

NO.	DATE	REVISIONS
1		
2		
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THESE WINDOWS ARE RATED FOR LARGE MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

SERIES 535 ALUMINUM SINGLE HUNG WINDOW.

DESIGN LOAD RATING FOR THESE WINDOWS TO BE AS PER CHARTS SHOWN ON SHEET 7 OF 9.

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE COMBINATIONS OF S.H./S.H. OR SINGLE HUNG WITH OTHER WINDOW TYPES IN MODULES OF TWO OR MORE WINDOWS USING FBC/ MIAMI-DADE COUNTY APPROVED MULLIONS IN BETWEEN. LOWER DESIGN PRESSURE FROM WINDOWS OR MULLION APPROVAL WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 2023 EDITION INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

WOOD BUCKS, BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.

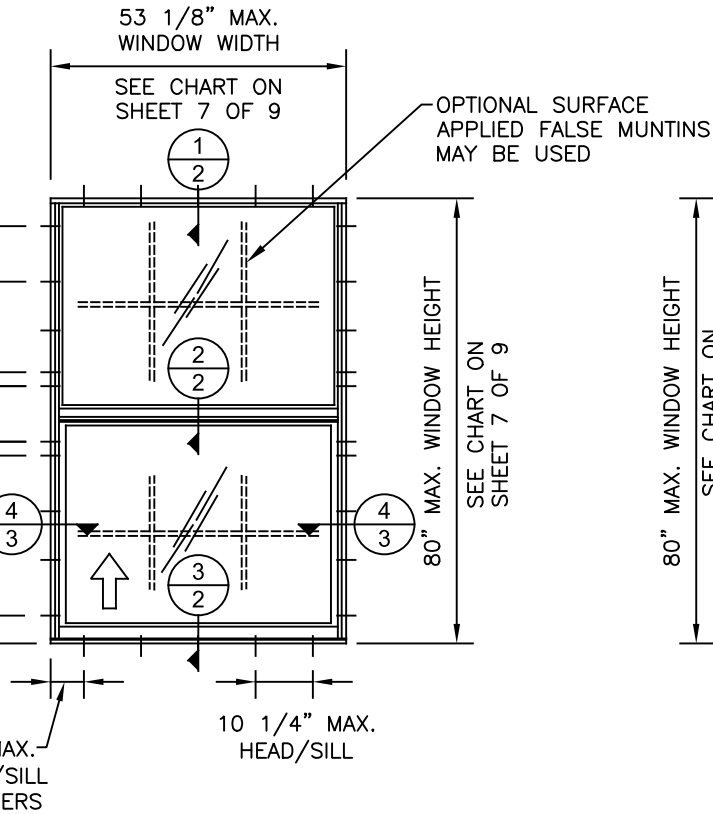
ANCHORS SHALL BE AS LISTED AND SPACED AS SHOWN ON DETAILS. ANCHOR EMBEDMENT INTO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.

A LOAD DURATION INCREASE IN ALLOWABLE STRESS WAS NOT USED IN DESIGN OF THIS SYSTEM.

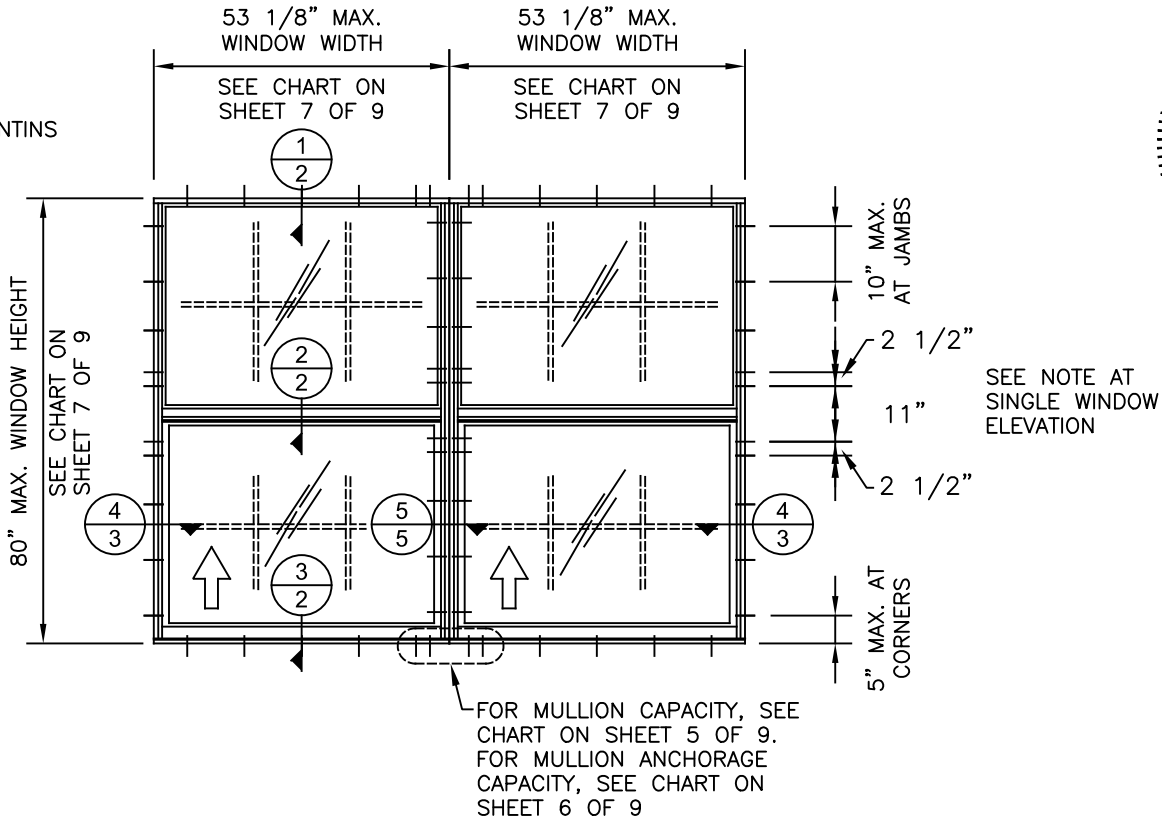
MATERIALS INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF 2020 FLORIDA BLDG. CODE

NOTE:
(1) ANCHOR REQUIRED EACH SIDE OF MEETING RAIL.
FOR ANCHOR TYPES 1, 2 & 6 WHERE D.P. EXCEEDS +/-56.0 PSF, INSTALL
(2) ANCHORS EACH SIDE OF MEETING RAIL.



TYPICAL ELEVATION
SINGLE WINDOW (1/1)

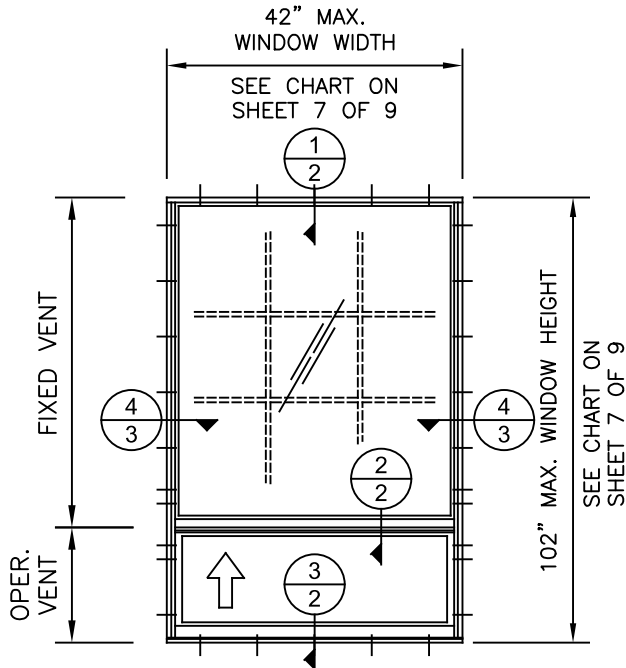
TESTED UNIT



TYPICAL ELEVATION
MULTIPLE WINDOWS (1/1)

TESTED UNIT

LAMINATED GLASS &
INSULATED LAMINATED GLASS
LARGE MISSILE IMPACT

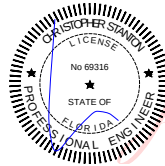


TYPICAL FULL VIEW
SINGLE WINDOW (FULL VIEW)

TESTED UNIT

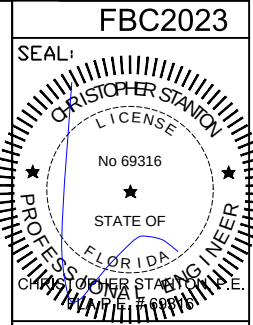
SEE SINGLE HUNG WINDOW (1/1) ELEVATION FOR ANCHORAGE.

**MAX. FIXED VENT D.L.O. LIMITED TO 17.5 SQ. FT. GLASS TYPES "C" & "G" ONLY



Digitally signed by Christopher Stanton
Date: 2024.10.09 13:48:27 -04'00'

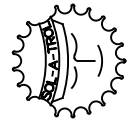
FPA FL#20805.1



STANTON ENGINEERING, INC.
STRUCTURAL ENGINEERING SERVICES
2701 NW BOCA RATON BLVD. SUITE 204
BOCA RATON, FL 33431
TEL: (561) 393-1003 FAX: (561) 393-1008

SERIES 535 ALUMINUM SINGLE HUNG WINDOW (L.M.I.)

SOL-A-TROL
aluminum products, inc.
4101 N.W. 132nd Street
Miami, Florida 33054
Phone: (305) 681-2020
Fax: (305) 681-2035

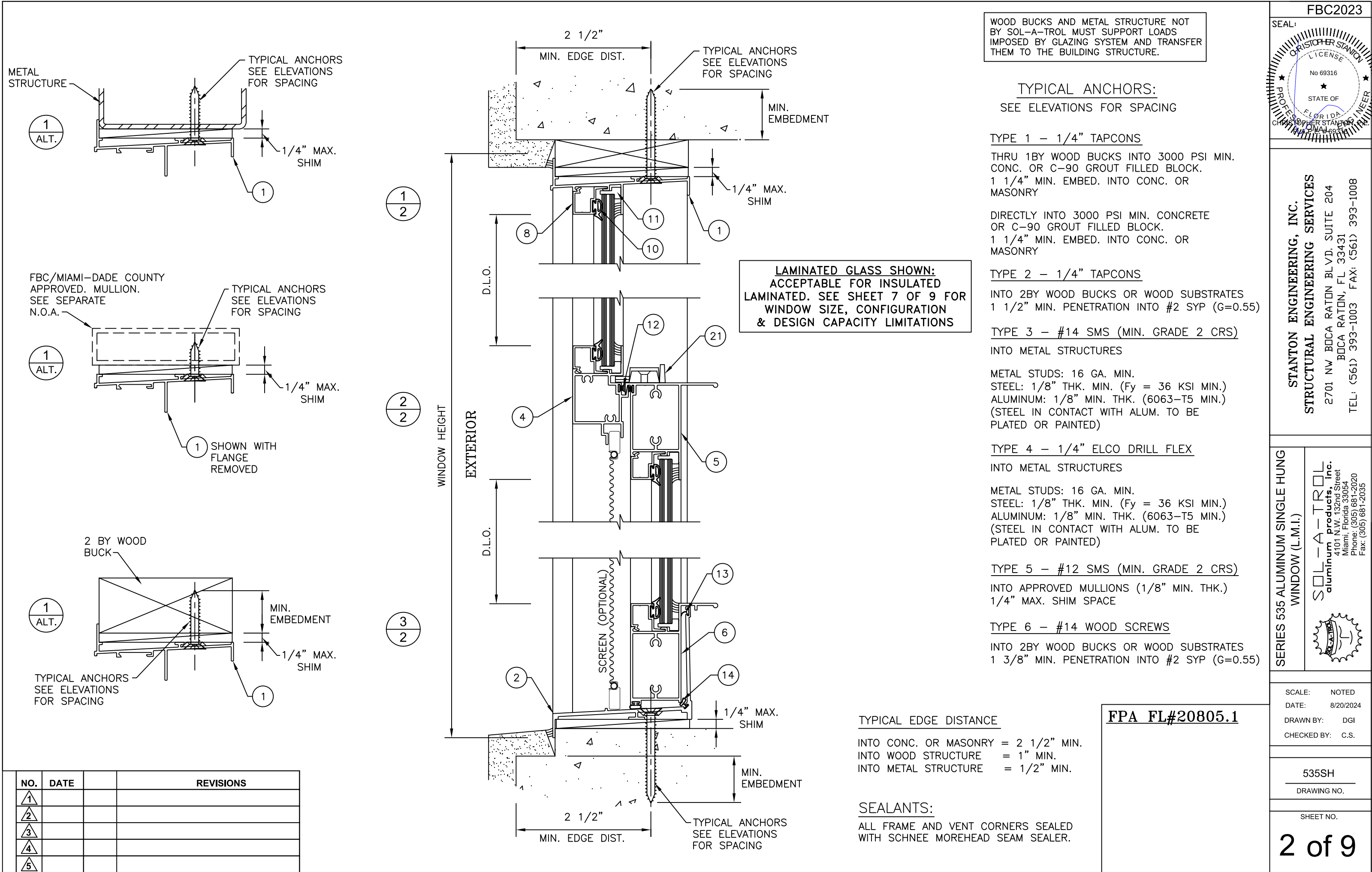


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DRAWN BY: DGI
CHECKED BY: C.S.

535SH
DRAWING NO.

SHEET NO.

1 of 9



NO.	DATE	REVISIONS
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FBC2023

SEAL:

CHRISTOPHER STANTON

LICENSE

No 69316

STATE OF

FLORIDA

PROFESSIONAL ENGINEER

STANTON ENGINEERING, INC.

STRUCTURAL ENGINEERING SERVICES

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2 of 9

WOOD BUCKS AND METAL STRUCTURE NOT BY SOL-A-TROL MUST SUPPORT LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS:
SEE ELEVATIONS FOR SPACING

TYPE 1 – 1/4” TAPCONS

THRU 1BY WOOD BUCKS INTO 3000 PSI MIN. CONC. OR C-90 GROUT FILLED BLOCK.
1 1/4” MIN. EMBED. INTO CONC. OR MASONRY

DIRECTLY INTO 3000 PSI MIN. CONCRETE OR C-90 GROUT FILLED BLOCK.
1 1/4” MIN. EMBED. INTO CONC. OR MASONRY

TYPE 2 – 1/4” TAPCONS

INTO 2BY WOOD BUCKS OR WOOD SUBSTRATES
1 1/2” MIN. PENETRATION INTO #2 SYP (G=0.55)

TYPE 3 – #14 SMS (MIN. GRADE 2 CRS)

INTO METAL STRUCTURES

METAL STUDS: 16 GA. MIN.
STEEL: 1/8” THK. MIN. (Fy = 36 KSI MIN.)
ALUMINUM: 1/8” MIN. THK. (6063-T5 MIN.)
(STEEL IN CONTACT WITH ALUM. TO BE PLATED OR PAINTED)

TYPE 4 – 1/4” ELCO DRILL FLEX

INTO METAL STRUCTURES

METAL STUDS: 16 GA. MIN.
STEEL: 1/8” THK. MIN. (Fy = 36 KSI MIN.)
ALUMINUM: 1/8” MIN. THK. (6063-T5 MIN.)
(STEEL IN CONTACT WITH ALUM. TO BE PLATED OR PAINTED)

TYPE 5 – #12 SMS (MIN. GRADE 2 CRS)

INTO APPROVED MULLIONS (1/8” MIN. THK.)
1/4” MAX. SHIM SPACE

TYPE 6 – #14 WOOD SCREWS

INTO 2BY WOOD BUCKS OR WOOD SUBSTRATES
1 3/8” MIN. PENETRATION INTO #2 SYP (G=0.55)

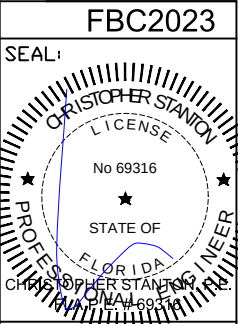
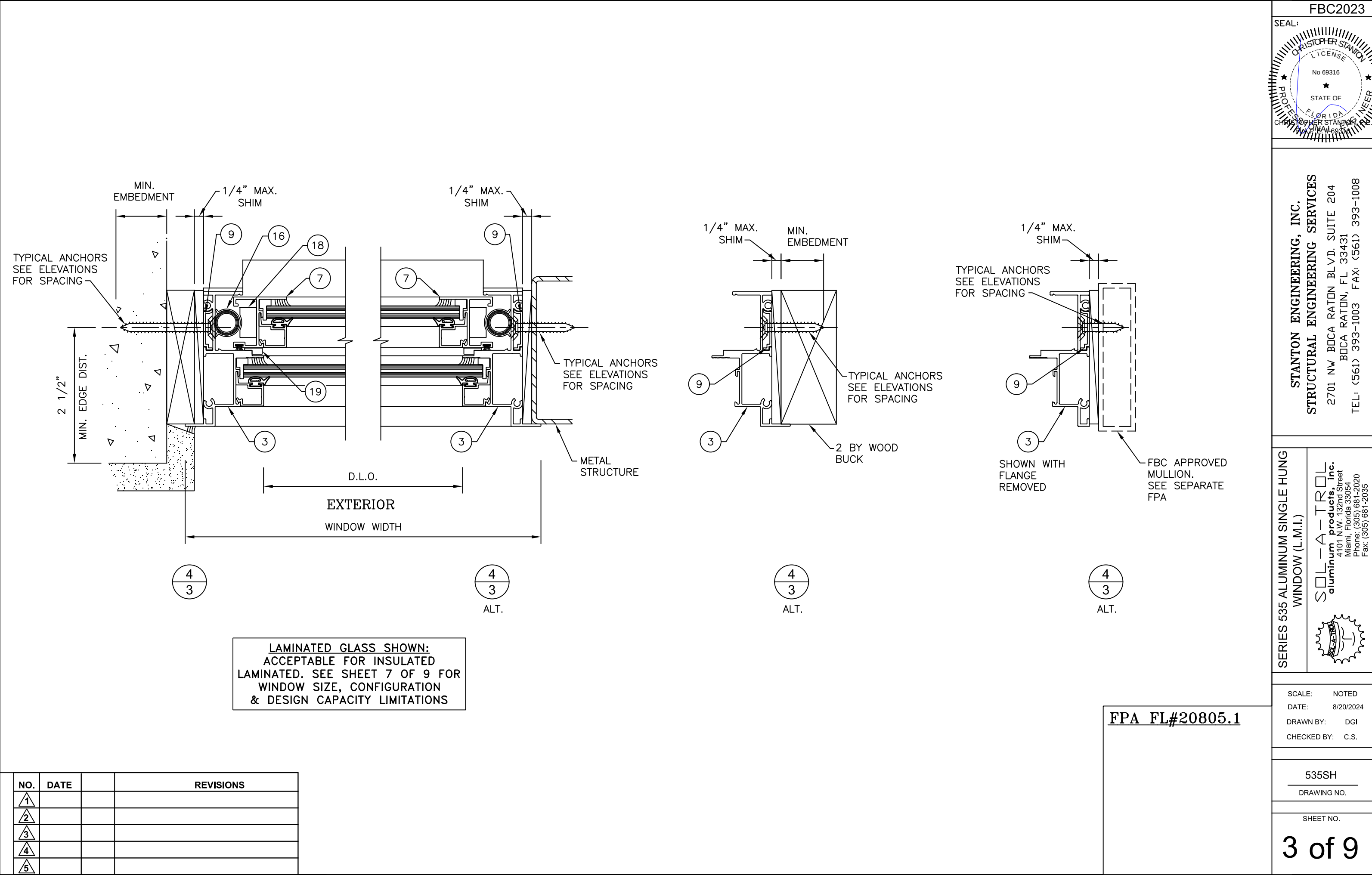
TYPICAL EDGE DISTANCE

INTO CONC. OR MASONRY = 2 1/2” MIN.
INTO WOOD STRUCTURE = 1” MIN.
INTO METAL STRUCTURE = 1/2” MIN.

SEALANTS:

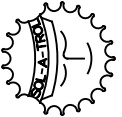
ALL FRAME AND VENT CORNERS SEALED WITH SCHNEE MOREHEAD SEAM SEALER.

FPA FL#20805.1



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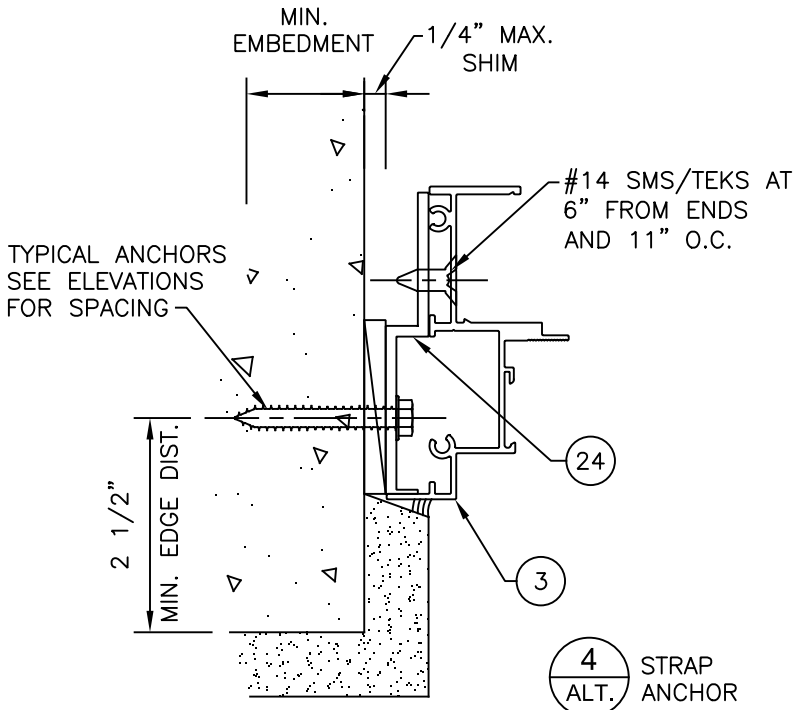
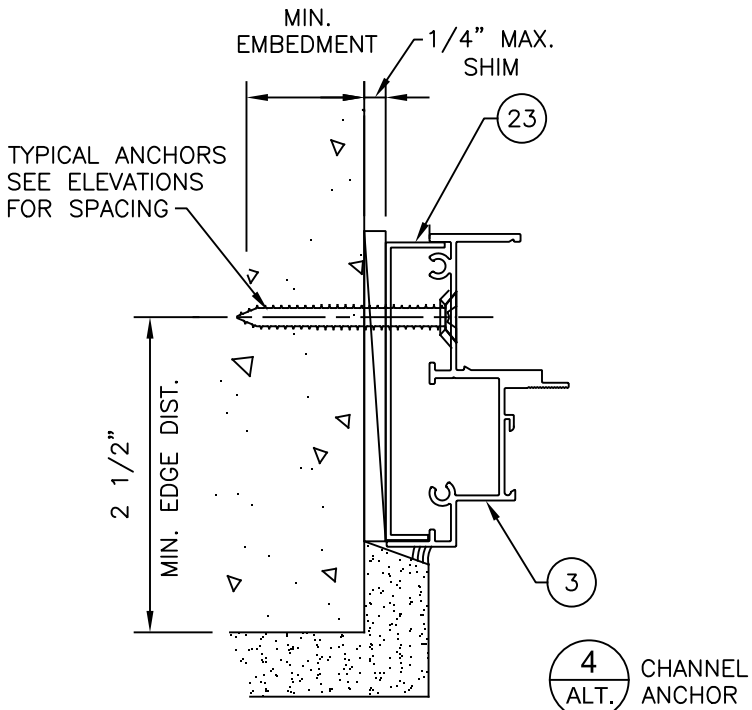
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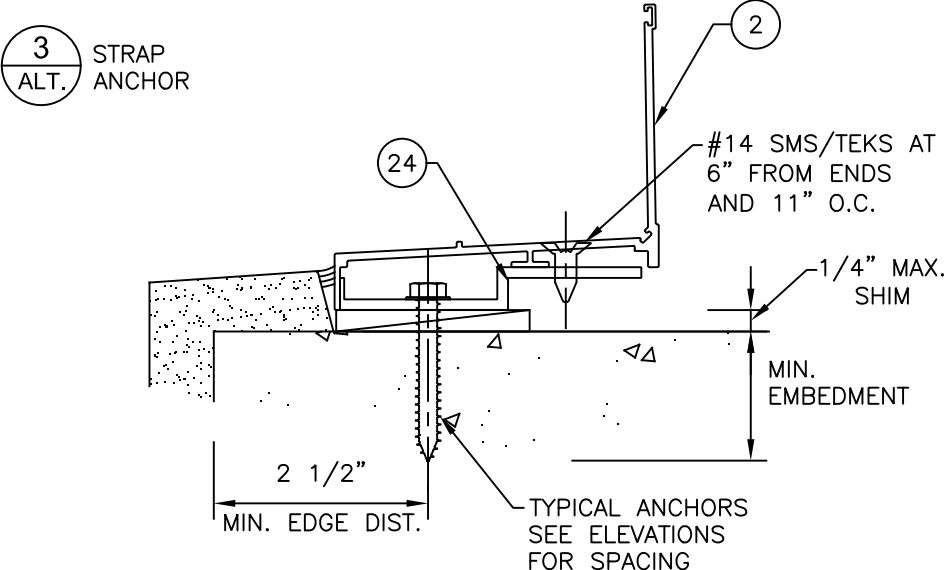
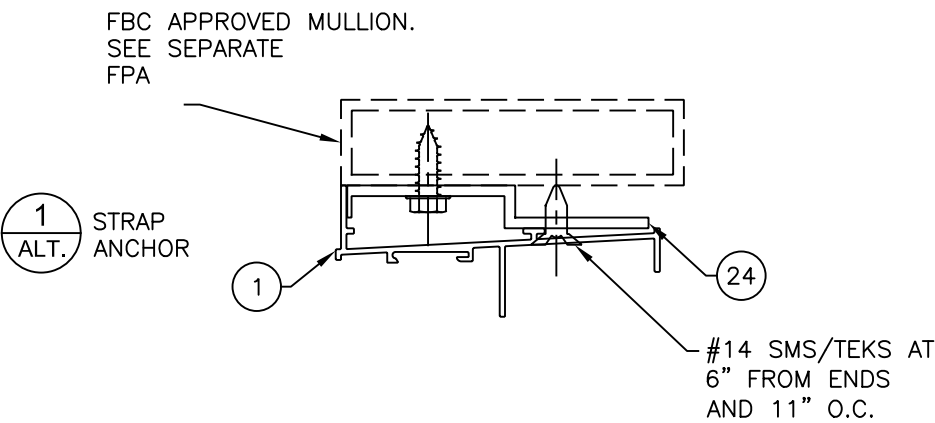
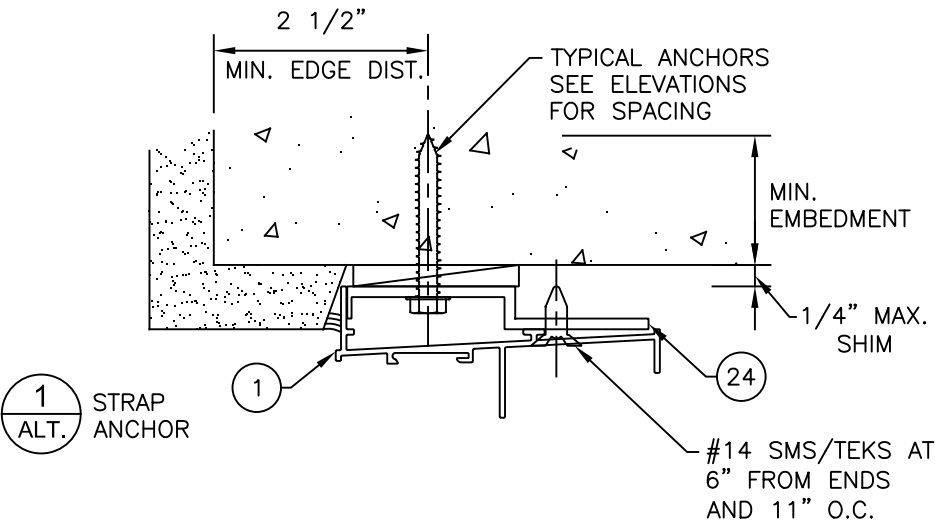
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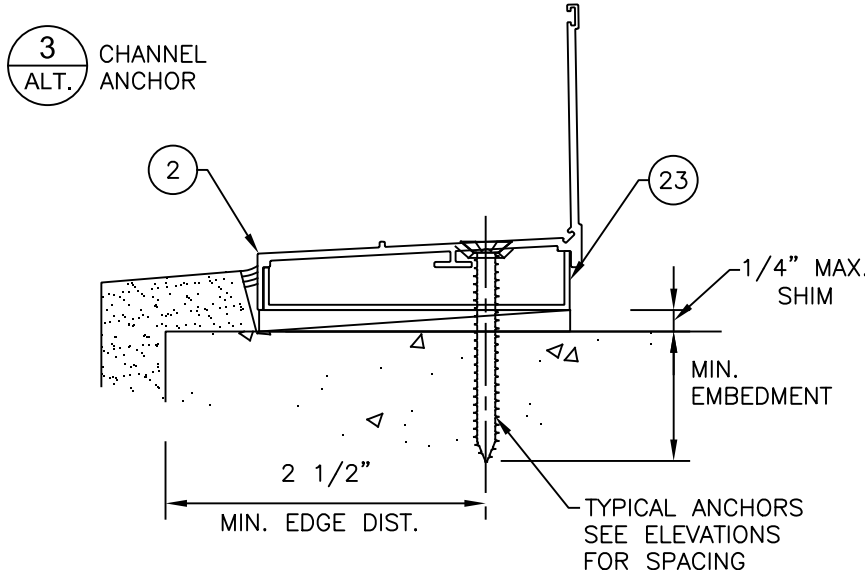
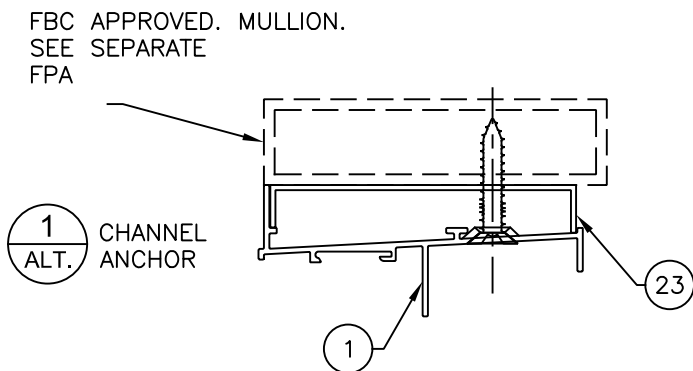
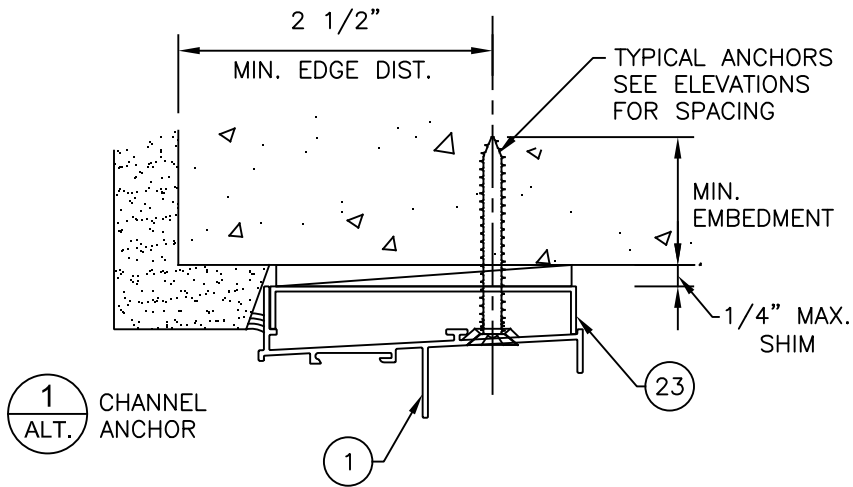
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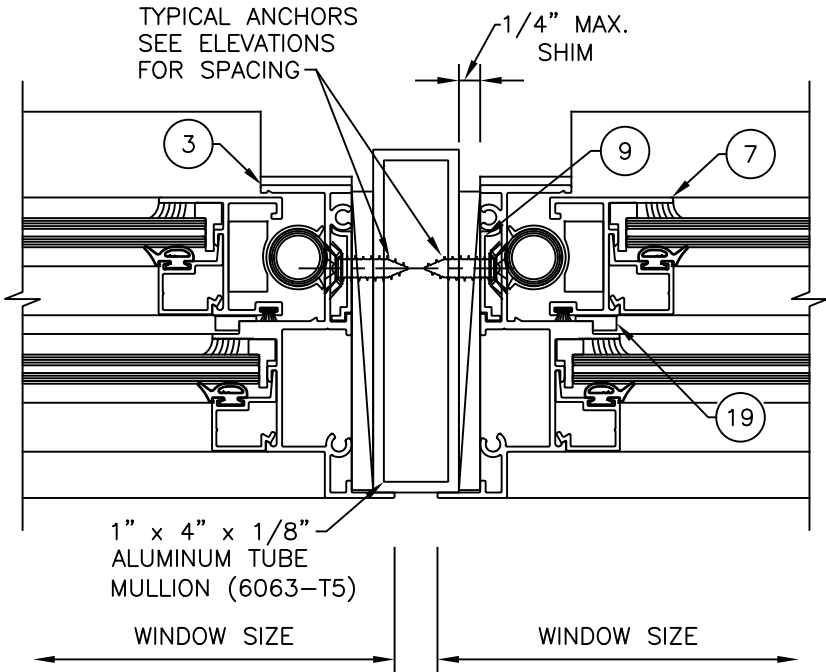


INSTALLATION DETAILS FOR ALTERNATE CHANNEL AND STRAP ANCHORS



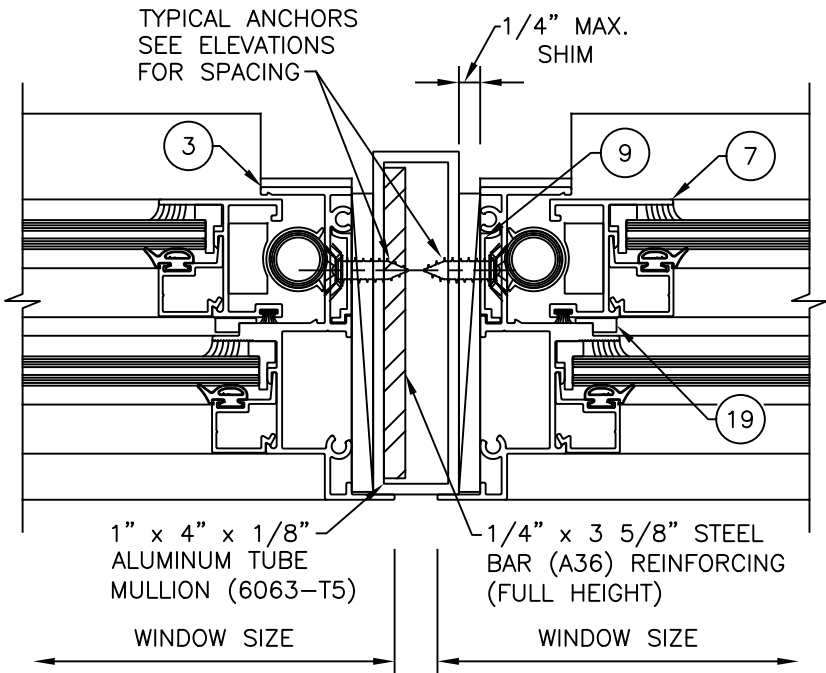
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MULLION LOAD CAPACITY - PSF					
WINDOW DIMS.		TYPE '1'		TYPE '2'	
WIDTH (W)	LENGTH (L)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
26-1/2"	38-3/8"	90.0	100.0	90.0	100.0
32"		90.0	100.0	90.0	100.0
37"		90.0	100.0	90.0	100.0
42"		90.0	100.0	90.0	100.0
48"		90.0	100.0	90.0	100.0
53-1/8"	50-5/8"	90.0	100.0	90.0	100.0
26-1/2"		90.0	100.0	90.0	100.0
32"		90.0	100.0	90.0	100.0
37"		90.0	100.0	90.0	100.0
42"		90.0	100.0	90.0	100.0
48"		90.0	100.0	90.0	100.0
53-1/8"		90.0	100.0	90.0	100.0
26-1/2"	60"	90.0	100.0	90.0	100.0
32"		90.0	100.0	90.0	100.0
37"		90.0	100.0	90.0	100.0
42"		90.0	100.0	90.0	100.0
48"		90.0	100.0	90.0	100.0
53-1/8"	63"	90.0	100.0	90.0	100.0
26-1/2"		90.0	100.0	90.0	100.0
32"		90.0	100.0	90.0	100.0
37"		90.0	100.0	90.0	100.0
42"		90.0	100.0	90.0	100.0
48"		90.0	100.0	90.0	100.0
53-1/8"	72"	90.0	100.0	90.0	100.0
26-1/2"		90.0	100.0	90.0	100.0
32"		90.0	100.0	90.0	100.0
37"		90.0	100.0	90.0	100.0
42"		90.0	100.0	90.0	100.0
48"		90.0	100.0	90.0	100.0
53-1/8"	76"	90.0	100.0	90.0	100.0
26-1/2"		90.0	100.0	90.0	100.0
32"		90.0	100.0	90.0	100.0
37"		90.0	100.0	90.0	100.0
42"		90.0	100.0	90.0	100.0
48"		90.0	100.0	90.0	100.0
53-1/8"	80"	90.0	100.0	90.0	100.0
26-1/2"		90.0	100.0	90.0	100.0
32"		90.0	100.0	90.0	100.0
37"		90.0	100.0	90.0	100.0
42"		90.0	100.0	90.0	100.0
48"		90.0	95.0	90.0	100.0
53-1/8"		86.0	86.0	90.0	100.0



EXTERIOR
UN-REINFORCED MULLION
TYPE 1

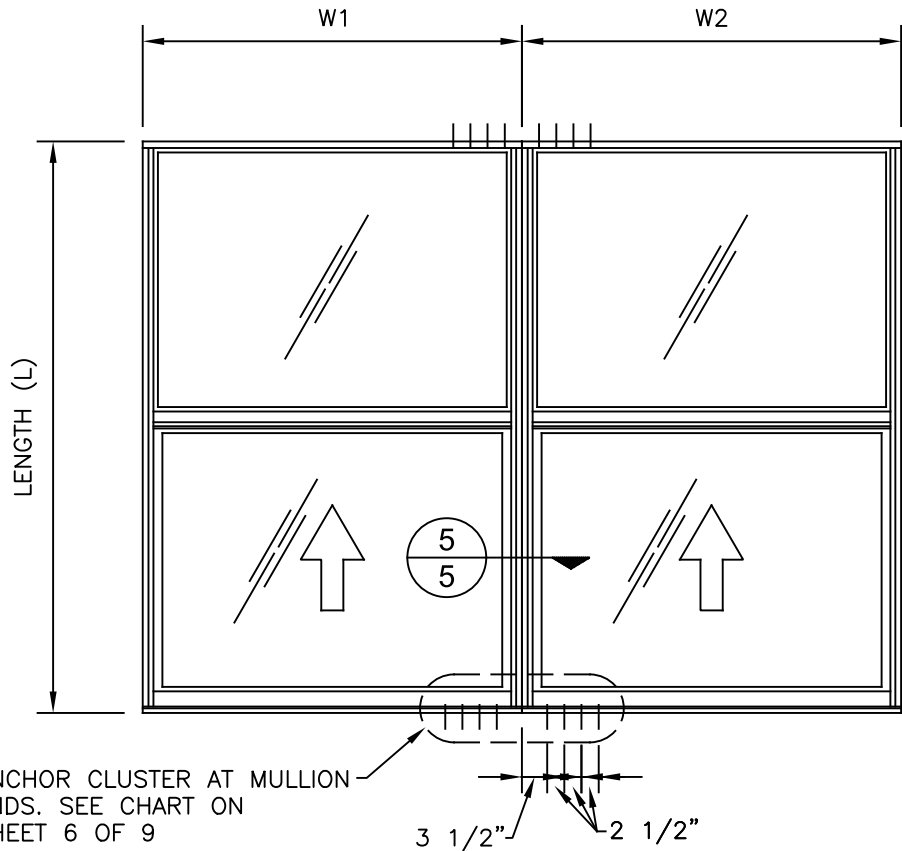
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5



EXTERIOR
REINFORCED MULLION
TYPE 2

5
5

ALT.



TYPICAL ELEVATION
SIDE BY SIDE WINDOWS
SIDE BY SIDE APPLIES TO 2 OR MORE WINDOWS

ALL OTHER ANCHORS PER
ELEVATION ON SHEET 1 OF 9

WIDTH (W) = $\frac{W1 + W2}{2}$

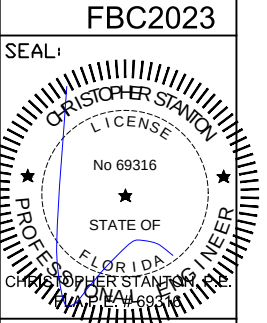
LAMINATED GLASS SHOWN:
ACCEPTABLE FOR INSULATED
LAMINATED. SEE SHEET 7 OF 9 FOR
WINDOW SIZE, CONFIGURATION
& DESIGN CAPACITY LIMITATIONS

NOTES:

1. USE CHART ON THIS SHEET FOR
SIDE BY SIDE CONNECTION
CAPACITY OF WINDOW MULLION.
2. FOR SINGLE WINDOW CAPACITY SEE
SHEET 7 OF 9.
3. LOWER VALUES FROM STEPS 1 OR 2
WILL APPLY TO ENTIRE SYSTEM.

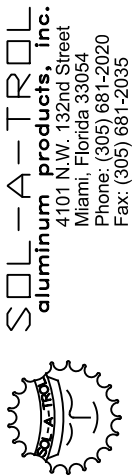
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SERIES 535 ALUMINUM SINGLE HUNG
WINDOW (L.M.I.)

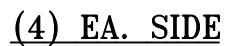


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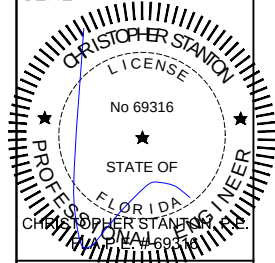


ALL OTHER ANCHORS PER
ELEVATION ON SHEET 1 OF 9

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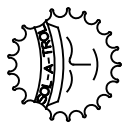
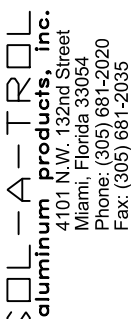
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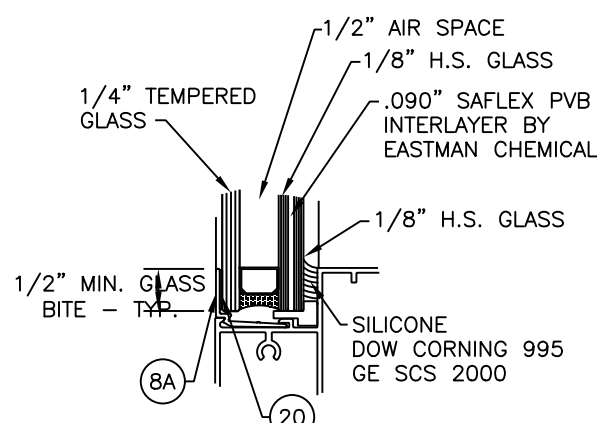
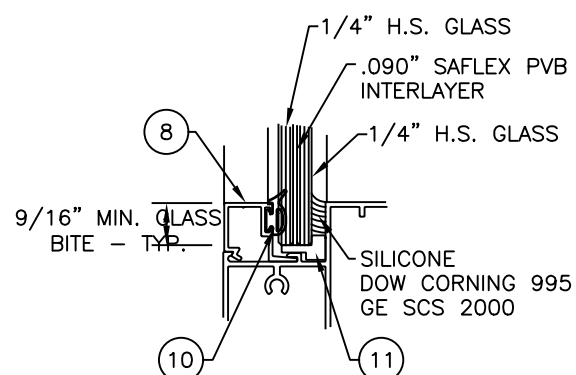
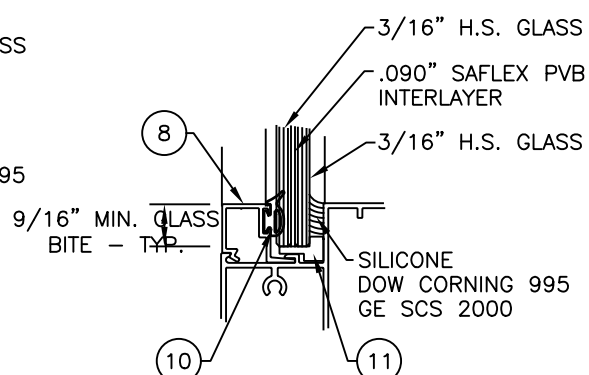
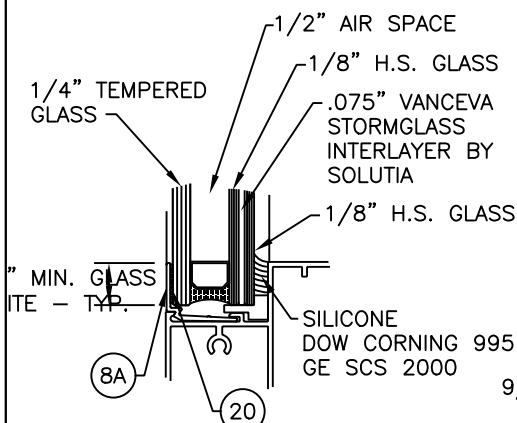
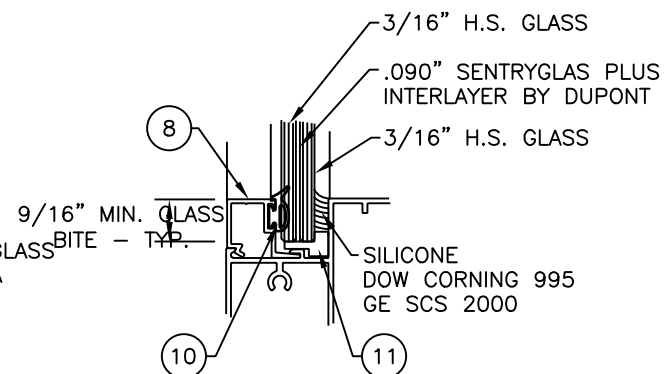
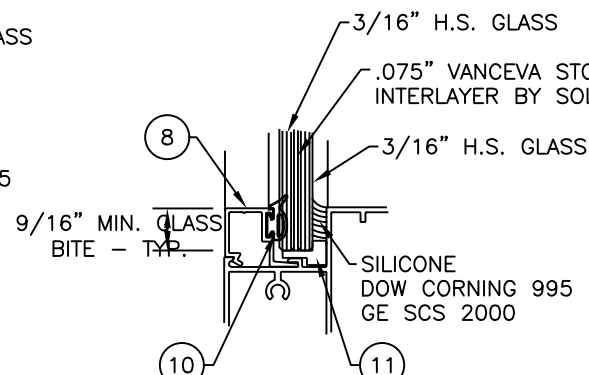
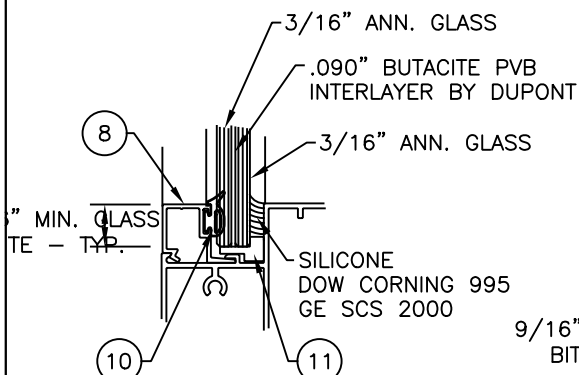
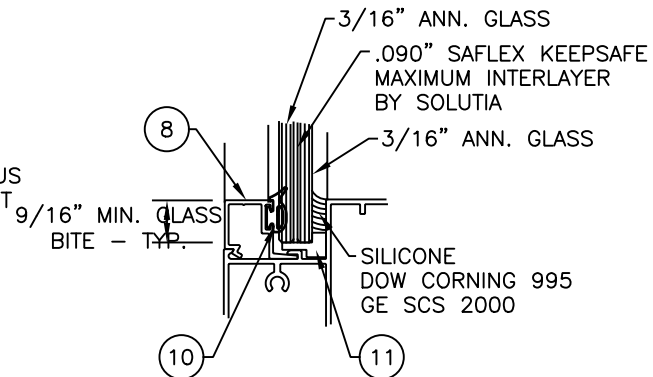
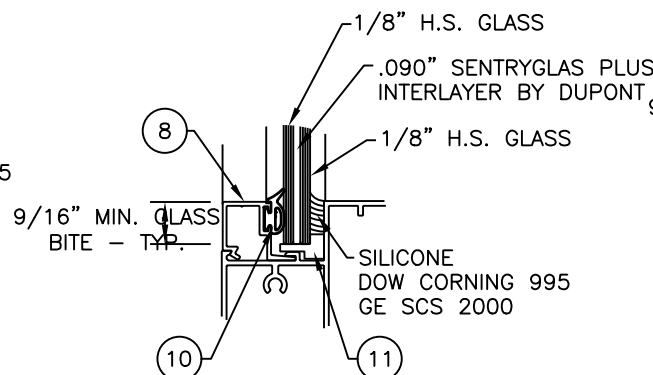
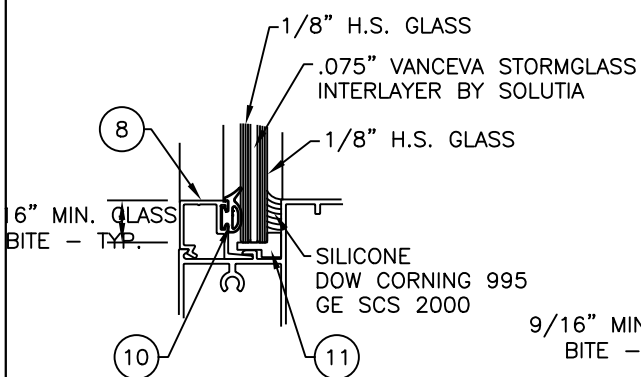
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(1/1) DESIGN LOAD CAPACITY - PSF									
WINDOW DIMS. (1/1)		GLASS TYPES 'A', 'B' & 'G' *		GLASS TYPES 'C' & 'D'		GLASS TYPES 'E' & 'F' *		GLASS TYPES 'H', 'I' & 'J'	
WIDTH	HEIGHT	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)	EXT.(+)	INT.(−)
26−1/2"	38−3/8"	86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
37"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
40"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
48"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
53−1/8"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
26−1/2"	50−5/8"	86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
37"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
40"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
48"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
53−1/8"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
26−1/2"	60"	86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
37"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
40"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
48"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
53−1/8"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
26−1/2"	63"	86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
37"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
40"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
48"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
53−1/8"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
26−1/2"	72"	86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
37"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
40"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
48"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
53−1/8"		86.7	100.0	80.0	80.0	86.7	100.0	80.0	80.0
26−1/2"	76"	86.7	100.0	—	—	86.7	100.0	80.0	80.0
37"		86.7	100.0	—	—	86.7	100.0	80.0	80.0
40"		86.7	100.0	—	—	86.7	100.0	80.0	80.0
48"		86.7	100.0	—	—	86.7	100.0	80.0	80.0
53−1/8"		86.7	100.0	—	—	86.7	100.0	80.0	80.0
26−1/2"	80"	86.7	100.0	—	—	86.7	100.0	80.0	80.0
37"		86.7	100.0	—	—	86.7	100.0	80.0	80.0
40"		86.7	100.0	—	—	86.7	100.0	80.0	80.0
48"		86.7	100.0	—	—	86.7	100.0	80.0	80.0
53−1/8"		86.7	100.0	—	—	86.7	100.0	80.0	80.0

* PRESSURES SHOWN IN CHART ARE LIMITED BY WATER INFILTRATION RESISTANCE. FOR GLASS TYPES 'A' 'B' 'E' & 'F' ONLY, USE +90.0/-100.0 PSF FOR INSTALLATIONS WHERE WATER INFILTRATION RESISTANCE IS NOT REQD.

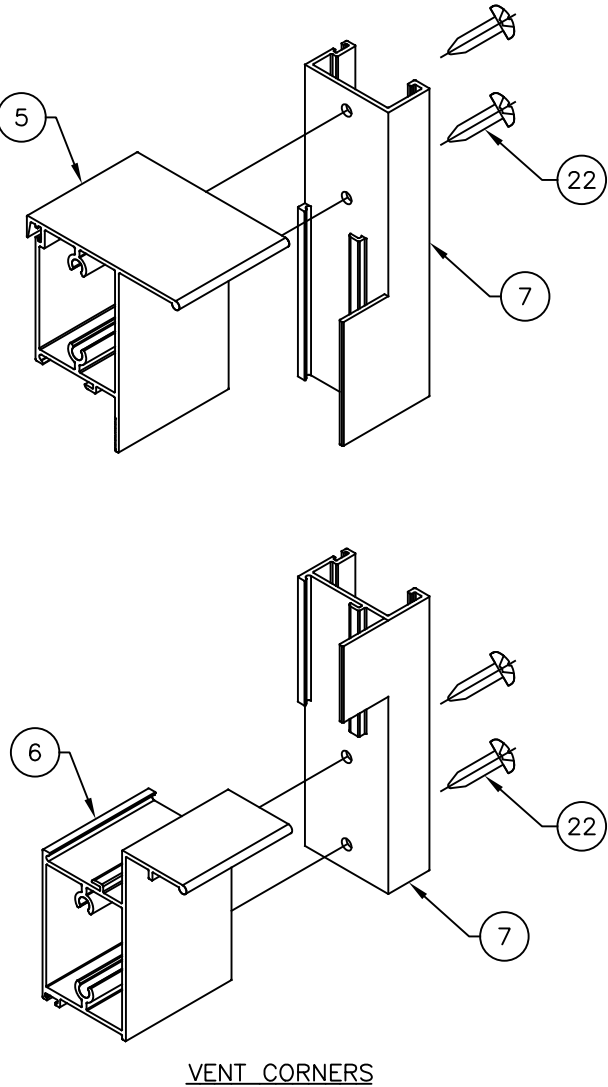
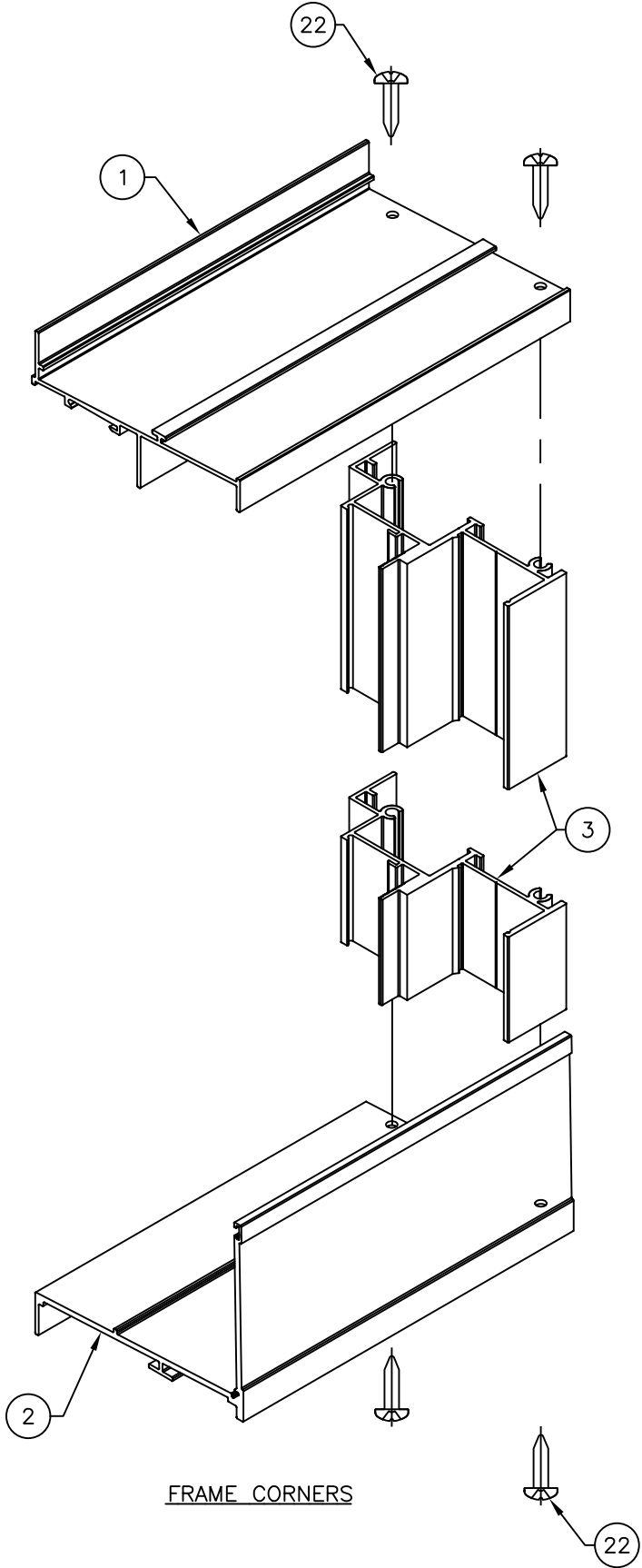
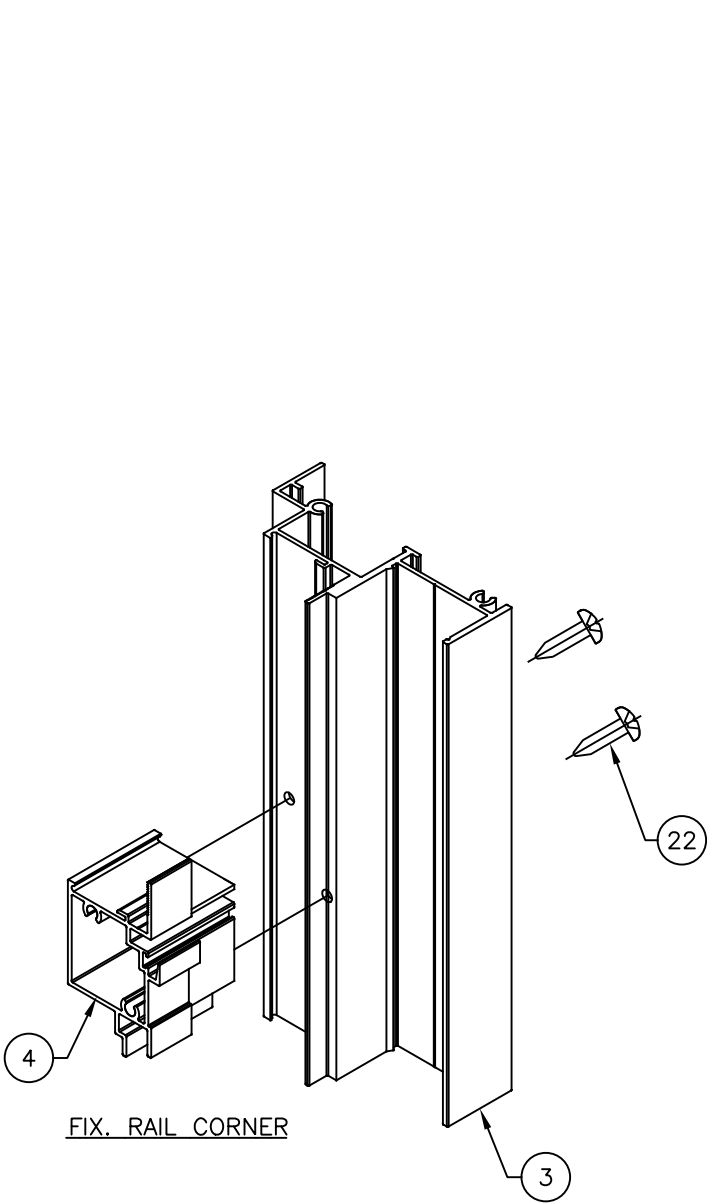
NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300 (3 SEC. GUSTS)

(FULL VIEW) DESIGN LOAD CAPACITY - PSF			
WINDOW DIMS. (FULL VIEW)		GLASS TYPE "C" & "G"	
WIDTH **	HEIGHT **	EXT.(+)	INT.(-)
UP TO MAX. 42"	UP TO MAX. 102"	70.0	90.0

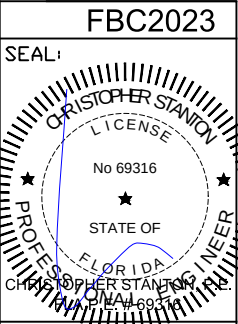
** MAX. FIXED VENT SIZE DLO = 17.5 SQ. FT.

NO.	DATE		REVISIONS
1			
2			
3			
4			
5			

NO.	DATE	REVISIONS
1		
2		
3		
4		
5		

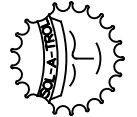


FPA FL#20805.1



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 STRUCTURAL ENGINEERING SERVICES
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SERIES 535 ALUMINUM SINGLE HUNG WINDOW (L.M.I.)



SOL-A-TROL
 aluminum products, Inc.
 4101 N.W. 132nd Street
 Miami, Florida 33054
 Phone: (305) 681-2020
 Fax: (305) 681-2035

SCALE: NOTED
 DATE: 8/20/2024
 DRAWN BY: DGI
 CHECKED BY: C.S.

535SH
 DRAWING NO.

SHEET NO.
9 of 9