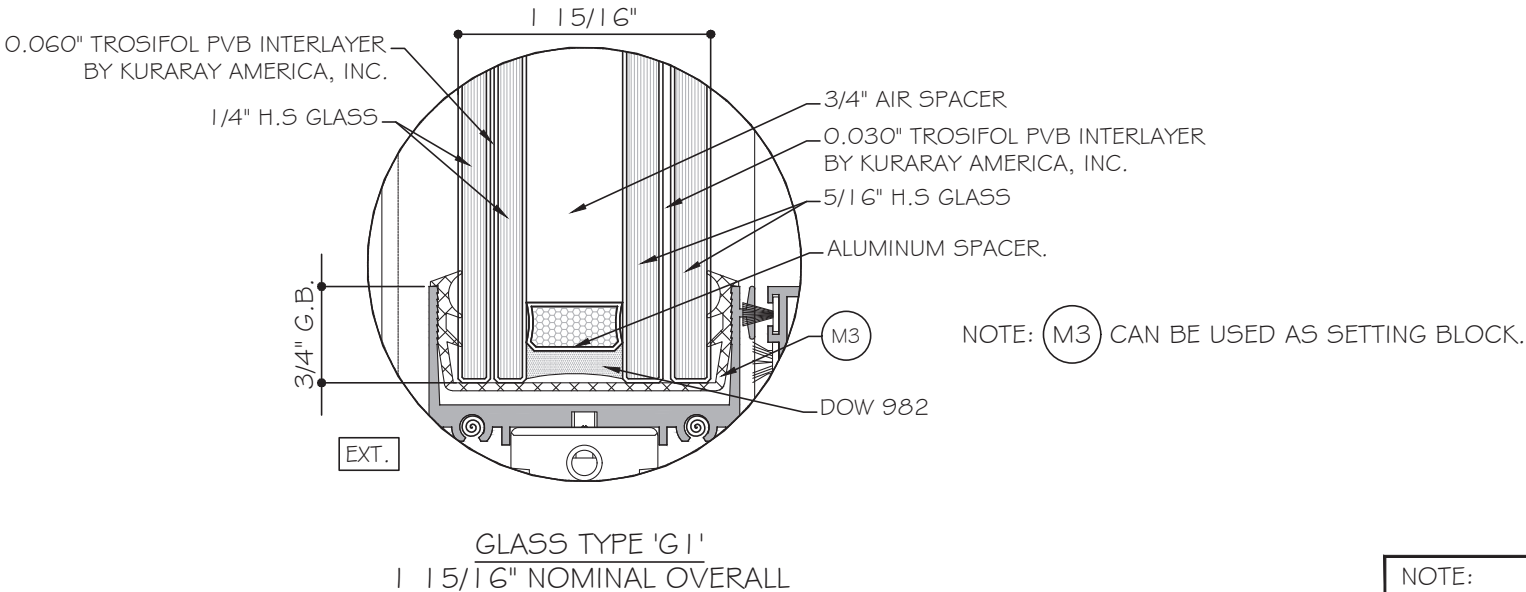


ES WINDOWS, INC.
SERIES PH3500 SLIDING GLASS DOOR
SMALL MISSILE IMPACT (S.M.I.)



GENERAL NOTES:

- THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 7TH EDITION (2020)/ FLORIDA BUILDING CODE 8TH EDITION (2023) INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
- SLIDING DOORS ARE RATED FOR SMALL MISSILE IMPACT. IMPACT SHUTTERS ARE NOT REQUIRED WHEN USED ABOVE 30FT OF GRADE.
- THESE SLIDING DOORS 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 7TH EDITION (2020)/ FLORIDA BUILDING CODE 8TH EDITION (2023) SECTION AS APPLICABLE.
- WOOD BUCKS OR METAL STRUCTURES NOT BY ES WINDOWS, INC. DESIGNED TO SUPPORT THE LOADS IMPOSED BY THIS GLAZING SYSTEM AND TO TRANSFER SUCH LOADS TO THE BUILDING MAIN STRUCTURE.
- THE DESIGN LOADS SHOWN IN THIS DOCUMENT ARE ALLOWABLE DESIGN LOADS. ULTIMATE LOAD OBTAINED FROM ASCE 7-16/ ASCE 7-22, MULTIPLY BY 0.6 SHALL BE LESS THAN OR EQUAL TO MAX. DESIGN LOAD IN THIS DOCUMENT.
- 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.

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

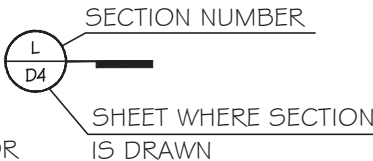
- STEP 1 DETERMINE DESIGN WIND LOAD REQUIREMENT BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7-16 / ASCE 7-22 STANDARD OR WIND TUNNEL REPORTS.
- STEP 2 SEE SHEET E1 FOR DOOR SIZE AND DESIGN LOAD. SEE SHEET A1 TO A3 FOR TYPICAL ANCHOR TYPES.
- STEP 3 THE LOWEST VALUE RESULTING FROM STEPS 2 SHALL APPLY TO ENTIRE SYSTEM.

-SEALANTS:

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

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
SGD - SLIDING GLASS DOOR
H.R. - HEAD RECEPTOR
AVE. - AVERAGE
G.B. - GLASS BITE



NOTE:

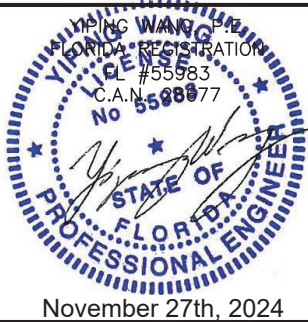
GLASS COMPLIES WITH ASTM E1300-09 (3 SEC. GUSTS).

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.

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SERIES PH3500 SLIDING GLASS DOOR (S.M.I.)

ES 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

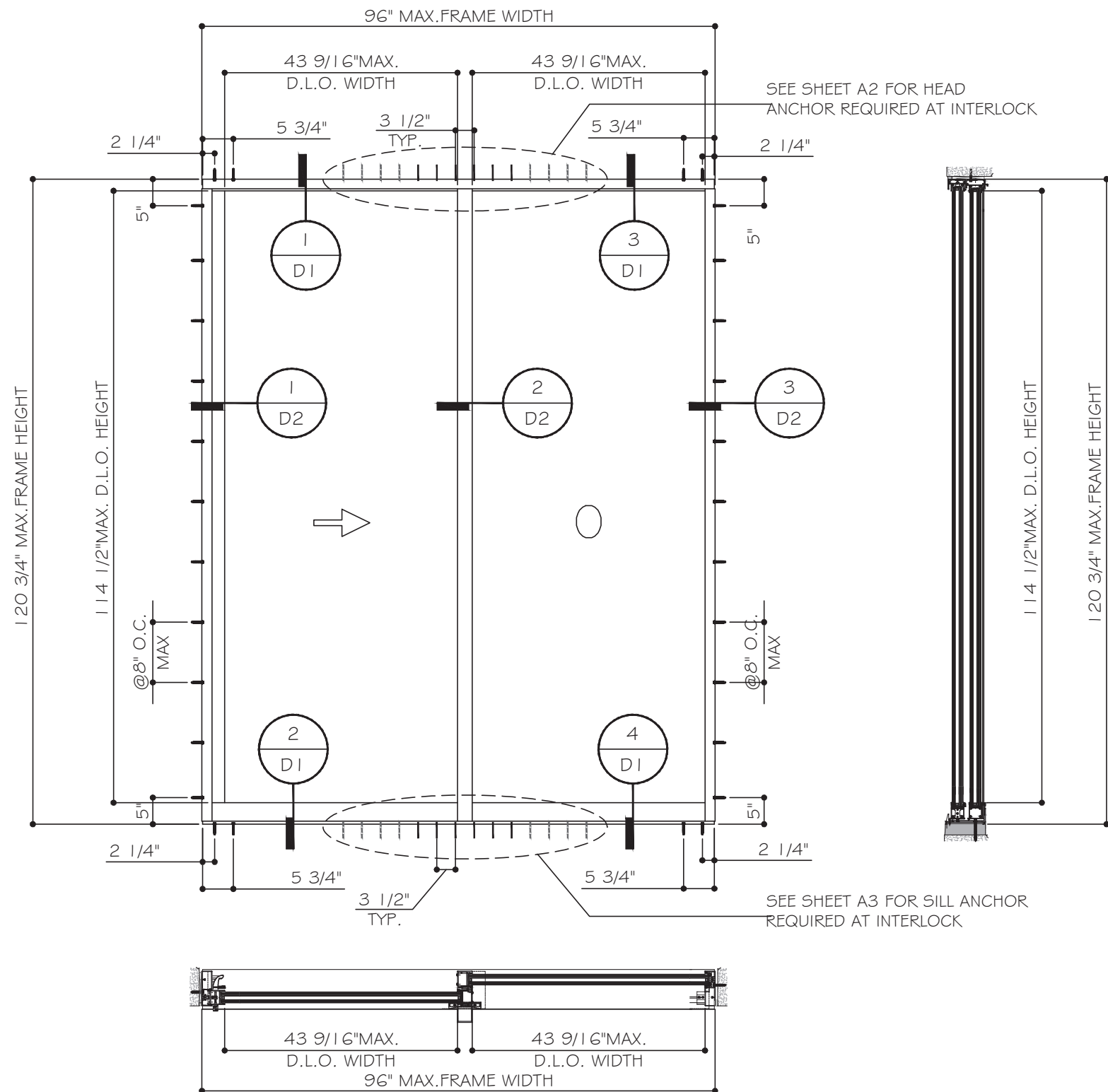
mcy@mcyengineering.com

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Drawing No. AD23-21

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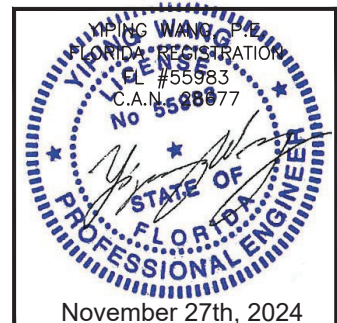


TYPICAL EXTERIOR ELEVATIONS

XO (SHOWN) OR OX (OPTION)

DESIGN LOAD (PSF)	
FOR SIZE SHOWN ABOVE OR SMALLER AS PERMITTED BY FBC	
+90	-150

FLORIDA APPROVAL:
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TEL. (305) 624-7775

Rev. No.	Date	Drawn By	Description
1	08/19/2023	James	NEW APPLICATION

Drawn Date
07/13/2023

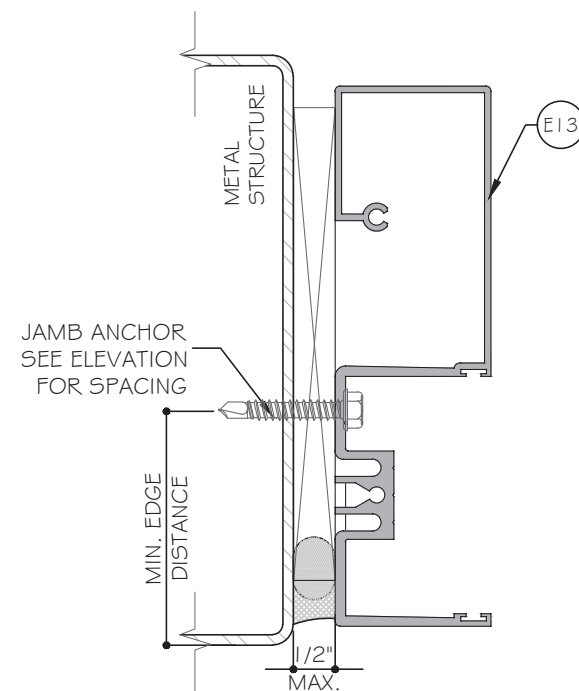
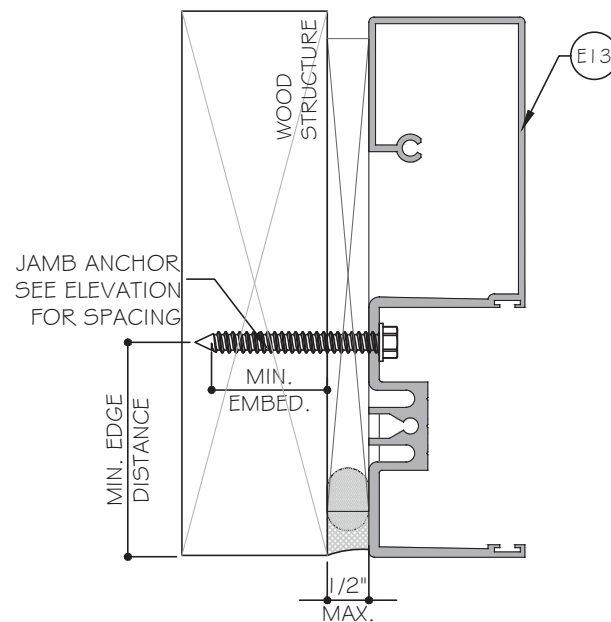
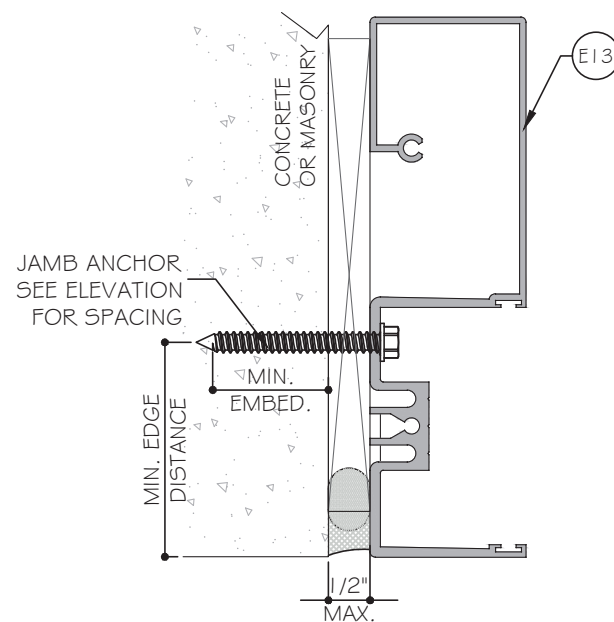
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NOTE:
WOOD BUCKS & METAL STRUCTURES BY OTHERS
MUST BE PROPERLY SECURED TO SUPPORT LOADS
IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM
TO THE BUILDING STRUCTURES.

JAMB ANCHOR TYPES: (SEE ELEVATION FOR SPACING)

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

THRU 1 BY BUCKS INTO CONCRETE OR BLOCKS
1 3/4" MIN. EMBED INTO CONCRETE
1 3/4" MIN. EMBED IN TO BLOCKS

TYPE 'B' -- 1/4" DIA. ULTRACON+ BY 'DEWALT' (F_u=164 KSI, F_y=148 KSI)
 DIRECTLY INTO CONCRETE OR BLOCKS
 1 3/4" MIN. EMBED IN TO CONCRETE
 1 3/4" MIN. EMBED IN TO BLOCKS

TYPE 'C' -- #14 TEKS SELF-DRILLING SCREWS: (GRADE 5 CRS, $F_u=120\text{ksi}$, $F_y=90\text{ksi}$)

INTO FBC APPROVED MULLIONS, 1/8" THK. MIN. (6063-T5 MIN.)
OR INTO METAL STRUCTURES, STEEL: 12GA. MIN. (F_y = 36 ksi MIN.)
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCE
 INTO CONCRETE = 2-1/2" MIN.
 INTO METAL STRUCTURE = 3/4" MIN.
 INTO WOOD STRUCTURE = 1" MIN.

WOOD SG = 0.55 MIN.
CONCRETE f'_c = 3 ksi MIN.
C-90 HOLLOW/ FILLED BLOCK f'_m = 2000 PSI MIN.

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ES WINDOWS, INC.

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Rev. No.	Date	Drawn By	Description
1	06.19.2023	James	NEW APPLICATION

Drawn Date	Scale
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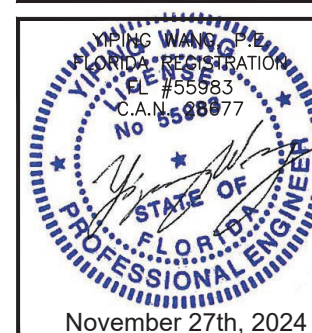
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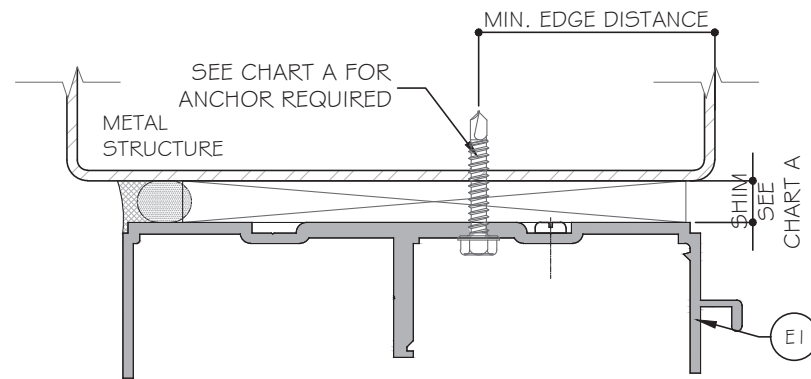
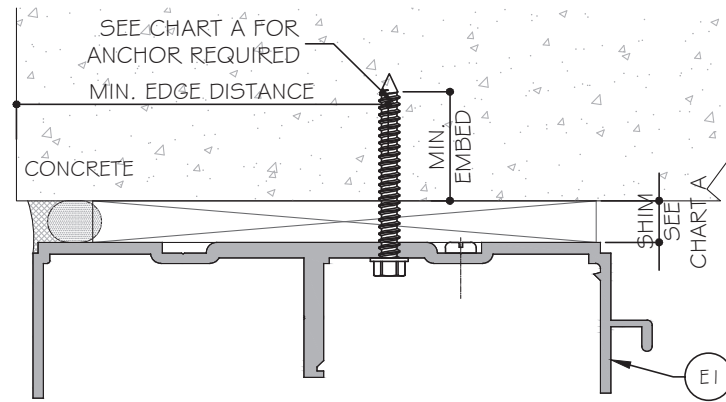
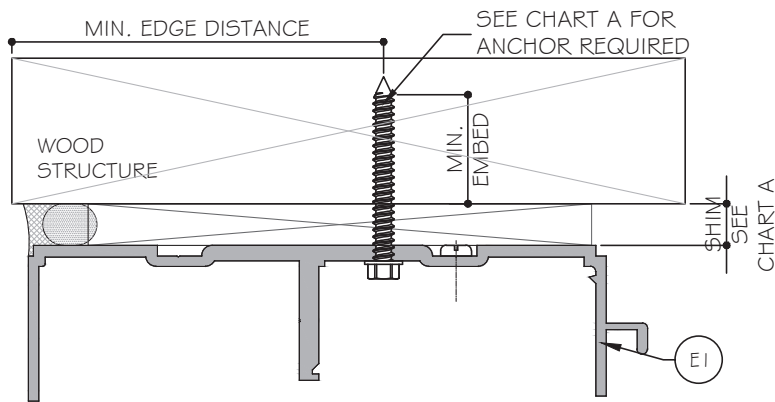
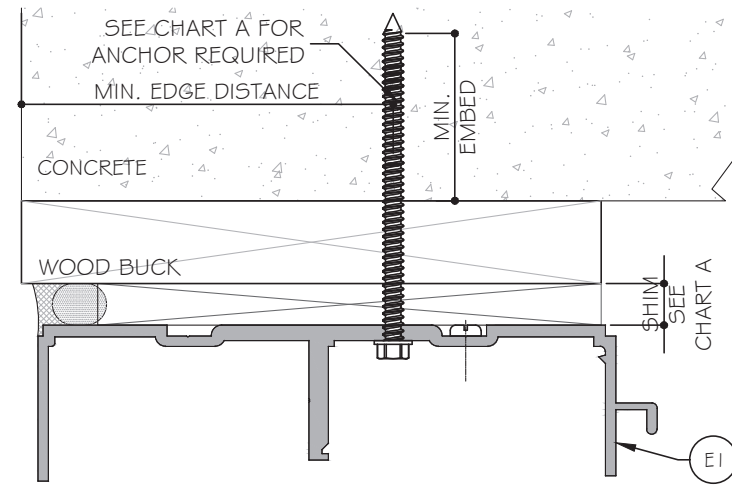


CHART A

HEAD ANCHOR CHART		
ANCHOR TYPE	MAX. SHIM	NUMBER OF ANCHOR REQ.
A	3/8"	14
B	1/4"	9
	3/8"	12
C	1/4"	6
	3/8"	12
BB	3/8"	7
	1/2"	8
CC	1/4"	6
	3/8"	7
	1/2"	8

NOTE:
WOOD BUCKS & METAL STRUCTURES BY OTHERS
MUST BE PROPERLY SECURED TO SUPPORT LOADS
IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM
TO THE BUILDING STRUCTURES.

HAHEAD ANCHOR TYPES: (SEE ELEVATION FOR SPACING)

TYPE 'A' -- 1/4" DIA. ULTRACON+ BY 'DEWALT' (F_u = 164 KSI, F_y = 148 KSI)
 INTO 2 BY WOOD BUCKS OR WOOD STRUCTURES.
 1 1/2" MIN. PENETRATION INTO WOOD. (SG = 0.55 MIN.)

THRU 1 BY WOOD BUCK INTO CONCRETE
1 3/4" MIN. EMBED INTO CONCRETE

TYPE 'B' -- 1/4" DIA. ULTRACON+ BY 'DEWALT' ($F_u = 164$ KSI, $F_y = 148$ KSI)
DIRECTLY INTO CONCRETE. ($f'_c = 3$ KSI MIN.)
 1 3/4" MIN. EMBED IN TO CONCRETE

TYPE 'C' -- #14 SELF-DRILLING SCREWS: (GRADE 5 CRS, $F_u = 120 \text{ ksi}$, $F_y = 92 \text{ ksi}$)
 INTO FBC APPROVED MULLIONS, 3/16" THK. MIN. (6063-T5 MIN.)
 OR INTO METAL STRUCTURES, STEEL: 1/8" THK. MIN. ($F_y = 36 \text{ ksi}$ MIN.)
 (3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPE 'BB' -- 5/16" DIA. ULTRACON BY 'DEWALT' ($F_u = 177$ KSI, $F_y = 155$ KSI)
DIRECTLY INTO $f_c' = 4$ KSI MIN. CONCRETE.
WITH 2" MIN. EMBED.

TYPE 'CC' -- 5/16" DIA. SELF DRILLING SCREW (GRADE 5 CRS, F_u=120ksi, F_y=92 ksi)
 INTO FBC APPROVED MULLIONS, 3/16" THK. MIN.(6063-T5 MIN.)
 OR INTO METAL STRUCTURES, STEEL: 1/8" THK. MIN. (A36 MIN.)
 (3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCE
 INTO CONCRETE = 2-1/2" MIN.
 INTO METAL STRUCTURE = 3/4" MIN.
 INTO WOOD STRUCTURE = 1" MIN.

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MIRAMAR, FL 33027 P: 305.271.0117

www.MCYEngineering.com mcy@mcysengineering.com

SERIES PH3500 SLIDING GLASS DOOR (S.M.I.)

ES WINDOWS, INC.

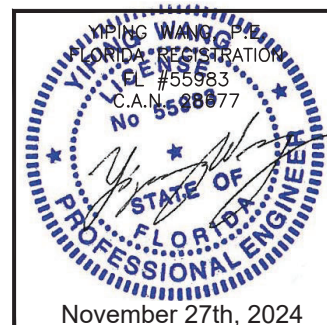
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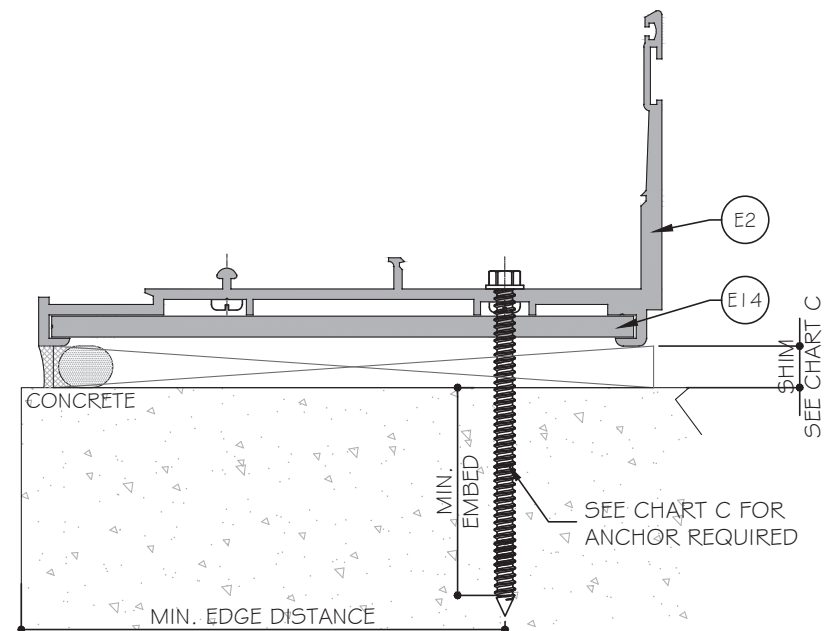
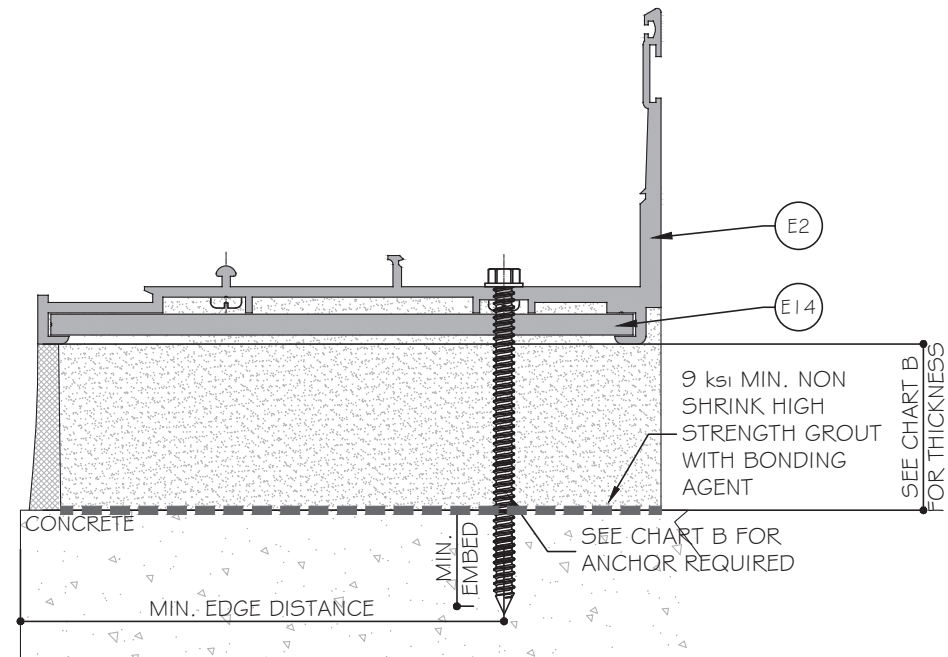
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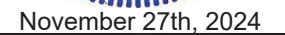
TYPE 'BB' -- 5/16" DIA. ULTRACON BY 'DEWALT' ($F_u = 177 \text{ KSI}$, $F_y = 155 \text{ KSI}$)
DIRECTLY INTO CONCRETE. ($f'_c = 4 \text{ KSI}$ MIN.)
WITH 2" MIN. EMBED.
2 1/2" MIN. EDGE DISTANCE.

SILL ANCHOR CHART		
ANCHOR TYPE	GROUT THICKNESS	NUMBER OF ANCHOR REQ.
B	1"	9
	1 1/2"	10
	2"	10
BB	1"	8
	1 1/2"	8
	2"	9

SILL ANCHOR CHART		
ANCHOR TYPE	SHIM SPACING	NUMBER OF ANCHOR REQ.
B	1/4"	8
	3/8"	12
BB	1/4"	7
	3/8"	7
	1/2"	8



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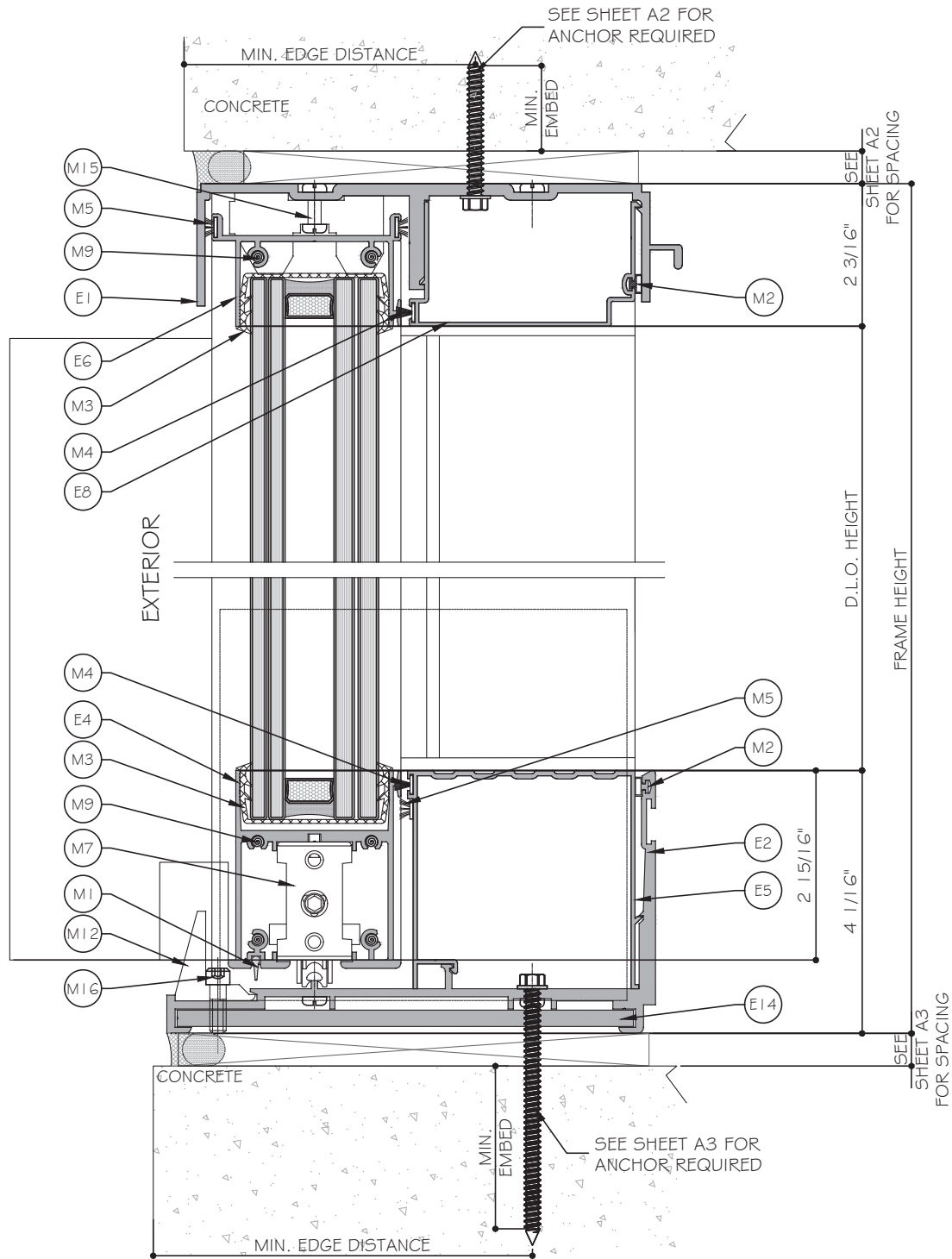
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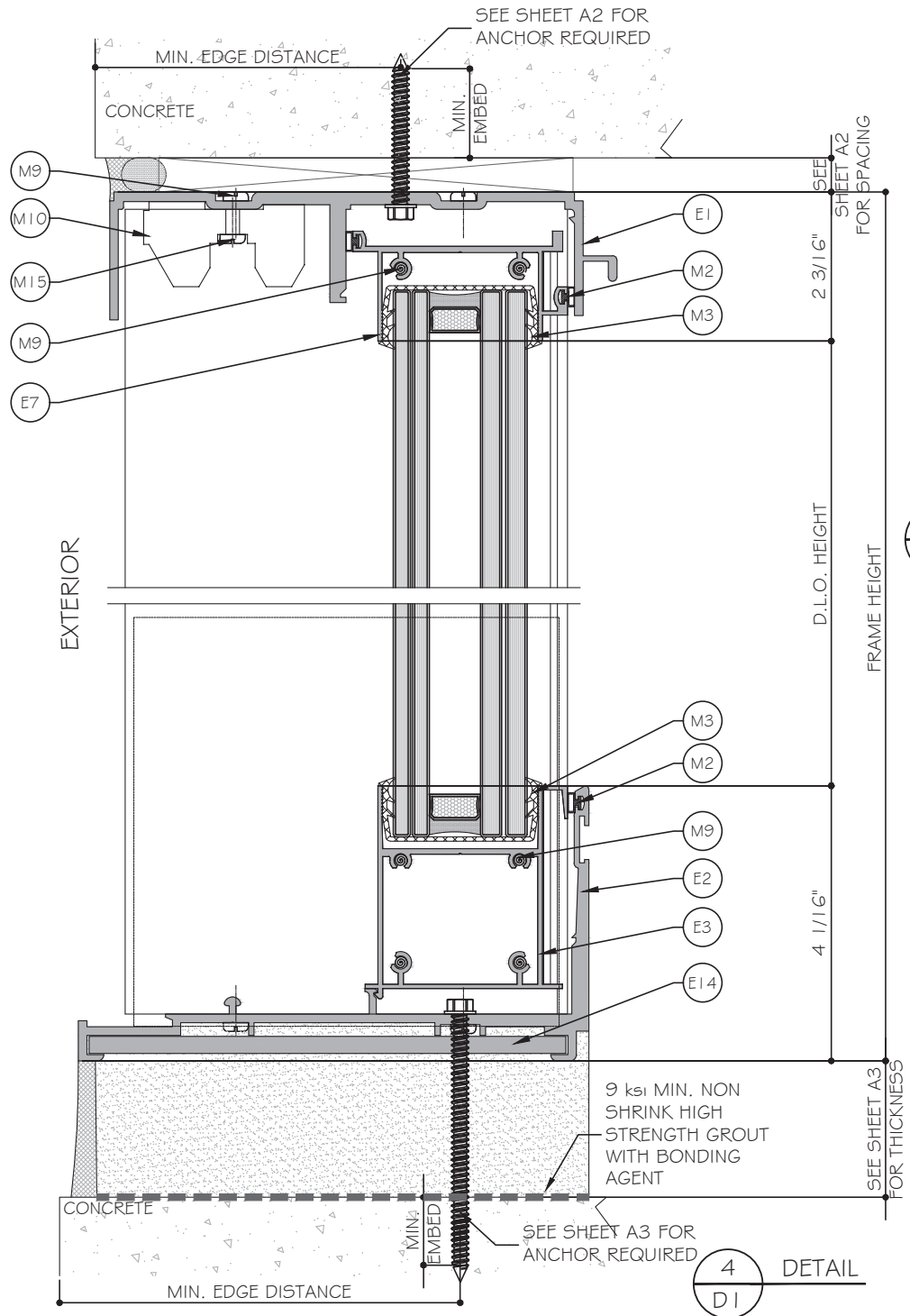


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DETAIL



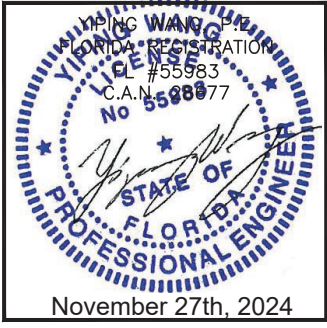
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DETAIL

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DETAIL

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SERIES PH3500 SLIDING GLASS DOOR (S.M.I.)

ES WINDOWS, INC.
10653 NE Quaybridge Ct.
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TEL: (305) 624-7775

Rev. No.	Date	Drawn By	Description
1	06/19/2023	James	NEW APPLICATION

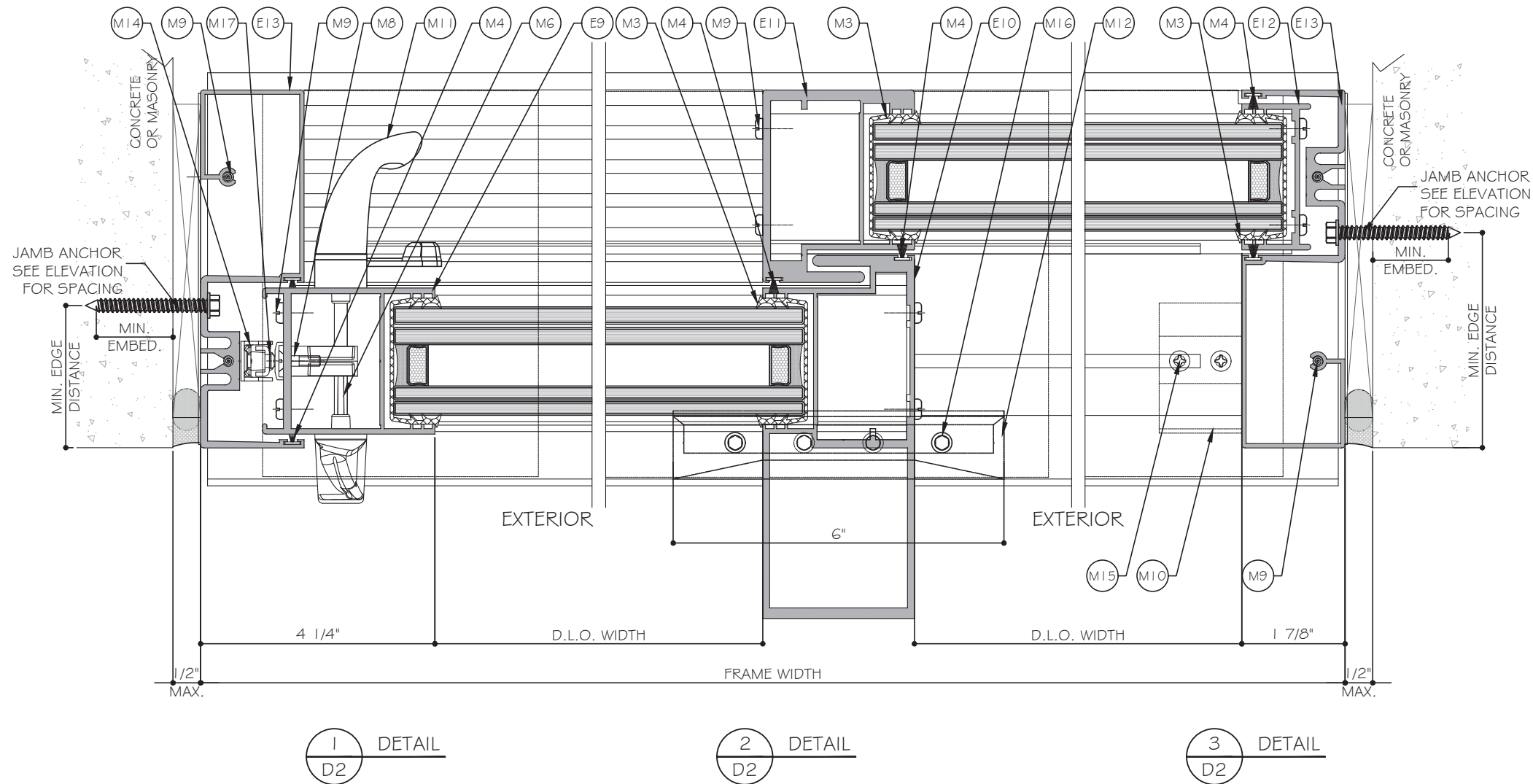
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Sheet No.
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FLORIDA APPROVAL:
FL 42347.1

Professional Engineer Seal for YIPING WANG, State of Florida, License No. 55983, C.A.N. 28877. Date: November 27th, 2024.

MCY ENGINEERING, INC.
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12781 MIRAMAR PARKWAY #301
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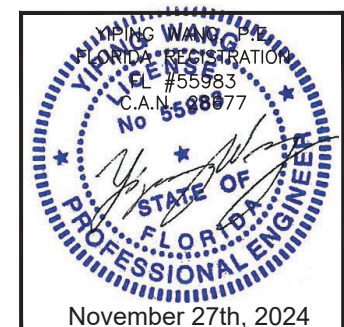
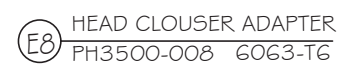
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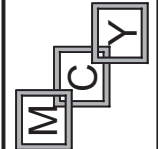
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MIRAMAR, FL. 33027

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BILL OF MATERIALS				
ITEM	PART	DESCRIPTION	MATERIAL	MANUF.
E1	PH-3500-001	FRAME HEAD	6005-T5	ES WINDOWS
E2	PH-3500-002	FRAME SILL	6005-T5	ES WINDOWS
E3	PH-3500-003	INSIDE FIXED BOTTOM RAIL	6005-T5	ES WINDOWS
E4	PH-3500-004	OUTSIDE BOTTOM RAIL	6005-T5	ES WINDOWS
E5	PH-3500-005	THRESHOLD	6005-T5	ES WINDOWS
E6	PH-3500-006	OUTSIDE BOTTOM RAIL	6063-T6	ES WINDOWS
E7	PH-3500-007	FIXED INSIDE TOP RAIL	6063-T6	ES WINDOWS
E8	PH-3500-008	HEAD CLOSER ADAPTOR	6063-T6	ES WINDOWS
E9	PH-3500-009	LOCKSTILE	6063-T6	ES WINDOWS
E10	PH-3500-010	HEAVY INTERLOCK	6005-T5	ES WINDOWS
E11	PH-3500-011	INTERLOCK	6005-T5	ES WINDOWS
E12	PH-3500-012	FIXED STILE	6063-T6	ES WINDOWS
E13	PH-3500-013	FRAME JAMB	6063-T6	ES WINDOWS
E14	PH-3500-014	SILL TRACK PLATE	6061-T6	ES WINDOWS
M1	V-019	DRIP SILL VINYL OUTER PANEL EDGE	POLYVINYL CHLORIDE	-
M2	V-026	BULD GASKET	POLYVINYL CHLORIDE	-
M3	PH3400-G01	GLAZING GASKET	EPDM DURO 70 SHORE A	-
M4	W73285NK	WEATHER STRIPPING	POLYPROPYLENE	-
M5	W31245NK	WEATHER STRIPPING	POLYPROPYLENE	-
M6	PS01-1020	MORTISE TWO POINT LOCK 30 MM, FIXED WITH (2) #10X1" FH SMS	ZINC DIE CAST	-
M7	GTT 354/460A	TANDEM NYLON WHEEL, FIXED WITH (1) #10-32 X 1 1/2" FH MS	NYLON	-
M8	-	#10X1" FH SCREW FOR LOCK	STAINLESS STEEL	-
M9	-	#12X1" PH SCREW FOR ASSEMBLY	STAINLESS STEEL	-
M10	P-047	BUMPER	POLYVINYL CHLORIDE	-
M11	PS01-0014-FINISH	HARDWARE KIT	ALUMINUM	-
M12	PS01-5001-FINISH	SILL TRACK 6" LG.	ALUMINUM	-
M13	NOT USED			-
M14	PS01-0060-00B	TWO POINT STRIKE, FIXED WITH (2) #8X3/4" PH SMS	STAINLESS STEEL	-
M15	-	#10X5/8" PH SCREW FOR BUMPER	STAINLESS STEEL	-
M16	-	(4) 1/4"-20X3/4" SH FOR SILL TRACK	STAINLESS STEEL	-
M17	-	#8X3/4" PH SCREW FOR STRIKE	STAINLESS STEEL	-

FLORIDA APPROVAL:

FL 42347.1

YIPING WANG

FLORIDA REGISTRATION

CL #55983

C.A.N. 08877

07/13/2023

James

AS SHOWN

Drawn Date

Scale

Drawn By

Date

Rev. No.

Description

Drawn Date

Scale

Drawn By

Date

Rev. No.

Description

Drawn Date

Scale

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