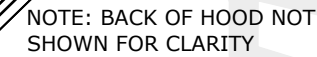
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REMARKS	DRWN	CHKD	DATE
2020 FBC (20-26180a)	CLB	RWN	6/25/20
2023 FBC	MILD	CCB	08/15/23
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-	-	-	-
-	-	-	-

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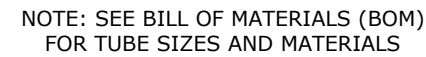
2



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



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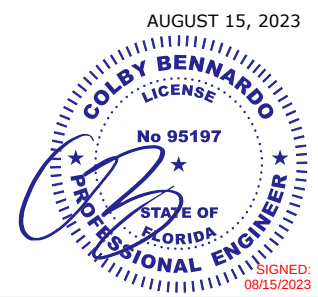
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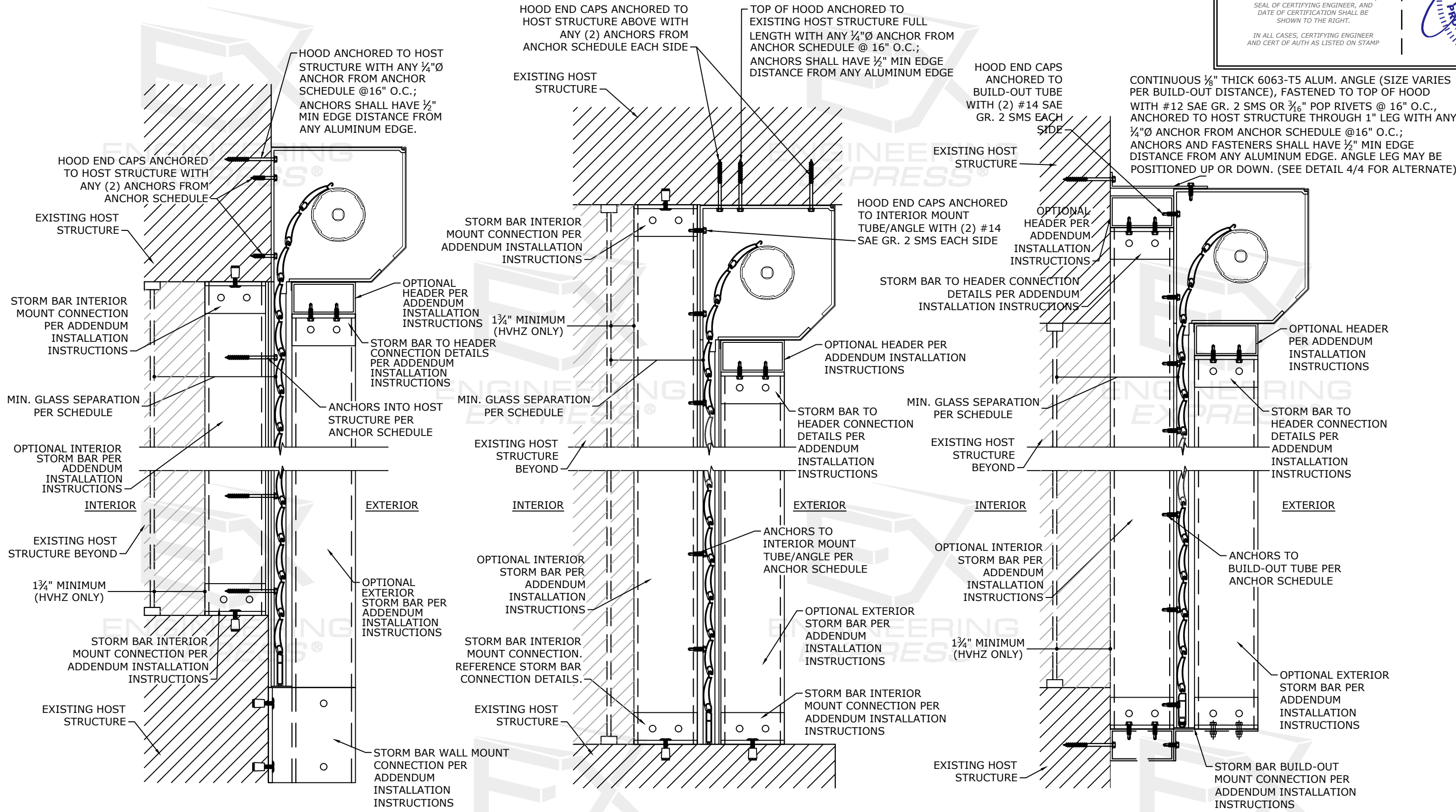
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3 OF 6



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.

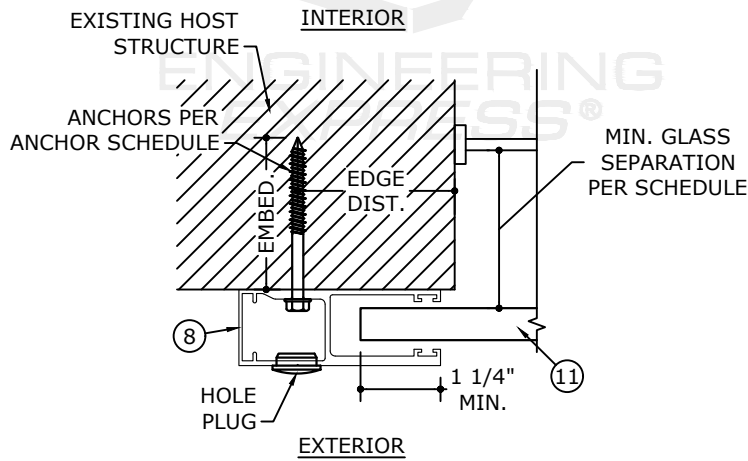
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BUILD-OUT MOUNT (SHOWN W/ OPTIONAL STORM BARS)

N.T.S. VERT SECTION

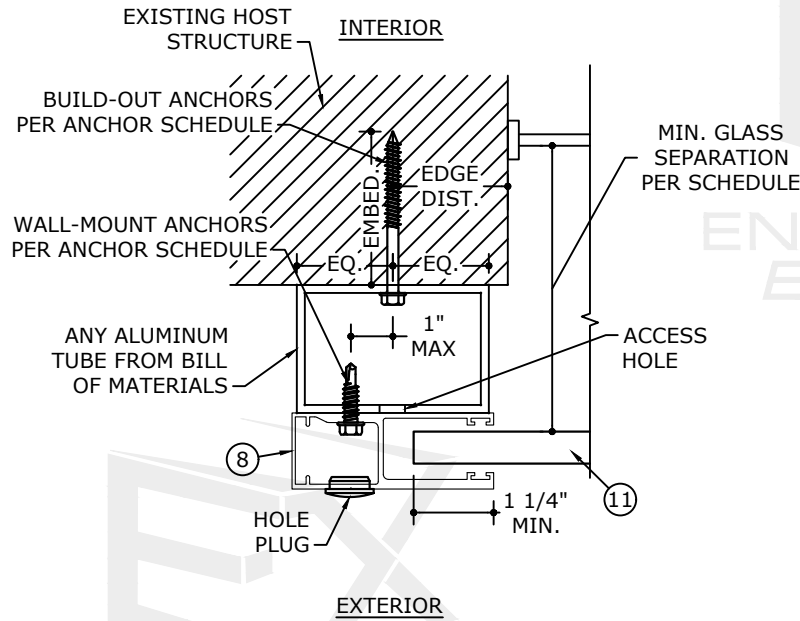
NOTE: FOR OPTIONAL MOUNTING CONDITIONS, REFERENCE ADDENDUM STORM BAR AND MULLION INSTALLATION INSTRUCTIONS.

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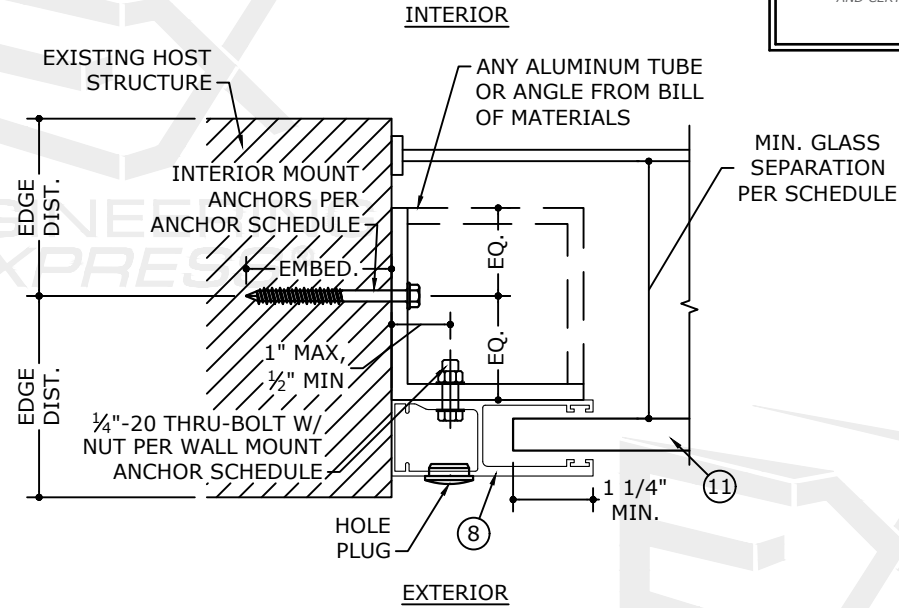
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4 NON-END RETENTION
TYPICAL WALL MOUNT

N.T.S. HORIZ SECTION



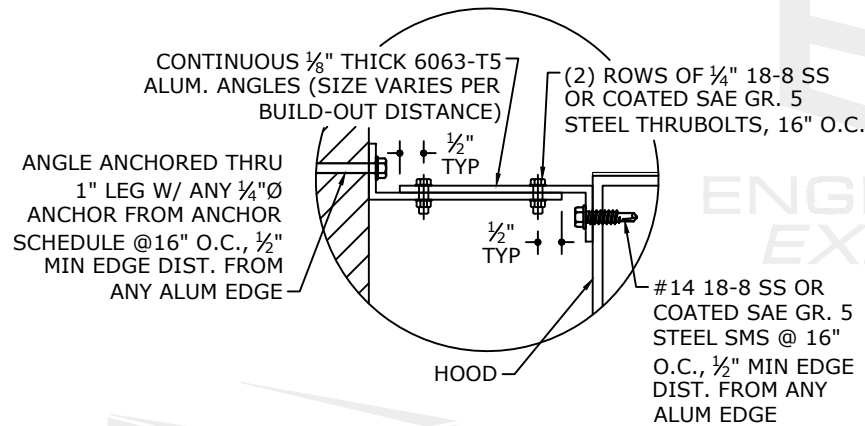
2
4 NON-END RETENTION
TYP. BUILD-OUT MOUNT

N.T.S. HORIZ SECTION



3
4 NON-END RETENTION
TYP. INTERIOR MOUNT

N.T.S. HORIZ SECTION



4
4 ALTERNATE
BUILD-OUT HOOD CONNECTION

N.T.S. SECTION

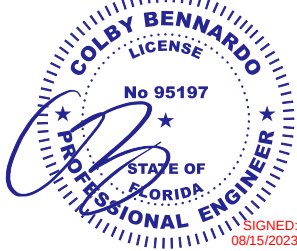
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ANCHOR SCHEDULE: NON-END RETENTION WALL MOUNT

<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" HILLMAN 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 CONFLEX	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" HILLMAN 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 CONFLEX	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" HILLMAN 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"	

[illegible]

