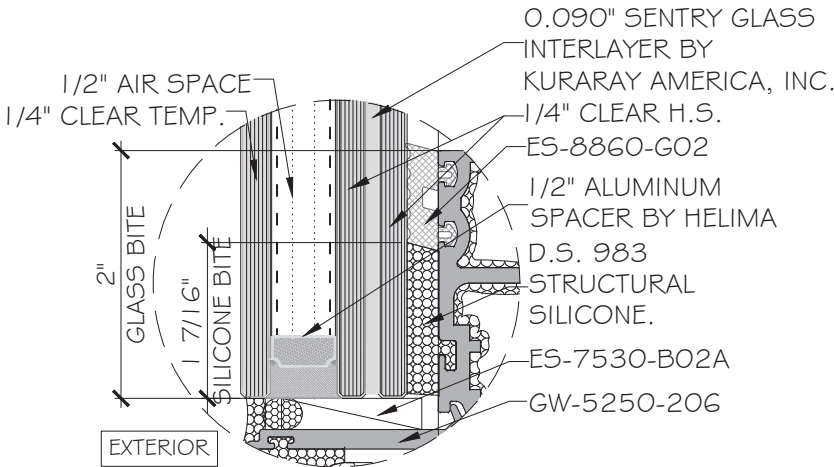
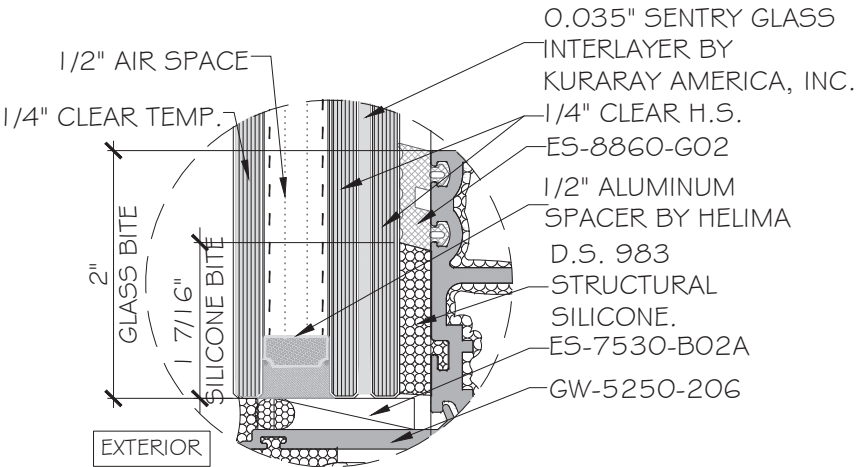


SERIES ES-WW8860i ALUMINUM WINDOW WALL
LARGE AND SMALL MISSILE IMPACT



GLASS TYPE "G1i"
1 5/16" INSULATED LAMINATED GLASS
(L.M.I.)



GLASS TYPE "G2i"
1 5/16" INSULATED LAMINATED GLASS
(S.M.I.)

MAX. GLASS SIZE CHART					
GLASS TYPE	DLO WIDTH (in)	DLO HEIGHT (in)	DLO AREA (ft ²)	LMI/SMI	DESIGN LOAD (+/-) psf
G1i	57.50	117.5	46.92	LMI	90
G2i	57.50	117.5	46.92	SMI	90

NOTE:
GLASS COMPLIES WITH ASTM E1300-16
(3 SEC. GUSTS).

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).
- WINDOWS ARE RATED FOR LARGE AND SMALL MISSILE IMPACT. LARGE MISSILE IMPACT SYSTEM TO BE USED UP TO 30FT OF GRADE. SMALL MISSILE IMPACT SYSTEM TO BE USE ABOVE 30FT OF GRADE. IMPACT SHUTTERS ARE NOT REQUIRED.
- THESE WINDOWS 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 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 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.
- SEALANT:
ALL FRAME CORNERS, JOINTS, MULLION SEAMS AND PERIMETER GLAZING BEAD TO FRAME INSTALLATION SEALED WITH SILICONE SEALANT.

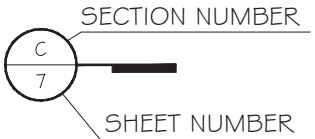
INSTRUCTIONS:

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 CHARTS ON SHEET 01 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS TYPES AND SIZE BASED ON APPLICABLE WIND DURATION.
- STEP 3: SEE SHEET E1 FOR APPROVED CONFIGURATION AND CAPACITY. THE CAPACITY SHOULD EXCEED THE REQUIRED DESIGN LOAD.
- STEP 4: USING CHART ON SHEETS A1#E2 TO SELECT ANCHOR OPTIONS WITH DESIGN RATING MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 5: THE LOWEST VALUE RESULTING FROM STEPS 2, 3, AND 4 SHALL APPLY TO ENTIRE SYSTEM.

ABBREVIATIONS AND SYMBOLS

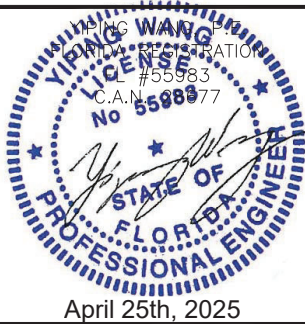
D.L.O. - DAYLITE OPENING
F.H. - FRAME HEIGHT
F.W. - FRAME WIDTH
W/ - WITH
W/O - WITHOUT
O.C. - ON CENTER
G.B. - GLASS BITE.



- 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:

FL44620.3



SERIES ES-WW8860i ALUMINUM WINDOW WALL-L.M.I.

E.S. WINDOWS, INC.

10653 NE Quaybridge Ct. Miami, FL 33138

TEL. (305) 624-7775

MCY ENGINEERING, INC.

GLAZING CONSULTANTS

12781 MIRAMAR PARKWAY #301

MIRAMAR, FL 33027

P. 305.271.0117

www.MCYEngineering.com

mcy@mcyengineering.com

Drawn Date
04.22.2025

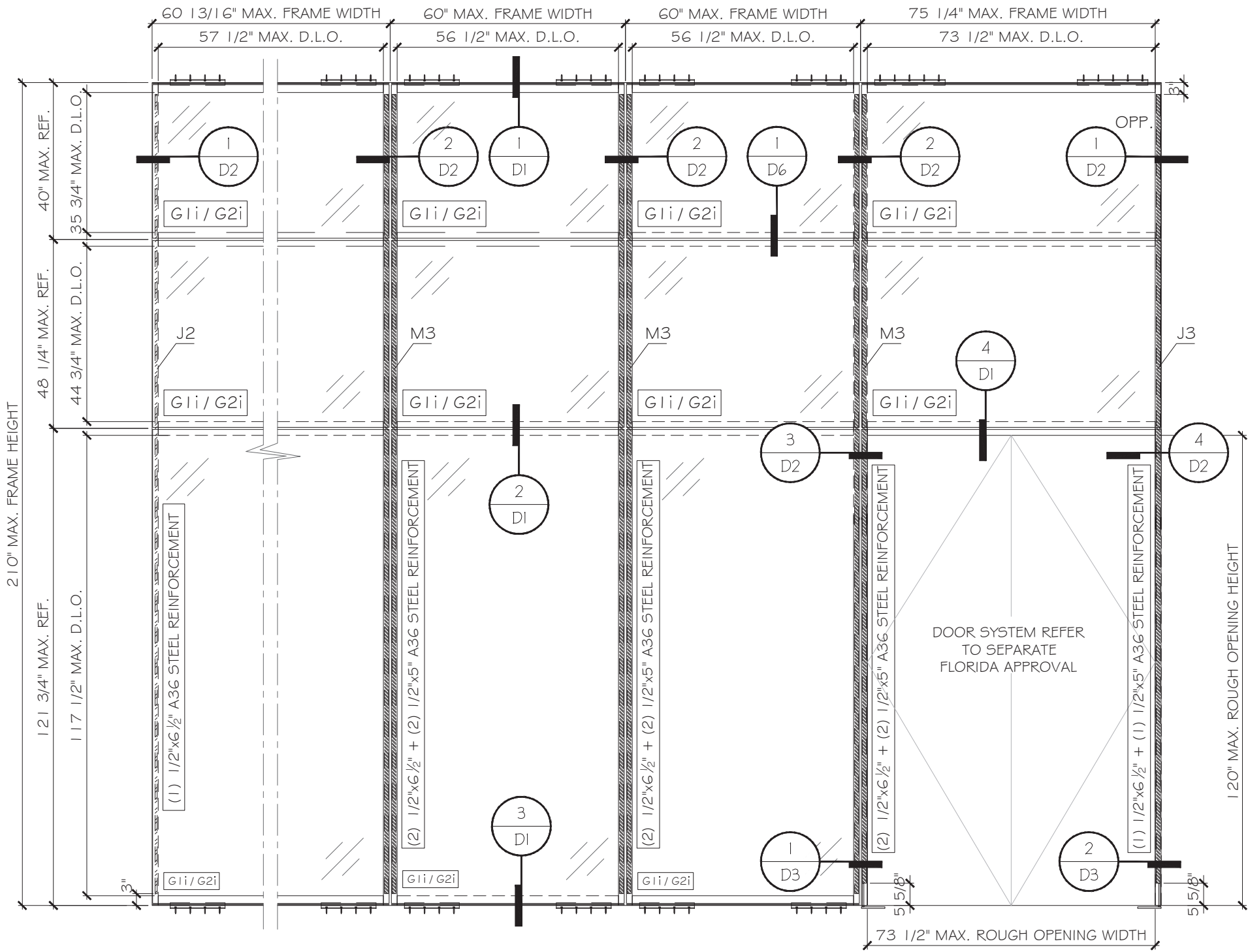
Scale
AS SHOWN

DRAWING NO.

AD25-30

COVER

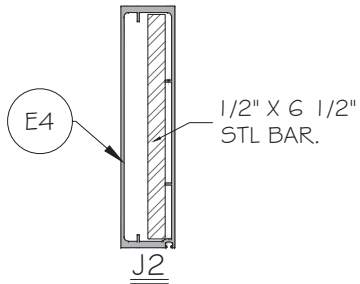
Sheet No.
01 OF 09



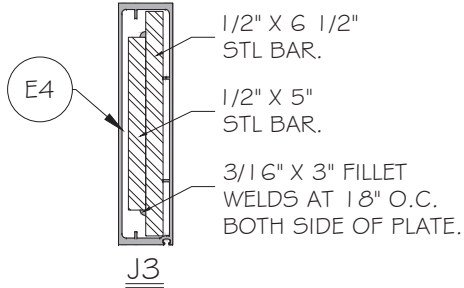
TYPICAL ELEVATIONS

MAX. DESIGN LOAD: +/-90 PSF.

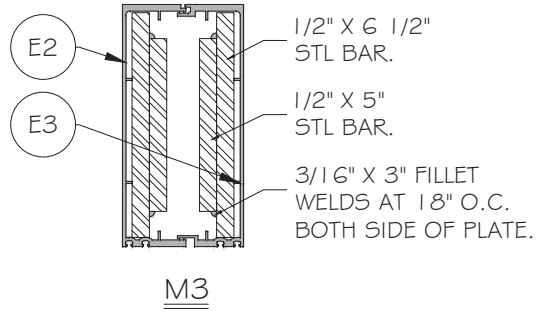
SEE SHEET A1 FOR ANCHOR TYPES AND SPACING.



J2	Ix (in ⁴)	Sx (in ³)
ALUMINUM	11.5883	3.2812
STL	11.4427	-
Ix alum + Ixstl x2.9	44.77213	(IN ALUM)



J3	Ix (in ⁴)	Sx (in ³)
ALUMINUM	11.5883	3.2812
STL	16.651	-
Ix alum + Ixstl x2.9	59.8762	(IN ALUM)



M3	Ix (in ⁴)	Sx (in ³)
ALUMINUM	20.3191	5.5319
STL	33.3021	-
Ix alum + Ixstl x2.9	116.8952	(IN ALUM)

FLORIDA APPROVAL:

FL44620.3

APRIL 25th, 2025

YIPING WANG
REGISTERED PROFESSIONAL ENGINEER
No. 55983
C.A.N. 77

MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PARKWAY #301
MIRAMAR, FL 33027 P. 305.271.0117
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E.S. WINDOWS, INC.
10653 NE Quaybridge Ct. Miami, FL 33138
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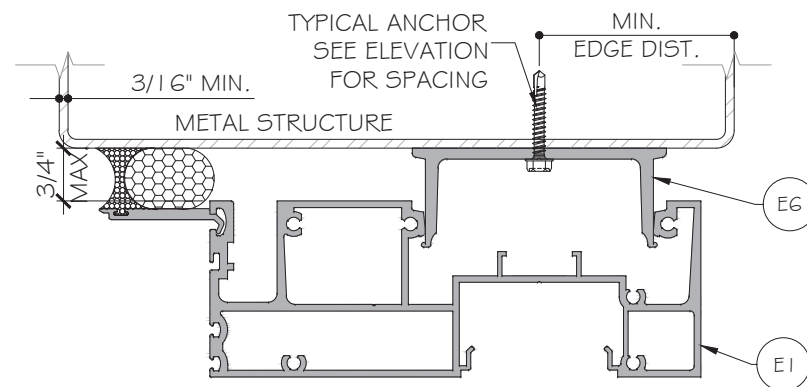
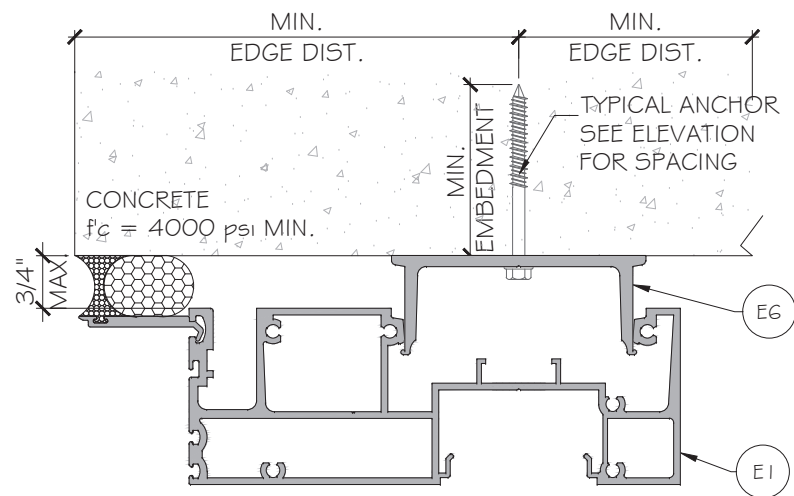
SERIES ES-WW860i ALUMINUM WINDOW WALL-L.M.I.

Rev.	Date	Drawn By	Description
RO	04.22.2025	James	NEW APPLICATION

Drawn Date: 04.22.2025 Scale: AS SHOWN

DRAWING NO. AD25-30

Sheet No. 02 OF 09



TYPICAL ANCHORS: (SEE ELEVATIONS FOR SPACING)

TYPE 'A': 5/16" DIA. ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)
DIRECTLY INTO CONCRETE
2" MIN. EMBED INTO CONCRETE

TYPE 'B': 3/8" DIA. 'DEWALT' SCREW BOLT+
DIRECTLY INTO CONCRETE
2" MIN. EMBED INTO CONCRETE

TYPE 'C': 5/16" DIA. DRILL-FLEX BY 'ELCO'(GRADE 5)
INTO 3/16" MIN. THK. STEEL(A36 MIN.)
STEEL: Fy=36 ksi MIN.

TYPICAL EDGE DISTANCE:

INTO CONCRETE = 3 1/8" MIN.
INTO METAL STRUCTURE = 1 7/8" MIN.
CONCRETE f'c = 4000 PSI MIN. (NORMAL WEIGHT)

METAL STRUCTURES BY OTHERS TO BE DESIGNED TO
SUPPORT THE LOADS IMPOSED BY THIS SYSTEM AND TO
TRANSFER SUCH LOADS TO THE BUILDING MAIN STRUCTURE.

TYPICAL ANCHOR CONDITION:

FRAME WIDTH W(in)	FRAME HEIGHT H(in)	ANCHOR LOAD CAPACITY - PSF					
		EXT.(+) & INT.(-)					
		3 3/4" O.C. ANCHOR SPACING.			5" O.C.		
		A4	A5	A6	B4	C4	A4
48	180	90.0	90.0	90.0	90.0	90.0	90.0
54	180	83.7	90.0	90.0	90.0	90.0	90.0
60	180	75.3	90.0	90.0	90.0	90.0	90.0
48	210	80.7	90.0	90.0	90.0	90.0	90.0
54	210	71.7	89.7	90.0	90.0	90.0	90.0
60	210	64.5	80.7	90.0	90.0	90.0	90.0

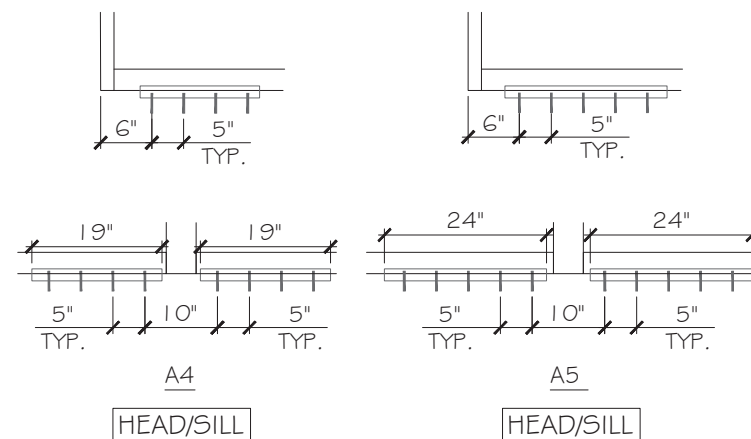
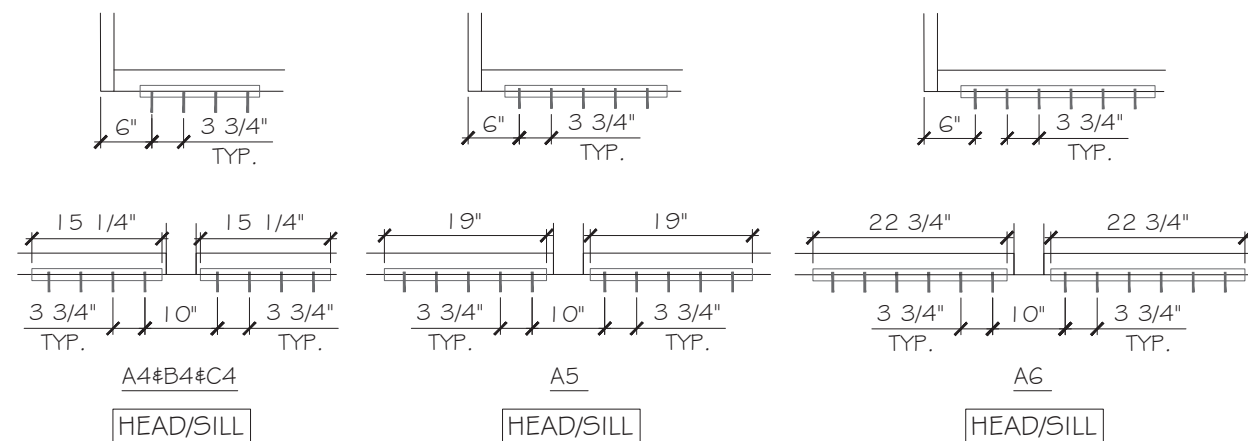
A4 = (4) ANCHORS TYPE 'A' AT JAMB OR EACH SIDE OF MULLION

B4 = (4) ANCHORS TYPE 'B' AT JAMB OR EACH SIDE OF MULLION

C4 = (4) ANCHORS TYPE 'C' AT JAMB OR EACH SIDE OF MULLION

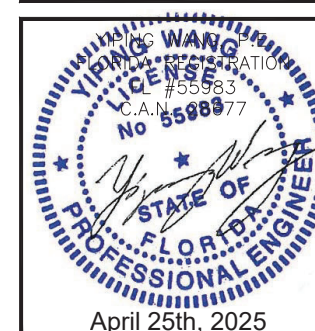
A5 = (5) ANCHORS TYPE 'A' AT JAMB OR EACH SIDE OF MULLION

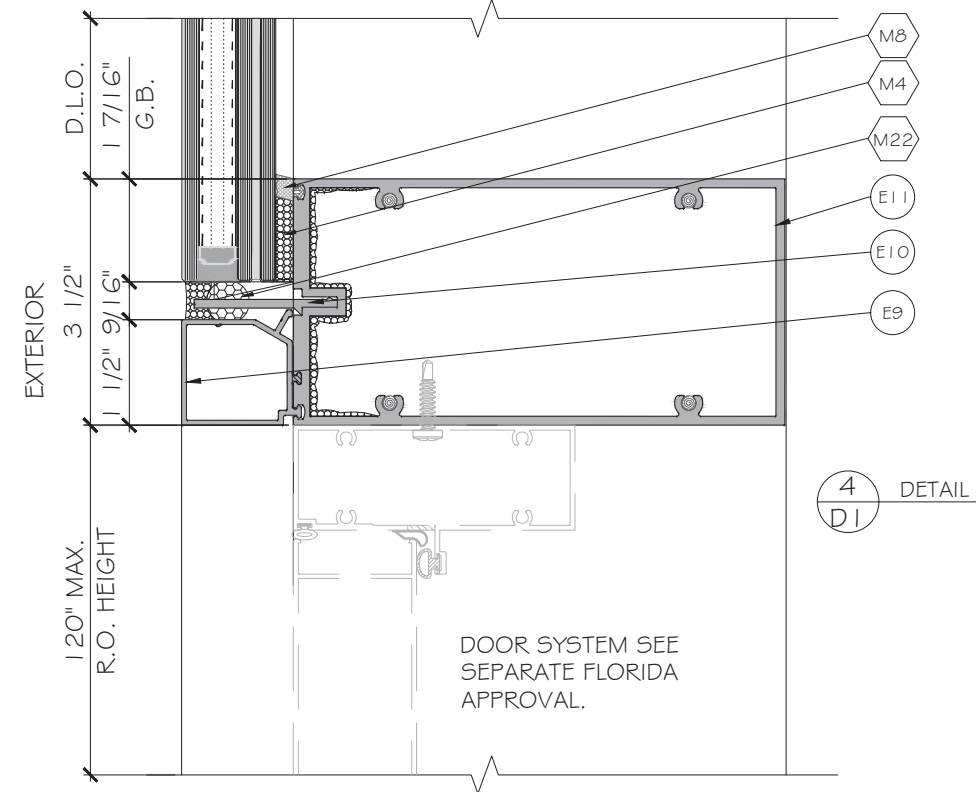
A6 = (6) ANCHORS TYPE 'A' AT JAMB OR EACH SIDE OF MULLION



OPTION WITH LARGER ANCHOR SPACING.

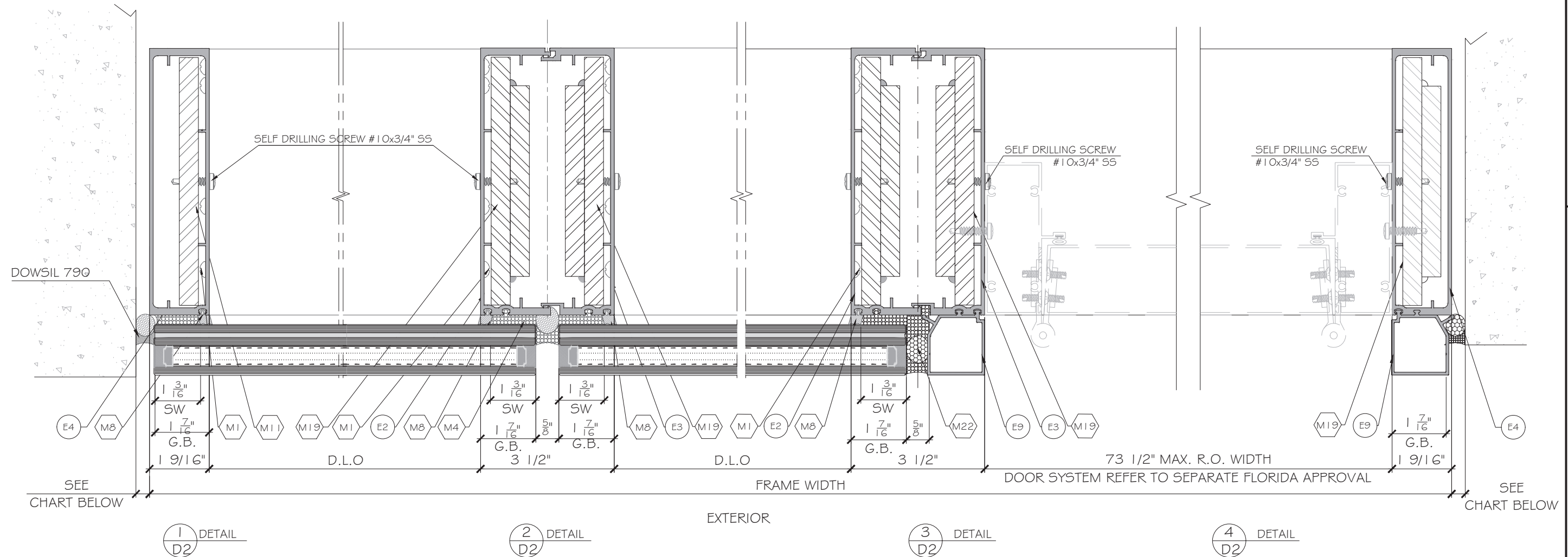
FLORIDA APPROVAL:
FL44620.3





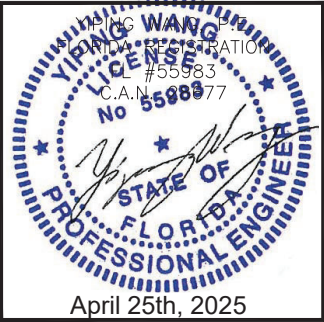
YIPANG WANG
 PROFESSIONAL ENGINEER
 LICENSE REGISTRATION
 #555983
 C.A.N. 00077
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 April 25th, 2025

 MCY ENGINEERING, INC. GLAZING CONSULTANTS 12781 MIRAMAR PARKWAY #301 MIRAMAR, FL. 33027 P: 305.271.0117 www.MCYEngineering.com mcy@mcyengineering.com		SERIES ES-WW8860i ALUMINUM WINDOW WALL-L.M.I.	
		E.S. WINDOWS, INC. 10653 NE Quaybridge Ct, Miami, FL 33138 TEL. (305) 624-7775	
RO	04.22.2025	James	NEW APPLICATION
Rev. No.	Date	Drawn By	Description
Drawn Date 04.22.2025		Scale AS SHOWN	
DRAWING NO. AD25-30			
D1			
Sheet No. 05 OF 09			



FRAME HEIGHT FH(in)	MIN. GAP (in)	MAX. GAP (in)
120	3/8"	3/4"
144	1/2"	3/4"
168	5/8"	3/4"
210	5/8"	3/4"

FLORIDA APPROVAL:
FL44620.3



MCY ENGINEERING, INC.
GLAZING CONSULTANTS
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MIRAMAR, FL 33027
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SERIES ES-WW8601 ALUMINUM WINDOW WALL-L.M.I.

E.S. WINDOWS, INC.
10653 NE Quaybridge Ct. Miami, FL 33138
TEL: (305) 624-7775

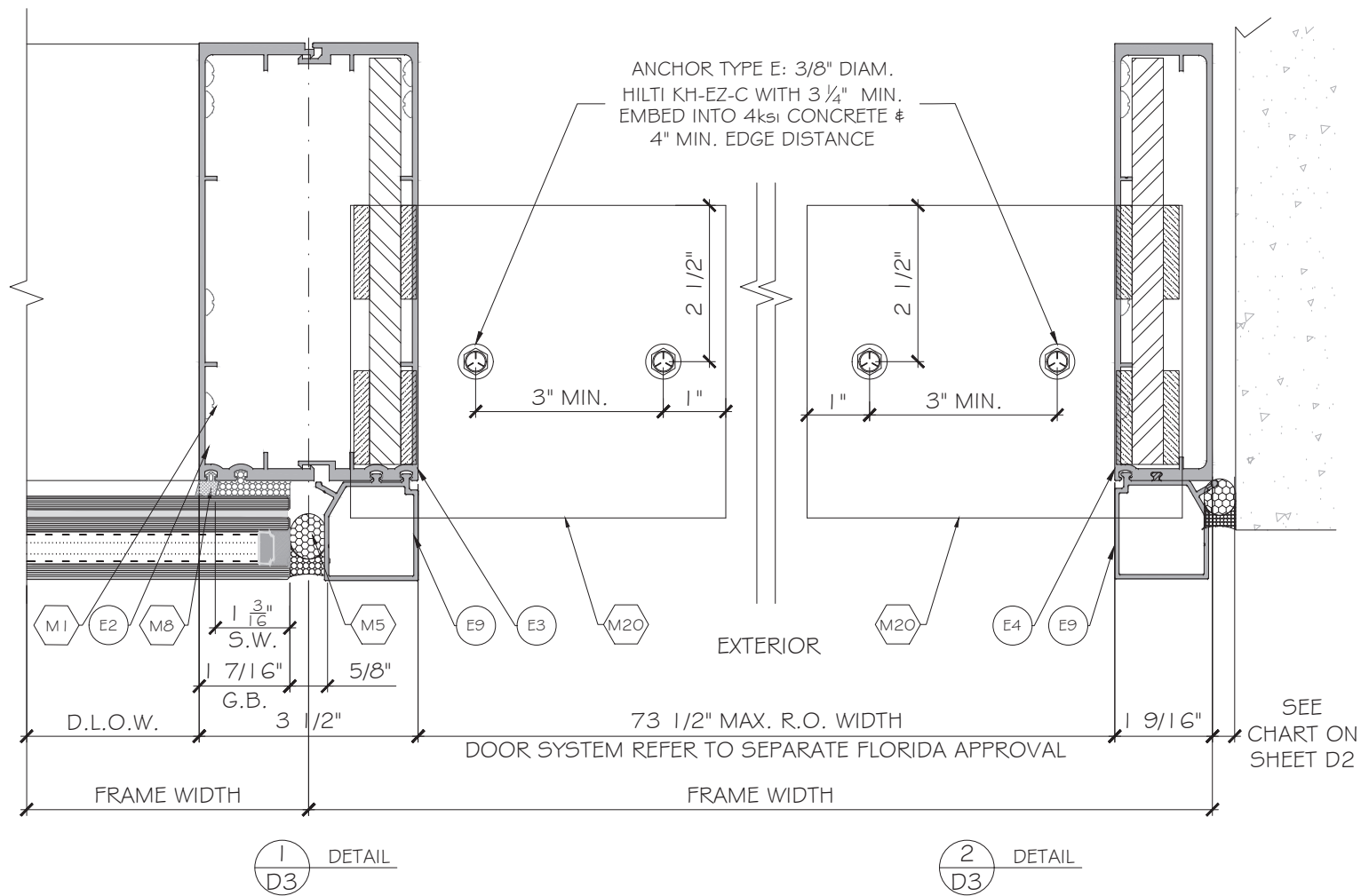
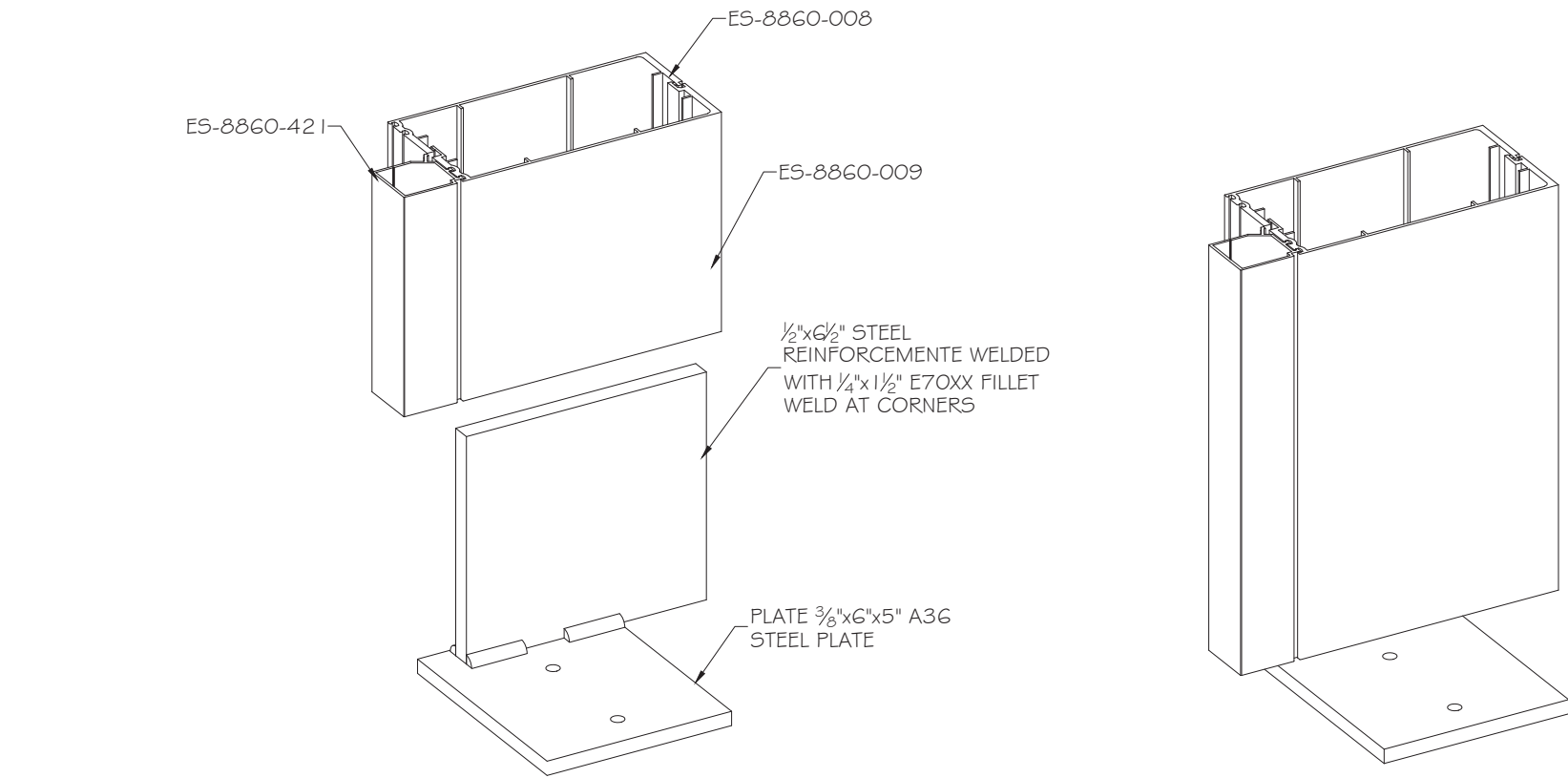
Rev. No.	Date	Drawn By	Description
RO	04.22.2025	James	NEW APPLICATION

Drawn Date: 04.22.2025

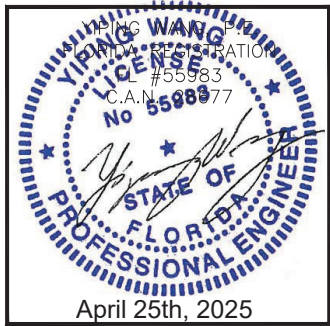
Scale: AS SHOWN

DRAWING NO. AD25-30

Sheet No. 06 OF 09



FLORIDA APPROVAL:
FL44620.3

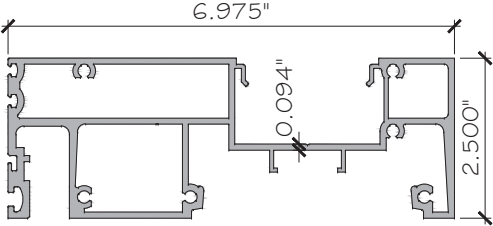


SERIES ES-WW860i ALUMINUM WINDOW WALL-L.M.I.

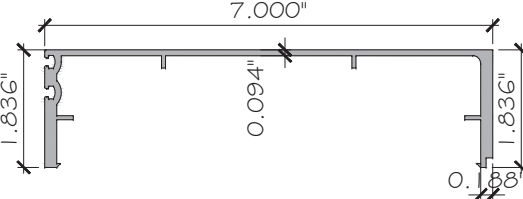
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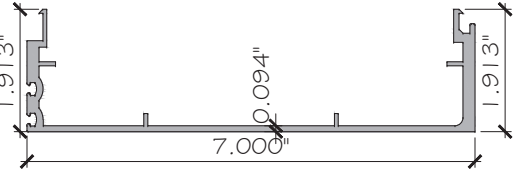
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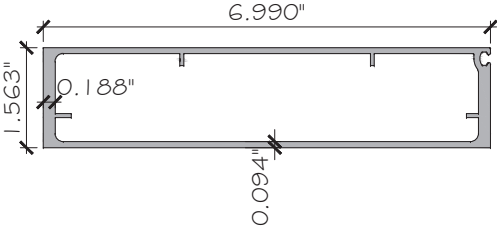
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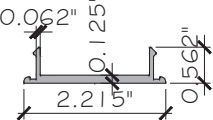
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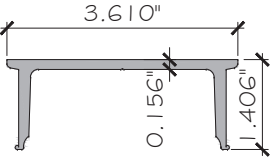
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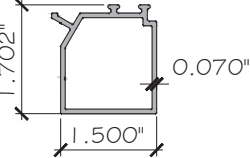
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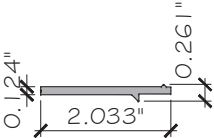
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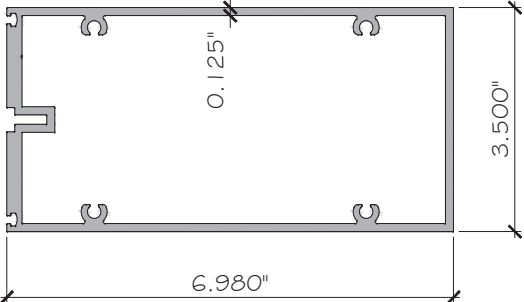
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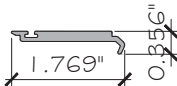
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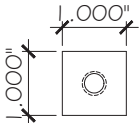
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6" L.G. FOR MAX. GLASS AREA



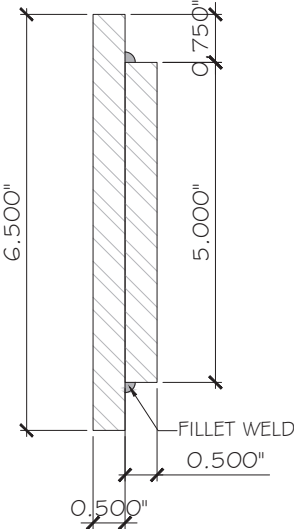
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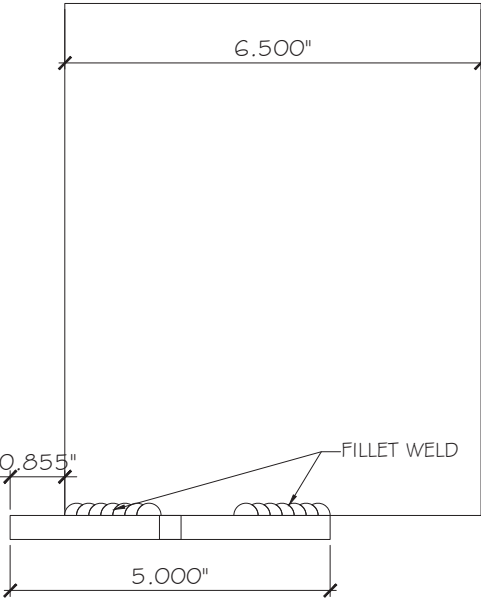
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E8 SILL LEVELER
ALU-P-020 6063-T6



M19 1/2" X 6 1/2" + 1/2" X 5" A36
REINFORCEMENT FOR VERTICAL STEEL A36



M20 3/8"X6"X5" + 1/2"X6 1/2"
STEEL ANCHOR PLATE
STEEL A36

MCY

ENGINEERING, INC.

GLAZING CONSULTANTS

12781 MIRAMAR PARKWAY #301
MIRAMAR, FL 33027 P: 305.271.0117
www.MCYEngineering.com mcy@mcyengineering.com

SERIES ES-WW8860: ALUMINUM WINDOW WALL-L.M.I.

E.S. WINDOWS, INC.
10653 NE Quaybridge Ct. Miami, FL 33138
TEL. (305) 624-7775

Rev. No.	Date	Drawn By	Description
RO	04.22.2025	James	NEW APPLICATION

Drawn Date
04.22.2025

Scale
AS SHOWN

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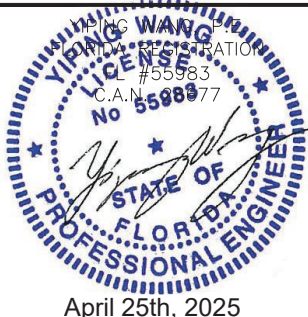
AD25-30

PART1

Sheet No.

08 OF 09

FLORIDA APPROVAL:
FL44620.3



YIPANG WANG
PROFESSIONAL ENGINEER
STATE OF FLORIDA
LICENSE #55983
C.A.N. #77

April 25th, 2025

