

ES-WWI 032 SLANTED WINDOW WALL
LARGE AND SMALL MISSILE IMPACT
(LMI & SMI)

GENERAL NOTES:

- THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 8TH EDITION (2023) INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
- WINDOW WALL ARE RATED FOR LARGE AND SMALL MISSILE IMPACT. LARGE MISSILE IMPACT USED FOR INSTALLATIONS UP TO 30 FT OF GRADE. SMALL MISSILE IMPACT USED FOR INSTALLATIONS ABOVE 30 FT OF GRADE.
- WINDOW WALL ARE APPROVED FOR AIR AND WATER INFILTRATION. WINDOWS PASS ANSI Z97.1 TEST.
- 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 FLORIDA BUILDING CODE 8TH EDITION (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 ASCE7-22, 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.
- SEALANT:
ALL FRAME CORNERS, JOINTS, MULLION SEAMS AND PERIMETER GLAZING BEAD TO FRAME INSTALLATION SEALED WITH SILICONE SEALANT.

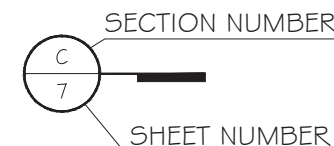
INSTRUCTIONS:

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.
- STEP 2: SEE SHEET 04 FOR GLASS TYPES AND CAPACITIES.
- STEP 3: SEE SHEET 02 TO 03 FOR APPROVED TYPICAL EXTERIOR ELEVATIONS AND DESIGN LOADS.
- STEP 4: SEE SHEET 05 FOR MULLION CAPACITIES.
- STEP 5: SEE SHEET 06 FOR ANCHOR OPTIONS, SEE SHEET 07 FOR ANCHOR CAPACITIES. SEE SHEET 10 FOR ANCHOR OPTIONS FOR CLIP AT SILL.
- STEP 6: THE LOWEST VALUE RESULTING FROM STEPS 2, 3, 4 & 5 SHALL APPLY TO ENTIRE SYSTEM.

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
G.B. - GLASS BITE.

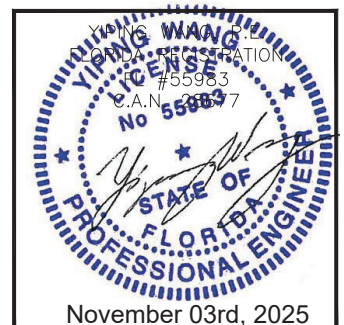


LIMITATIONS OF USE

- A- THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; i.e. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.
- B- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.
- C- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.
- D- SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D.
- E- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

FLORIDA APPROVAL:

FL26559.2



MCY ENGINEERING, INC.
GLAZING CONSULTANTS

GLAZING CONSULTANTS

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E.S. WINDOWS, INC.

10653 NE Quaybridge Ct. Miami, FL 33138

TEL. (305) 624-7775

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Drawn Date
10.30.2025

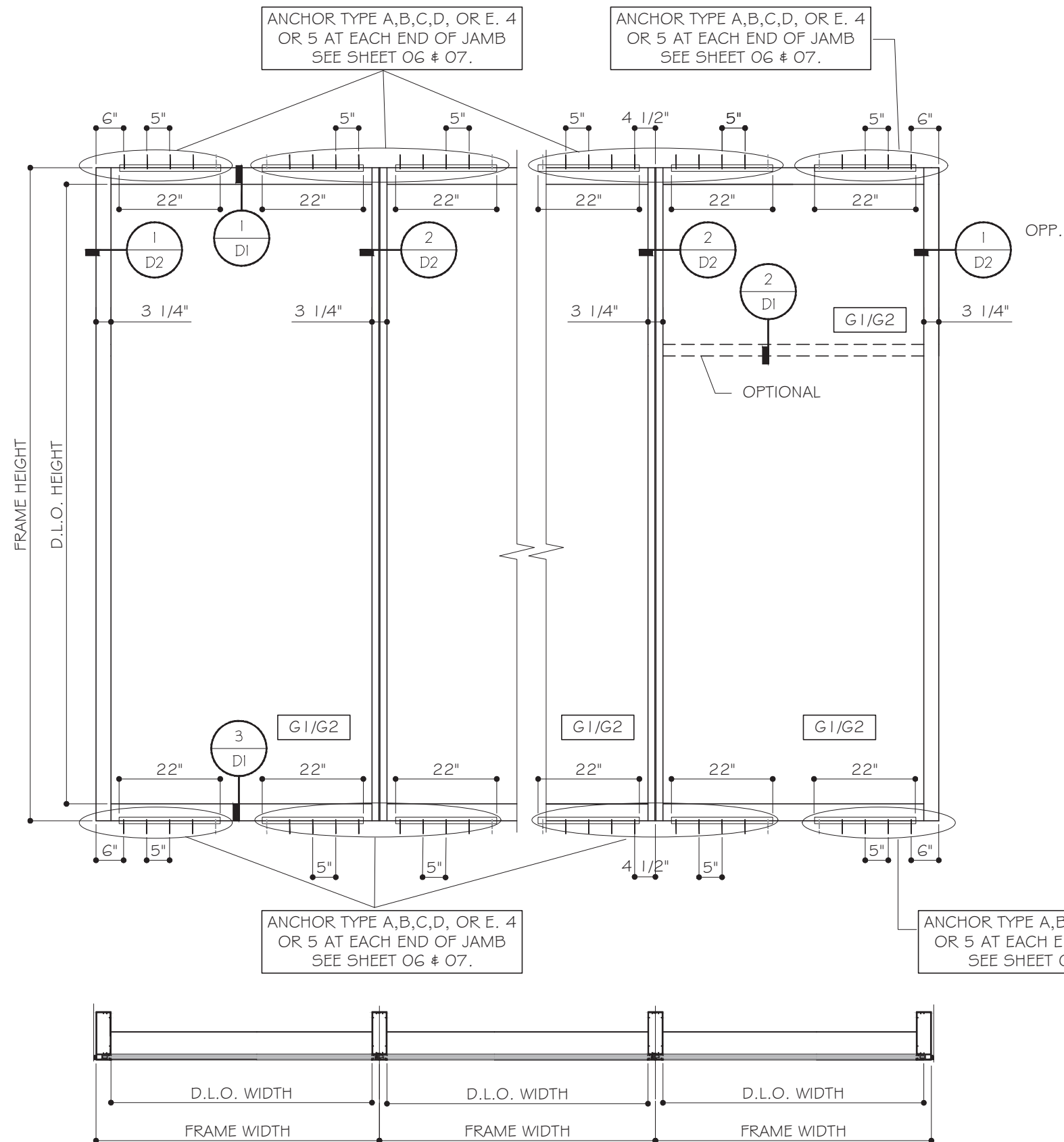
Scale
AS SHOWN

D25-41

COVER

Sheet No.

01 OF 12



SEE SHEET 04 FOR GLASS CAPACITIES.
SEE SHEET 05 FOR MULLION CAPACITIES.
SEE SHEET 07 FOR ANCHOR CAPACITIES.

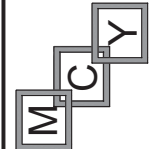
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www.MCYEngineering.com mcy@mcysengineering.com

mcy@mcyengineering.com

TYPICAL ANCHORS:
(SEE ELEVATIONS FOR SPACING)

- TYPE 'A':

5/16" DIA. ULTRACON BY 'DEWALT' ($F_u=177\text{ ksi}$, $F_y=155\text{ ksi}$)
W/ 2" MIN. EMBED INTO CONCRETE ($f'_c=4\text{ ksi}$ MIN.).
MIN. EDGE DISTANCE: 3 1/8".
ANCHOR SPACING: 5" O.C..
- TYPE 'B':

3/8" DIA. HILTI KWIK-EZ SCREWS ($F_u=120\text{ ksi}$, $F_y=95.7\text{ ksi}$)
W/ 2 1/2" MIN. EMBED INTO CONCRETE ($f'_c=4\text{ ksi}$ MIN.).

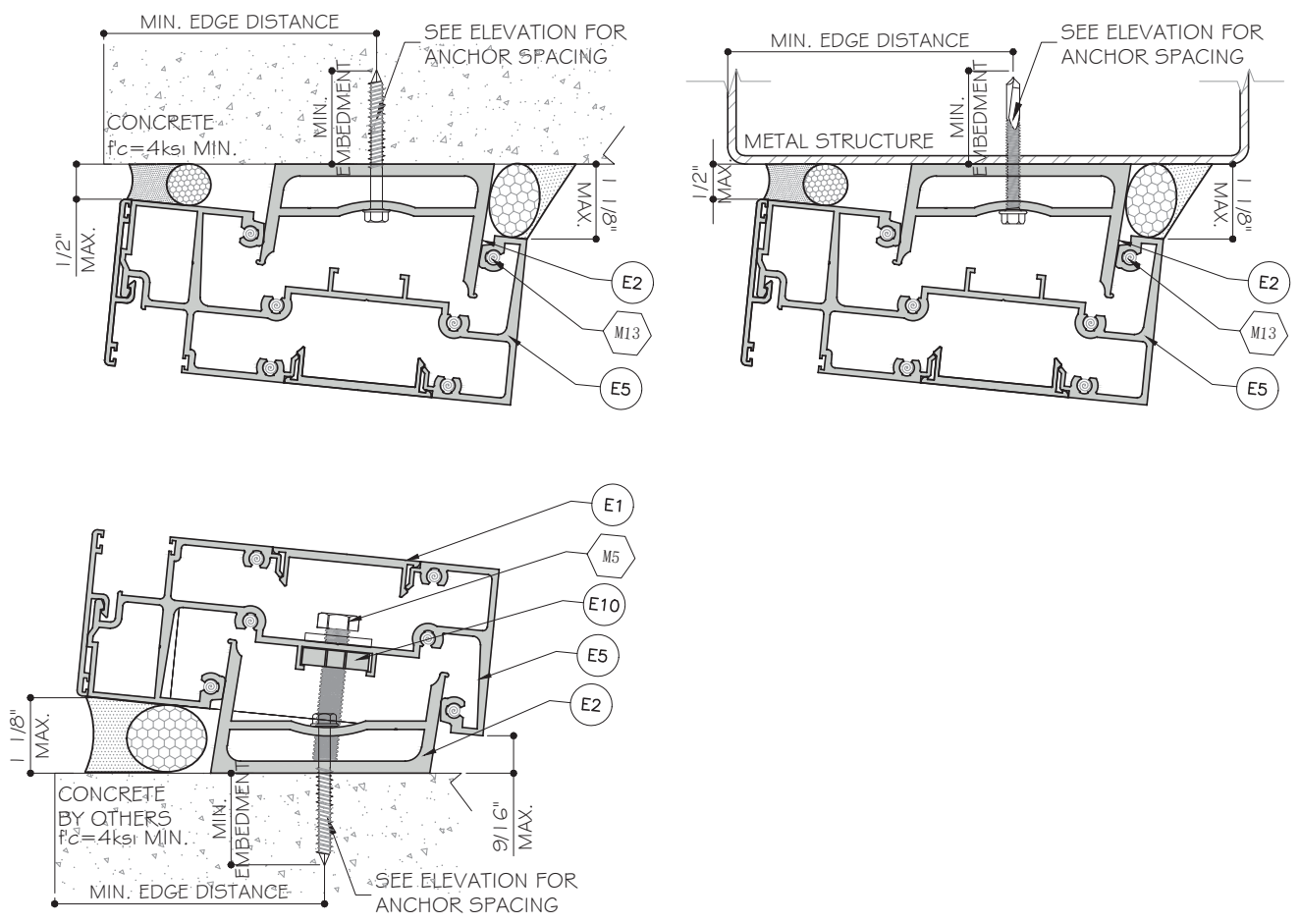
OR 3/8" DIA. DEWALT SCREW BOLT+ ($F_u=105\text{ ksi}$, $F_y=84\text{ ksi}$).
W/ 3 1/4" MIN. EMBED INTO CONCRETE ($f'_c=4\text{ ksi}$ MIN.).
MIN. EDGE DISTANCE: 3 1/2".
ANCHOR SPACING: 5" O.C..
- TYPE 'C':

1/2" DIA. DEWALT SCREW BOLT+ ($F_u=115\text{ ksi}$, $F_y=92\text{ ksi}$).
W/ 4 1/4" MIN. EMBED INTO CONCRETE ($f'_c=4\text{ ksi}$ MIN.).
MIN. EDGE DISTANCE: 3 1/2".
ANCHOR SPACING: 5" O.C..
- TYPE 'D':

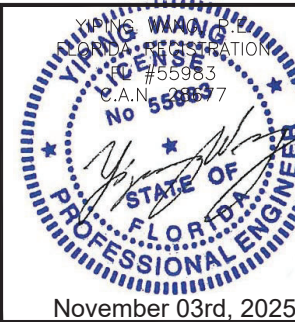
5/16" DIA. DEWALT DRILL-FLEX GRADE 5 ($F_u=120\text{ ksi}$, $F_y=92\text{ ksi}$)
INTO 1/4" MIN. THK. STEEL (A36 MIN.)
STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED.
3 THREADS MIN PENETRATION BEYOND METAL STRUCTURES.
- TYPE 'E':

3/8" DIA. DEWALT TAPFLEX GRADE 5 ($F_u=120\text{ ksi}$, $F_y=92\text{ ksi}$)
INTO 1/4" MIN. THK. STEEL (A36 MIN.)
STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED.
3 THREADS MIN PENETRATION BEYOND METAL STRUCTURES.

NOTES:
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.



FLORIDA APPROVAL:
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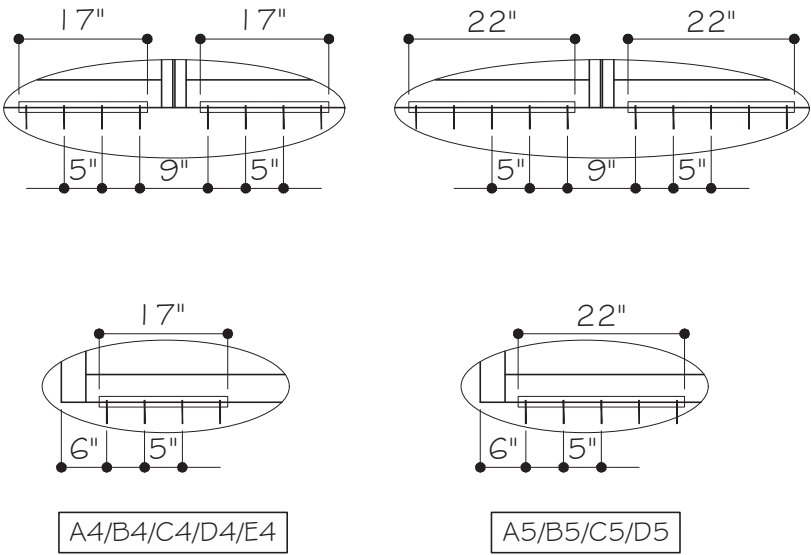
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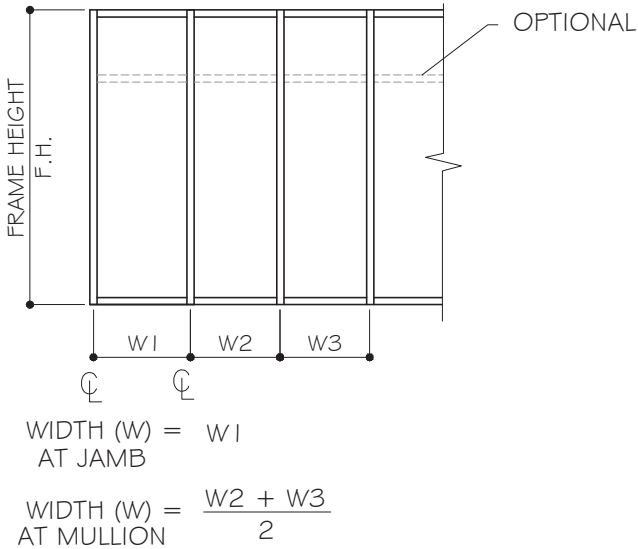
06 OF 12

ANCHOR CAPACITIES (PSF)					
NOMINAL DIMS.		ANCHOR TYPES			
		A4	A5	B4,D4	B5,D5, C4,E4
TRIB. WIDTH INCH	FRAME HEIGHT INCH	+/-	+/-	+/-	+/-
42	132	168	168	168	168
48		148	168	168	168
54		132	164	168	168
60		118	148	168	168
66		108	135	156	168
72		99	123	143	168
42	138	162	168	168	168
48		142	168	168	168
54		126	157	168	168
60		113	142	164	168
66		103	129	149	168
72		94	118	136	168
48	141	139	168	168	168
54		123	154	168	168
60		111	139	160	168
66		101	126	146	168
72		92	115	134	167
48	144	136	168	168	168
54		121	151	168	168
60		108	136	157	168
66		99	123	143	168
72		90	113	131	163
48	150	130	163	168	168
54		116	145	167	168
60		104	130	151	168
66		95	118	137	168
72		87	108	125	157
44	156	137	168	168	168
48		125	156	168	168
54		111	139	161	168
60		100	125	145	168
66		91	114	132	165
72		83	104	121	151

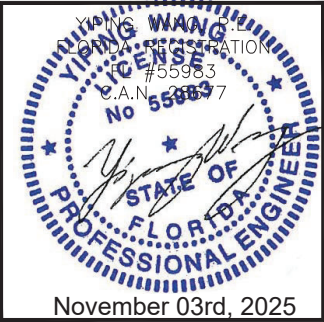
ANCHOR CAPACITIES (PSF)					
NOMINAL DIMS.		ANCHOR TYPES			
		A4	A5	B4,D4	B5,D5, C4,E4
TRIB. WIDTH INCH	FRAME HEIGHT INCH	+/-	+/-	+/-	+/-
48	168	116	145	168	168
54		103	129	149	168
60		93	116	134	168
66		85	106	122	153
72		77	97	112	140
48	170	115	144	166	168
54		102	128	148	168
60		92	115	133	166
66		84	104	121	151
70		79	98	114	142
48	172.5	113	142	164	168
54		101	126	145	168
60		91	113	131	164
66		82	103	119	149
70		78	97	112	140



ANCHOR LAYOUT AT HEAD / SILL



FLORIDA APPROVAL:
FL26559.2



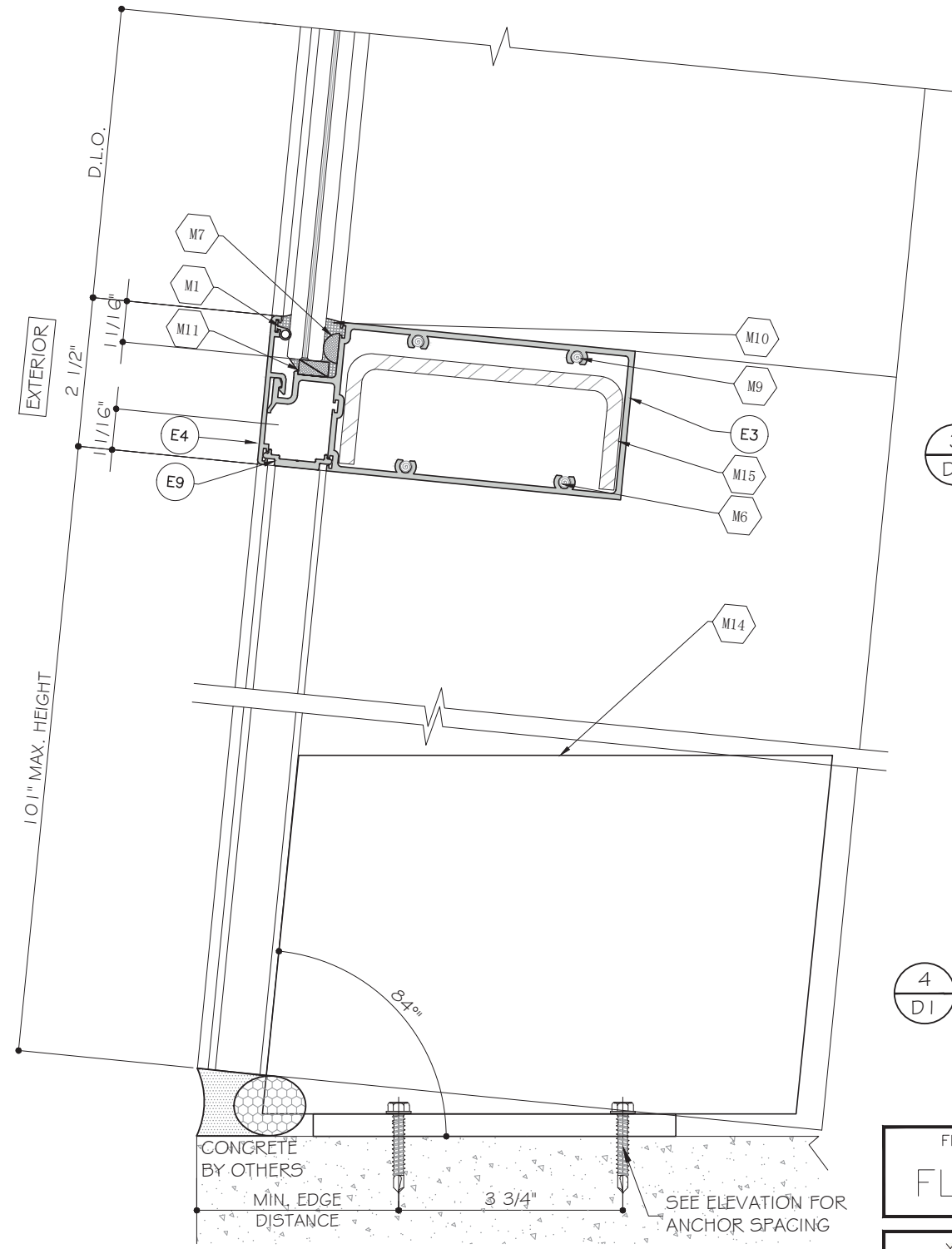
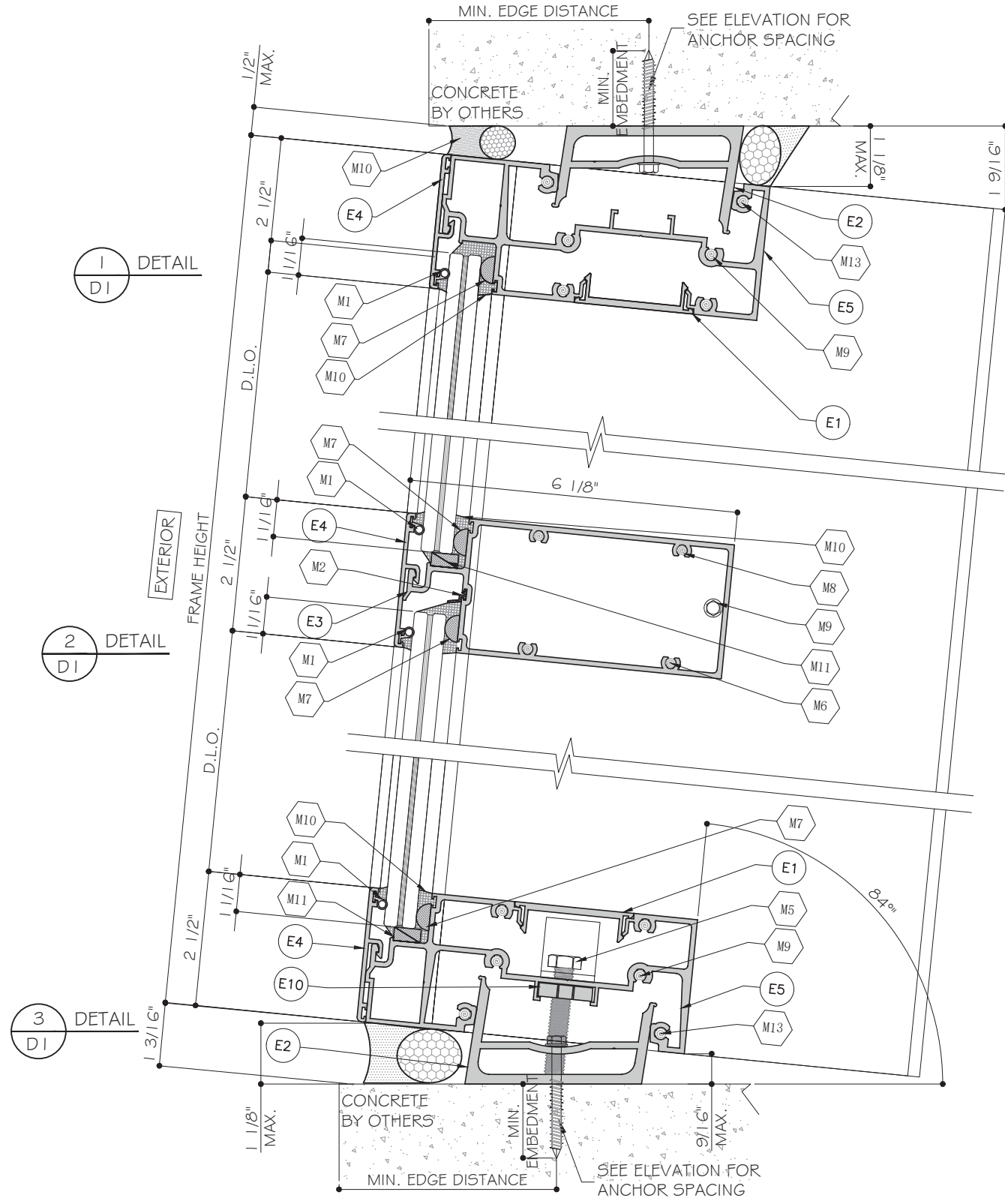
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MCY

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FLORIDA APPROVAL:
FL26559.2

YIPING WANG
 PROFESSIONAL ENGINEER
 STATE OF FLORIDA
 LICENSE #55983
 C.A.N. 55983

November 03rd, 2025

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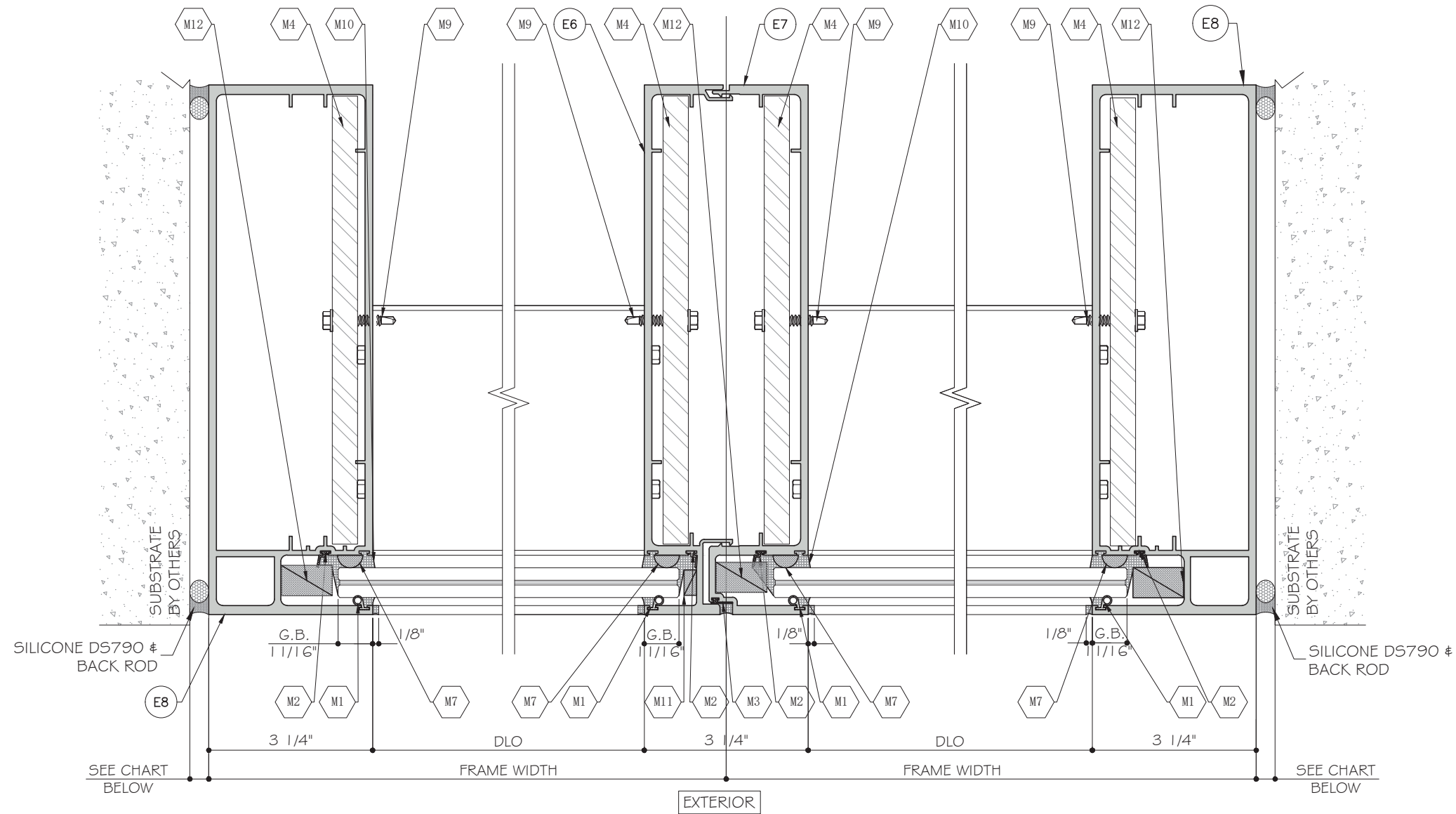
Rev. No.	Date	Drawn By	REVISION	Description
R1	10.30.2025	James		

Drawing Date: 10.30.2025

Scale: AS SHOWN

DRAWING NO.
AD25-41

Sheet No.
08 OF 12



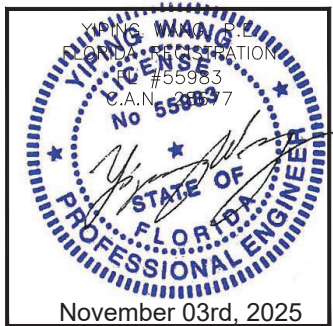
JAMB GAP WIDTH (INCH)		
F.H. (INCH)	MIN. (INCH)	MAX. (INCH)
120	3/8	5/8
144	1/2	5/8
168	9/16	5/8

1
D2
DETAIL

2
D2
DETAIL

3
D2
DETAIL

FLORIDA APPROVAL:
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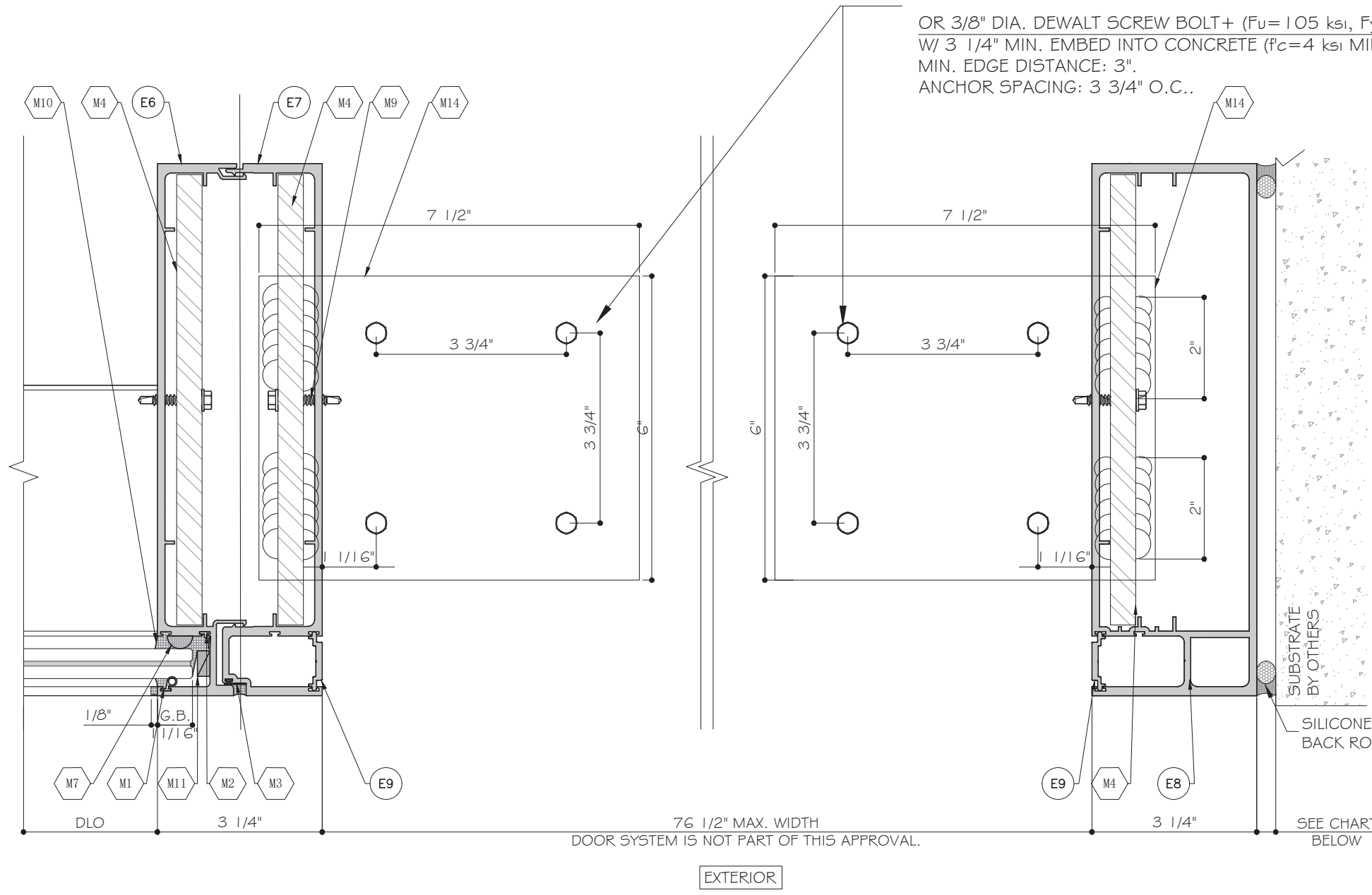
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10.30.2025

Scale
AS SHOWN

DRAWING NO.
AD25-41

D2

Sheet No.
09 OF 12



ANCHOR TYPE 'B':

3/8" DIA. HILTI KWIK-EZ SCREWS (Fu=120 ksi, Fy=95.7 ksi)
W/ 2 1/2" MIN. EMBED INTO CONCRETE (fc=4 ksi MIN.).

OR 3/8" DIA. DEWALT SCREW BOLT+ (Fu=105 ksi, Fy=84 ksi).
W/ 3 1/4" MIN. EMBED INTO CONCRETE (fc=4 ksi MIN.).
MIN. EDGE DISTANCE: 3".
ANCHOR SPACING: 3 3/4" O.C..

SILICONE D5791 &
BACK ROD

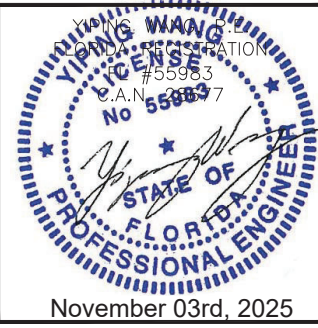
SEE CHART
BELOW

JAMB GAP WIDTH (INCH)		
F.H. (INCH)	MIN. (INCH)	MAX. (INCH)
120	3/8	5/8
144	1/2	5/8
168	9/16	5/8

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D3
DETAIL

2
D3
DETAIL

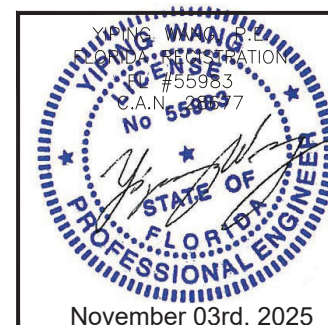
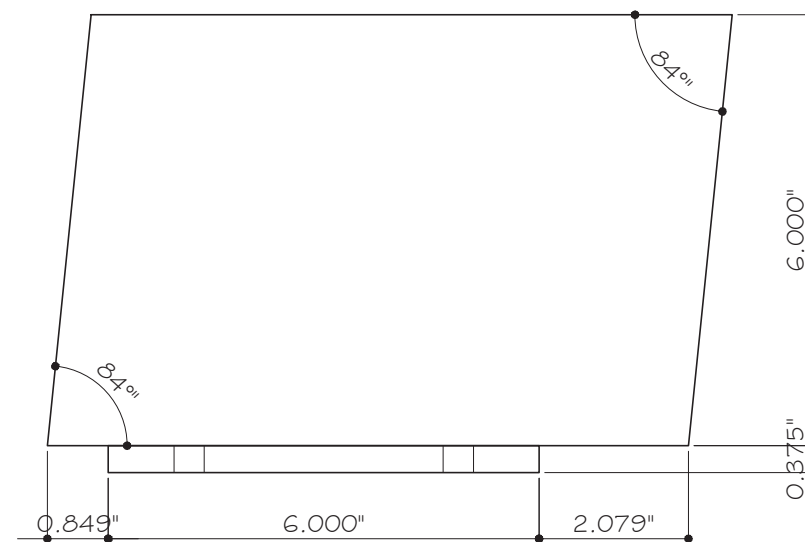
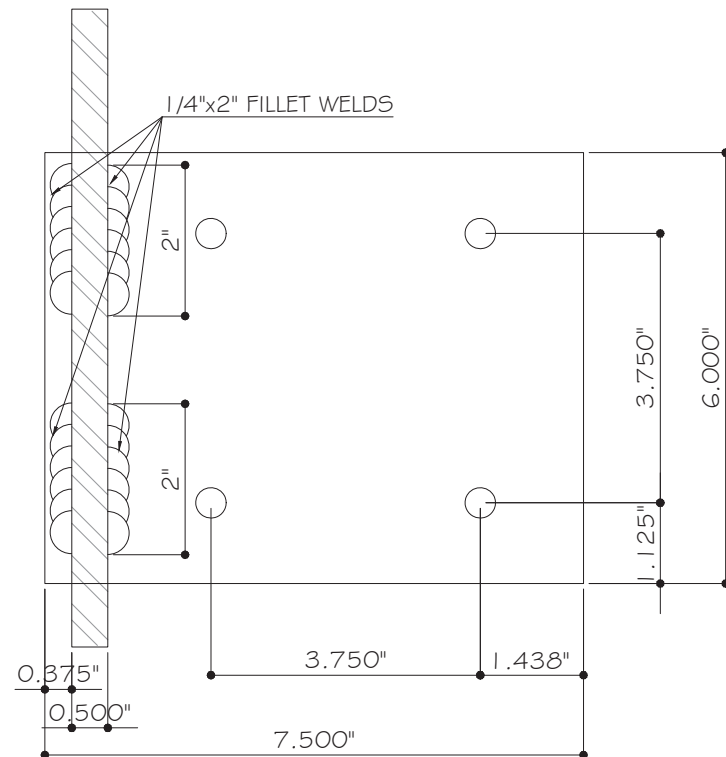
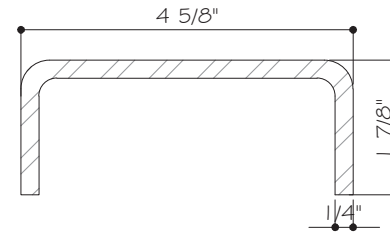
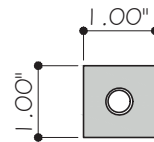
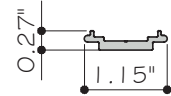
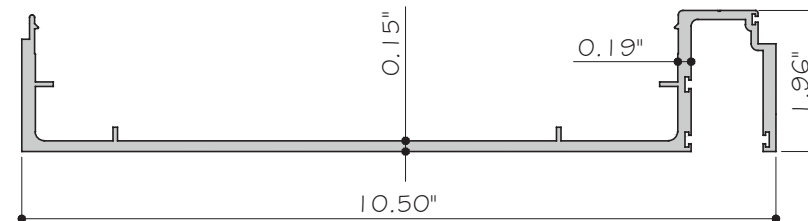
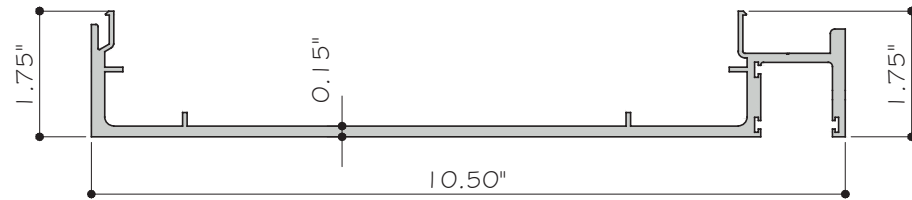
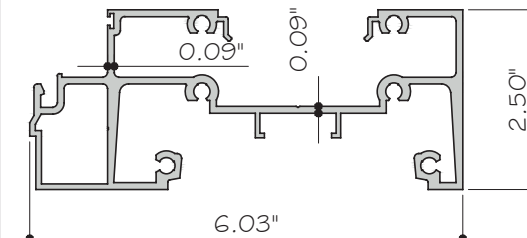
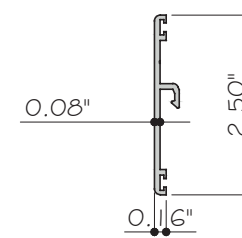
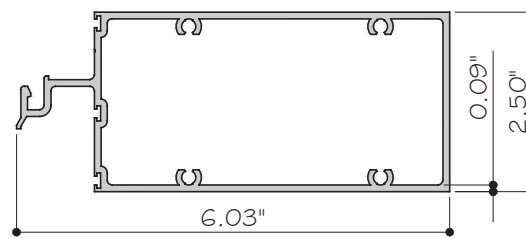
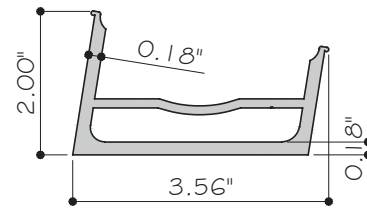
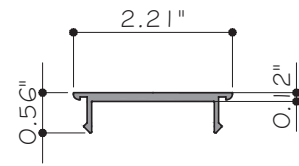
FLORIDA APPROVAL:
FL26559.2



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Rev. No.	Date	Drawn By	Description
R1	10.30.2025	James	REVISION
Drawn Date	10.30.2025	Scale	AS SHOWN
DRAWING NO.			
AD25-41			
D3			
Sheet No.			
10 OF 12			

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