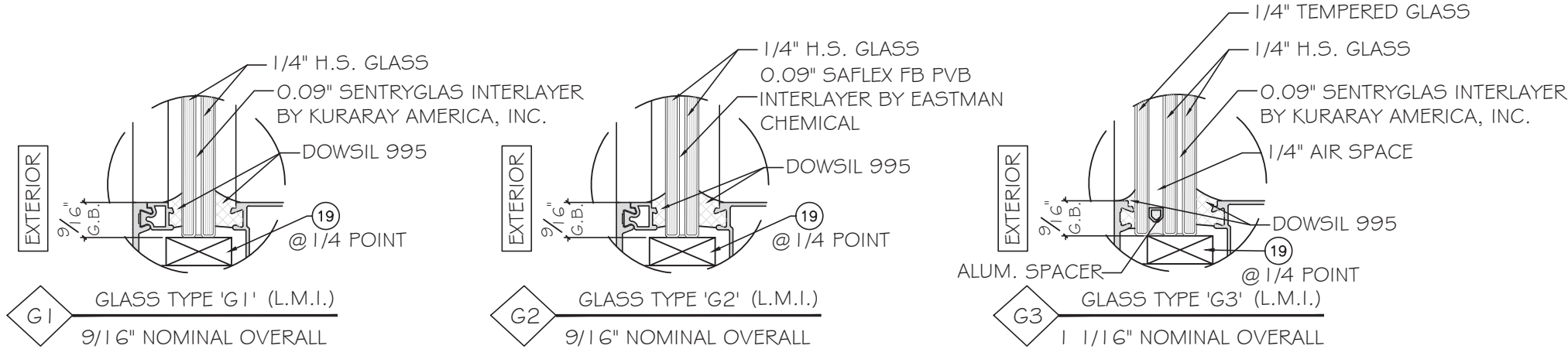


K RESEARCH & DEVELOPMENT, LLC
SPA 150 WINDOW WALL SYSTEM - L.M.I.



MAX. D.L.O AREA	DESIGN LOAD(Pd)
49.96FT ²	±96 PSF

MAX. D.L.O AREA	DESIGN LOAD(Pd)
29.07FT ²	±65 PSF

MAX. D.L.O AREA	DESIGN LOAD(Pd)
43.47FT ²	±96 PSF

GENERAL NOTES:

- THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 8TH EDITION FLORIDA BUILDING CODE (2023) INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
- PANELS ARE RATED FOR LARGE MISSILE IMPACT. LMI SYSTEM TO BE USED FOR INSTALLATIONS UP TO 30 FT OF GRADE. FOR ABOVE 30 FT OF GRADE, SMI TO BE USED. IMPACT SHUTTERS ARE NOT REQUIRED.
- THESE PANELS ARE APPROVED FOR AIR AND WATER INFILTRATION.
- ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS. ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
- ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
- MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/ METAL SCREWS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 8TH EDITION FLORIDA BUILDING CODE (2023) SECTION AS APPLICABLE.
- METAL STRUCTURES BY OTHERS TO BE DESIGNED TO SUPPORT THE LOADS IMPOSED BY THIS GLAZING SYSTEM AND TO TRANSFER SUCH LOADS TO THE BUILDING MAIN STRUCTURE.
- ULTIMATE LOAD OBTAINED FROM ASCE 7-22, MULTIPLY BY 0.6 SHALL BE LESS THAN OR EQUAL TO MAX. DESIGN LOAD IN THIS DOCUMENT. THE DESIGN LOADS SHOWN IN THIS DOCUMENT ARE ALLOWABLE DESIGN LOADS.
- MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE LABELING TO COMPLY WITH SECTION 1709.9.2.

-SEALANTS:

ALL FRAME CORNERS, JOINTS, MULLION SEAMS AND PERIMETER GLAZING BEAD TO FRAME INSTALLATION FASTENERS SEALED WITH SILICON SEALANT.

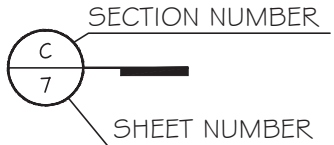
USE CHARTS AS FOLLOWS.

- STEP 1: DETERMINE DESIGN WIND LOAD REQUIREMENTS BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7-22 STANDARD OR WIND TUNNEL REPORTS.
- STEP 2: SEE SHEET E1 AND E2 FOR TYPICAL WINDOW WALL ELEVATION.
- STEP 3: SEE SHEET A1 FOR ANCHOR OPTIONS. SEE SHEET E1 AND E2 FOR ANCHOR LAYOUT.
- STEP4: THE LOWEST VALUE RESULTING FROM STEPS 2 THAT EXCEED THE DESIGN WIND PRESSURES DETERMINED THOUGH STEP 1 SHALL APPLY TO ENTIRE SYSTEM

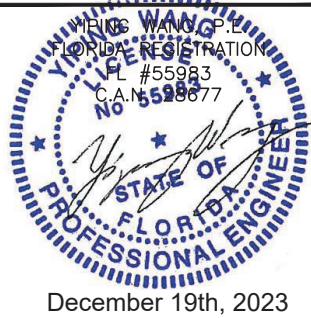
NOTE:
GLASS COMPLIES WITH ASTM E1300-09
(3 SEC. GUSTS).

ABBREVIATIONS AND SYMBOLS

D.L.O. - DAYLITE OPENING
F.H. - FRAME HEIGHT
F.W. - FRAME WIDTH
W/ - WITH
W/O - WITHOUT
O.C. - ON CENTER



FLORIDA APPROVAL:
FL#45990.1

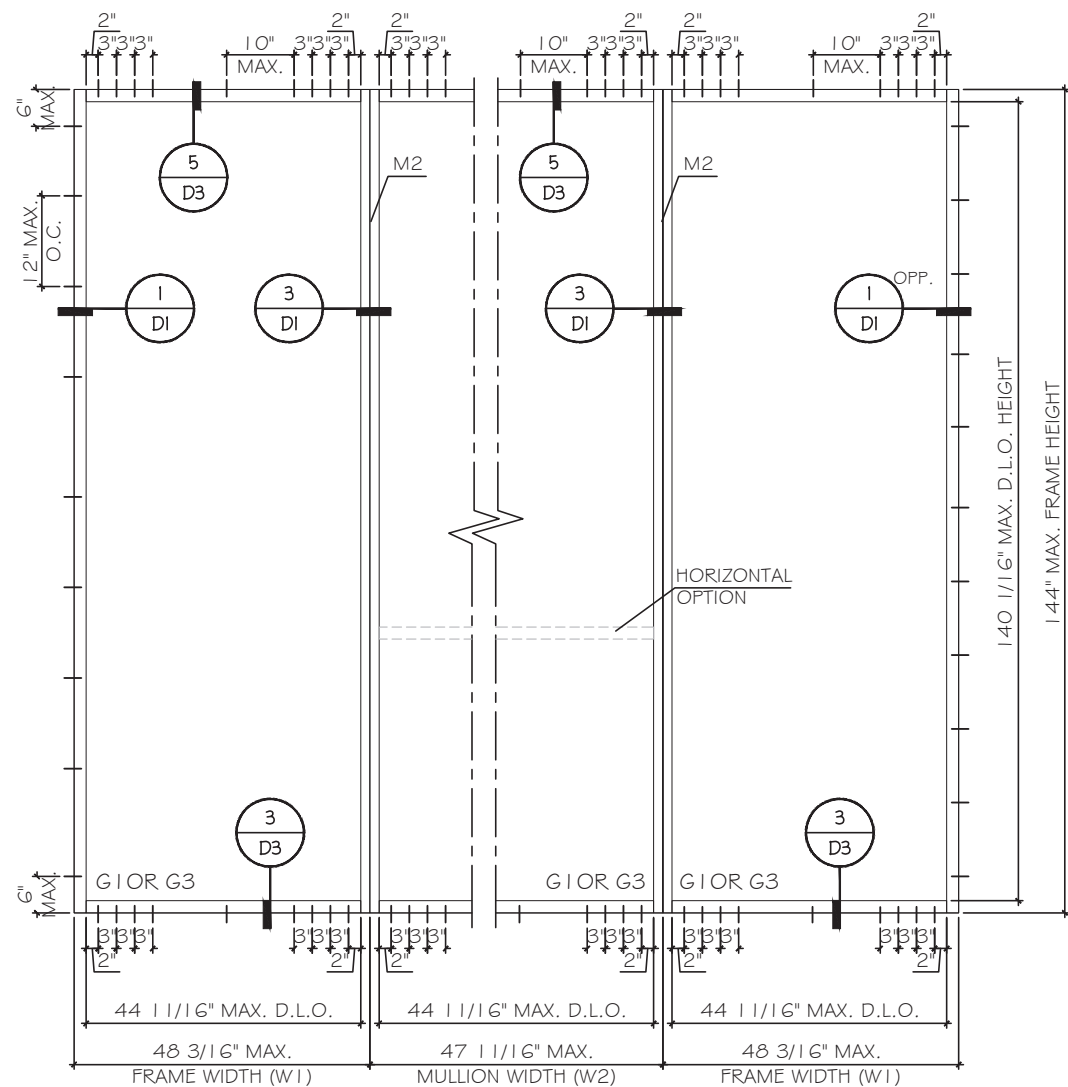


SPA150 WINDOW WALL SYSTEM - L.M.I.

K RESEARCH & DEVELOPMENT, LLC
202 RINGLING BOULEVARD SUITE 301
SARASOTA, FLORIDA
TEL.(941) 266-0300

MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY. STE. 301
MIRAMAR, FL 33027 P: 305 271-0117
www.MCYEngineering.com mcy@mcyengineering.com

Drawn Date	SCALE	AS SHOWN
12.18.2023	AS SHOWN	
DRAWING NO.		
AD23-49		
COVER		
Sheet No.		
1 OF 10		

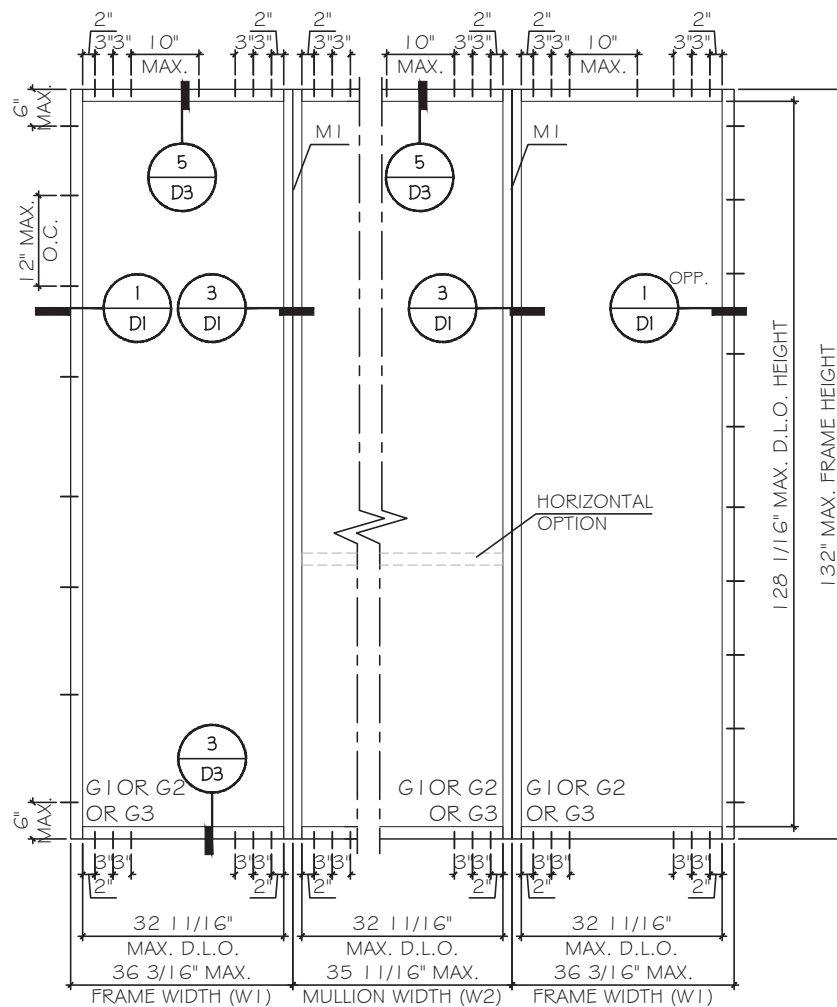


TYPICAL EXTERIOR ELEVATIONS

NOTE:FOR SIZES SHOWN ABOVE OR SMALLER AS PERMITTED BY FBC.

MULLION CAPACITIES - PSF			
NOMIAL DIMS		Pdall (+/-) PSF	
WIDTH W (INCH)	FRAME HEIGHT H (INCH)	MULLION TYPE	WITH OR W/O HORIZ.
47.69	144	M2	96

NOTE:W= $\frac{W1 + W2}{2}$

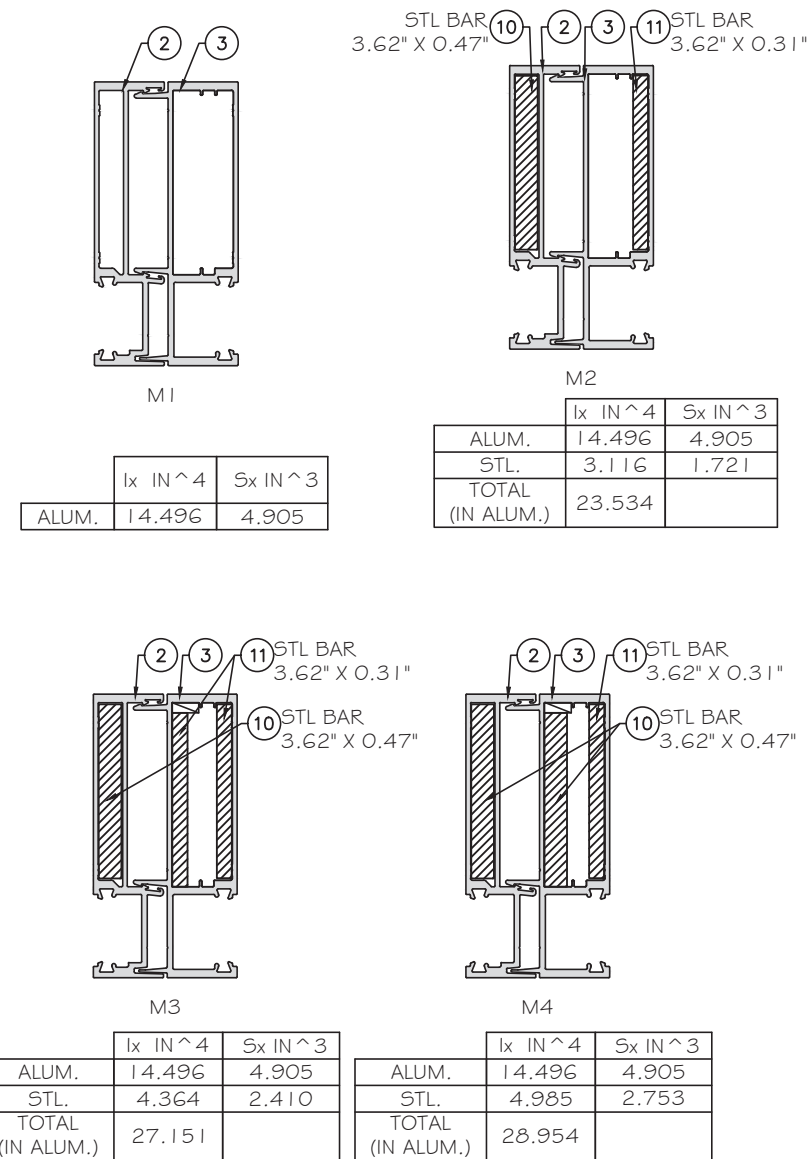


TYPICAL EXTERIOR ELEVATIONS

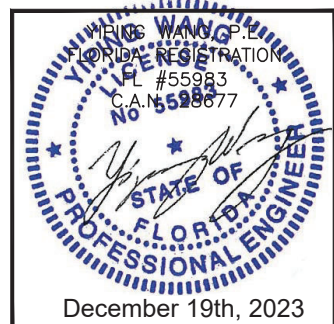
NOTE:FOR SIZES SHOWN ABOVE OR SMALLER AS PERMITTED BY FBC.

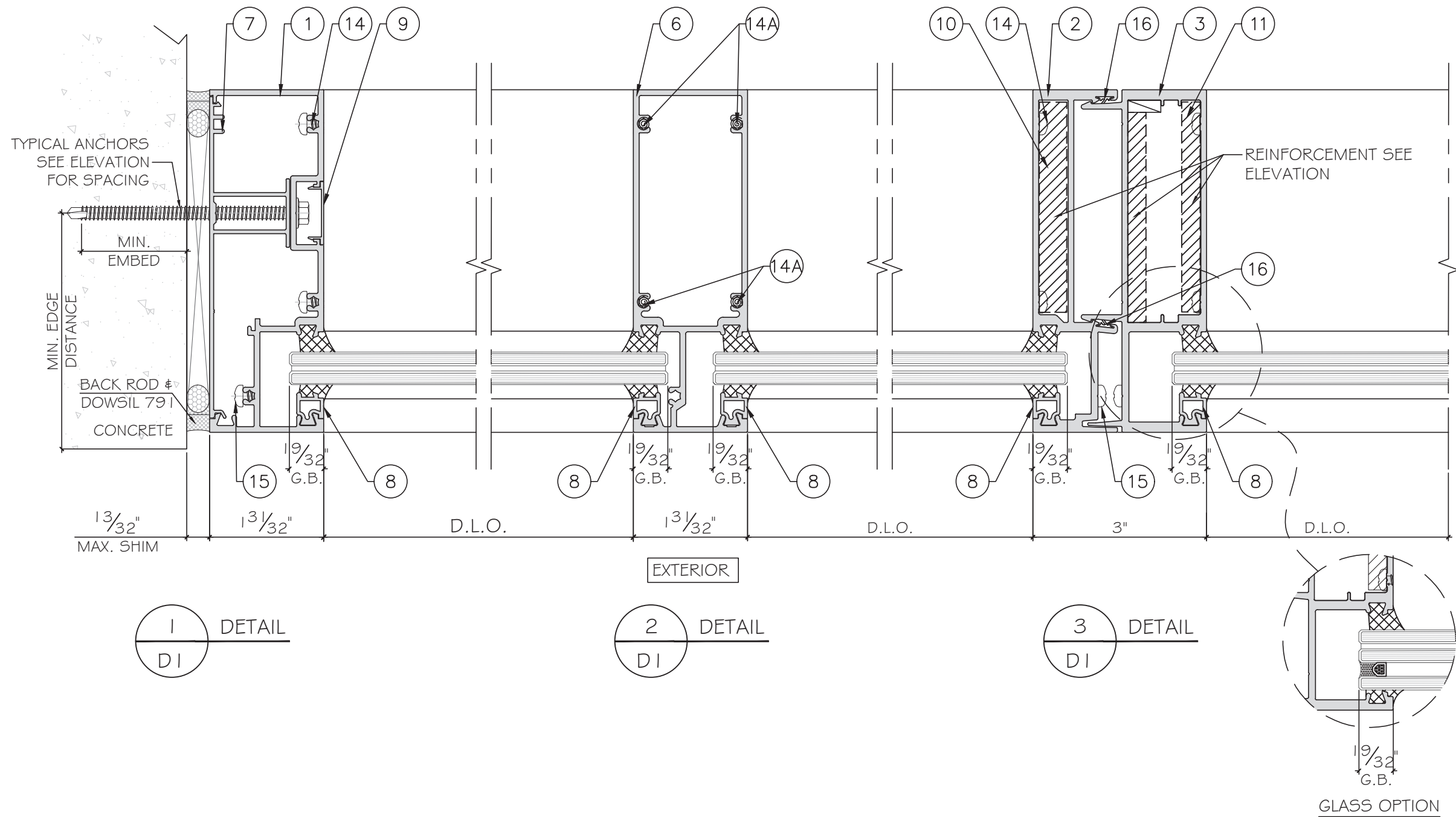
MULLION CAPACITIES - PSF			
NOMIAL DIMS		Pdall (+/-) PSF	
WIDTH W (INCH)	FRAME HEIGHT H (INCH)	MULLION TYPE	WITH OR W/O HORIZ.
36.69	132	M1	65

NOTE:W= $\frac{W1 + W2}{2}$



FLORIDA APPROVAL:
FL#45990.1





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DETAIL

2
DI

DETAIL

3
DI

DETAIL

FLORIDA APPROVAL:
FL#45990.1

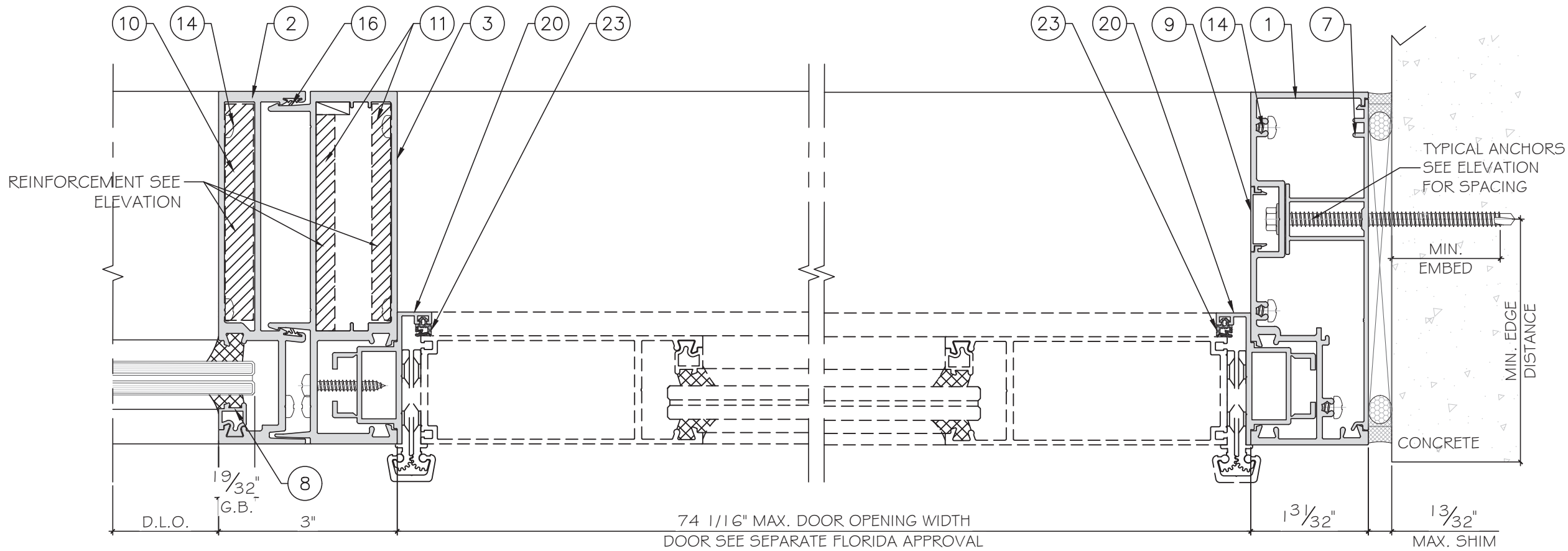
YIN WANG P.E.
FLORIDA REGISTRATION
FL #55983
C.A.#559877

December 19th, 2023

MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY. STE. 301
MIRAMAR, FL 33027 P: 305 271-0117
www.MCYEngineering.com mcy@mcyengineering.com

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K RESEARCH & DEVELOPMENT, LLC
202 RINGLING BOULEVARD SUITE 301
SARASOTA, FLORIDA
TEL.(941) 266-0300

Rev. No.	Date	Drawn By	Description
R1	12.18.2023	James	NEW PRODUCT APPLICATION
DRAWING NO. AD23-49			
Sheet No. 4 OF 10			



1
D2

DETAIL

2
D2

DETAIL

FLORIDA APPROVAL:
FL#45990.1

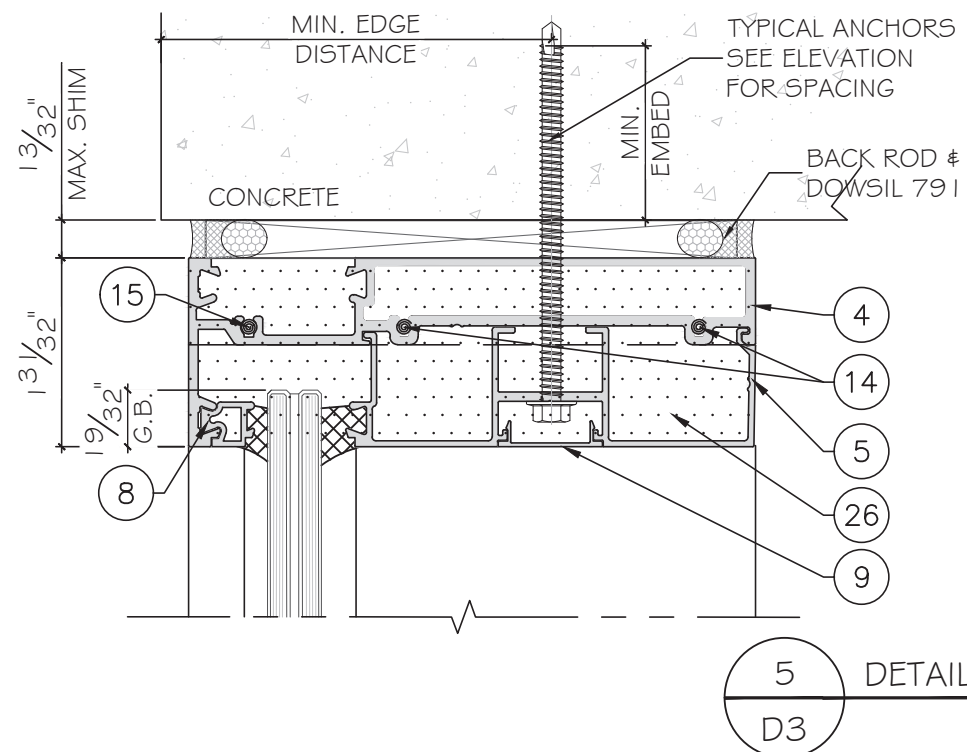
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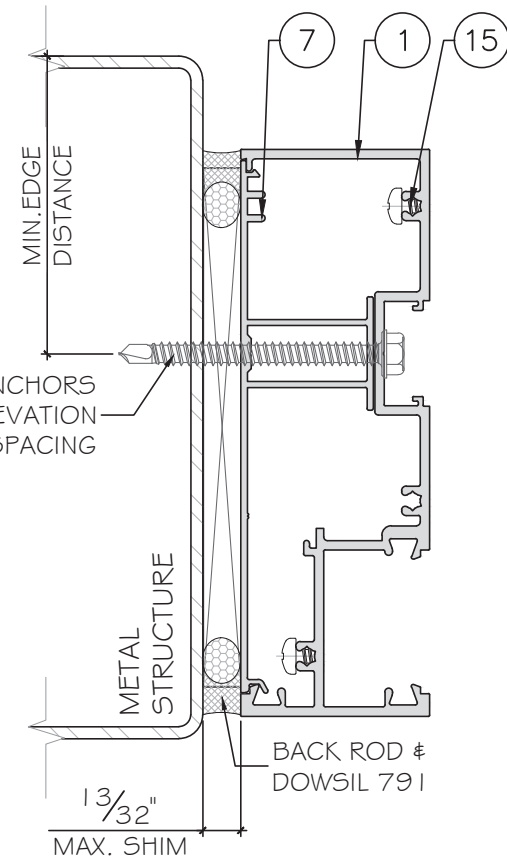
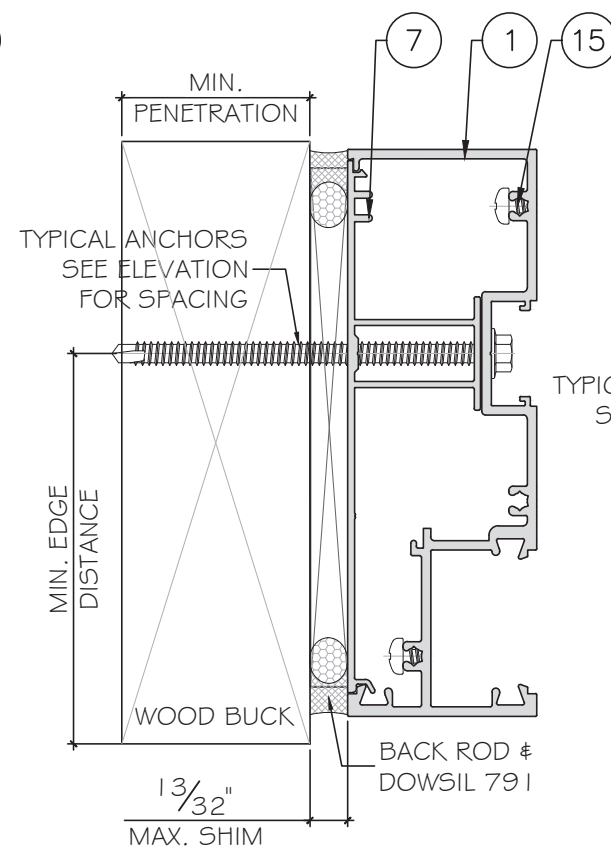
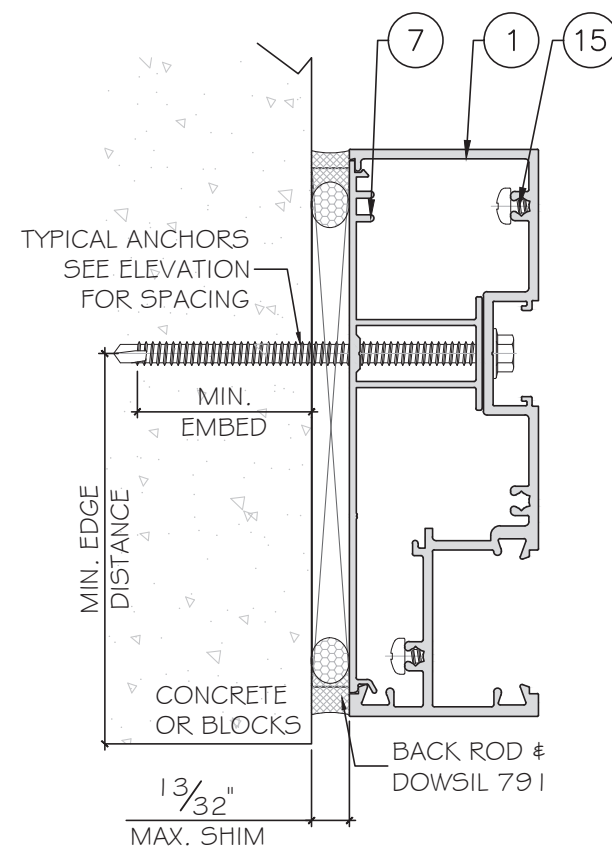
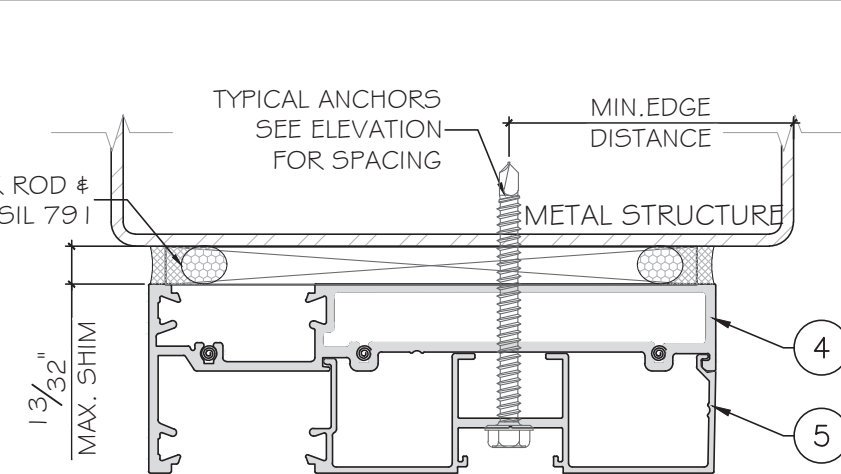
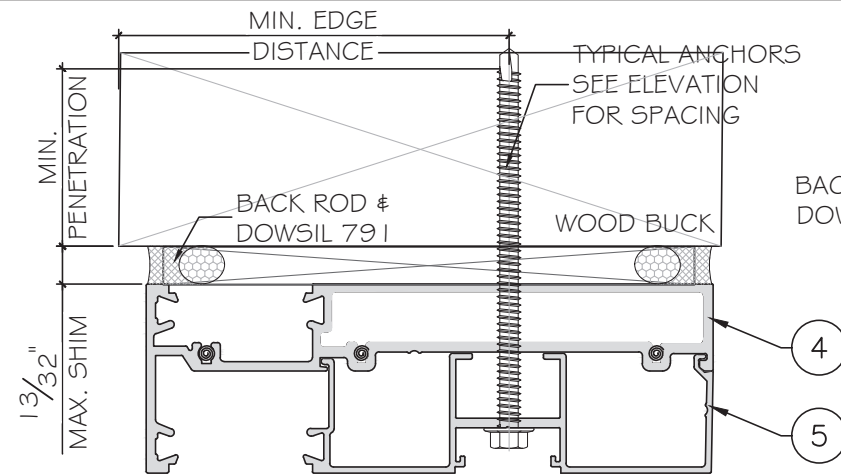
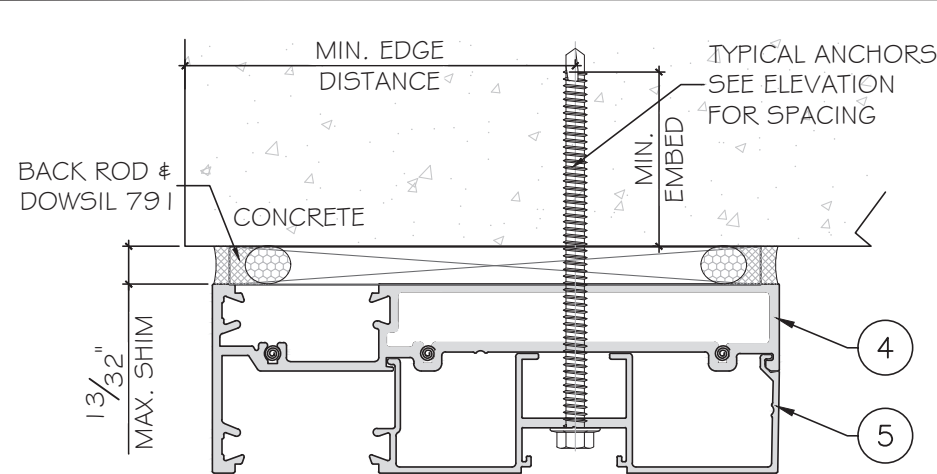
Rev. No.	Date	Drawn By	Description
R1	12.18.2023	James	NEW PRODUCT APPLICATION
Drawing Date 12.18.2023			
SCALE AS SHOWN			
DRAWING NO. AD23-49			
D2			
Sheet No. 5 OF 10			



YINKE WANG, P.E.
FLORIDA REGISTRATION
FL #55983
C.A. No. 5528677

STATE OF
FLORIDA
PROFESSIONAL ENGINEER

December 19th, 2023



TYPICAL ANCHOR TYPES:
SEE ELEVATIONS FOR SPACING

TYPE "A": 1/4" DIA. ULTRACON+ BY 'DEWALT' (F_u=164 KSI, F_y=148 KSI)
INTO 2BY WOOD BUCKS OR WOOD STRUCTURE
WITH 1 1/2" MIN. PENETRATION INTO WOOD (HEAD/ JAMB)

THRU 1BY WOOD BUCK INTO CONCRETE
WITH 1 3/4" MIN. EMBED INTO CONCRETE (HEAD/ JAMB)
WITH 1 3/4" MIN. EMBED INTO BLOCKS (JAMB ONLY)

TYPE "B": 1/4" TEKS OR SELF DRILLING SCREW(GRADE 5) (F_u=120 KSI, F_y=90 KSI)
INTO APPROVED MULLIONS
(1/8" THK. MIN.) INTO METAL STRUCTURE

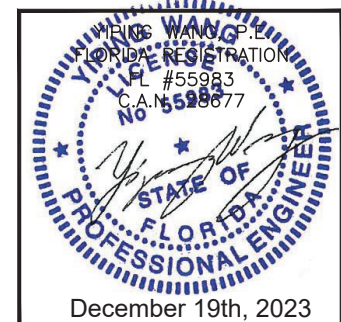
STEEL: 12 GA. MIN. (F_y=36 KSI MIN.)
ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PANTED)

TYPICAL ANCHOR EDGE DISTANCE:
INTO CONCRETE AND MASONRY = 2 1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN.
INTO METAL STRUCTURE = 3/4" MIN.

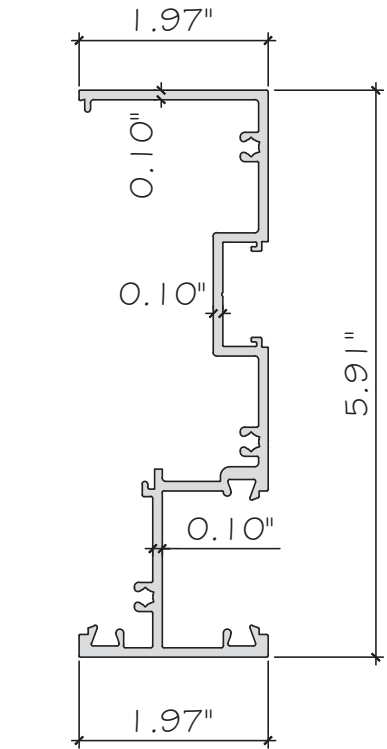
WOOD SG = 0.55 MIN.
CONCRETE f_c = 3000 PSI MIN.

GLAZING BEAD AT FRAME SILL SEALED TO GLASS WITH DOW CORNING 983.
FRAME CORNERS SEALED WITH DOW CORNING 999 OR EQUAL COMPATIBLE

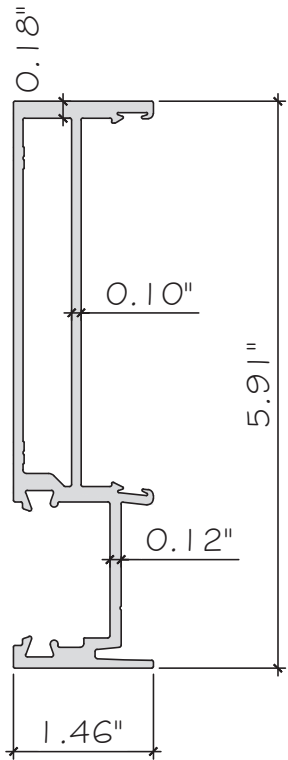
FLORIDA APPROVAL:
FL#45990.1



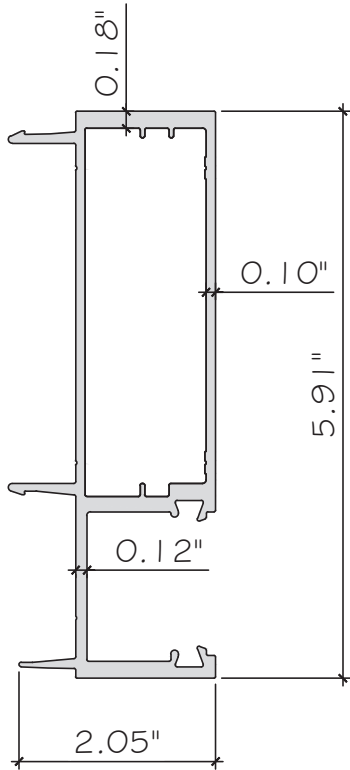
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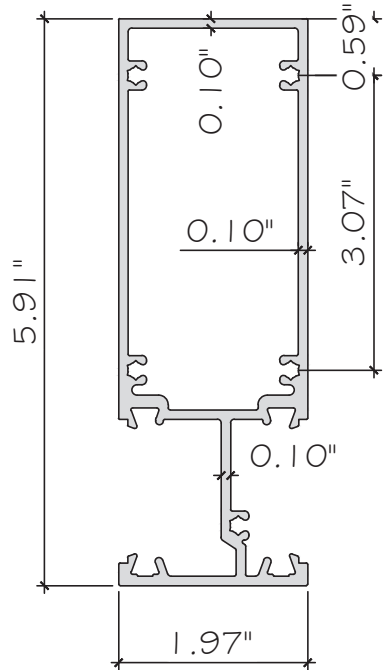
① FRAME SPA15001A
ALUM.6063-T6



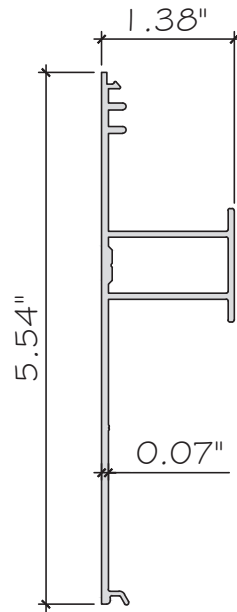
② FEMALE MULLION SPA15002B
ALUM.6063-T6



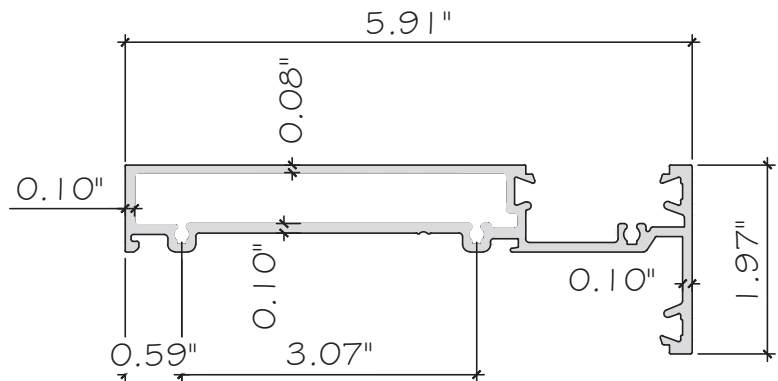
③ MALE MULLION SPA15003A
ALUM.6063-T6



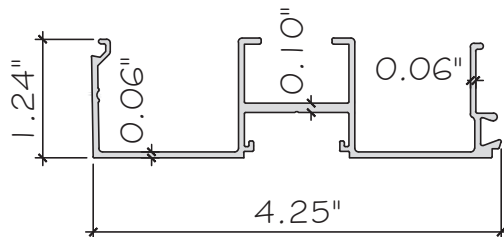
⑥ MULLION SPA15041
ALUM.6063-T6



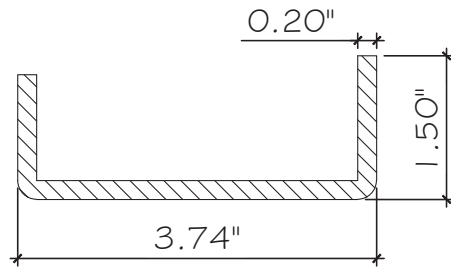
⑦ JAMB FILLER SPA15007A
ALUM.6063-T6



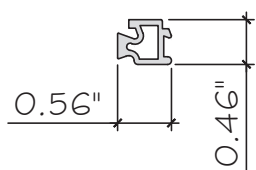
④ HEAD & SILL FRAME SPA15004
ALUM.6063-T6



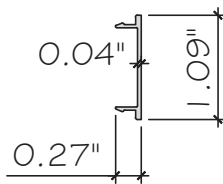
⑤ GLASS STOP SPA15015
ALUM.6063-T6



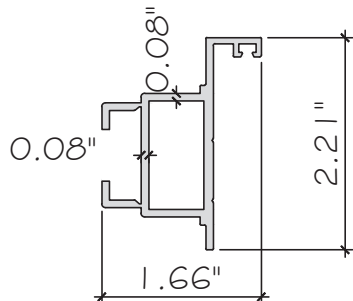
⑬ REINFORCING
STEEL



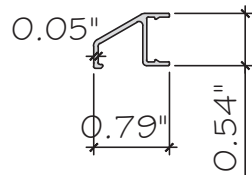
⑧ LAM. GLASS POCKET
SPA10016
ALUM.6063-T5



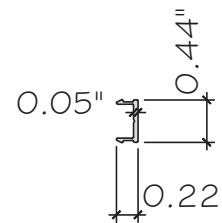
⑨ COVER SPA13006
ALUM.6063-T5



⑳ DOOR ADAPTOR SPA10013A
ALUM.6063-T6

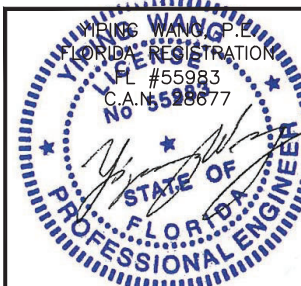


⑳ CORNICE
JNSP10006
ALUM.6063-T5



㉕ CORNICE
JNSP10006
ALUM.6063-T5

FLORIDA APPROVAL:
FL#45990.1



SPA150 WINDOW WALL SYSTEM - L.M.I.

K RESEARCH & DEVELOPMENT, LLC

202 RINGLING BOULEVARD SUITE 301

SARASOTA, FLORIDA

TEL.(941) 266-0300

MCY ENGINEERING, INC.

GLAZING CONSULTANTS

12781 MIRAMAR PKWY. STE. 301

MIRAMAR, FL 33027

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Rev. No.	Date	Drawn By	Description
RT	12.18.2023	James	NEW PRODUCT APPLICATION

Drawn Date	SCALE
12.18.2023	AS SHOWN

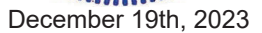
DRAWING NO.
AD23-49

PARTS

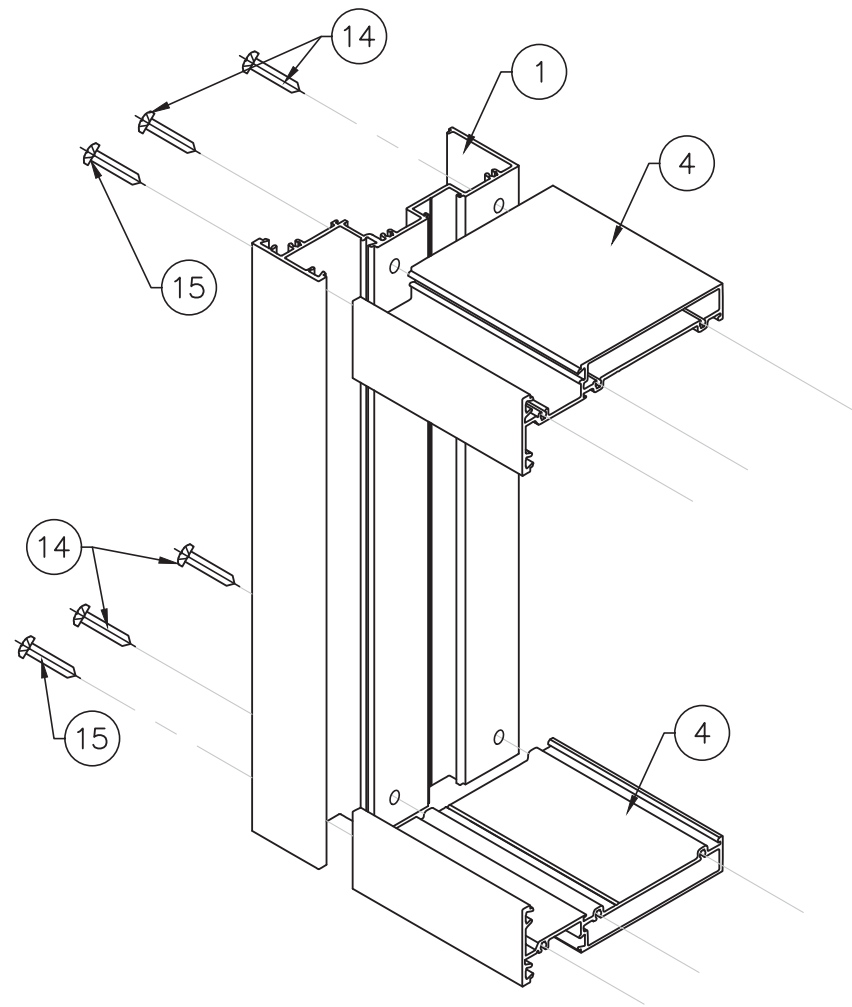
Sheet No.
8 OF 10

BILL OF MATERIALS			
ITEM	PART	DESCRIPTION	MATERIAL
1	SPA15001A	JAMB	ALUM. 6063-T6
2	SPA15002B	FEMALE MULLION	ALUM. 6063-T6
3	SPA15003A	MALE MULLION	ALUM. 6063-T6
4	SPA15004	HEAD / SILL / INTERMEDIATE HORIZONTAL	ALUM. 6063-T6
5	SPA15005	GLASS STOP	ALUM. 6063-T6
6	SPA15041	MULLION	ALUM. 6063-T6
7	SPA15007A	JAMB FILLER	ALUM. 6063-T6
8	SPA10017	LAM. GLASS POCKET	ALUM. 6063-T5
9	SPA13006	COVER	ALUM. 6063-T5
10	-	REINFORCING BAR, 3.62" X 0.47"	STEEL
11	-	REINFORCING BAR, 3.62" X 0.31"	STEEL
12	-	REINFORCING BAR, 3.82" X 0.47"	STEEL
13	-	REINFORCING BAR, 3.74" X 1.50" X 0.20"	STEEL
14	-	FRAME ASSEMBLY PAN HEAD SCREWS #12 X 1 1/4"	410 STAINLESS STEEL
14A	-	FRAME ASSEMBLY COUNTERSUNK HEAD SCREWS #12 X 1 3/4"	410 STAINLESS STEEL
15	-	FRAME ASSEMBLY PAN HEAD SCREWS #12 X 2 3/8"	410 STAINLESS STEEL
16	SBWG-26162	EPDM GASKET, ADUROMETER 70±5 SHORE A	EPDM
17	WHCO1	WEEP HOLE COVER	PVC
18	-	DOWSIL 995, STRUCTURAL SILICONE	SILICONE
19	-	SETTING BLOCK, 1 5/32" X 1". ADUROMETER 80±5 SHORE A.	EPDM
20	SPA10013A	DOOR ADAPTOR	ALUM. 6063-T6
21		FRAME ASSEMBLY SCREWS DIA.3/16" X 3 1/32"	410 STAINLESS STEEL
22		FRAME ASSEMBLY SCREWS DIA.5/32" X 1/2"	410 STAINLESS STEEL
23	SBWG-001	EPDM GASKET, ADUROMETER 70±5 SHORE A	EPDM
24	JNSP10006	CORNICE	ALUM. 6063-T5
25	JNSP10005	CLIP	ALUM. 6063-T5
26	SPA15001W	FRAME JOINT GASKET	3M

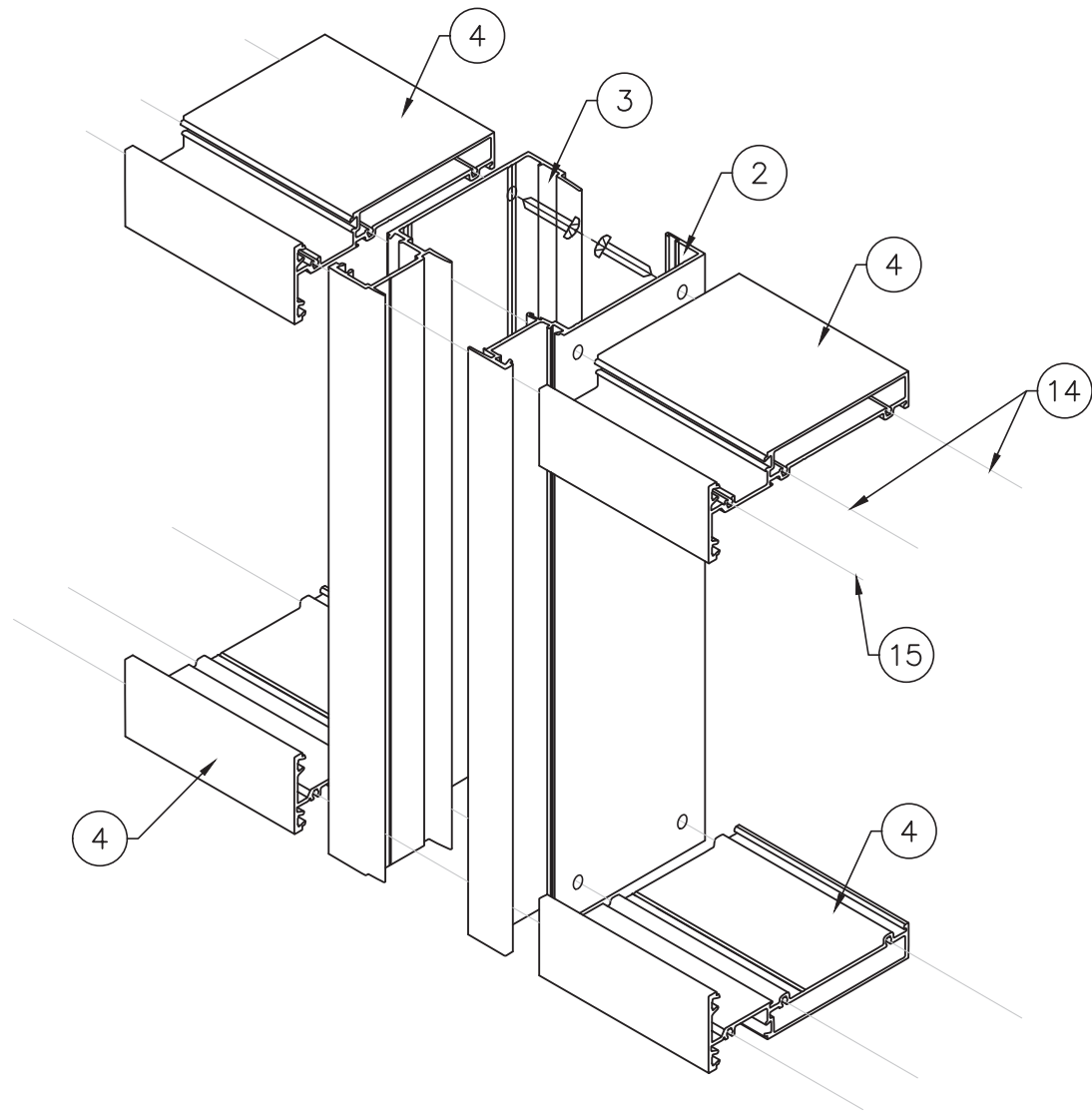
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JAMB CORNER ASSEMBLY



MULLION TO HORIZONTAL ASSEMBLY

FLORIDA APPROVAL:
FL#45990.1

YIN WANG P.E.
FLORIDA REGISTRATION
FL #55983
C.A.N. 55983
December 19th, 2023

Rev. No.	Date	Drawn By	Description
R1	12.18.2023	James	NEW PRODUCT APPLICATION
Drawn Date	12.18.2023	SCALE	AS SHOWN
DRAWING NO.	AD23-49		
ASSEMBLY			
Sheet No.	10 OF 10		