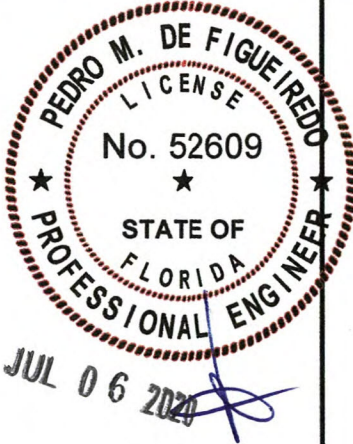
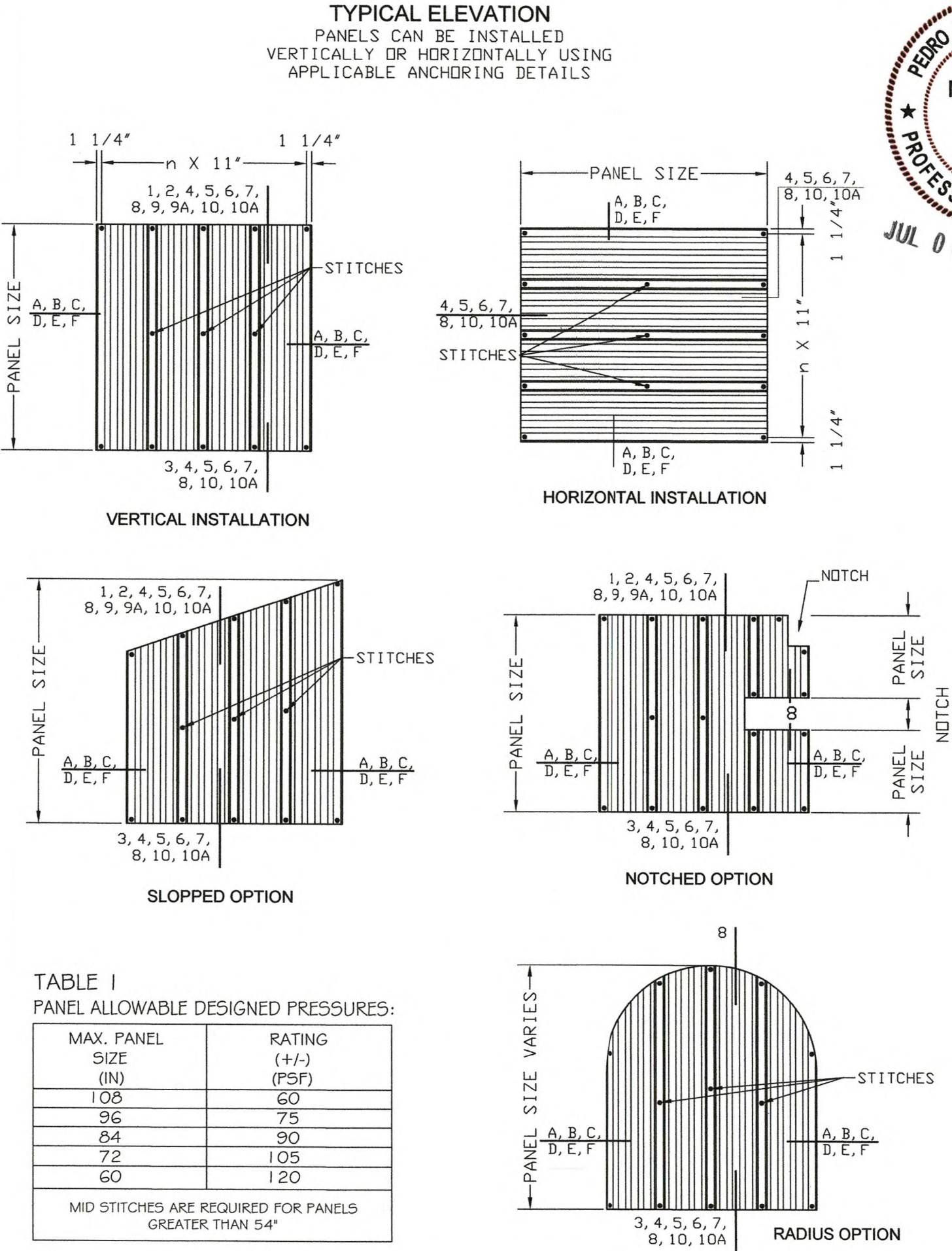


- GENERAL NOTES:
(FLORIDA BUILDING CODE 2020 - 7TH EDITION - HVHZ & non HVHZ)
- 1- THIS PRODUCT IS DESIGNED AND TESTED (TAS 201, 202, 203) IN ACCORDANCE WITH THE THE FLORIDA BUILDING CODE 2020 - 7th EDITION. PRODUCT CAN BE USED WHERE CODE IS APPLICABLE INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).
- 2- POSTING: AN EMBOSSED OR PRINTED LABEL SHALL BE PROVIDED AS PER FBC SECTION 1709.9.3. IT SHALL BE LOCATED ON EACH PANEL SPACED NOT MORE THAN THREE FEET AND SHALL FACE THE EXTERIOR OR OUTSIDE. LABEL SHALL PROVIDE THE FOLLOWING INFORMATION:
- "WILLARD SHUTTERS - MIAMI - FLORIDA
0.05 ALUMINUM HURRICANE PANEL
LARGE MISSILE IMPACT RESISTANT
- 3- MATERIAL:
3.1 - STORM PANELS SHALL BE 0.05" ALUMINUM 5052-H32 ALLOY.
3.2 - ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 OR AS INDICATED IN THIS SET OF DRAWINGS.
- 4- ANCHORS SHALL BE AS SHOWN ON THIS APPROVAL. ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING.
- 5- LOADS: PROJECT DESIGNED PRESSURES, PROVIDED BY A PROFESSIONAL ARCHITECT OR ENGINEER, AS DETERMINED USING THE FBC SECTIONS 1609, 1620 (HVHZ) AND ASCE 7-16 ULTIMATE WIND PRESSURES MUST BE MULTIPLIED BY 0.6 FACTOR. THE CALCULATED PROJECT PRESSURES MUST NOT EXCEED THE ALLOWABLE PRESSURES FOR EACH COMPONENT TO BE USED.
- 6- USE: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, ARCHITECT OR ENGINEER OF RECORD TO VERIFY THE FOLLOWING:
6.1- THE STABILITY OF THE STRUCTURE WHERE THE PRODUCT IS TO BE ATTACHED INSURING PROPER ANCHORAGE.
6.2- THE SITE SPECIFIC PROJECT CRITERIA, SUCH AS BUT NOT LIMITED TO, WIND LOADS, LOCAL CODE REQUIREMENTS, DESIGNED PRESSURES ETC.
6.3- THAT THIS APPROVAL IS ADEQUATE TO THE SPECIFIC PROJECT
- 7- PANELS CAN BE OVERLAPPED TO CREATE A 1/2 PANEL INSTALLATION.
- 8- DISSIMILAR MATERIALS: WHERE ALUMINUM IS IN CONTACT OR FASTENED TO DISSIMILAR MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL, INSTALLATION SHALL MEET THE REQUIREMENTS OF CHAPTER M.7 OF THE ALUMINUM DESIGN MANUAL 2015.

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1	GENERAL NOTES & TYPICAL ELEVATIONS ,ALLOWABLE DESIGN PRESSURES TABLE 1.
2	COMPONENTS DETAILS AND SCHEDULE
3	ANCHOR SCHEDULE AND ANCHOR TABLE 2.
4	DETAILS MOUNT TYPES 1, 2, 3, & 4
5	DETAILS MOUNT TYPES 5, 6, 7 & 8
6	DETAILS MOUNT TYPES 9, 9A, 10 & 10A
7	DETAILS SIDE CLOSURE SECTION



PRODUCT:
**0.05" ALUMINUM
HURRICANE STORM PANELS**

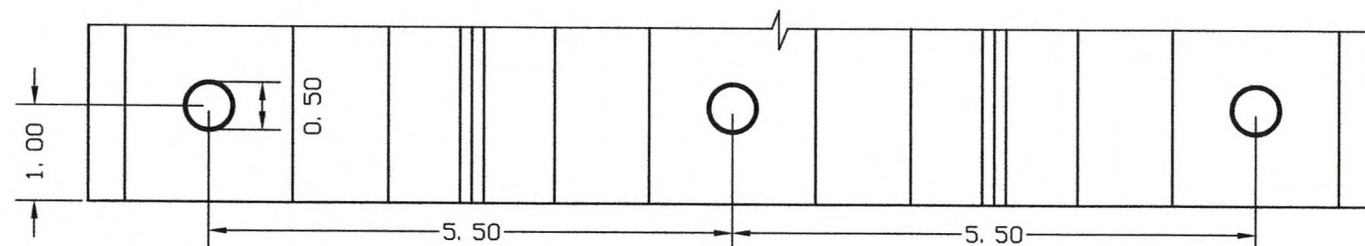
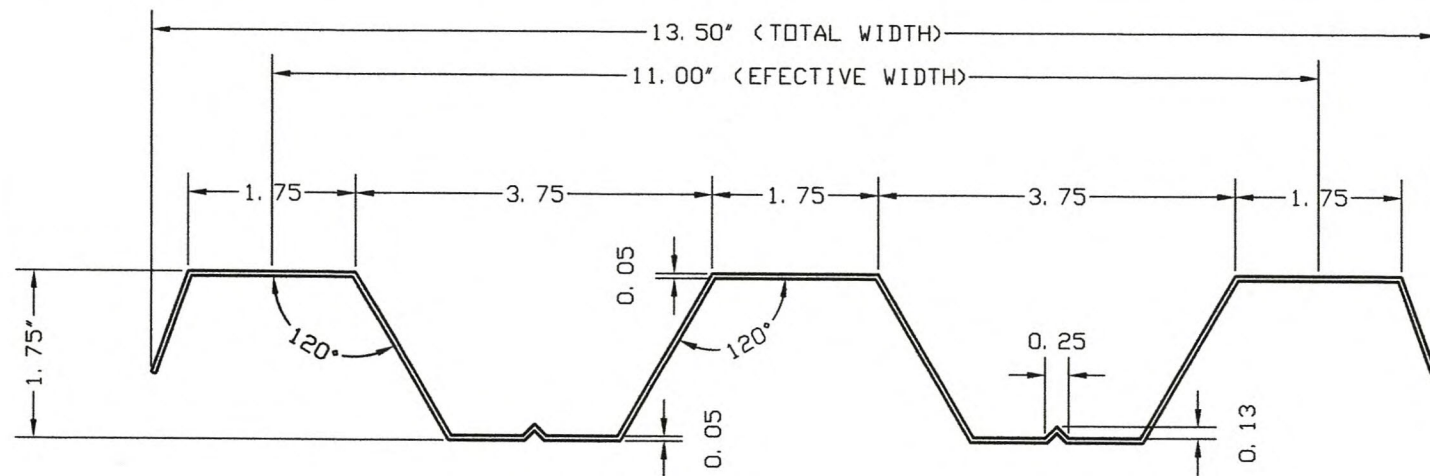
MANUFACTURER:
**WILLARD
SHUTTER COMPANY, INC.**
4420 NW 35TH COURT
MIAMI, FL 33142
Tel.: (305) 633-0162
Fax.: (305) 633-8634

SCALE:
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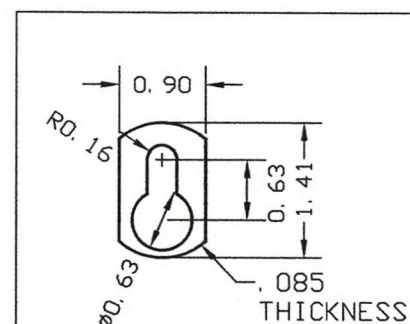
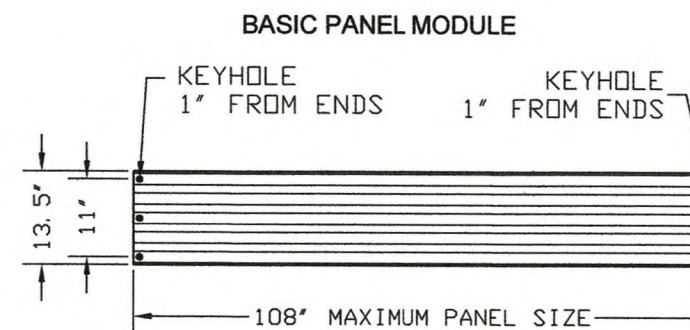
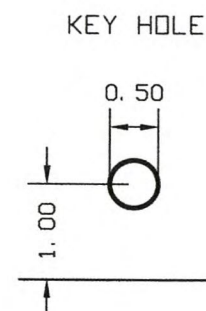
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07/06/2020

DRAWING #
20-083

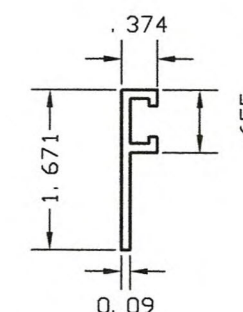
SHEET
1 OF 7



1- TYPICAL ALUMINUM PANEL
ALUMINUM 5052-H32 ALLOY



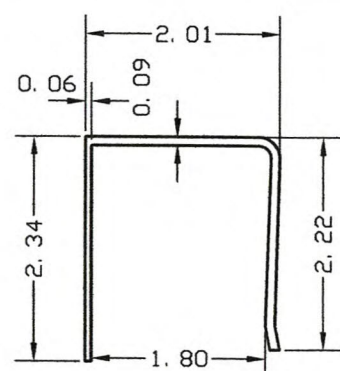
9- OPTIONAL KEY HOLE WASHER
ALUMINUM 6063-T5



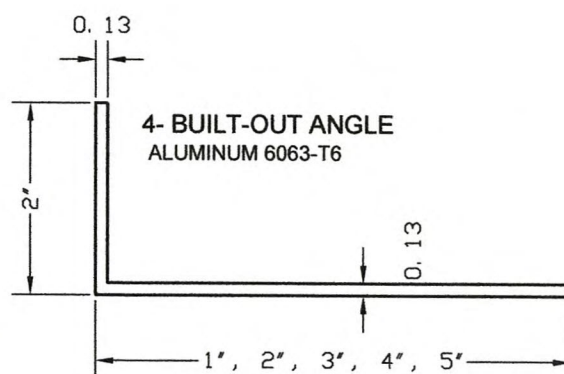
5- \"F\" TRACK
ALUMINUM 6063-T6

COMPONENTS SCHEDULE

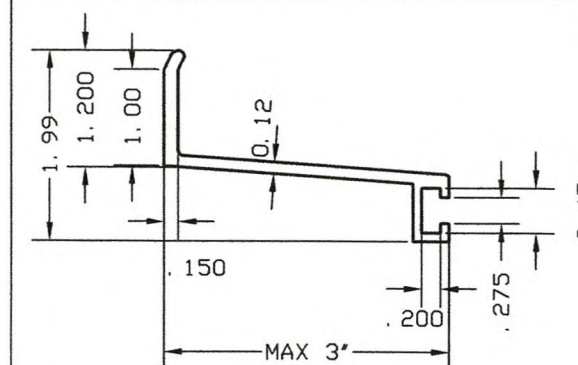
PART	DESCRIPTION	MATERIAL
1	0.05 ROLL FORMED PANEL	5052-H32
2	STUD ANGLE TRACK	6063-T6
3	\"U\" CEILING TRACK	6063-T6
4	1/8-2X BUILT-OUT ANGLE	6063-T6
5	\"F\" TRACK	6063-T6
6	\"F BUILT-OUT\" TRACK	6063-T6
7	\"H\" HEADER TRACK	6063-T6
8	CLIP SILL TRACK	6063-T6/ S. STEEL
9	OPTIONAL KEY HOLE WASHER	6063-T5
10	1/4-20 WASHERED WINGNUT	ZINC ALLOY
11	1/4-20 SS SIDEWALK SCREWS	STAINLESS STEEL
12	1/4-20 SS HH MACHINE SCREWS	STAINLESS STEEL
13	1/4-20 SS HH NUT	STAINLESS STEEL
14	1/4-20 SS TH MACHINE SCREWS	STAINLESS STEEL



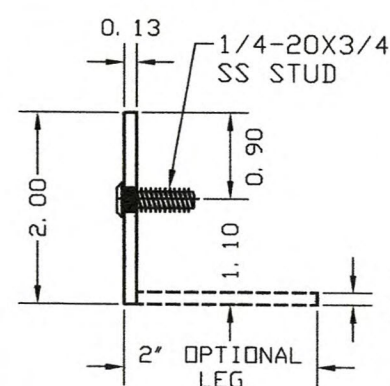
3- \"U\" CEILING TRACK
ALUMINUM 6063-T6



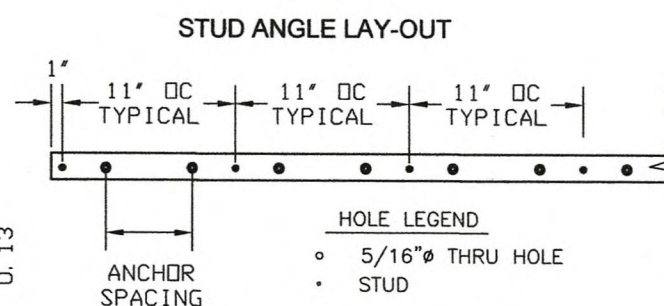
4- BUILT-OUT ANGLE
ALUMINUM 6063-T6



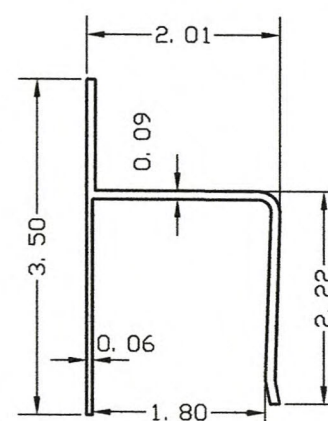
6- 1\", 2\", 3\" \"F BUILT-OUT\" TRACK
ALUMINUM 6063-T6



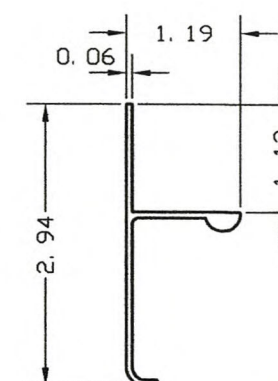
2- STUD ANGLE TRACK
ALUMINUM 6063-T6



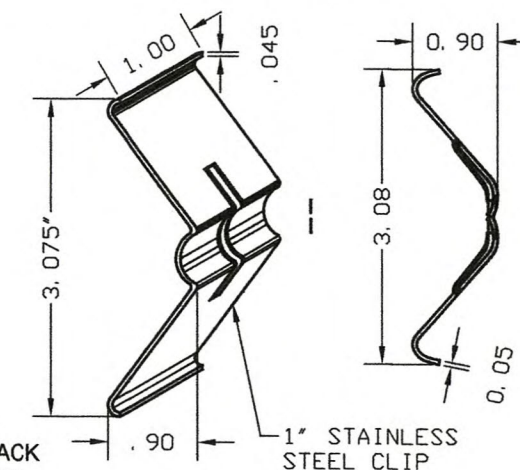
- HOLE LEGEND
- 5/16\"
 - STUD



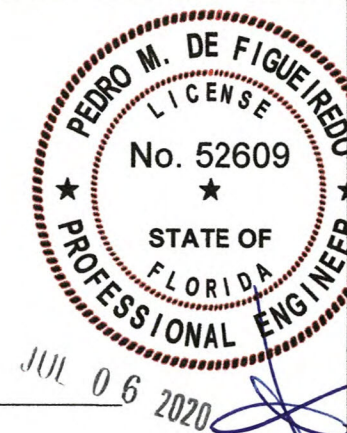
7- \"H\" HEADER TRACK
ALUMINUM 6063-T6



8- \"CLIP\" SILL TRACK
ALUMINUM 6063-T6



1\"/>



PRODUCT:

0.05\"/>

MANUFACTURER:
WILLARD
SHUTTER COMPANY, INC.
4420 NW 35TH COURT
MIAMI, FL 33142
Tel.: (305) 633-0162
Fax.: (305) 638-8634

SCALE:
NA

DATE:
07/06/2020

DRAWING #
20-083

SHEET
2 OF 7



ENGINEERING SERVICES - CA 32459
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
PPMF@AOL.COM

ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

TABLE 2
MAXIMUM ANCHOR SPACING ON CENTER

MAXIMUM ANCHOR SPACING ON CENTER														MOUNT TYPE - SHEETS 4, 5 AND 6														PRESSURES													
60 PSF														90 PSF														120 PSF													
1 2 3 4 5 6 7A 8 9 9A 10 10A														1 2 3 4 5 6 7A 8 9 9A 10 10A														1 2 3 4 5 6 7A 8 9 9A 10 10A													
PANEL SIZE (INCHES)	60 IN	A	12	12	12	12	12	12	11	12	12	12	12	8	11	12	11	12	8	11	10	12	10	12	6	8	12	8	12	6	8	11	7	12	7	12					
		A1	--	5	6	5	8	--	4	5.5	--	8	--	7	--	--	4	--	5	--	--	5.5	--	5	--	5	--	--	--	4	--	--	--	--	--						
		A2	12	12	12	12	12	12	12	11	12	12	12	12	9	8	12	8	12	9	12	11	11	12	11	12	6	6	12	6	12	6	9	11	8	12	8	12			
		B	12	12	12	12	12	12	12	11	12	12	12	12	9	12	12	12	12	9	12	11	12	12	11	12	7	10	12	10	12	7	10	11	9	12	8	12			
		B1	8	11	12	12	12	8	11	11	10	12	10	12	5	7	11	8	12	5	7	11	7	12	6	12	4	5	8	6	11	4	5	11	5	11	5	10			
		C	6	8	12	8	12	6	8	11	7	12	7	12	4	5	8	5	11	4	5	11	5	11	4	10	3	4	6	4	8	3	4	5.5	3	8	3	7			
		D	--	--	--	--	--	--	--	11	12	12	12	12	--	--	--	--	--	--	--	11	12	12	12	12	--	--	--	--	--	--	--	11	11	12	11	12			
		D1	--	--	--	--	--	--	--	11	12	12	12	12	--	--	--	--	--	--	--	11	10	12	10	12	--	--	--	--	--	--	--	11	8	12	7	12			
		D2	--	--	--	--	--	--	--	11	12	12	12	12	--	--	--	--	--	--	--	11	11	12	11	12	--	--	--	--	--	--	--	11	8	12	8	12			
	84 IN	A	9	11	12	12	12	9	12	11	11	12	10	12	6	7	12	8	12	6	8	11	7	12	7	12	4	5	9	6	12	4	6	11	5	12	5	11			
		A1	--	--	4	--	6	--	--	5.5	--	6	--	5	--	--	--	--	4	--	--	--	--	4	--	--	--	--	--	--	--	--	--	--	--	--	--				
		A2	9	9	12	9	12	9	12	11	12	12	11	12	6	6	12	6	12	6	9	11	8	12	7	12	4	4	10	4	12	4	6	11	6	12	5	12			
		B	10	12	12	12	12	10	12	11	12	12	12	12	6	9	12	10	12	7	9	11	8	12	8	12	5	7	10	7	12	5	7	11	6	12	6	12			
		B1	6	8	12	8	12	6	8	11	7	12	7	12	4	5	8	5	10	4	5	11	5	11	4	9	3	4	6	4	8	3	4	5.5	3	8	3	7			
		C	4	6	9	6	12	4	6	11	5	12	5	10	--	4	6	4	8	--	4	5.5	3	8	3	7	--	3	4	3	6	--	3	5.5	--	6	--	5			
		D	--	--	--	--	--	--	--	11	12	12	12	12	--	--	--	--	--	--	--	11	11	12	10	12	--	--	--	--	--	--	--	11	8	12	8	12			
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		D2	--	--	--	--	--	--	--	11	12	12	11	12	--	--	--	--	--	--	--	11	8	12	7	12	--	--	--	--	--	--	--	11	6	12	5	12			
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		A1	--	--	--	--	4	--	--	5.5	--	4	--	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
		A2	7	7	12	7	12	7	10	11	9	12	9	12	5	4	10	4	12	5	7	11	6	12	6	12	--	--	--	--	--	--	--	--	--	--					
		B	8	11	12	11	12	8	11	11	10	12	9	12	5	7	11	7	12	5	7	11	6	12	6	12	--	--	--	--	--	--	--	--	--	--					
		B1	4	6	9	6	12	4	6	11	5	12	5	11	3	4	6	4	8	3	4	5.5	3	8	3	7	--	--	--	--	--	--	--	--	--	--					
		C	3	4	7	4	9	3	4	5.5	4	9	4	8	--	3	4	3	6	--	3	5.5	--	6	--	5	--	--	--	--	--	--	--	--	--	--					
		D	--	--	--	--	--	--	--	11	12	12	12	12	--	--	--	--	--	--	--	11	8	12	8	12	--	--	--	--	--	--	--	--	--	--					
		D1	--	--	--	--	--	--	--	11	8	12	8	12	--	--	--	--	--	--	--	11	5	12	5	11	--	--	--	--	--	--	--	--	--	--					
		D2	--	--	--	--	--	--	--	11	9	12	9	12	--	--	--	--	--	--	--	11	6	12	6	12	--	--	--	--	--	--	--	--	--	--					

EXAMPLE:
PANEL HEIGHT: 84"
DESIGNED PRESSURE: Pd= 90 PSF
ANCHOR TYPE D2 - SEE ANCHOR SCHEDULE
MOUNT TYPE 10A - SEE SHEET 6 OF 7
MAXIMUM ANCHOR SPACING: 12' OC
EDGE DISTANCE - 3/4"
EMBEDMENT: 1 1/2"

EXAMPLE:
PANEL HEIGHT: 84"
DESIGNED PRESSURE: Pd= 90 PSF
ANCHOR TYPE D2 - SEE ANCHOR SCHEDULE
MOUNT TYPE 10A - SEE SHEET 6 OF 7
MAXIMUM ANCHOR SPACING: 12" OC
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ANCHOR TYPE
SEE ANCHOR SCHEDULE

NOTES:
1- USE TABLE 2 IN CONJUNCTION WITH TABLE 1
2- ANCHOR SPACING CAN BE CALCULATED BY INTERPOLATION BETWEEN LOAD VALUES

ANCHOR SCHEDULE:

TYPE	DESCRIPTION	EMBED.	EDGE DIST
A	1/4" TAPCONS/ ULTRACON INTO CONCRETE (FC'=3192 PSI)	1 3/4"	2 1/2"
A1	1/4" TAPCONS/ ULTRACON INTO CMU	1 1/4"	2 1/2"
A2	1/4" TAPCONS/ ULTRACON INTO WOOD (SG>= .55)	1 1/2"	3/4"
B	1/4-20 MASONRY ANCHORS INTO CONCRETE (FC' = 3000PSI)	7/8"	3"
B1	1/4-20 MASONRY ANCHORS INTO CMU	7/8"	3"
C	1/4-20 WOOD BUSHING INTO WOOD (SG>= .55)	3/4"	3/4"
D	1/4" TAPCON SG INTO CONCRETE (FC' =3295 PSI)	1 3/4"	2 1/2"
D1	1/4" TAPCON SG INTO CMU	1 1/4"	2 1/2"
D2	1/4" TAPCON SG INTO 2X6 SOUTHERN PINE WOOD (SG>= .55)	1 1/2"	3/4"

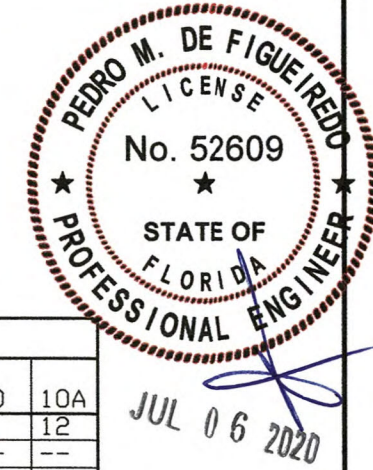
NOTES:
1- EMBEDMENT IS BEYOND WALL DRESSING.
2- USE THIS ANCHOR SCHEDULE WITH TABLE 2
3- ANCHORS D, D1 AND D2 REQUIRE STRUCTURAL INSPECTION

A- 1/4" TAPCON BY ITW OR
ULTRACON BY ELCO

D- TAPCON SG BY ITW

B- 1/4-20 MASONRY ANCHOR
CALKIN BY POWERS OR SOLID-SET BY ALLPOINTS

C- BRASS WOOD BUSHING BY ALL POINTS



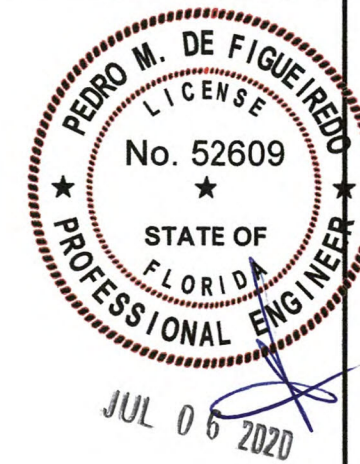
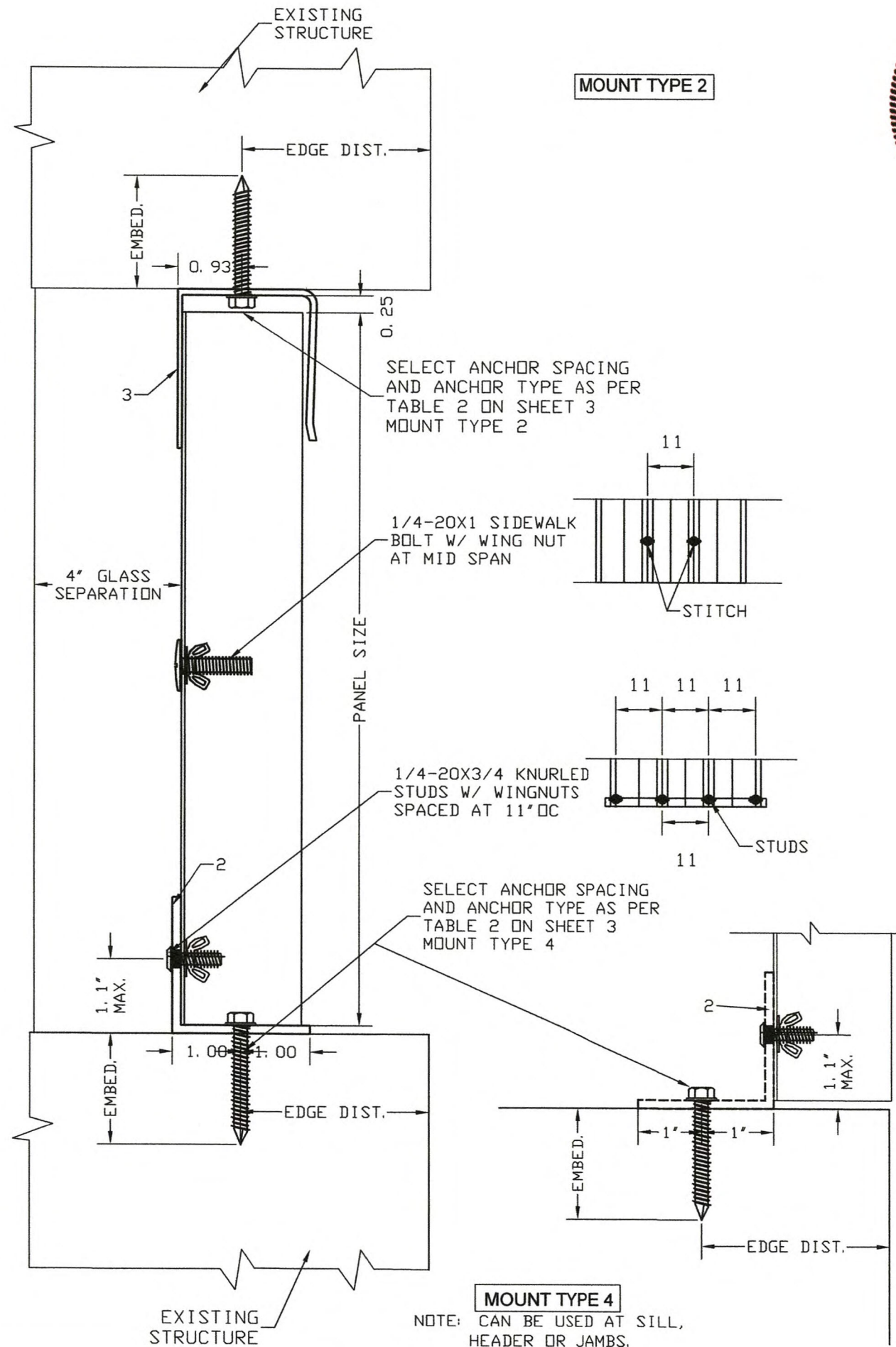
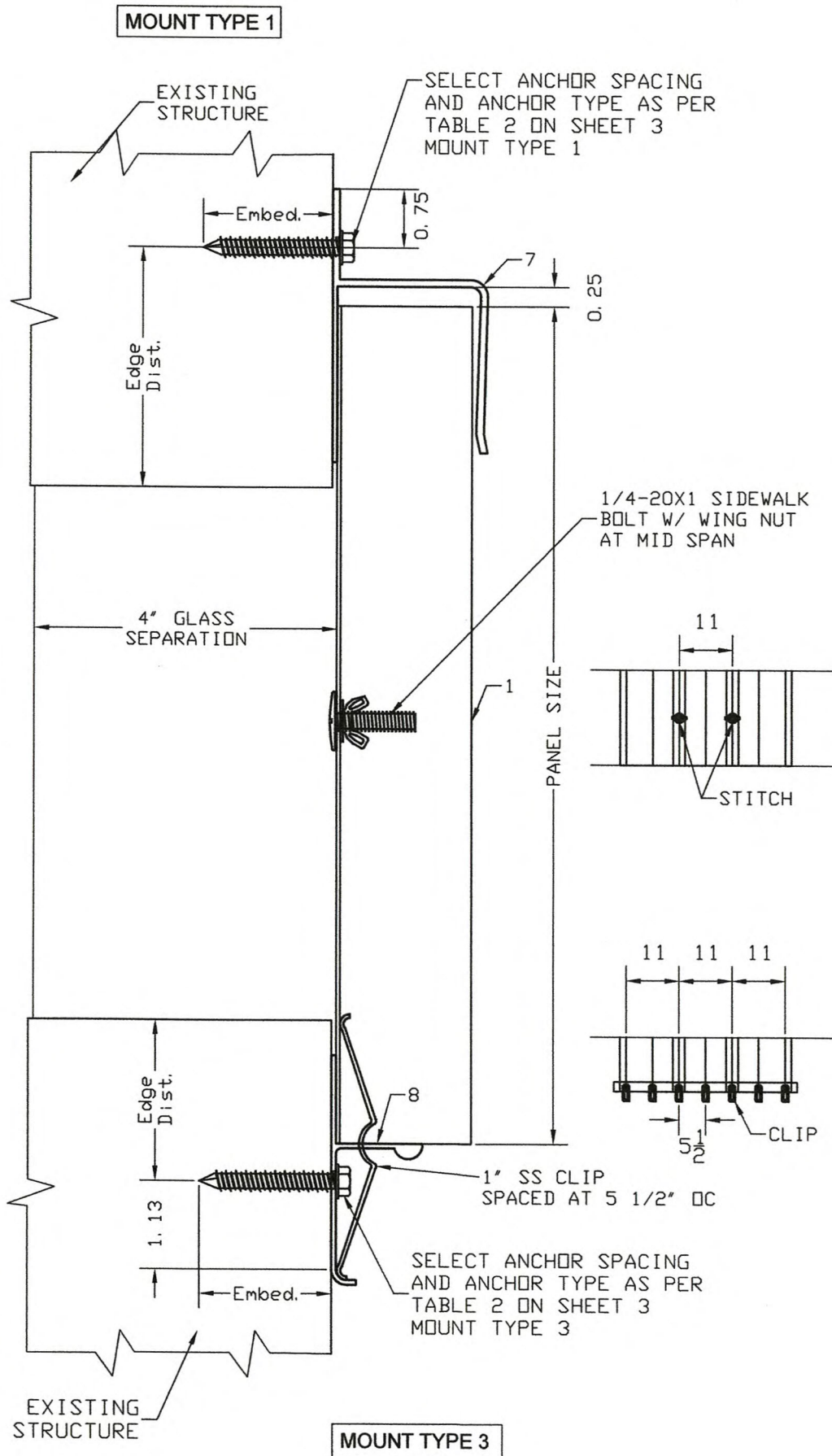
PRODUCT:
**0.05" ALUMINUM
HURRICANE STORM PANELS**

MANUFACTURER:
WILLARD
SHUTTER COMPANY, INC.
4420 NW 35TH COURT
MIAMI, FL 33142
Tel.: (305) 633-0162
Fax.: (305) 638-8634

SCALE:
NA
DATE:
07/06/2020
DRAWING #
20-083
SHEET
3 OF 7



ENGINEERING SERVICES - CA 32459
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
PPMF@AOL.COM
ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609



PRODUCT:
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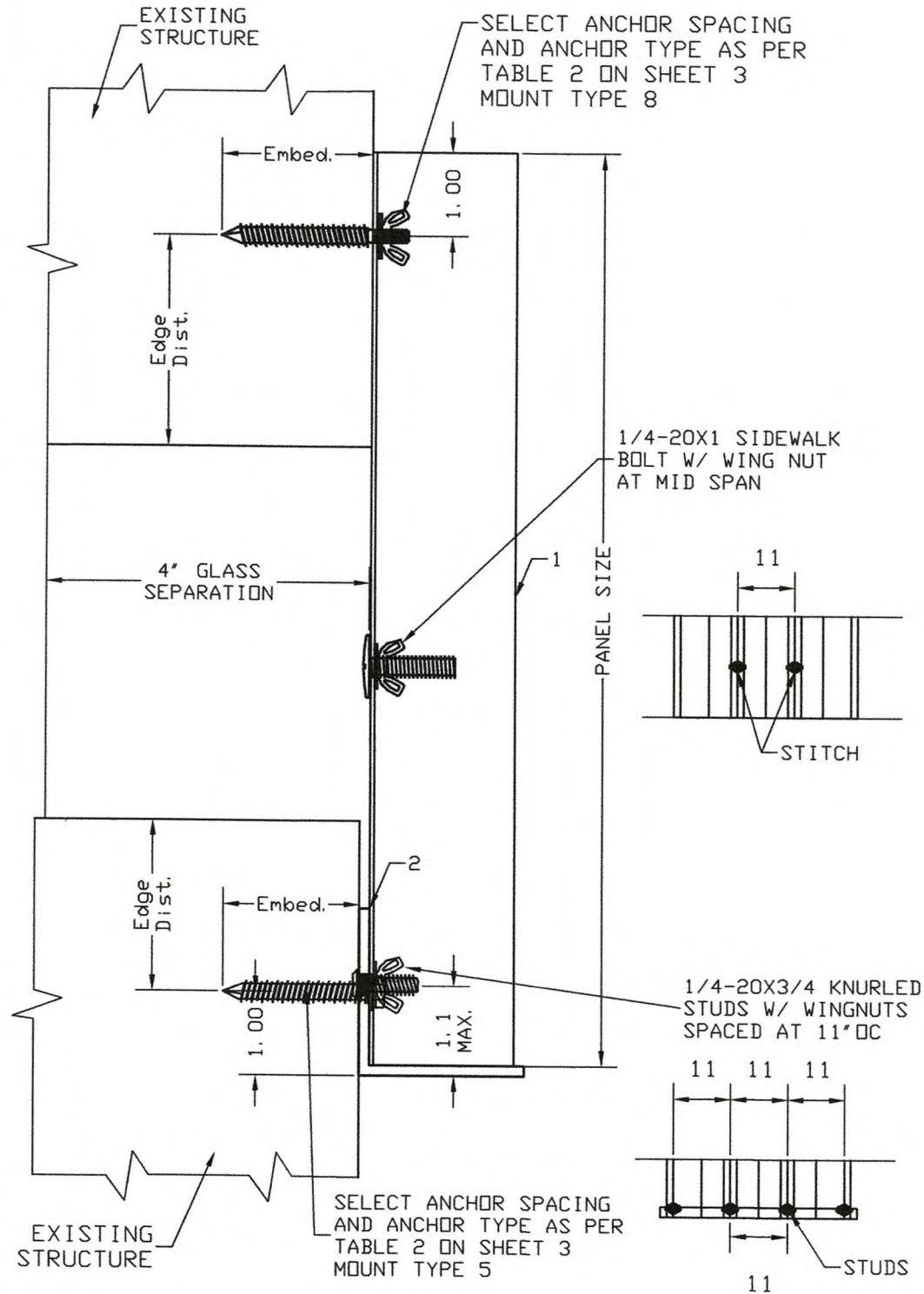
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20-083

SHEET
4 OF 7

ENGINEERING SERVICES - CA 32459
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
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ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

MOUNT TYPE 8

NOTE: CAN BE USED AT
SILL, HEADER OR JAMBS.



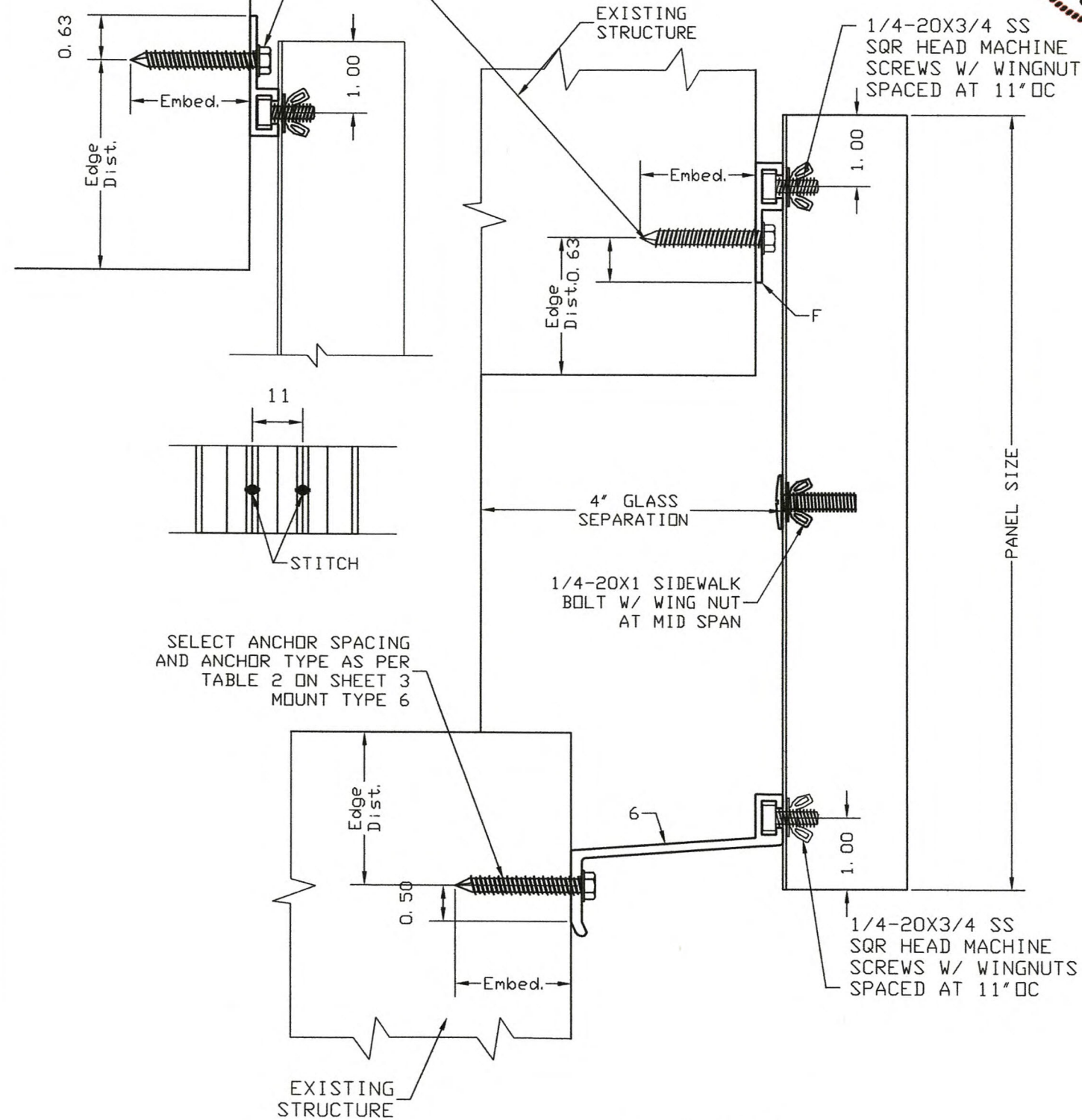
MOUNT TYPE 5

NOTE: CAN BE USED AT
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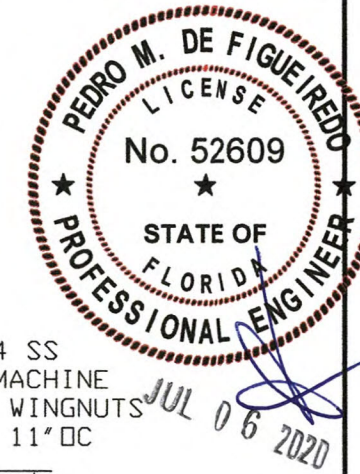
MOUNT TYPE 7

NOTE: CAN BE USED AT
SILL, HEADER OR JAMBS.



MOUNT TYPE 6

NOTE: CAN BE USED AT
SILL, HEADER OR JAMBS.



PRODUCT:
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MIAMI, FL 33142
Tel.: (305) 633-0162
Fax.: (305) 638-8634**

SCALE:

NA

DATE:

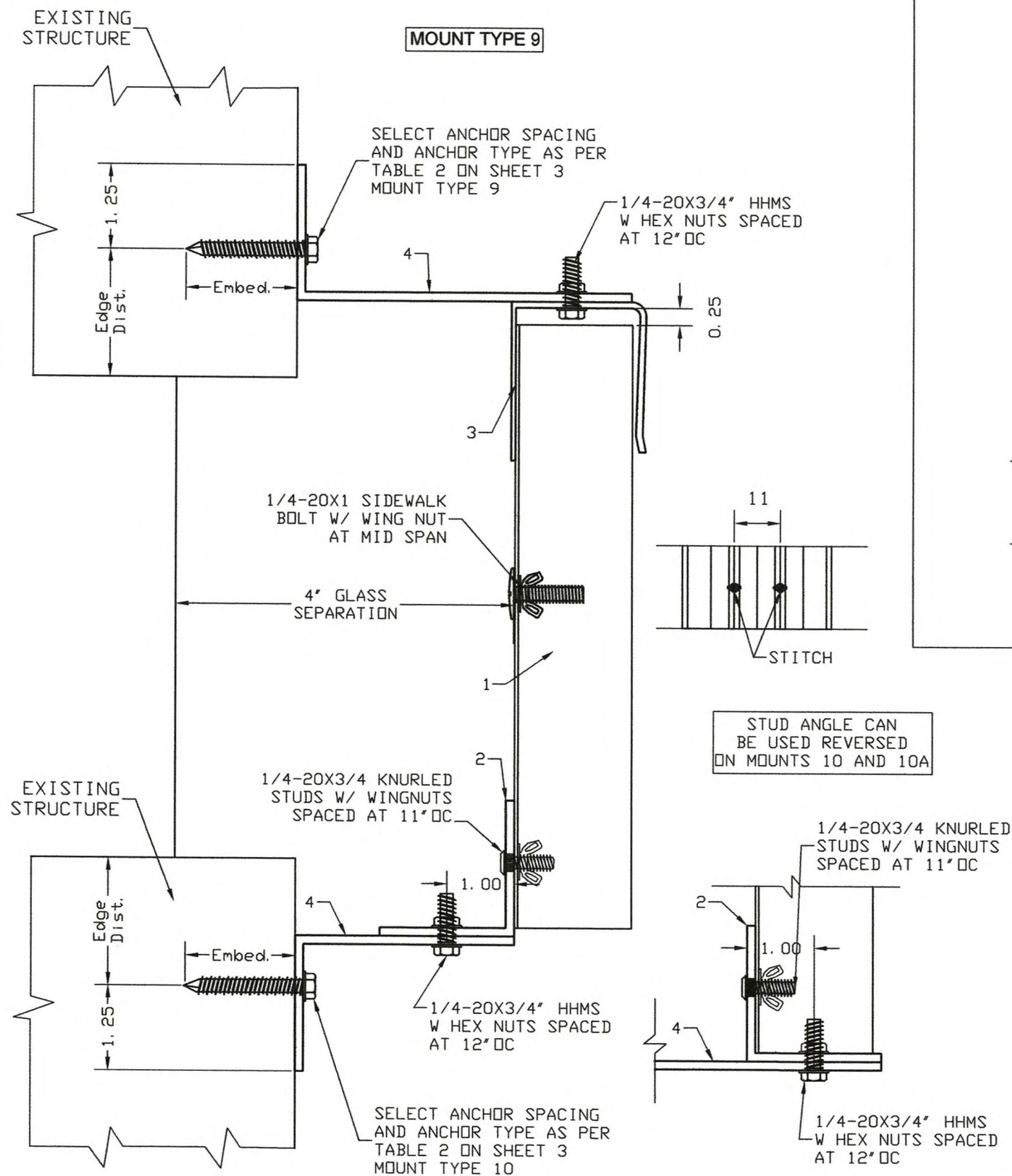
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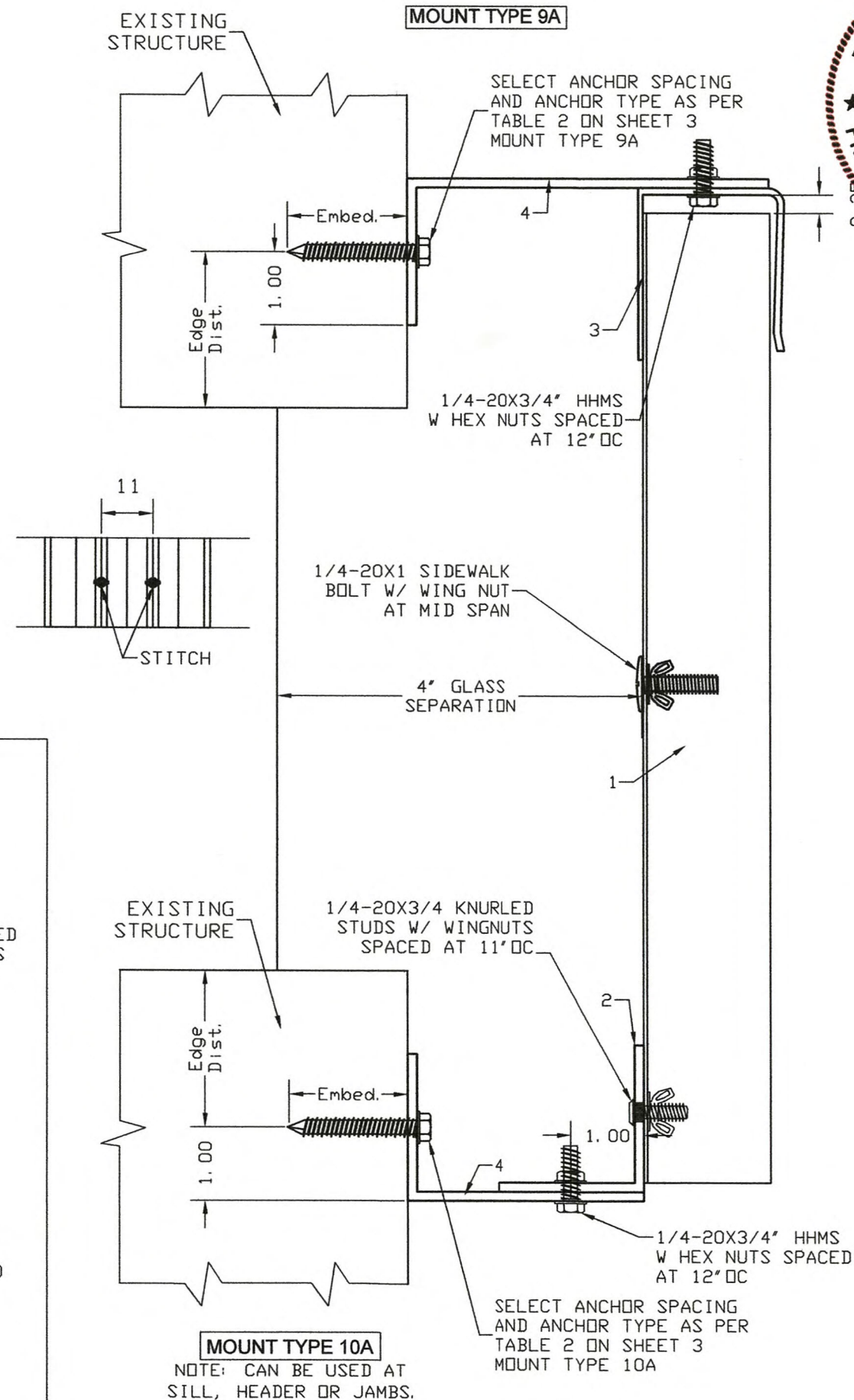
SHEET

5 OF 7



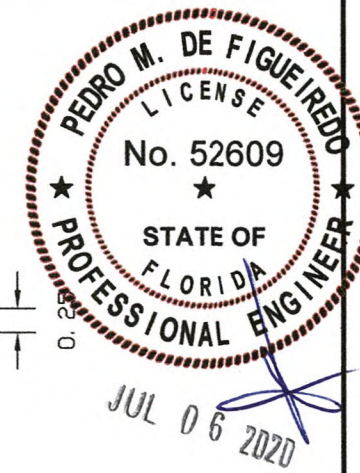
MOUNT TYPE 10

NOTE: CAN BE USED AT SILL, HEADER OR JAMBS.



MOUNT TYPE 10A

NOTE: CAN BE USED AT SILL, HEADER OR JAMBS.



PRODUCT:
**0.05" ALUMINUM
HURRICANE STORM PANELS**

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MIAMI, FL 33142
Tel.: (305) 633-0162
Fax.: (305) 638-8634

SCALE:
NA

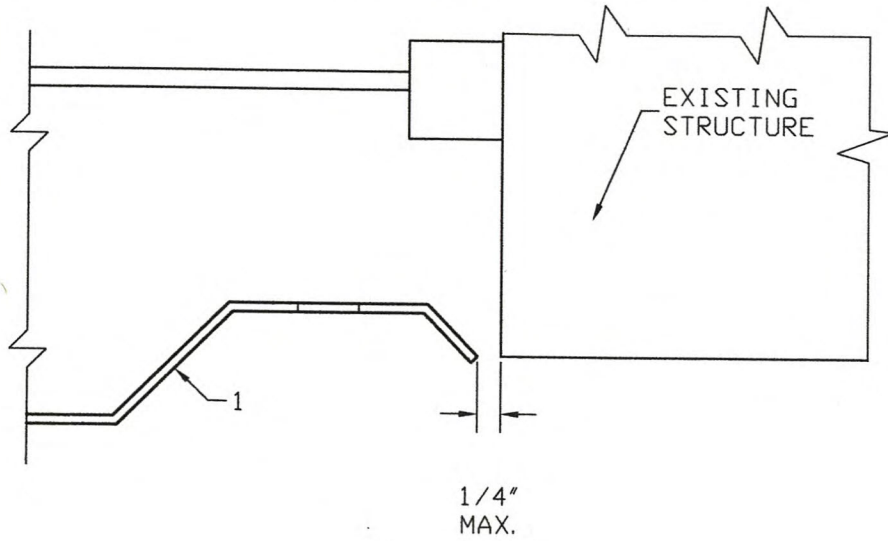
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07/06/2020

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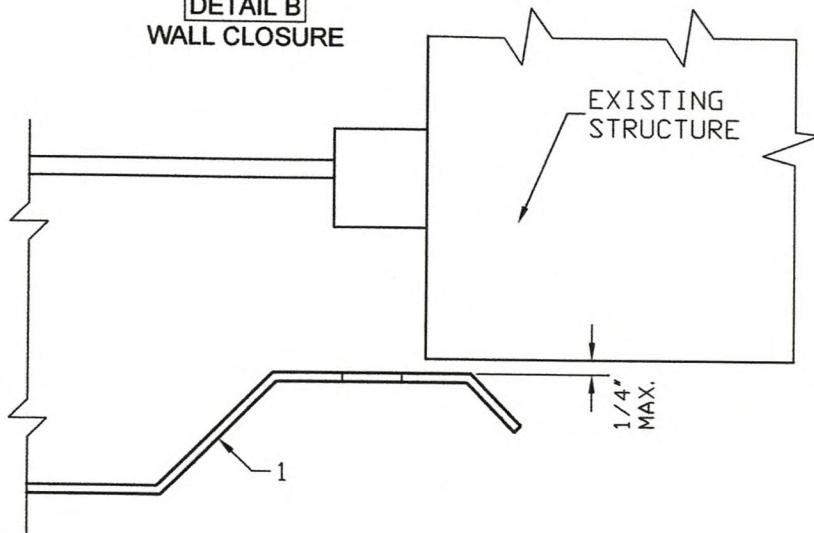
SHEET
6 OF 7

ENGINEERING SERVICES - CA 32459
9715 W. BROWARD BLVD.
PLANTATION, FL 33324
PPMF@AOL.COM
ENGINEER SEAL
PEDRO DE FIGUEIREDO
PE 52609

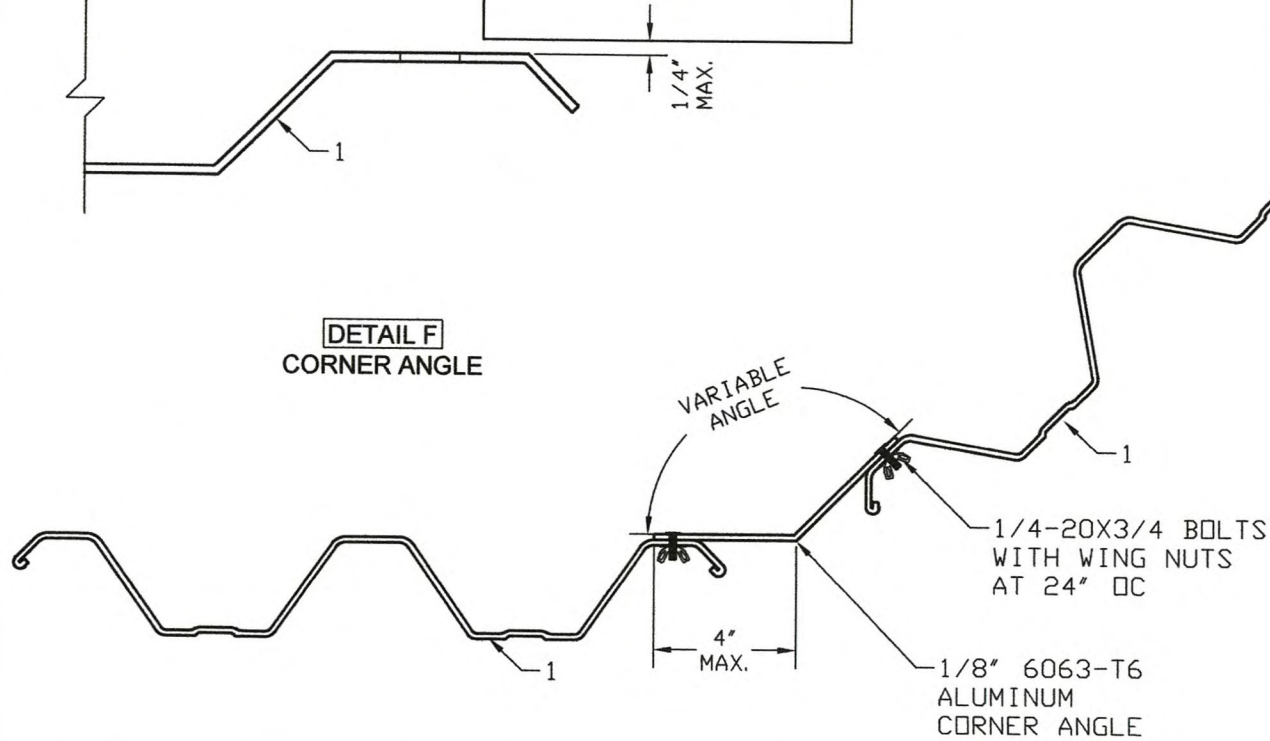
DETAIL A
INSET CLOSURE



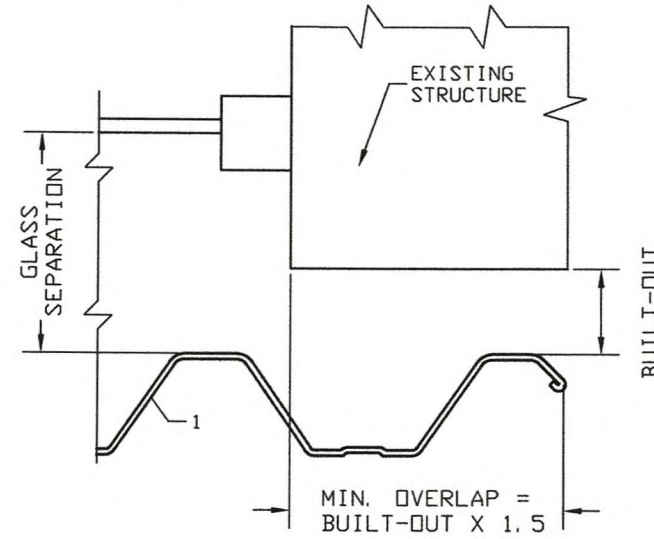
DETAIL B
WALL CLOSURE



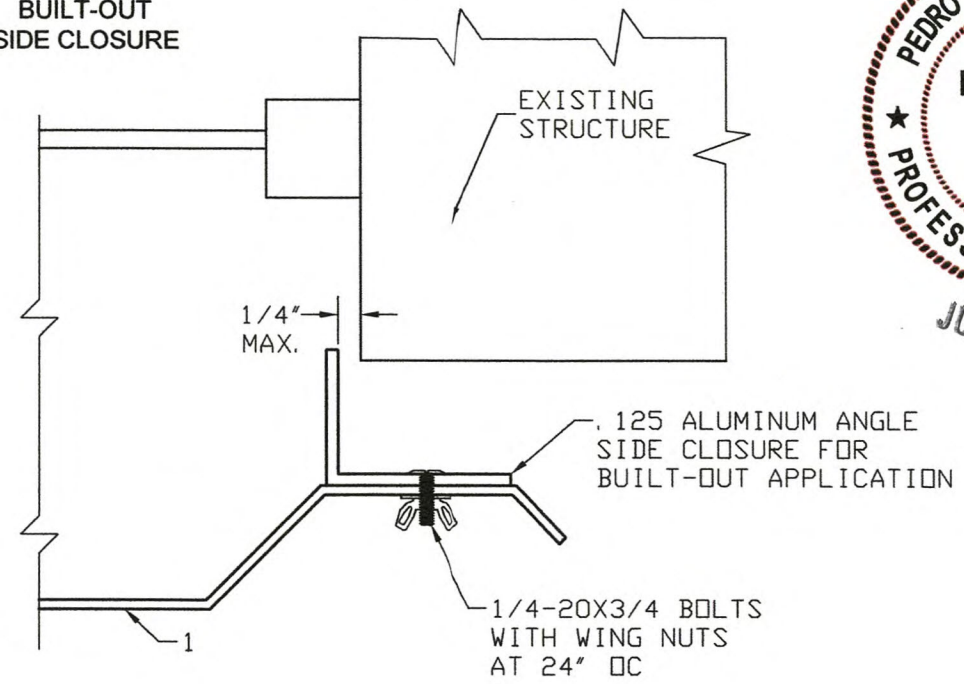
DETAIL F
CORNER ANGLE



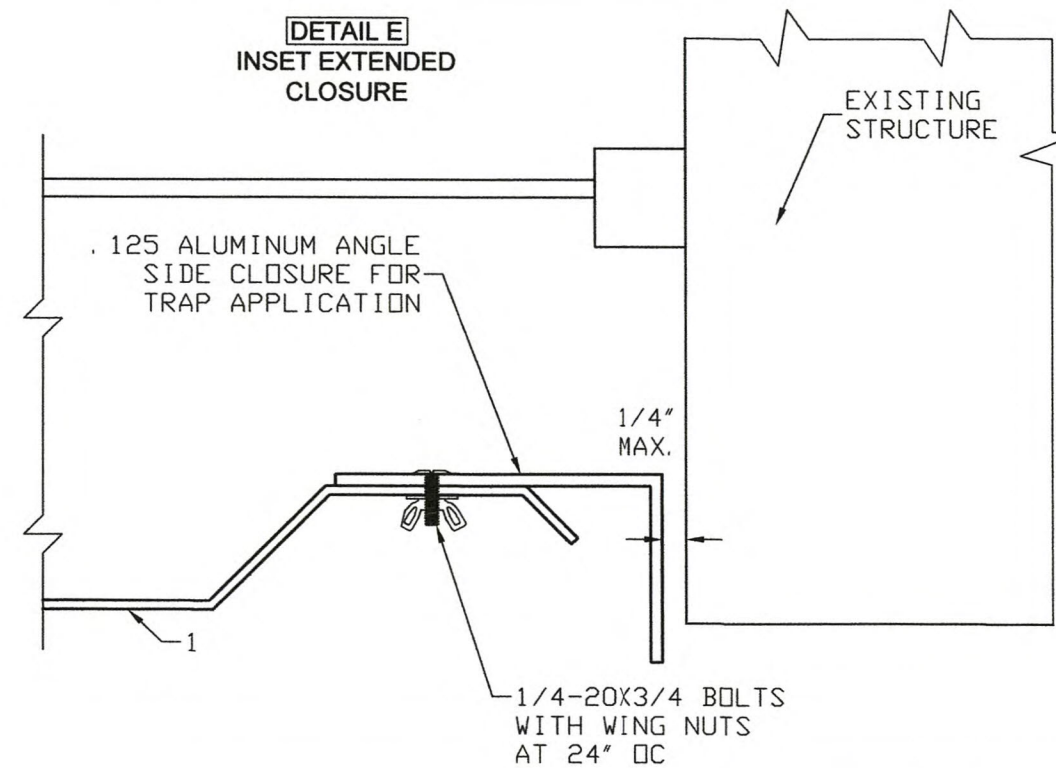
DETAIL C
WALL OVERLAP



DETAIL D
BUILT-OUT
SIDE CLOSURE



DETAIL E
INSET EXTENDED
CLOSURE



FBC 2020 SECTION 2413.7:
"STORM SHUTTERS MUST COMPLETELY COVER AN OPENING IN ALL DIRECTIONS. THE MAXIMUM SIDE CLEARANCE BETWEEN THE SHUTTER AND A WALL OR INSET SURFACE SHALL BE 1/4" (DETAILS A & B). ANY DISTANCE IN EXCESS OF 1/4" SHALL REQUIRE END CLOSURE (DETAILS D & E) OR SHUTTER OVERLAP (DETAIL C), WHERE APPLICABLE. SHUTTER OVERLAP SHALL BE A MINIMUM OF 1.5 TIMES THE SIDE CLEARANCE BETWEEN THE SHUTTER AND WALL."



PRODUCT:
**0.05" ALUMINUM
HURRICANE STORM PANELS**

MANUFACTURER:
**WILLARD
SHUTTER COMPANY, INC.**
4420 NW 35TH COURT
MIAMI, FL 33142
Tel.: (305) 633-0162
Fax.: (305) 638-8634

SCALE:
NA
DATE:
07/06/2020
DRAWING #
20-083
SHEET
7 OF 7

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