

ES.WINDOWS
EL-400 SLIDING GLASS DOOR SYSTEM
LARGE MISSILE IMPACT

GENERAL NOTES:

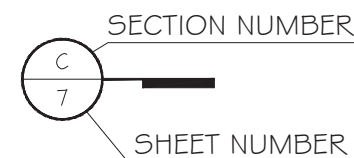
- THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 8TH EDITION OF FLORIDA BUILDING CODE 2023 INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
- SLIDING DOORS ARE RATED FOR LARGE MISSILE IMPACT.
IMPACT SHUTTERS ARE NOT REQUIRED.
- SLIDING DOORS ARE APPROVED FOR AIR AND WATER 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 8TH EDITION OF 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.
- DOOR HEIGHT AND WIDTH SIZE MUST COMPLY EGRESS REQUIREMENTS PER FBC AS REQUIRED.
- SEALANT:
ALL FRAME CORNERS, JOINTS, MULLION SEAMS AND PERIMETER GLAZING BEAD TO FRAME INSTALLATION FASTENERS SEALED WITH SILICONE 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 TO E3 FOR APPROVED TYPICAL ELEVATION Φ AND DESIGN LOAD. SEE SHEET COVER FOR GLASS OPTION. SEE SHEET E4 TO E15 FOR CONFIGURATIONS.
- STEP 3: ANCHOR OPTION SEE SHEET A1 TO A3. ANCHOR SPACING SEE SHEET E1 TO E3.
- STEP 4: THE LOWEST VALUE RESULTING FROM STEPS 2 & 3 THAT EXCEED THE DESIGN WIND PRESSURES DETERMINED THRU STEP 1 SHALL APPLY TO ENTIRE SYSTEM.

ABBREVIATIONS AND SYMBOLS

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

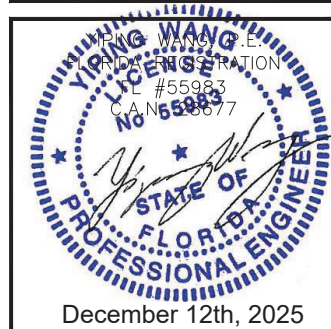


LIMITATIONS OF USE

- 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 BE THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

FLORIDA APPROVAL:

FL47760



EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

E.S.WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL. (305) 624-7775

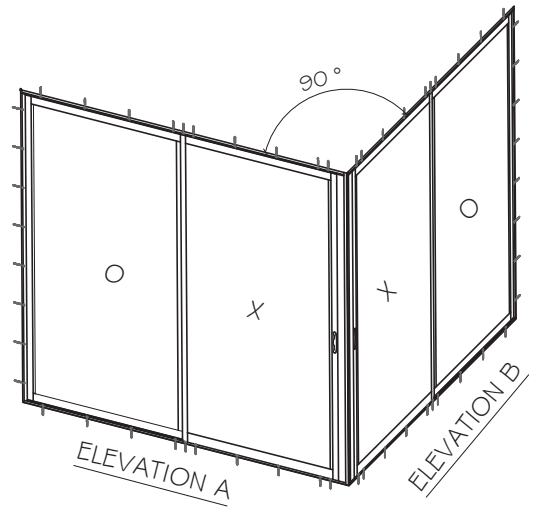
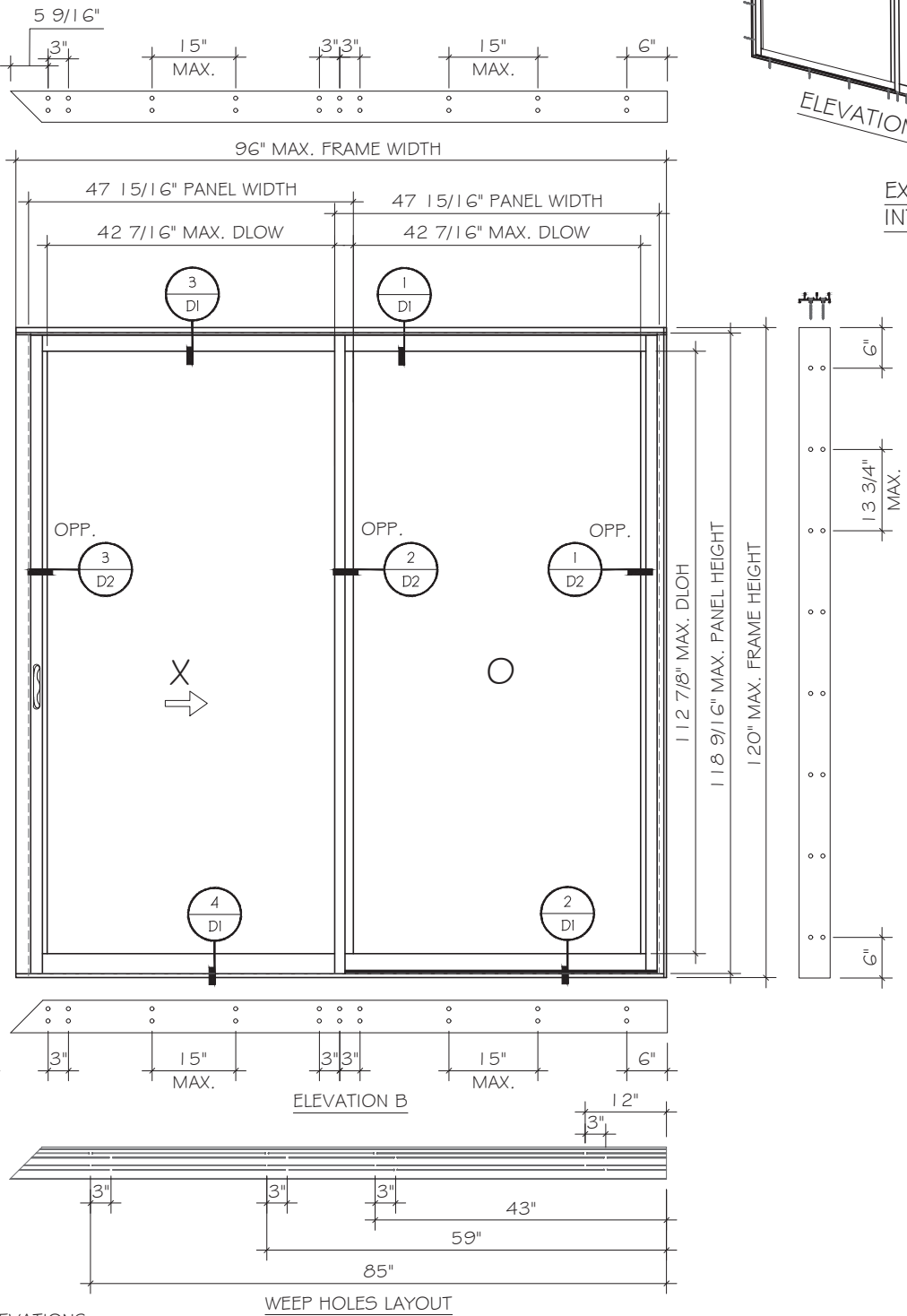
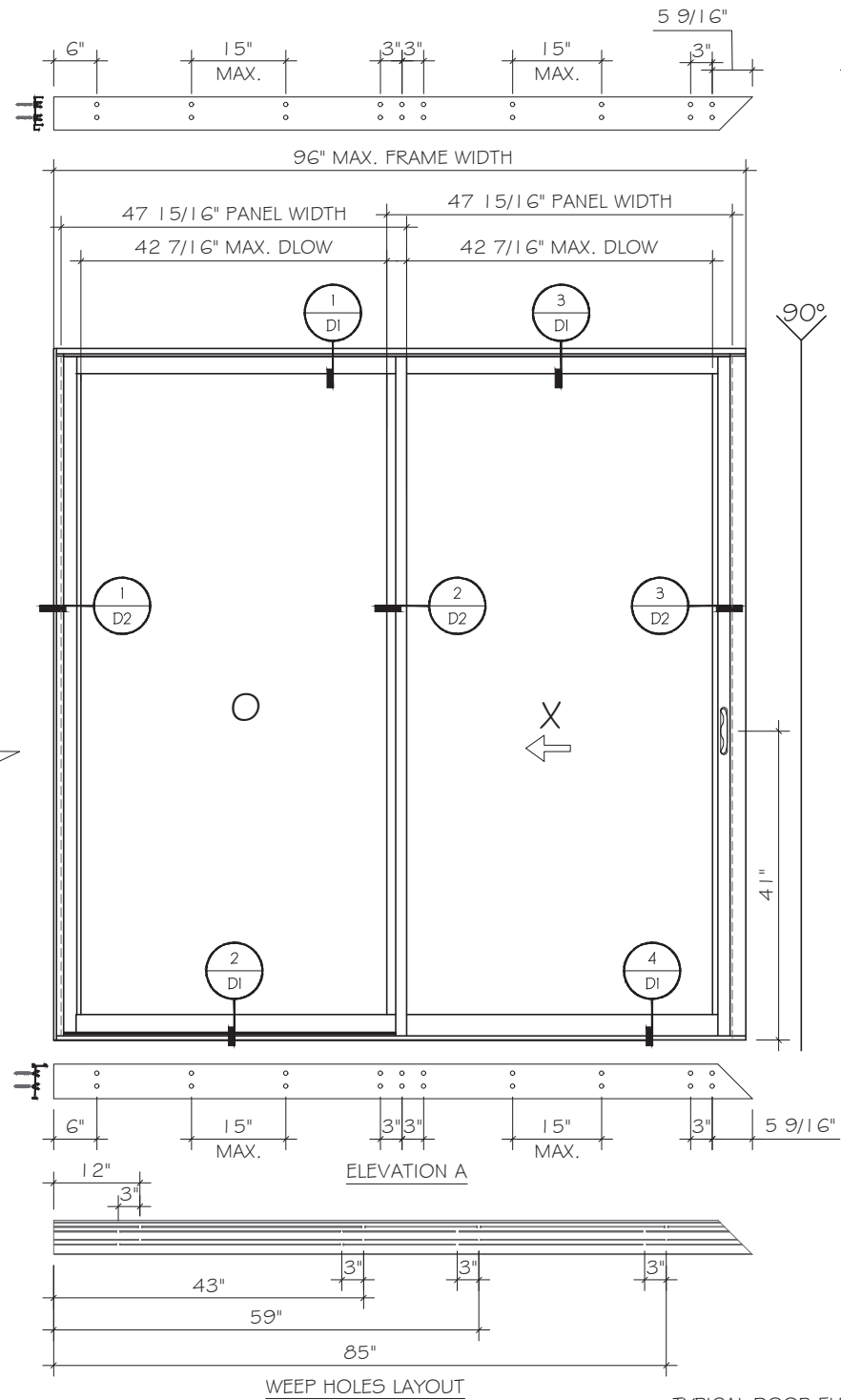
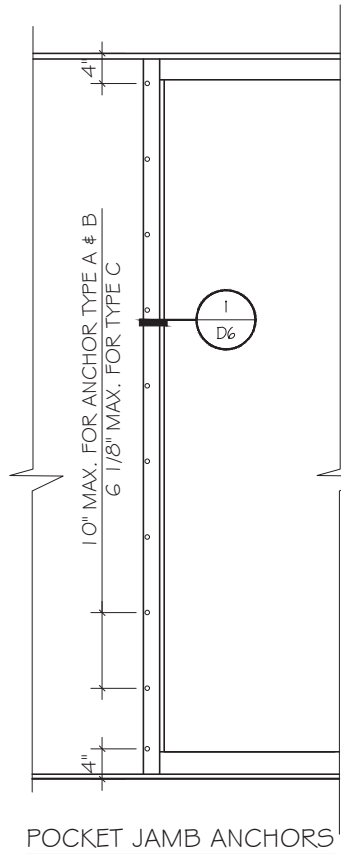


MCY ENGINEERING, INC.
GLAZING CONSULTANTS

12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5222

www.MCYEngineering.com mcy@mcyengineering.com

[illegible]



EXTERNAL CORNER AS SHOWN
INTERNAL CORNER AS OPTION

TYPICAL DOOR ELEVATIONS
SEE SHEET G1 FOR DOOR CAPACITY
D.L.O. W = PANEL WIDTH - 5 1/2"
D.L.O. H = FRAME HEIGHT - 7 1/8"

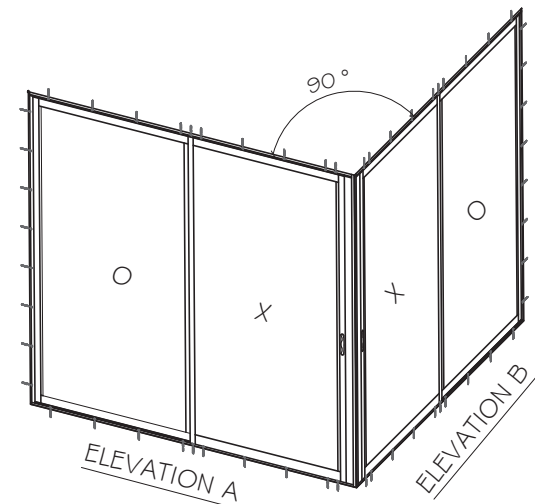
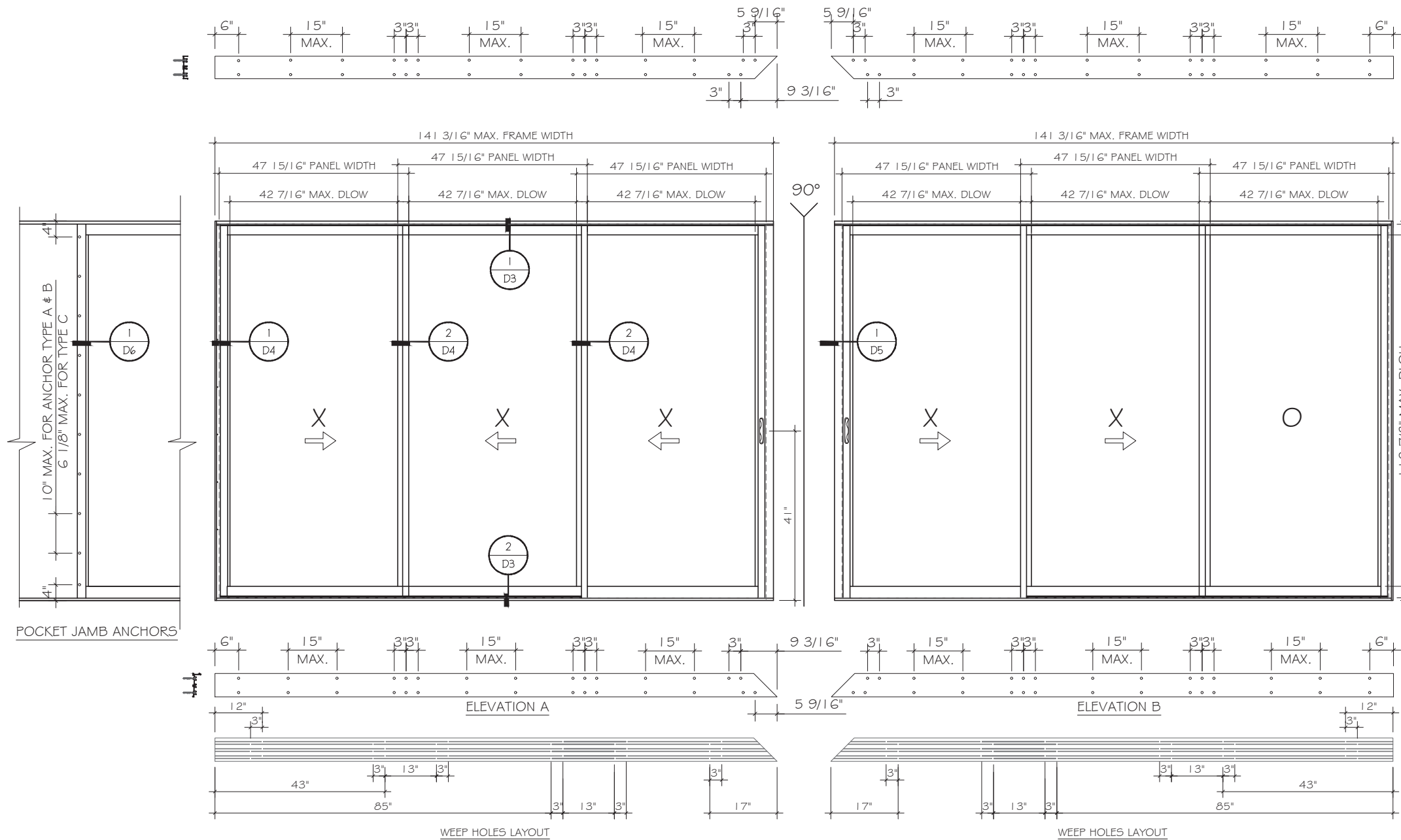
FLORIDA APPROVAL:
FL47760

December 12th, 2025

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT			
E.S. WINDOWS, INC. 10653 NE QUAYBRIDGE CT. MIAMI, FL 33138 TEL. (305) 624-7775			
R1	12.05.2025	JAMES	NEW APPLICATION
	12.05.2025	JAMES	Drawn By
Rev. No.	Date	By	Description
Scale AS SHOWN			
DRAWING NO. AD25-34			
E1			
Sheet No. 2 OF 30			

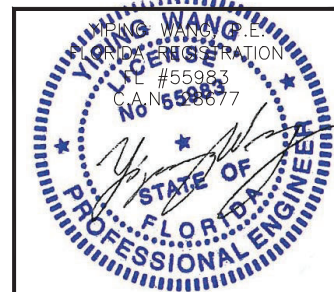
MCY

MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com



EXTERNAL CORNER AS SHOWN
INTERNAL CORNER AS OPTION

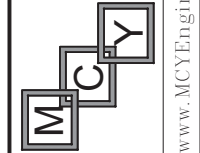
FLORIDA APPROVAL:
FL47760



TYPICAL DOOR ELEVATIONS
SEE SHEET G1 FOR DOOR CAPACITY
D.L.O. W = PANEL WIDTH - 5 1/2"
D.L.O. H = FRAME HEIGHT - 7 1/8"

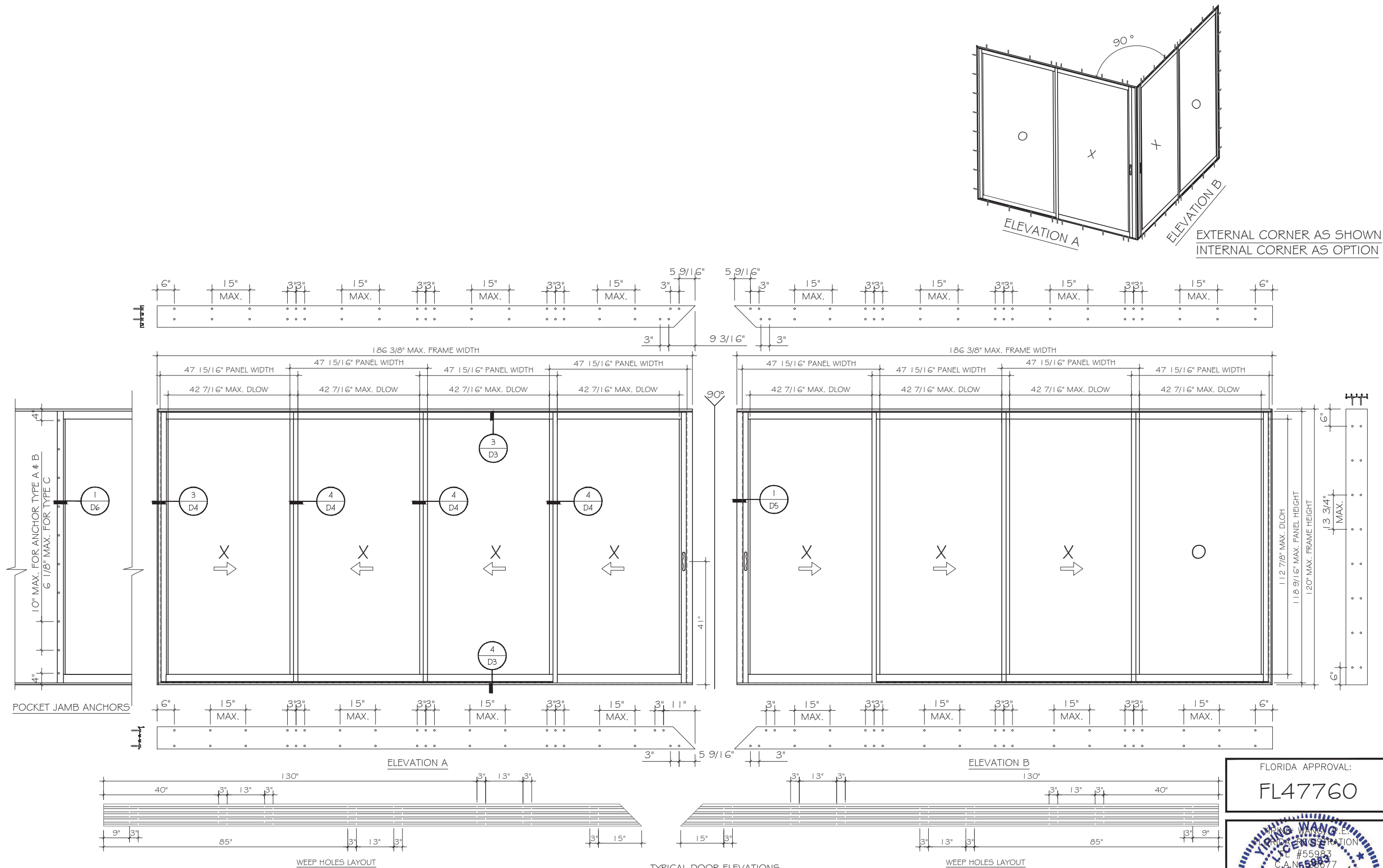
EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

E.S.WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL. (305) 624-7775



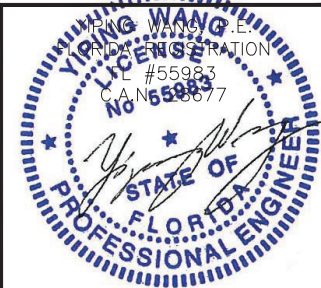
MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com

Rev. No.	R1	Date	12.05.2025	Drawn By	JAMES	Description	NEW APPLICATION
Drawn Date	12.05.2025	Scale	AS SHOWN	Drawing No.	AD25-34	Sheet No.	3 OF 30



TYPICAL DOOR ELEVATIONS
SEE SHEET G1 FOR DOOR CAPACITY
D.L.O. W = PANEL WIDTH - 5 1/2"
D.L.O. H = FRAME HEIGHT - 7 1/8"

FLORIDA APPROVAL:
FL47760



EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT
E.S.WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL.(305) 624-7775

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION

Drawn Date
12.05.2025

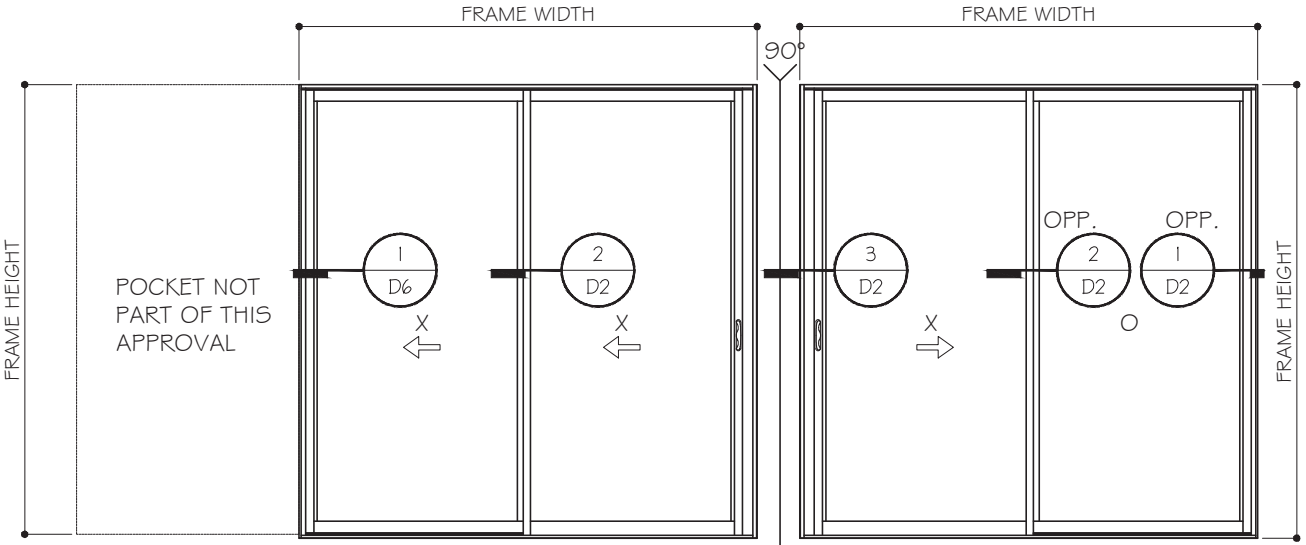
Scale
AS SHOWN

DRAWING NO.
AD25-34

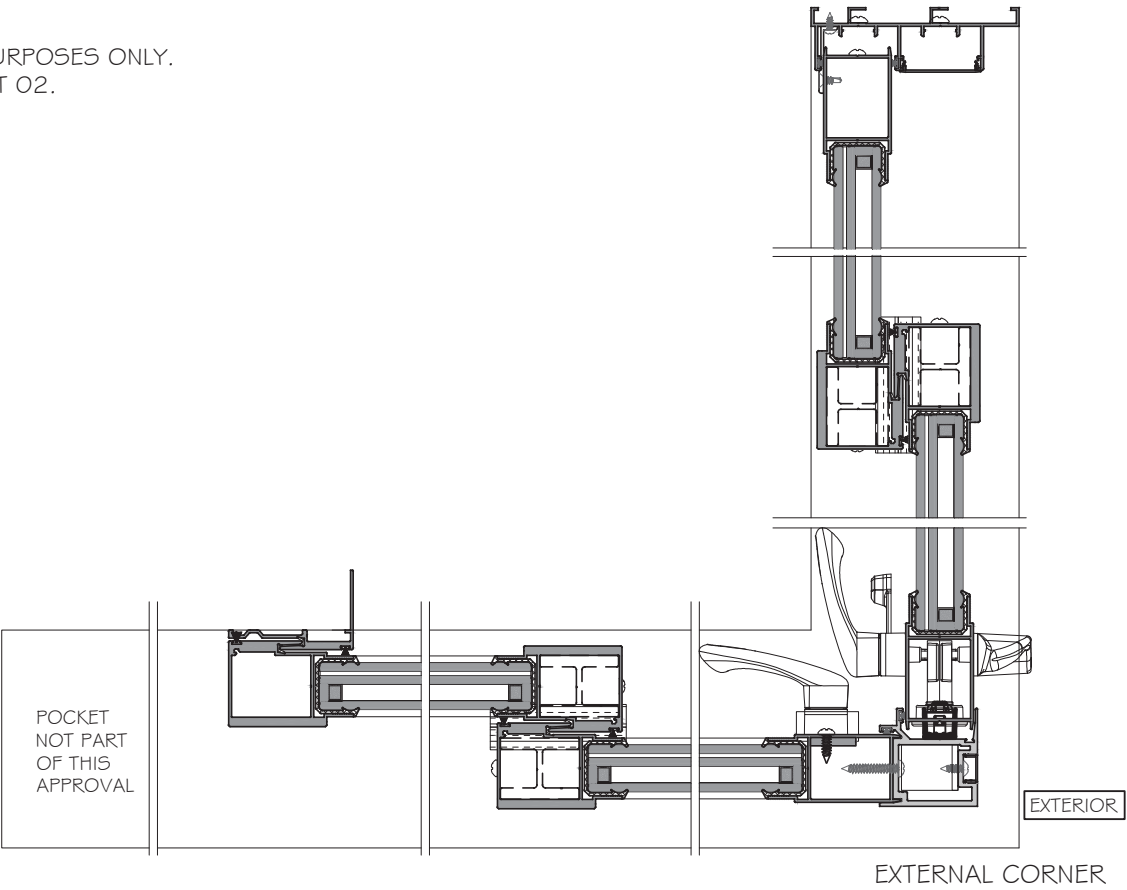
E3

Sheet No.
4 OF 30

MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com



PXX-90° CORNER-XO (SHOWN)
OX-90° CORNER-XXP
APPROVED CONFIGURATIONS
POCKETED DOORS
TWO (2) TRACKS
NOTE:
1. CONFIGURATIONS SHOWN FOR ILLUSTRATION PURPOSES ONLY.
2. FOR APPLICABLE DESIGN PRESSURES SEE SHEET 02.
3. FOR ANCHOR DETAILS SEE SHEET 17 & 25.



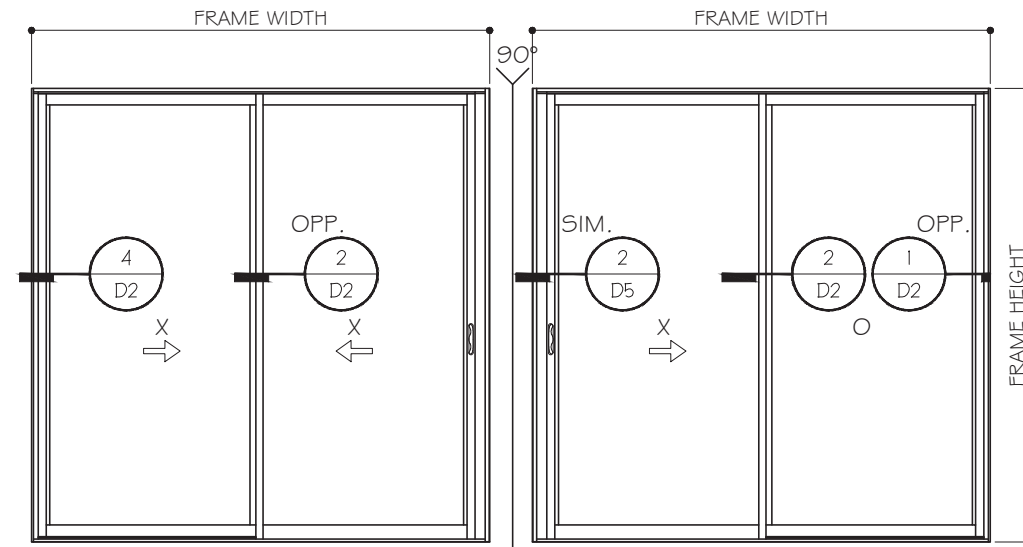
FLORIDA APPROVAL:
FL47760

December 12th, 2025

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT			
E.S.WINDOWS, INC. 10653 NE QUAYBRIDGE CT. MIAMI, FL 33138 TEL.(305) 624-7775			
R1	12.05.2025	JAMES	NEW APPLICATION
	Date	Drawn By	Description
Drawn Date	12.05.2025	Scale	AS SHOWN
DRAWING NO. AD25-34			
E5			
Sheet No. 6 OF 30			

MCY ENGINEERING, INC.
GLAZING CONSULTANTS

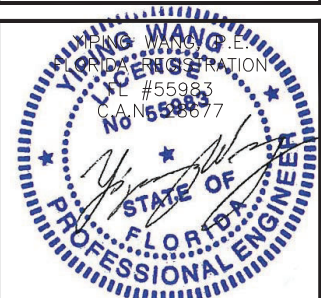
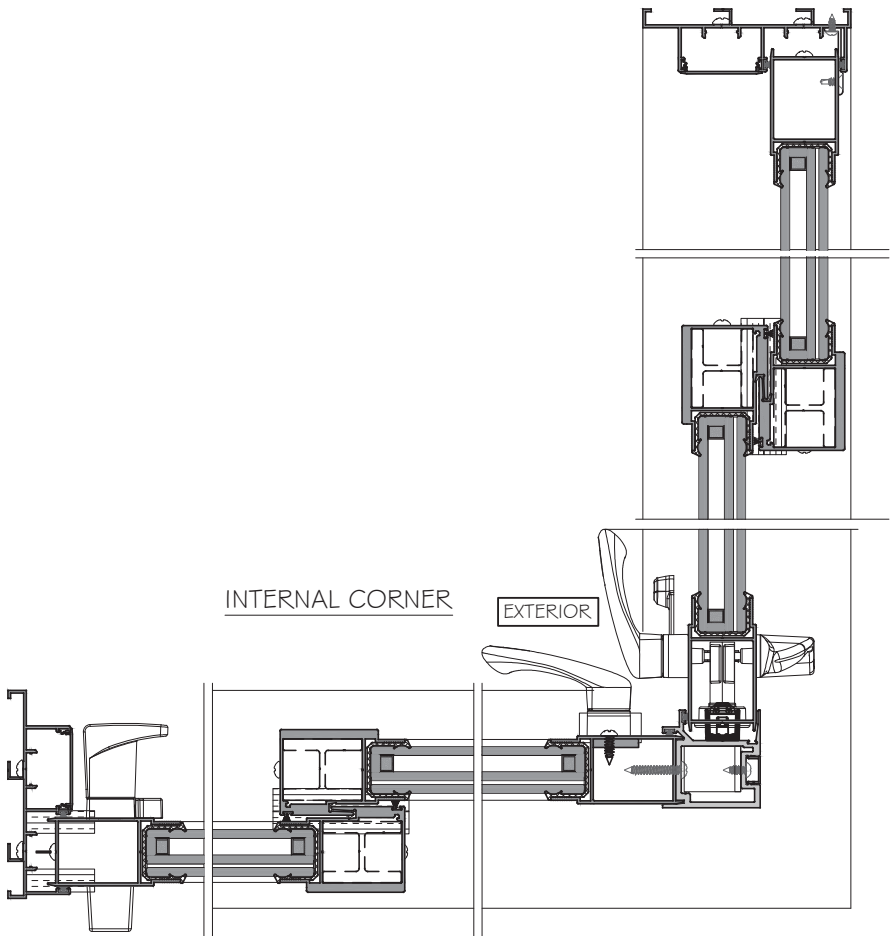
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com



APPROVED CONFIGURATIONS
NON-POCKETED DOORS
TWO (2) TRACKS

NOTE:

1. CONFIGURATIONS SHOWN FOR ILLUSTRATION PURPOSES ONLY.
2. FOR APPLICABLE DESIGN PRESSURES SEE SHEET 02.
3. FOR ANCHOR DETAILS SEE SHEET 17.

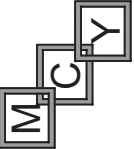


December 12th, 2025

[illegible]

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

E.S.WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL.(305) 624-7775

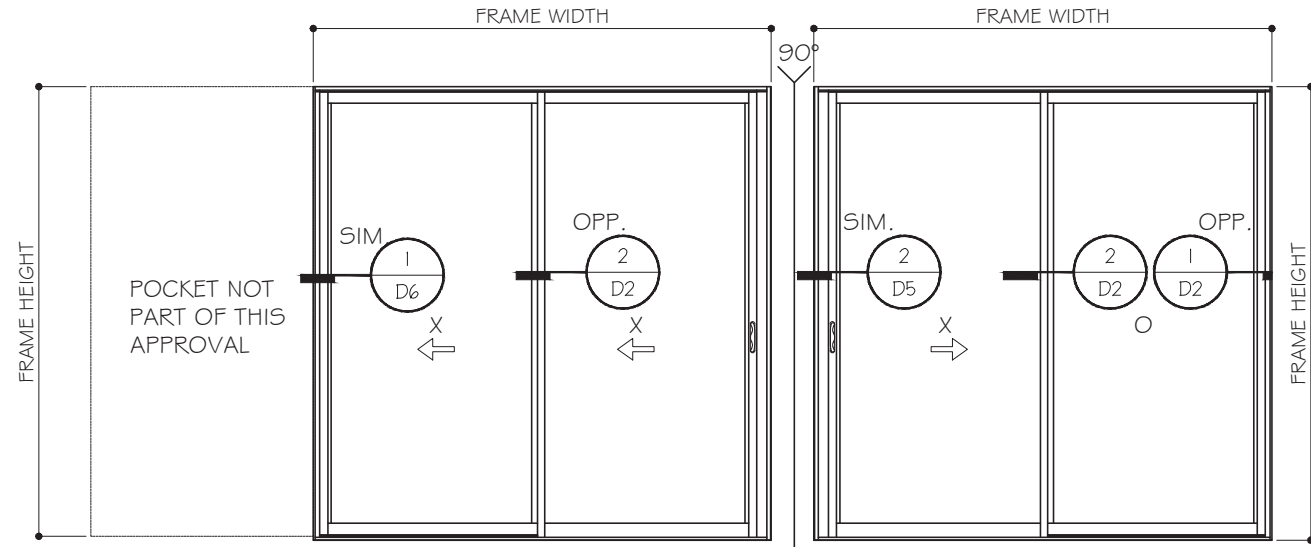


MCY ENGINEERING, INC.

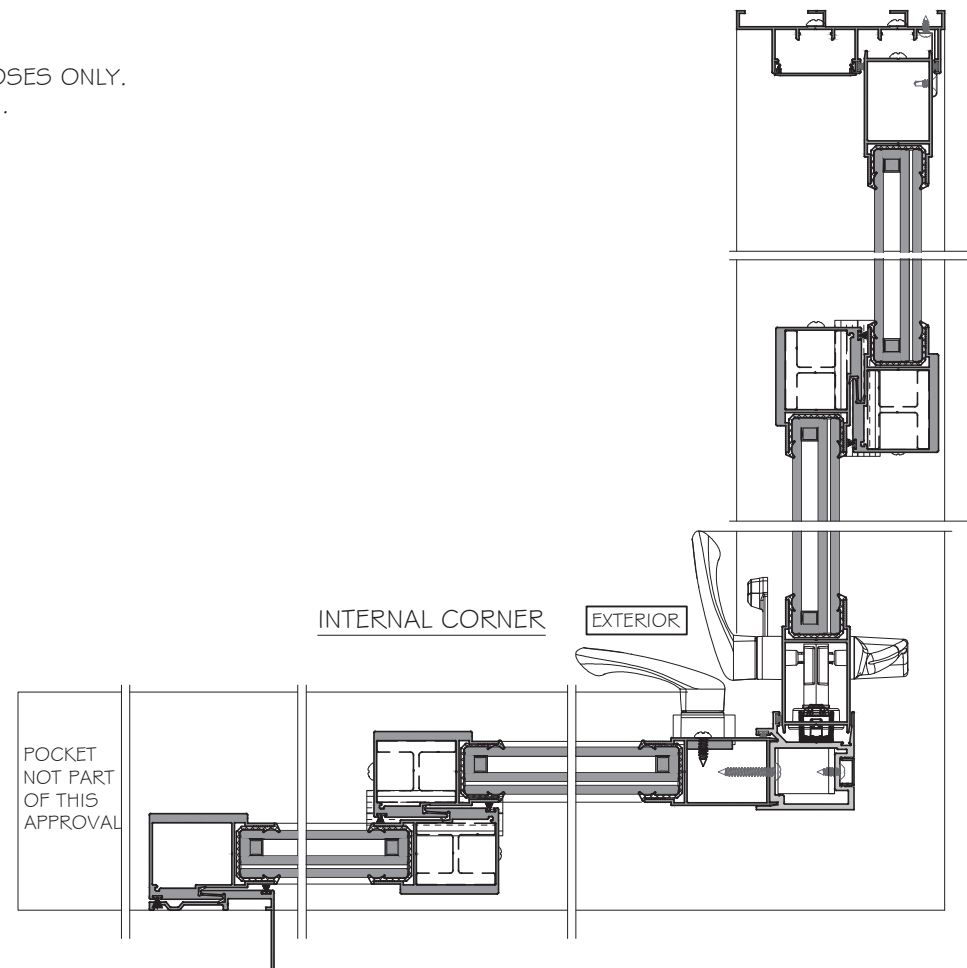
GLAZING CONSULTANTS

12781 MIRAMAR PKWY.STE.301
MIRAMAR, FL 33027 P: 305.588.5224
mcy@mcvengeering.com

mcy@mcyengineering.com



PXX-90° CORNER-XO (SHOWN)
 OX-90° CORNER-XXP
 APPROVED CONFIGURATIONS
 POCKETED DOORS
 TWO (2) TRACKS
 NOTE:
 1. CONFIGURATIONS SHOWN FOR ILLUSTRATION PURPOSES ONLY.
 2. FOR APPLICABLE DESIGN PRESSURES SEE SHEET O2.
 3. FOR ANCHOR DETAILS SEE SHEET I 7 & 25.



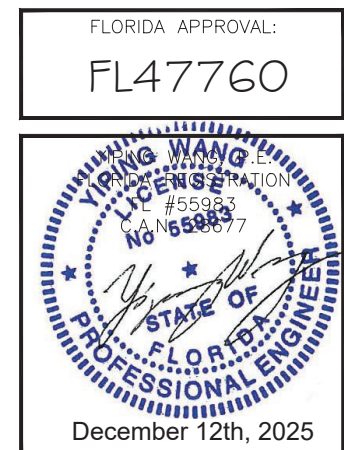
FLORIDA APPROVAL:
 FL47760

YIPING WANG
 LICENSE #55983
 CA No 55983
 December 12th, 2025

MCY ENGINEERING, INC.
 GLAZING CONSULTANTS
 12781 MIRAMAR PKWY, STE. 301
 MIRAMAR, FL 33027 P: 305.588.5224
 www.MCYEngineering.com mcy@mcyengineering.com

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT
E.S.WINDOWS, INC.
 10653 NE QUAYBRIDGE CT.
 MIAMI, FL 33138
 TEL.(305) 624-7775

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION
DRAUGHTING NO. AD25-34			
E7			
8 OF 30			

[illegible]

TEL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

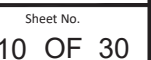
E.S.WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL.(305) 624-7775

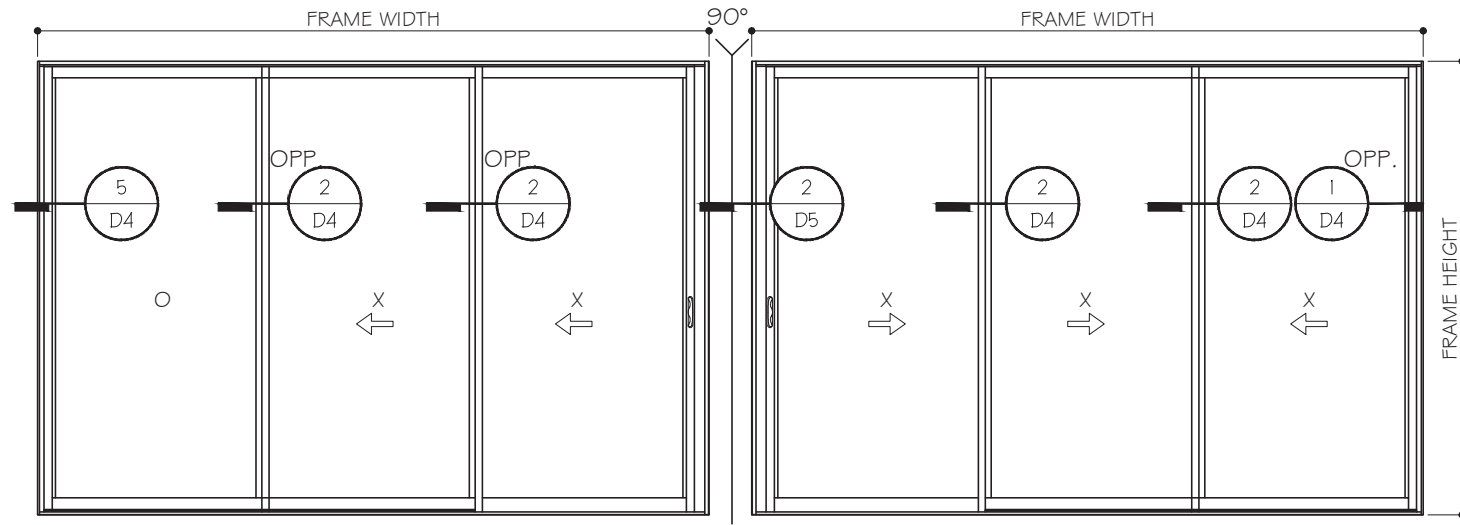


MCY ENGINEERING, INC.
GLAZING CONSULTANTS

12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224

www.MCYEngineering.com mcy@mcyengineering.com



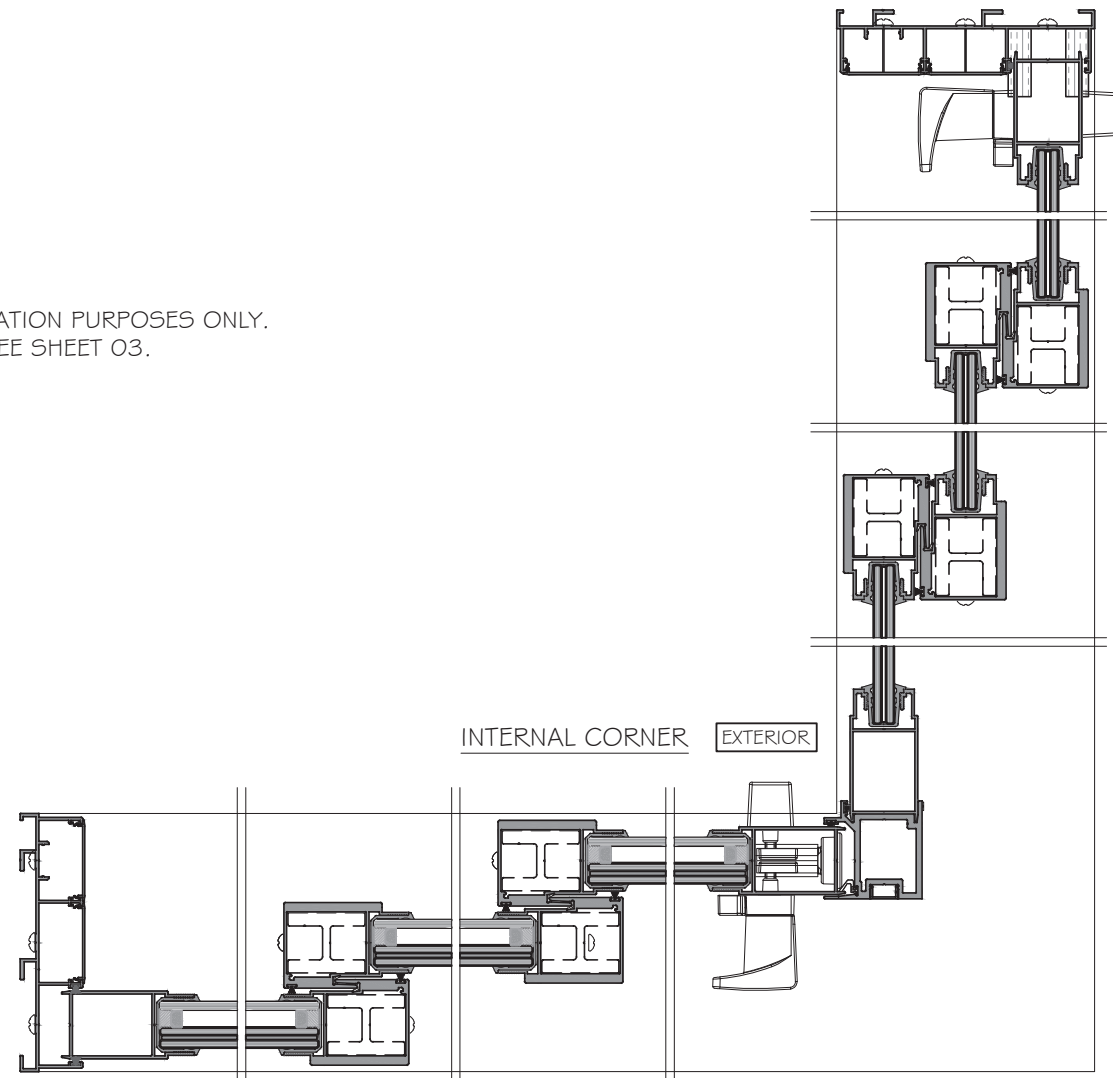


OXX-90° CORNER-XXX (SHOWN)
 XXX-90° CORNER-XXO
 XXX-90° CORNER-XXX
 XXX-90° CORNER-XXX
 OXX-90° CORNER-XXX

APPROVED CONFIGURATIONS
 NON-POCKETED DOORS
 THREE (3) TRACKS

NOTE:

1. CONFIGURATIONS SHOWN FOR ILLUSTRATION PURPOSES ONLY.
2. FOR APPLICABLE DESIGN PRESSURES SEE SHEET 03.
3. FOR ANCHOR DETAILS SEE SHEET 18.



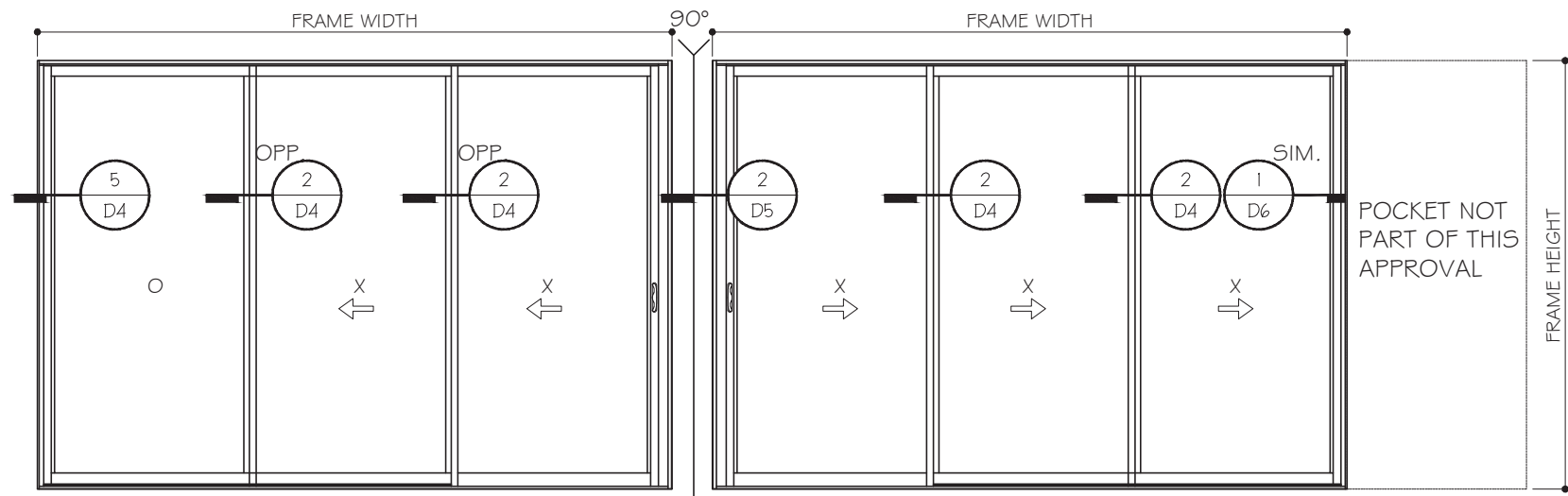
FLORIDA APPROVAL:

FL47760

YIPING WANG
 PROFESSIONAL ENGINEER
 FLORIDA
 LICENSE #55983
 CA No. 6677

December 12th, 2025

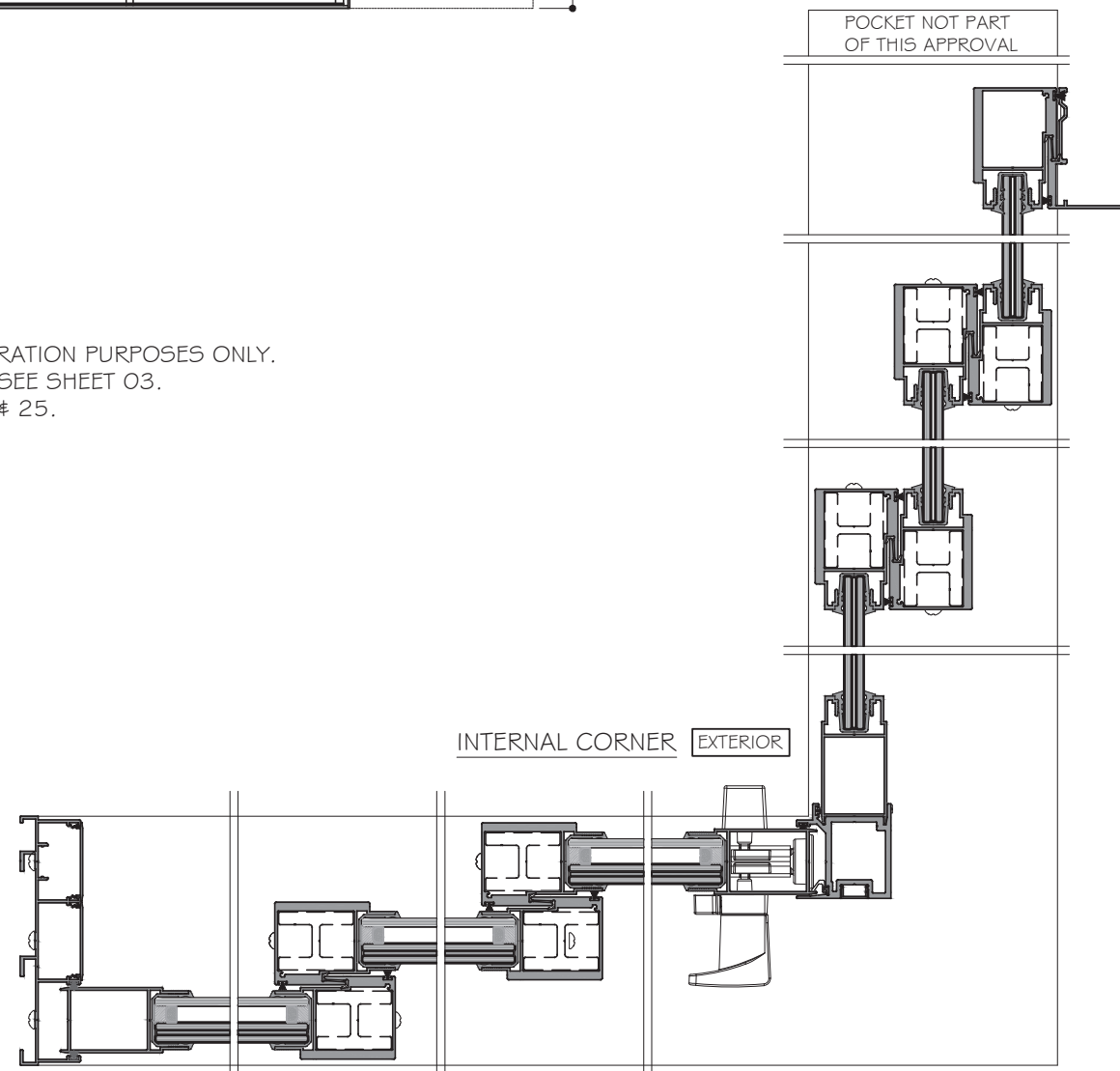
MCY ENGINEERING, INC. GLAZING CONSULTANTS 12781 MIRAMAR PKWY, STE. 301 MIRAMAR, FL 33027 P: 305.588.5224 www.MCYEngineering.com mcy@mcyengineering.com			
EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT E.S.WINDOWS, INC. 10653 NE QUAYBRIDGE CT. MIAMI, FL 33138 TEL: (305) 624-7775			
Rev.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION
Drawn Date 12.05.2025		Scale AS SHOWN	
DRAWING NO. AD25-34			
Sheet No. E10			
11 OF 30			



OXX-90° CORNER-XXXP (SHOWN)
 PXXX-90° CORNER-XXO
 PXXX-90° CORNER-XXX
 XXX-90° CORNER-XXX
 OXX-90° CORNER-XXX

APPROVED CONFIGURATIONS
 POCKETED DOORS
 THREE (3) TRACKS

NOTE:
 1. CONFIGURATIONS SHOWN FOR ILLUSTRATION PURPOSES ONLY.
 2. FOR APPLICABLE DESIGN PRESSURES SEE SHEET 03.
 3. FOR ANCHOR DETAILS SEE SHEET 18 & 25.



FLORIDA APPROVAL:
 FL47760

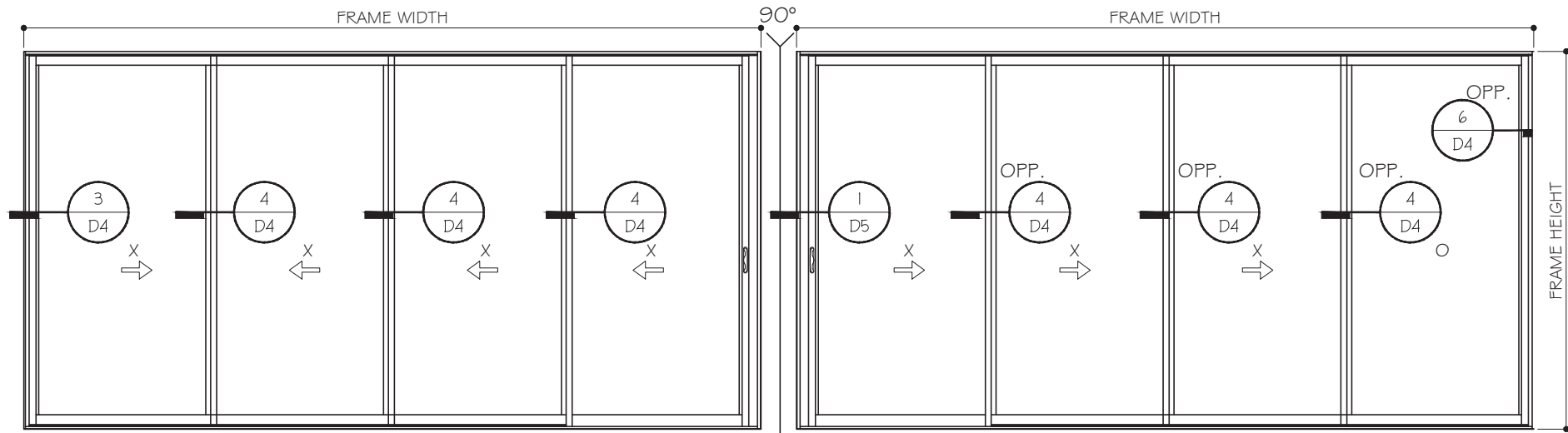


MCY ENGINEERING, INC.
 GLAZING CONSULTANTS
 12781 MIRAMAR PKWY, STE. 301
 MIRAMAR, FL 33027 P: 305.588.5224
 www.MCYEngineering.com mcy@mcyengineering.com

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT
E.S.WINDOWS, INC.
 10653 NE QUAYBRIDGE CT.
 MIAMI, FL 33138
 TEL: (305) 624-7775

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION

Drawn Date: 12.05.2025
 Scale: AS SHOWN
 DRAWING NO.: AD25-34
 E11
 Sheet No.: 12 OF 30

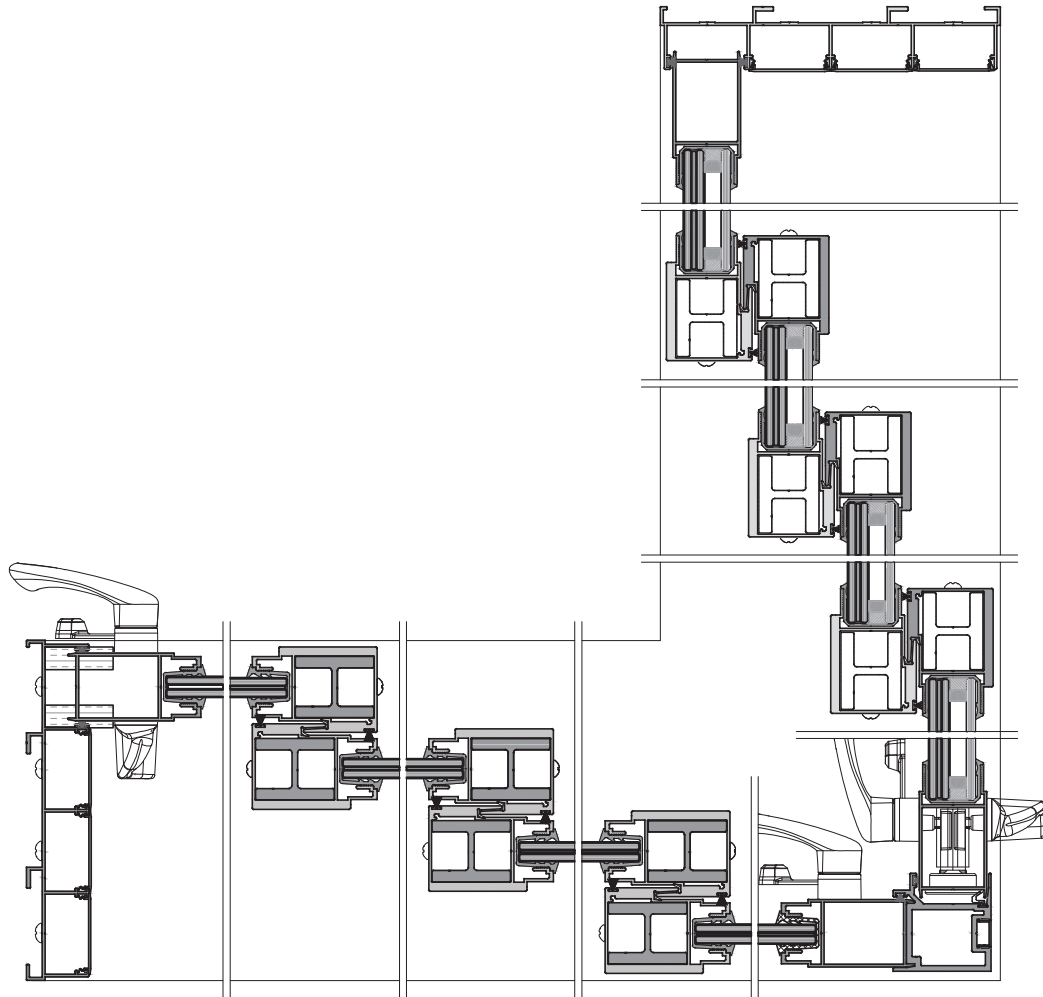


APPROVED CONFIGURATIONS
NON-POCKETED DOORS
FOUR (4) TRACKS

NOTE:

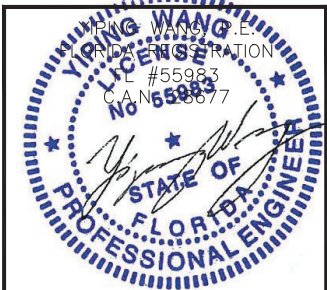
1. CONFIGURATIONS SHOWN FOR ILLUSTRATION PURPOSES ONLY.
2. FOR APPLICABLE DESIGN PRESSURES SEE SHEET 04.
3. FOR ANCHOR DETAILS SEE SHEET 19.

XXXX-90° CORNER-XXXO (SHOWN)
OXXX-90° CORNER-XXX
XXXX-90° CORNER-XXXX
XXXX-90° CORNER-XXXX
OXXX-90° CORNER-XXXX



EXTERIOR
EXTERNAL CORNER

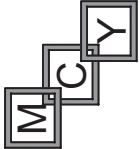
FLORIDA APPROVAL:
FL47760



December 12th, 2025

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com



E.S. WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL: (305) 624-7775

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION

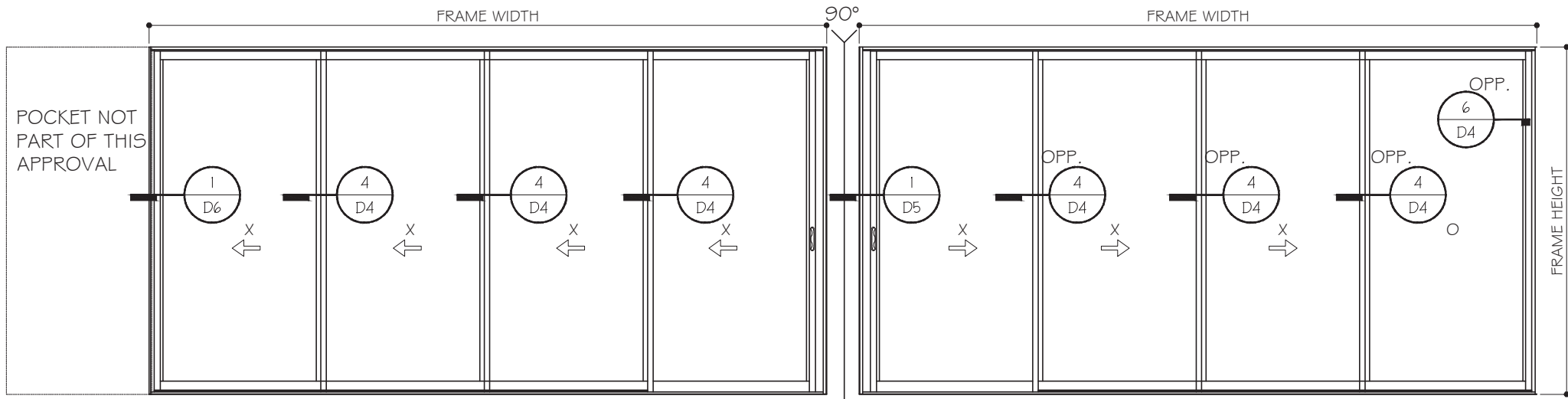
Drawn Date
12.05.2025

Scale
AS SHOWN

DRAWING NO.
AD25-34

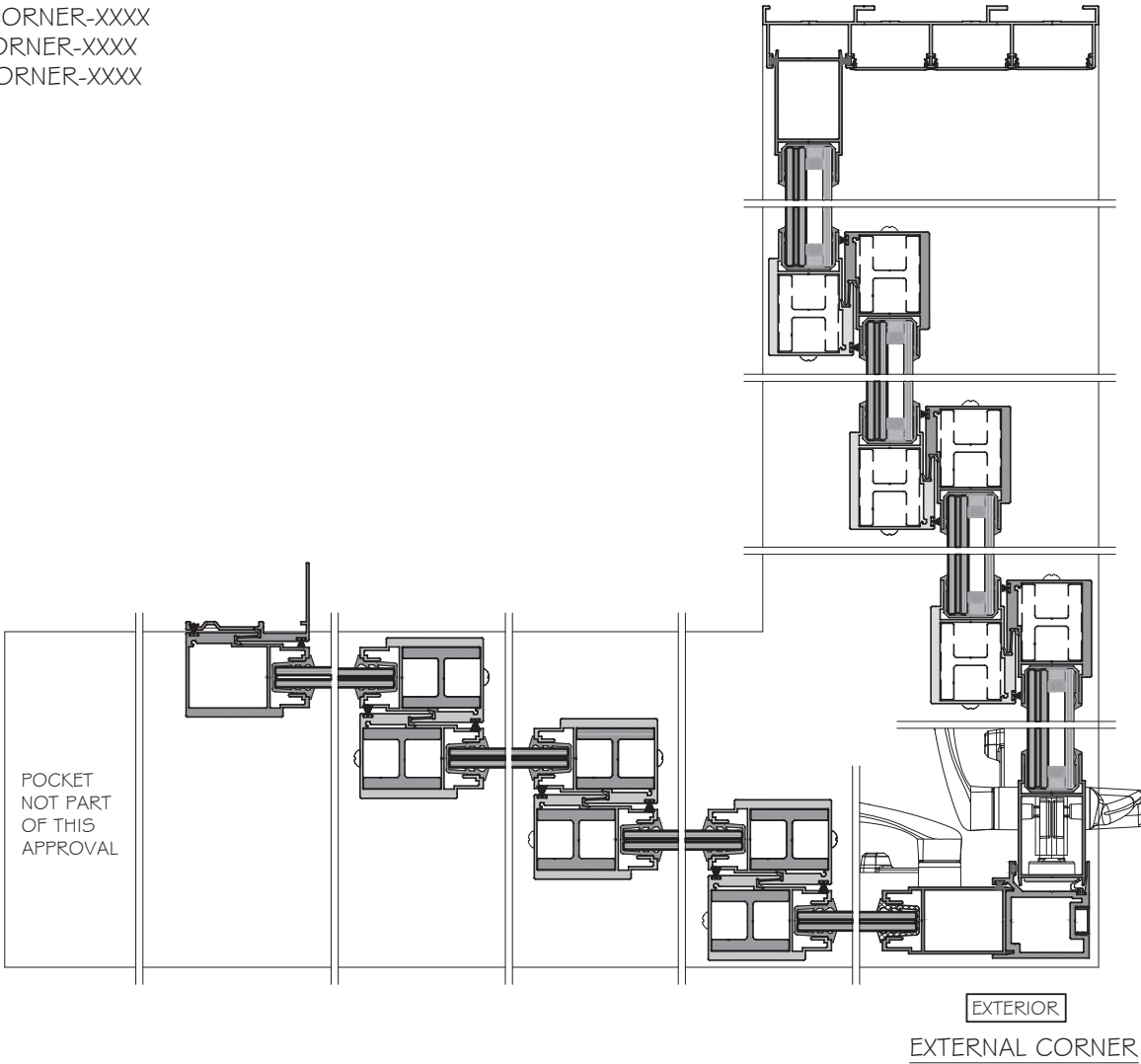
E12

Sheet No.
13 OF 30



APPROVED CONFIGURATIONS
POCKETED DOORS
FOUR (4) TRACKS
NOTE:
1. CONFIGURATIONS SHOWN FOR ILLUSTRATION PURPOSES ONLY.
2. FOR APPLICABLE DESIGN PRESSURES SEE SHEET 04.
3. FOR ANCHOR DETAILS SEE SHEET 19 & 25.

PXXX-90° CORNER-XXXO (SHOWN)
OXXX-90° CORNER-XXXP
PXXX-90° CORNER-XXXX
XXXX-90° CORNER-XXXX
OXXX-90° CORNER-XXXX



FLORIDA APPROVAL:

FL47760

December 12th, 2025

MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

E.S. WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL: (305) 624-7775

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION

Drawn Date
12.05.2025

Scale
AS SHOWN

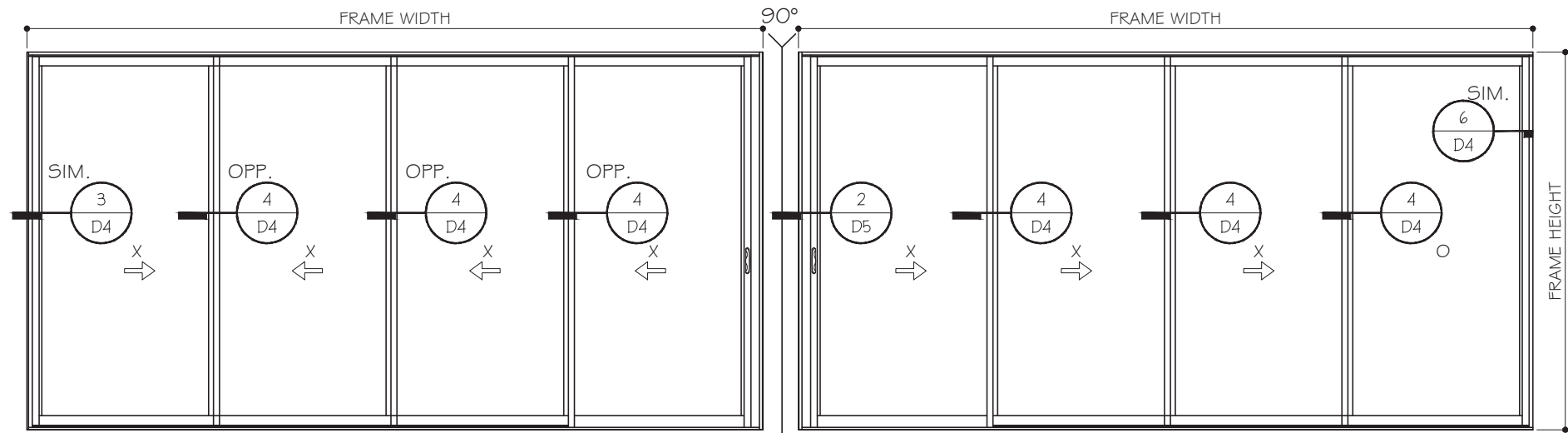
DRAWING NO.

AD25-34

Sheet No.

E13

14 OF 30

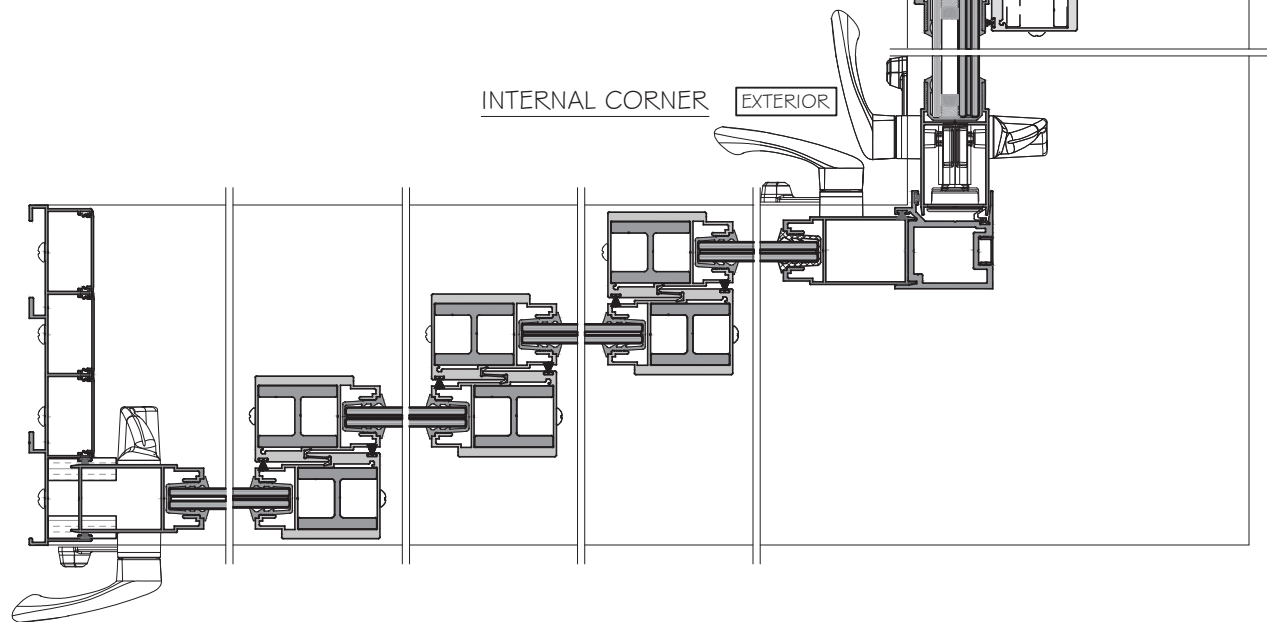


APPROVED CONFIGURATIONS
NON-POCKETED DOORS
FOUR (4) TRACKS

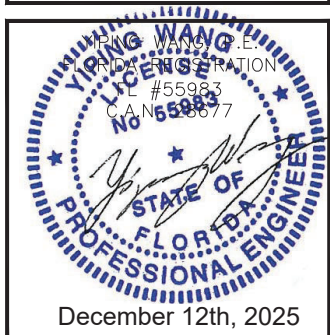
NOTE:

1. CONFIGURATIONS SHOWN FOR ILLUSTRATION PURPOSES ONLY.
2. FOR APPLICABLE DESIGN PRESSURES SEE SHEET 04.
3. FOR ANCHOR DETAILS SEE SHEET 19.

XXXX-90° CORNER-XXXO (SHOWN)
OXXX-90° CORNER-XXX
XXXX-90° CORNER-XXXX
XXXX-90° CORNER-XXXX
OXXX-90° CORNER-XXXX



FLORIDA APPROVAL:
FL47760



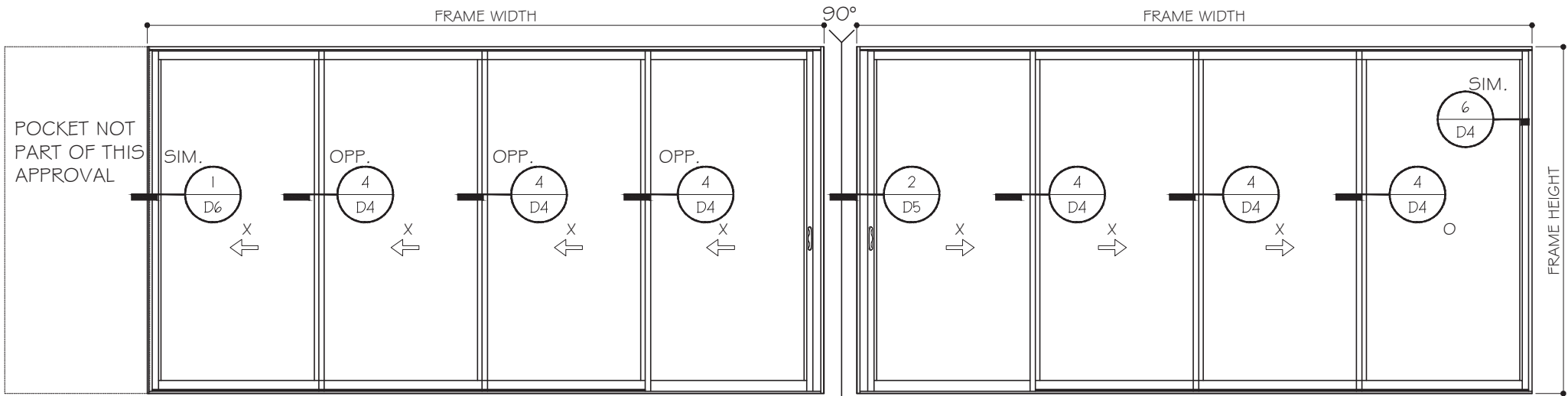
EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

E.S. WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL. (305) 624-7775



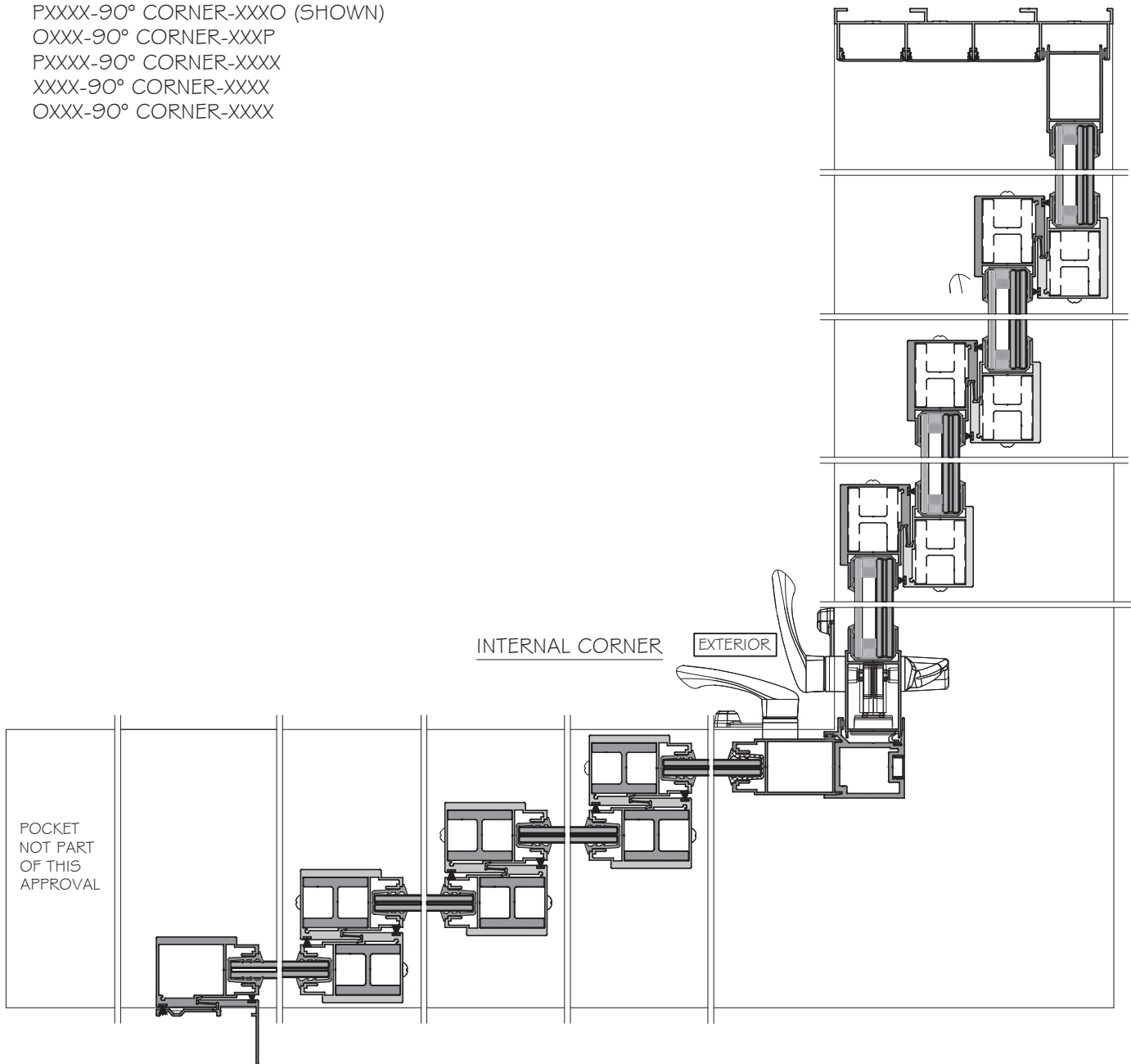
MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION
DRAUGHTING NO. AD25-34			
E14			
Sheet No. 15 OF 30			



APPROVED CONFIGURATIONS
POCKETED DOORS
FOUR (4) TRACKS
NOTE:
1. CONFIGURATIONS SHOWN FOR ILLUSTRATION PURPOSES ONLY.
2. FOR APPLICABLE DESIGN PRESSURES SEE SHEET 04.
3. FOR ANCHOR DETAILS SEE SHEET 19 & 25.

PXXX-90° CORNER-XXXO (SHOWN)
OXXX-90° CORNER-XXXP
PXXX-90° CORNER-XXXX
XXXX-90° CORNER-XXXX
OXXX-90° CORNER-XXXX



FLORIDA APPROVAL:
FL47760

YIPING WANG, P.E.
LICENSED PROFESSIONAL ENGINEER
FLORIDA
#55983
C.A. No. 6677
December 12th, 2025

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT
E.S. WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL. (305) 624-7775

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION

Drawn Date
12.05.2025
Scale
AS SHOWN
DRAWING NO.
AD25-34
E15
Sheet No.
16 OF 30

MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com

TYPICAL ANCHOR TYPES (SEE ELEVATION FOR ANCHOR SPACING):

TYPE "A": 1/4" DIA. ULTRACON+ BY DEWALT (F_u=164 KSI, F_y=148 KSI)
1 1/2" MIN. PENETRATION INTO 2X WOOD BUCKS OR WOOD STRUCTURES
OR THRU. 1X WOOD BUCK INTO CONCRETE OR BLOCKS.
W/ 1-3/4"MIN. EMBED INTO CONCRETE (HEAD/JAMB/SILL)
W/ 1-1/4"MIN. EMBED INTO HOLLOW BLOCK(JAMB ONLY)
W/ 1-3/4"MIN. EMBED INTO GROUT FILLED BLOCK(JAMB ONLY)

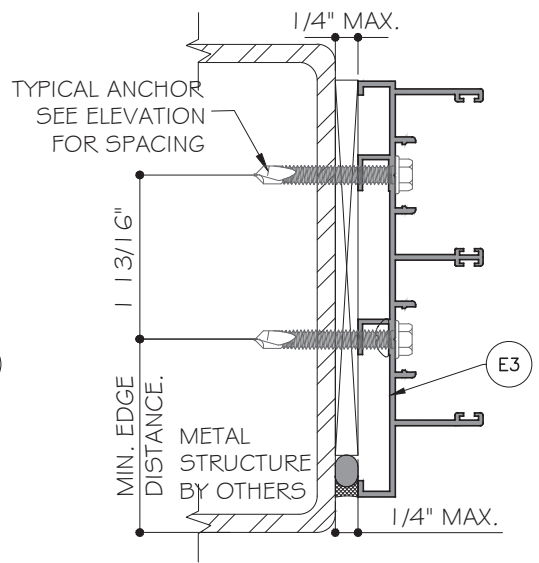
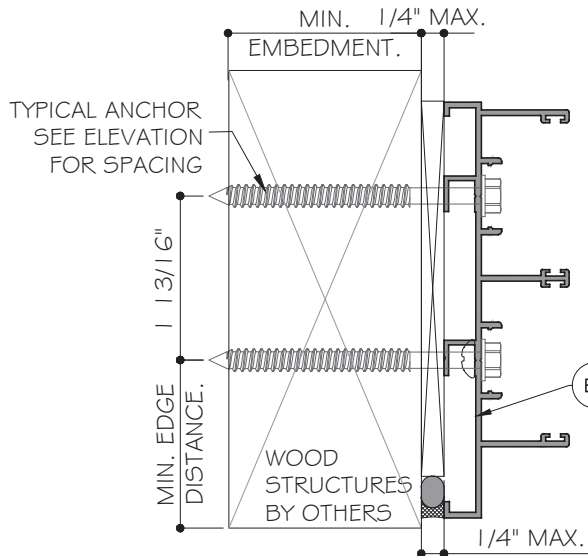
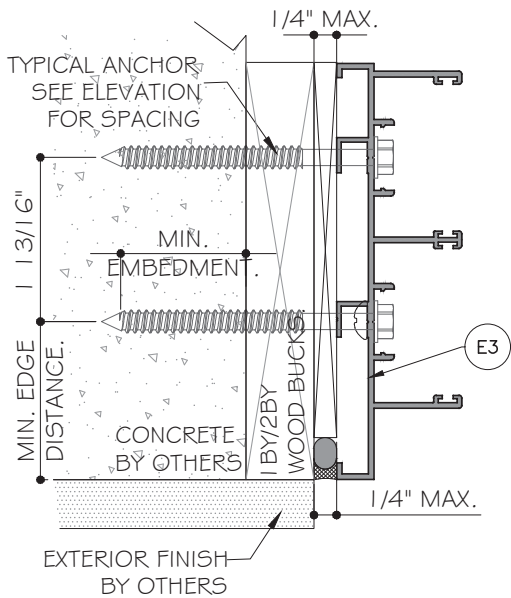
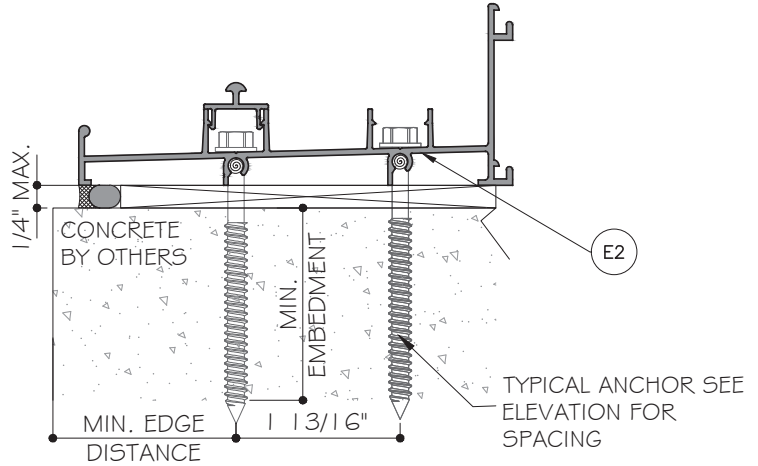
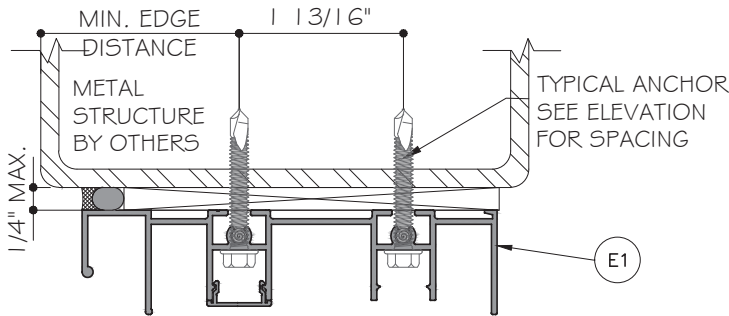
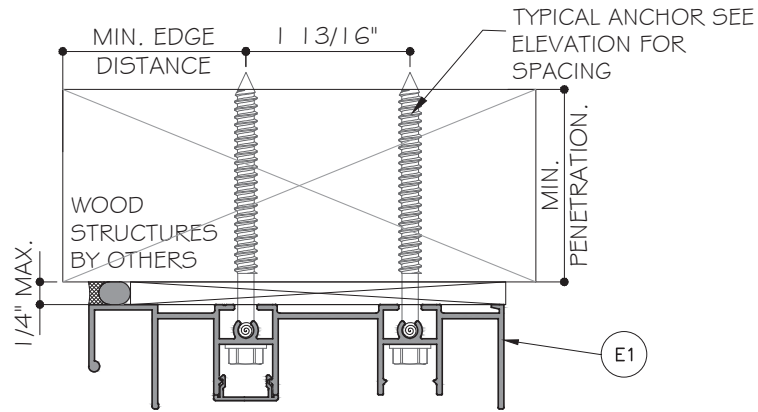
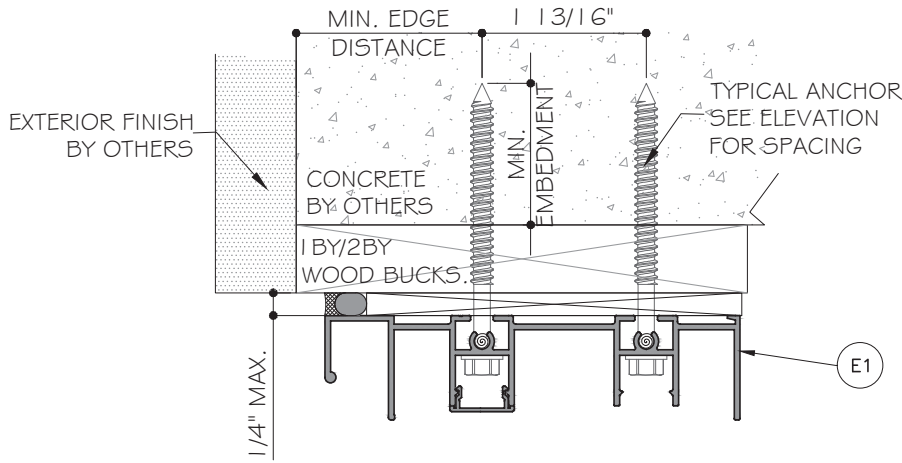
TYPE "B": 1/4" ULTRACON+BY DEWALT (F_u=164 KSI, F_y=148 KSI).
DIRECTLY INTO CONCRETE OR BLOCK
W/ 1-3/4"MIN. EMBED INTO CONCRETE (HEAD/JAMB/SILL)
W/ 1-1/4"MIN. EMBED INTO HOLLOW BLOCK(JAMB ONLY)
W/ 1-3/4"MIN. EMBED INTO GROUT FILLED BLOCK(JAMB ONLY)

TYPE "C": 1/4" DIA. TEKS/DRIL-FLEX SCREW GRADE 5 (F_u=120 KSI, F_y=92 KSI)
INTO METAL STRUCTURE
ALUMINUM: 1/4" THK. MIN. (6063-T5 MIN.)
STEEL: 1/4" THK. MIN. (F_y=36KSI, MIN.)
(3) THREADS MIN. PENETRATION BEYOND METAL SUBSTRATE.
STEEL IN CONTACT WITH ALUM. TO BE PAINTED.

MIN. EDGE DISTANCE:
INTO CONCRETE OR MASONRY: 2 1/2" MIN.
INTO WOOD(SG=0.55MIN.) : 1" MIN.
INTO METAL STRUCTURE: 3/4" MIN.

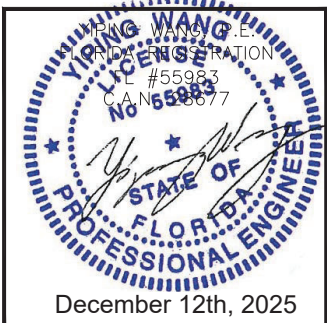
SUBSTRATE:
CONCRETE AT HEAD, SILL OR JAMBS f_c=3ksi MIN.
C-90 HOLLOW OR GROUT FILLED BLOCK AT JAMB ONLY f_m=2psi MIN.

NOTE:
METAL STRUCTURES OR WOOD 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.



TWO (2) TRACK DOORS

FLORIDA APPROVAL:
FL47760



MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcysengineering.com

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT
E.S.WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL.(305) 624-7775

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION
Drawn Date 12.05.2025 Scale AS SHOWN			
DRAWING NO. AD25-34			
A1			
Sheet No. 18 OF 30			

ENGINEERING, INC.
G CONSULTANTS
PKWY. STE. 301
3027 P: 305.588.5222
mcy@mcvengeering.com

TYPE "A": 1/4" DIA. ULTRACON+ BY DEWALT (F_u=164 KSI, F_y=148 KSI)
 1 1/2" MIN. PENETRATION INTO 2X WOOD BUCKS OR WOOD STRUCTURES
 OR THRU. 1X WOOD BUCK INTO CONCRETE OR BLOCKS.
 W/ 1-3/4"MIN. EMBED INTO CONCRETE (HEAD/JAMB/SILL)
 W/ 1-1/4"MIN. EMBED INTO HOLLOW BLOCK(JAMB ONLY)
 W/ 1-3/4"MIN. EMBED INTO GROUT FILLED BLOCK(JAMB ONLY)

TYPE "B": 1/4" ULTRACON+BY DEWALT (Fu=164 KSI, Fy=148 KSI).
DIRECTLY INTO CONCRETE OR BLOCK
 W/ 1-3/4"MIN. EMBED INTO CONCRETE (HEAD/JAMB/SILL)
 W/ 1-1/4"MIN. EMBED INTO HOLLOW BLOCK(JAMB ONLY)
 W/ 1-3/4"MIN. EMBED INTO GROUT FILLED BLOCK(JAMB ONLY)

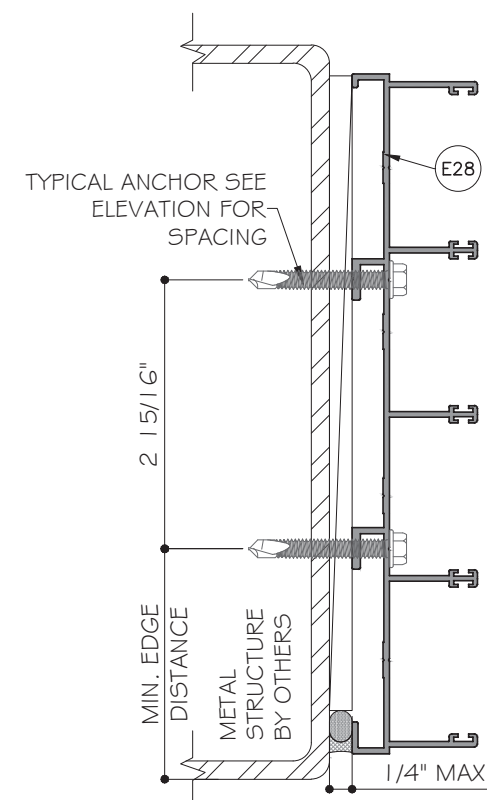
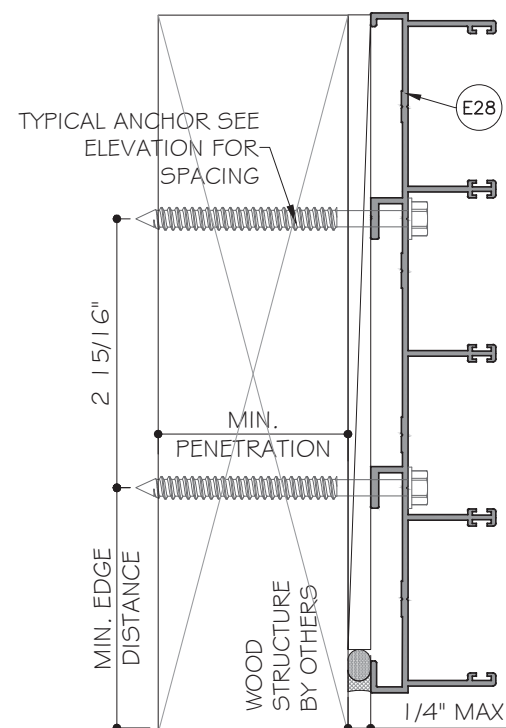
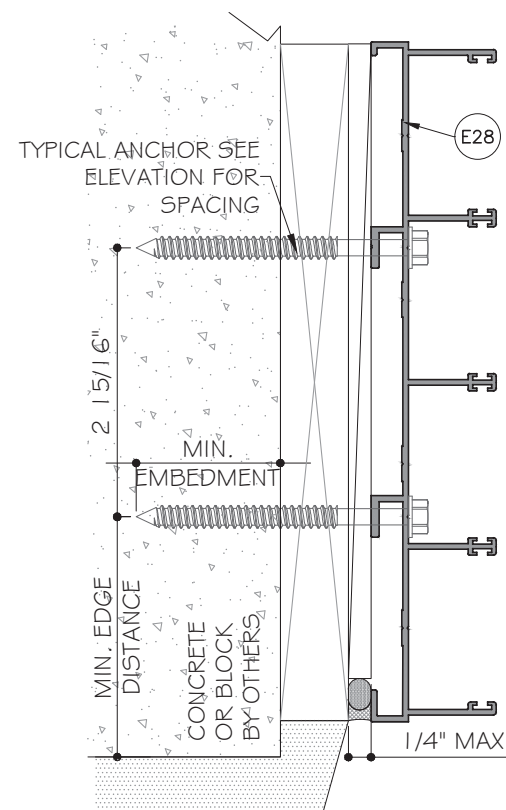
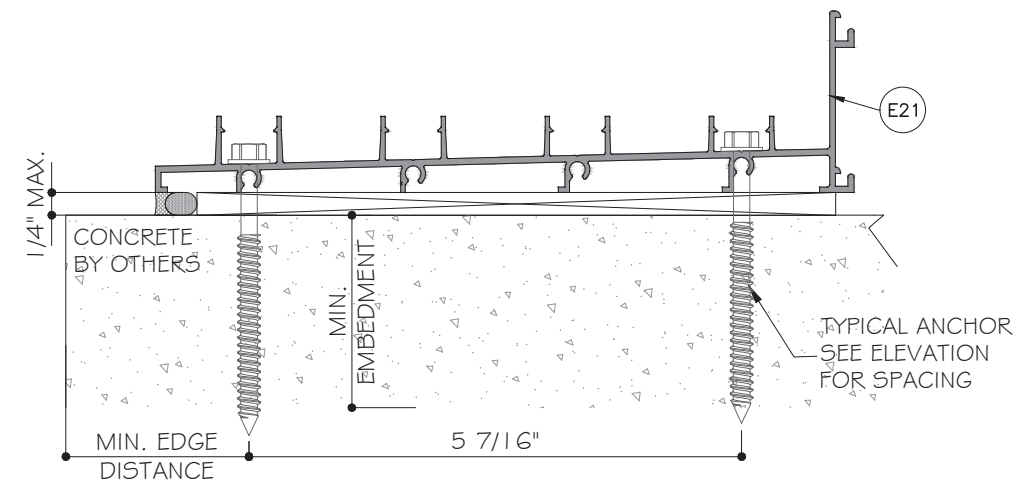
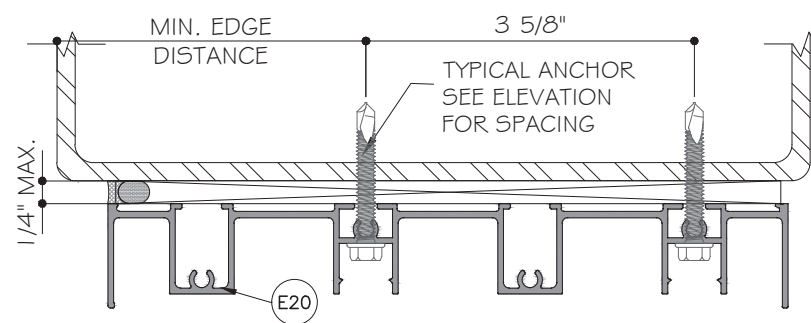
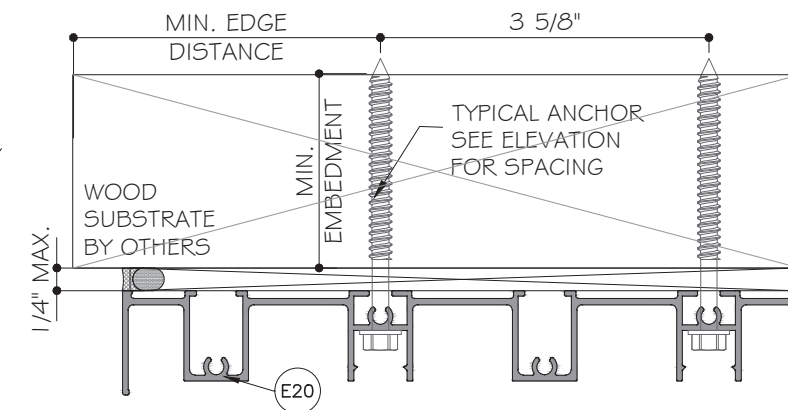
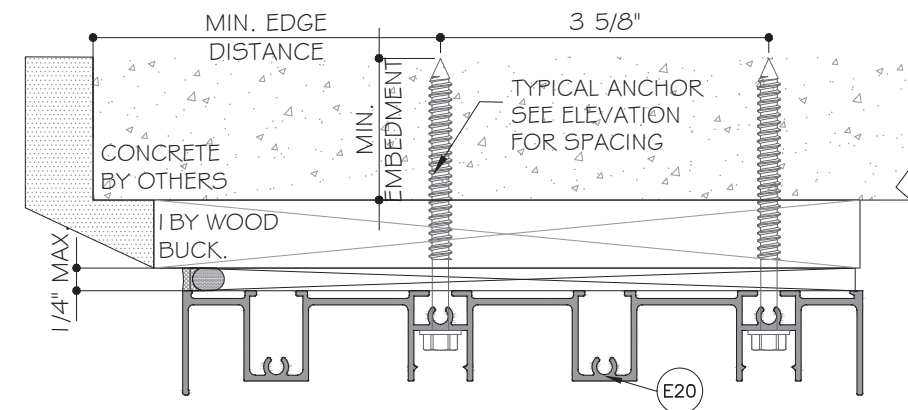
TYPE "C": 1/4" DIA. TEKS/DRIL-FLEX SCREW GRADE 5 (F_u= 120 KSI, F_y=92 KSI)
 INTO METAL STRUCTURE
 ALUMINUM: 1/4" THK. MIN. (6063-T5 MIN.)
 STEEL: 1/4" THK. MIN. (F_y=36KSI, MIN.)
 (3) THREADS MIN. PENETRATION BEYOND METAL SUBSTRATE.
 STEEL IN CONTACT WITH ALUM. TO BE PAINTED.

MIN. EDGE DISTANCE:
 INTO CONCRETE OR MASONRY: 2 1/2" MIN.
 INTO WOOD(SG=0.55MIN.) : 1" MIN.
 INTO METAL STRUCTURE: 3/4" MIN.

SUBSTRATE:
CONCRETE AT HEAD, SILL OR JAMBS $f'_c = 3 \text{ ksi}$ MIN.
C-90 HOLLOW OR GROUT FILLED BLOCK AT JAMB ONLY $f'_m = 2 \text{ psi}$ MIN.

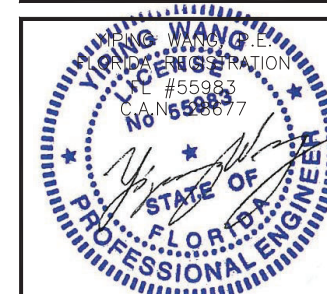
NOTE:

METAL STRUCTURES OR WOOD 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.



FOUR (4) TRACK DOORS

FLORIDA APPROVAL:
FL47760



December 12th, 2025

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

MCY ENGINEERING, INC.

E.S.WINDOWS, INC.

E.C. WINDOWS, INC.
10653 NE QUAYBRIDGE CT.

MIAMI, FL 33138

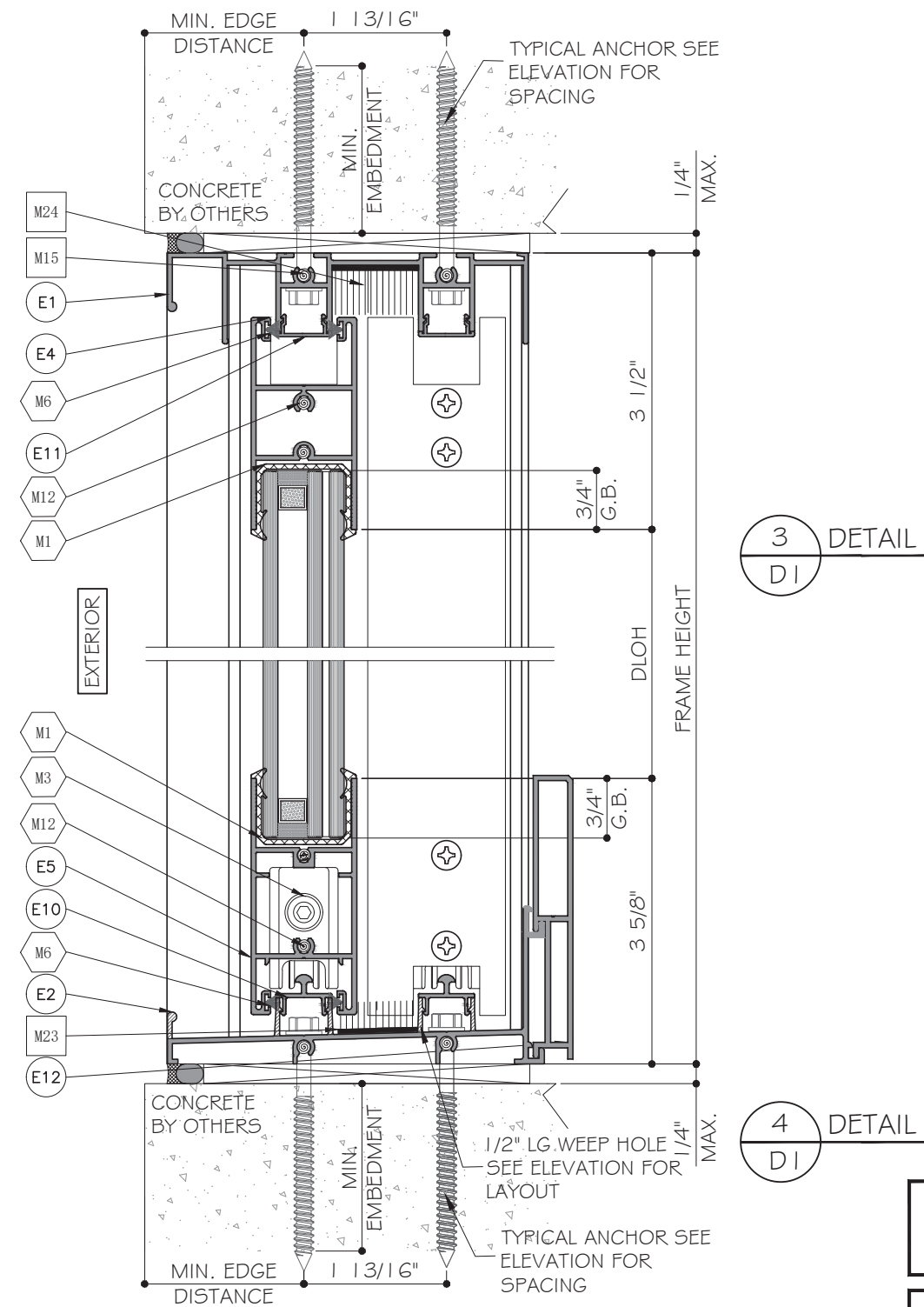
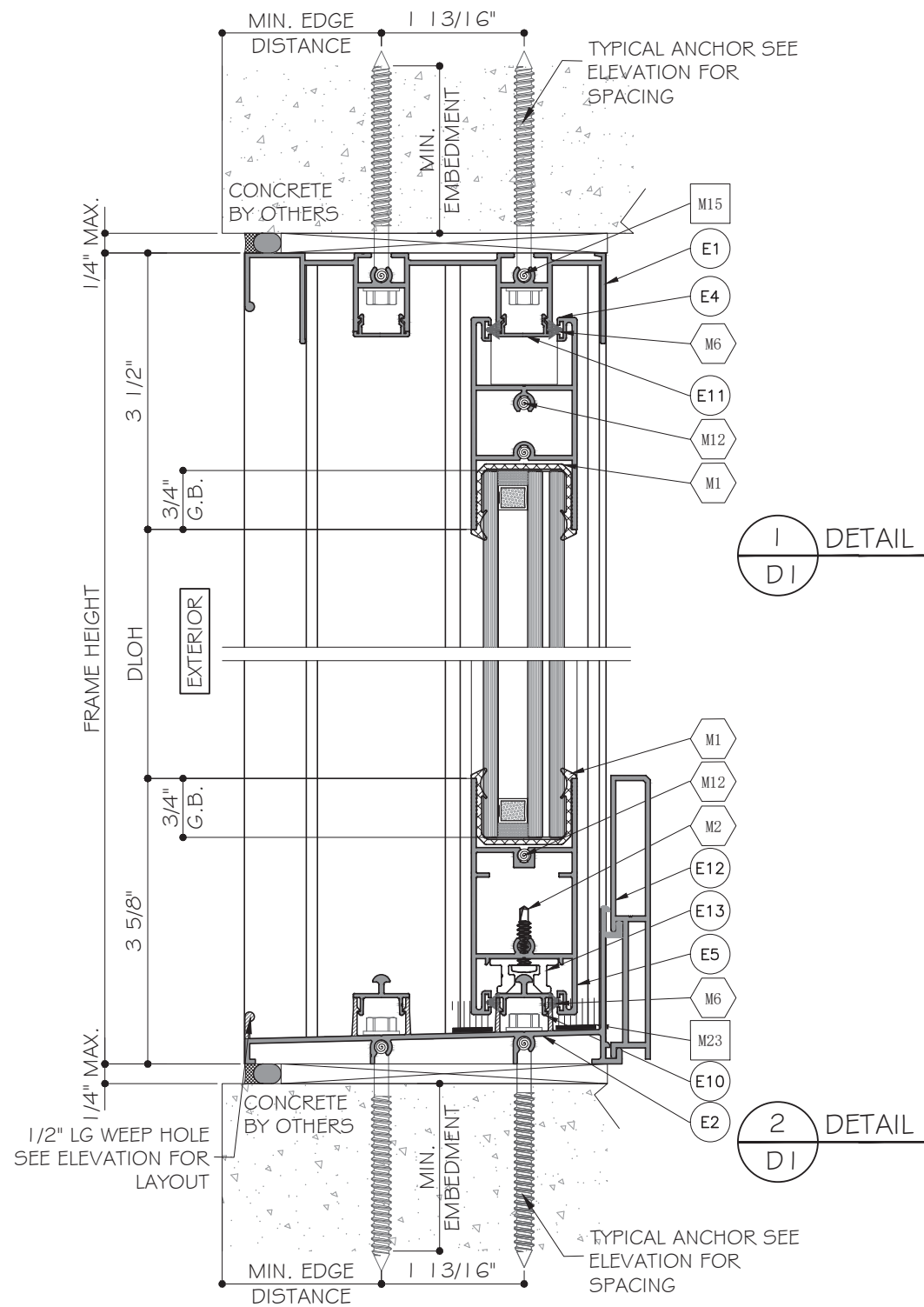
MIAMI, FL 33138
TEL.(305) 624-7775

[illegible]

Drawn Date	Scale
12.05.2025	AS SHOWN

DRAWING NO.
AD25-34

A3
Sheet No.
20 OF 30

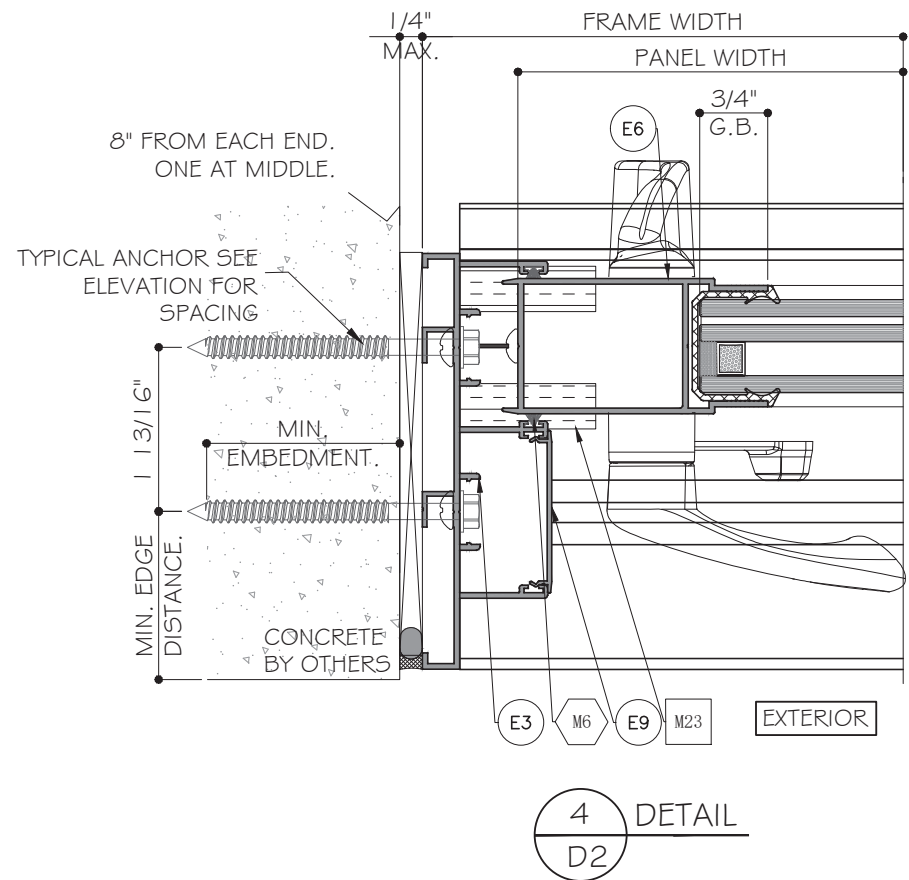
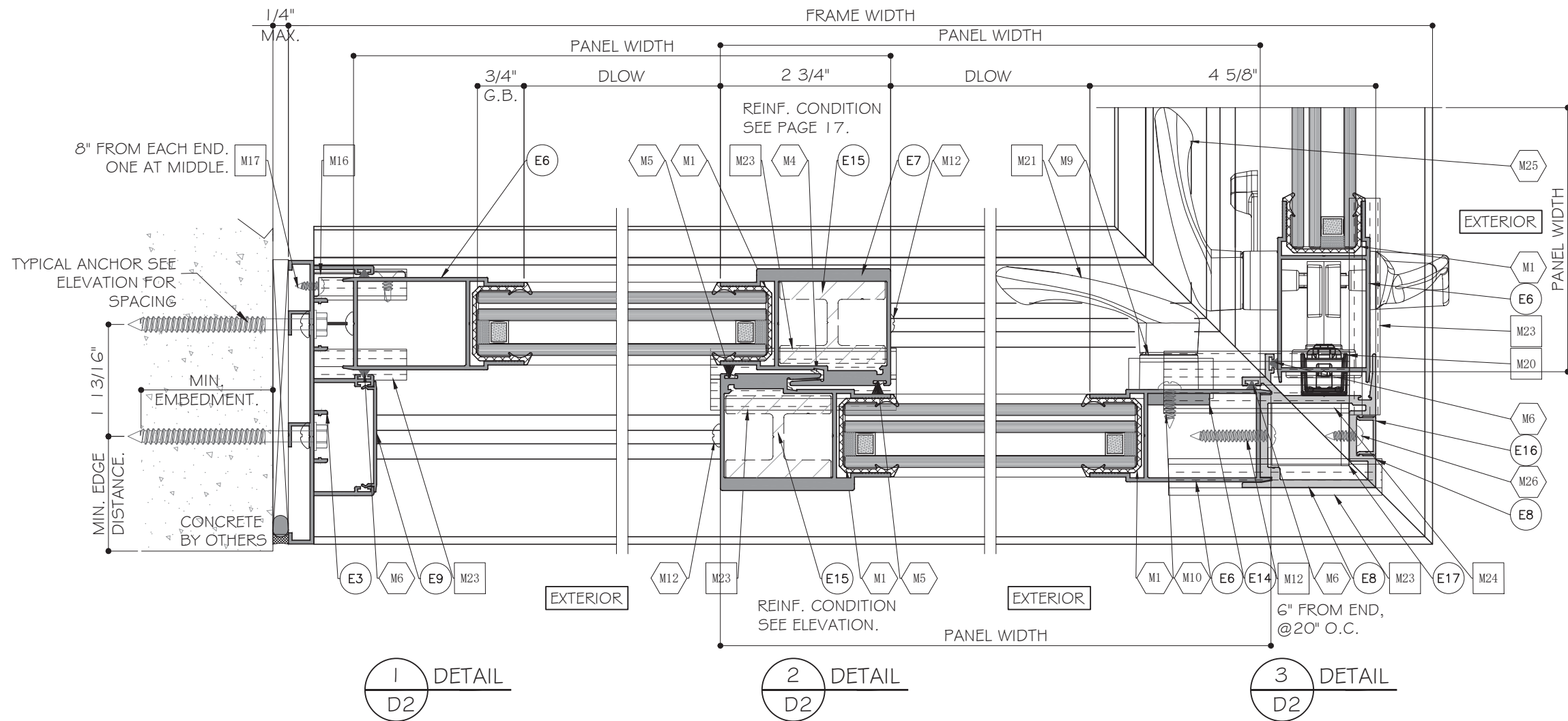


FLORIDA APPROVAL:
FL47760

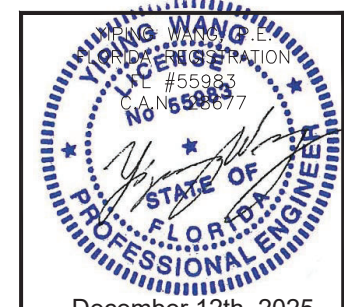
YIPING WANG
REGISTERED PROFESSIONAL ENGINEER
FLORIDA
LICENSE #55983
C.A. No. 55983

December 12th, 2025

MCY ENGINEERING, INC. GLAZING CONSULTANTS 12781 MIRAMAR PKWY, STE. 301 MIRAMAR, FL 33027 P: 305.588.5224 www.MCYEngineering.com mcy@mcyengineering.com			
EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT			
E.S. WINDOWS, INC. 10653 NE QUAYBRIDGE CT. MIAMI, FL 33138 TEL: (305) 624-7775			
Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION
Drawn Date 12.05.2025		Scale AS SHOWN	
DRAWING NO. AD25-34			
Sheet No. D1			
21 OF 30			



FLORIDA APPROVAL:
FL47760

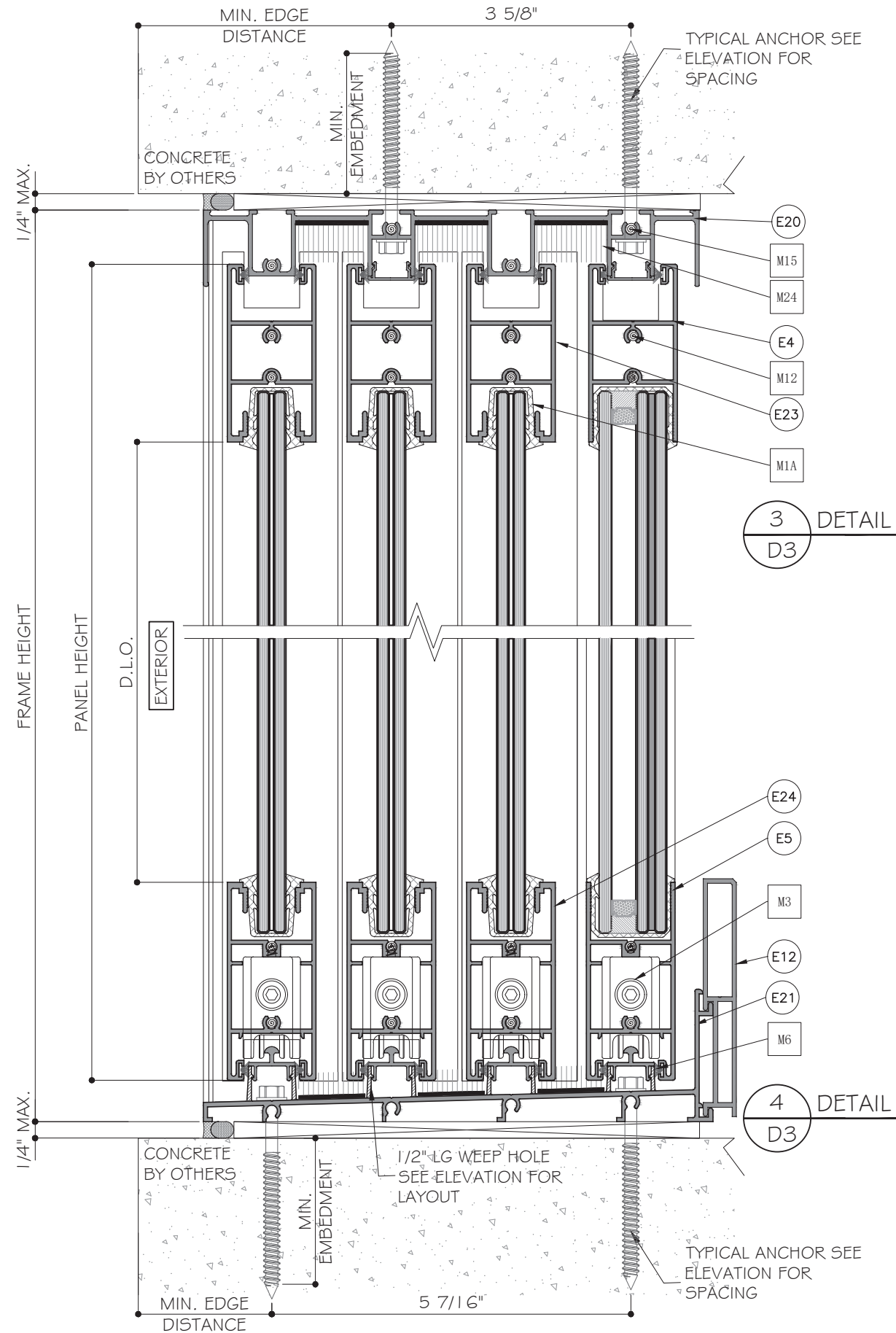
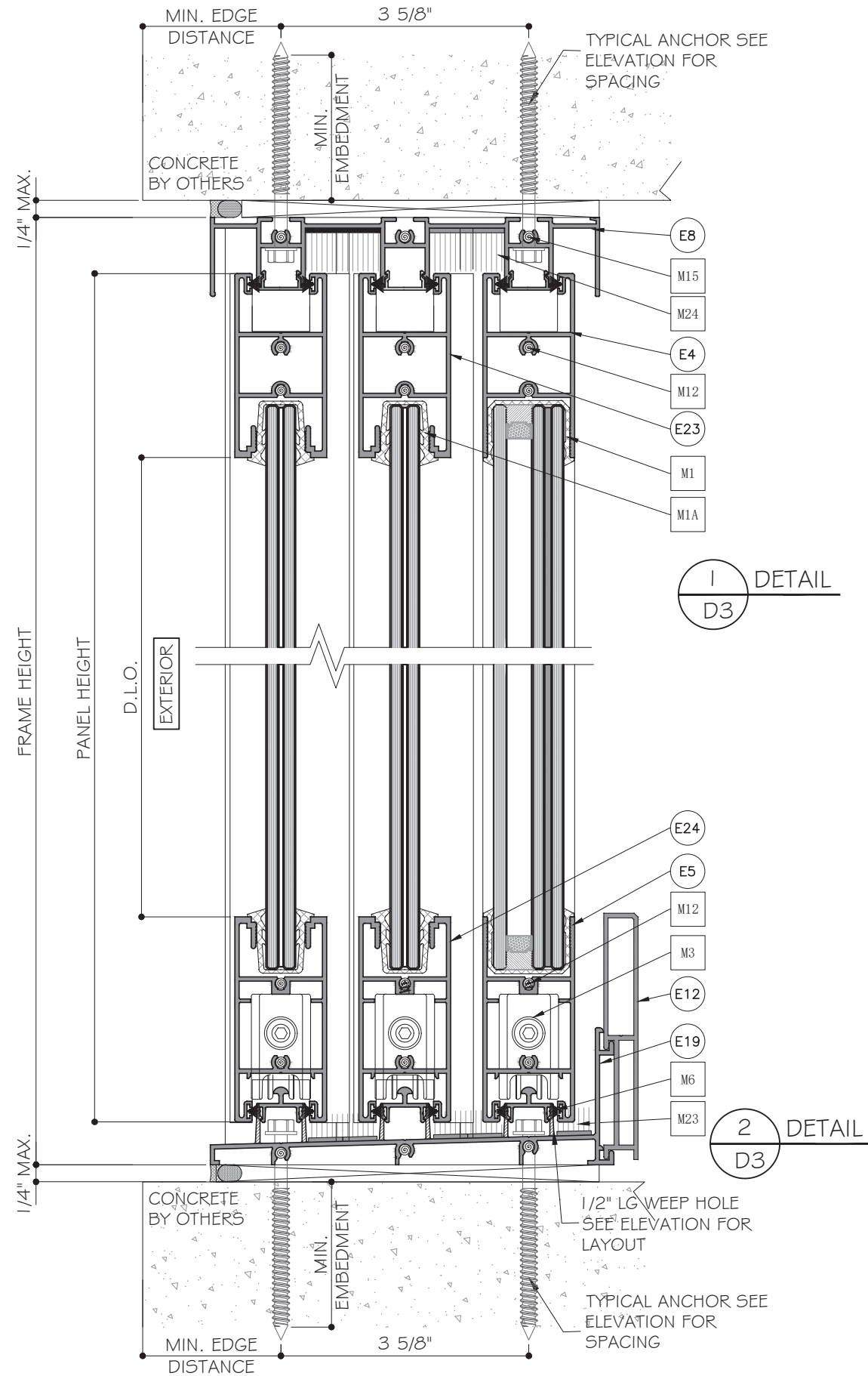


MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com



EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT
E.S. WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL: (305) 624-7775

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION
D2			
22 OF 30			



FLORIDA APPROVAL:

FL47760

December 12th, 2025

YIPING WANG, P.E.
LICENSE #55983
CAN 655877

STATE OF FLORIDA
PROFESSIONAL ENGINEER

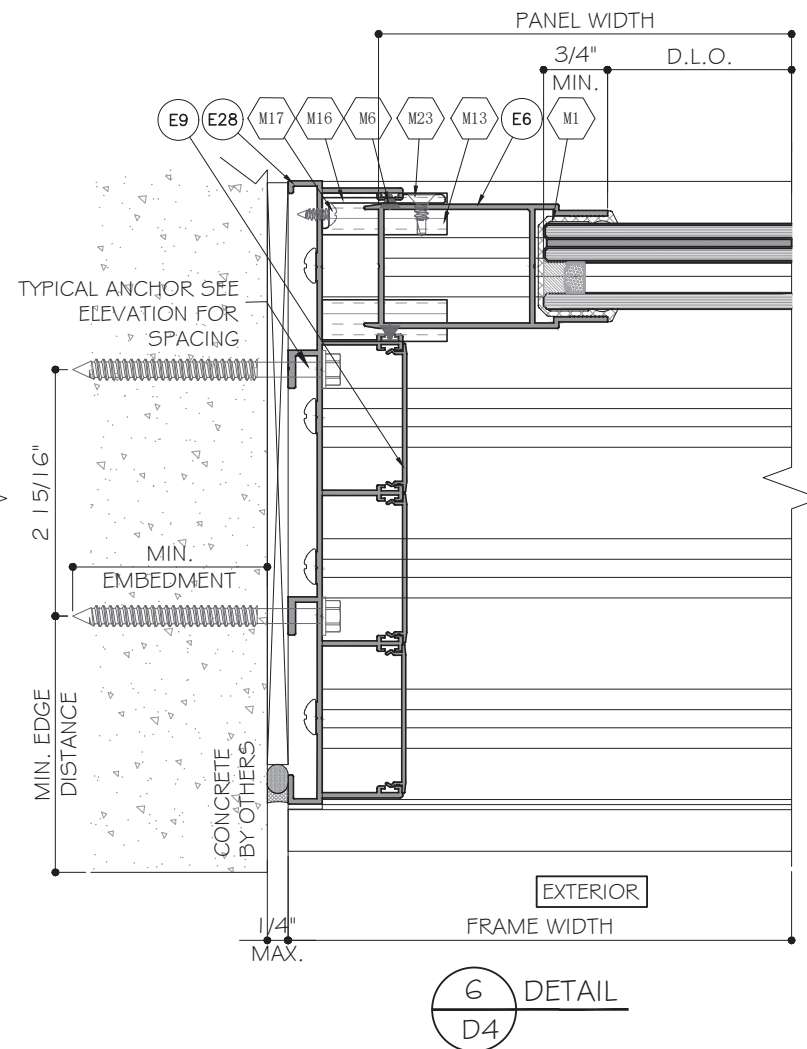
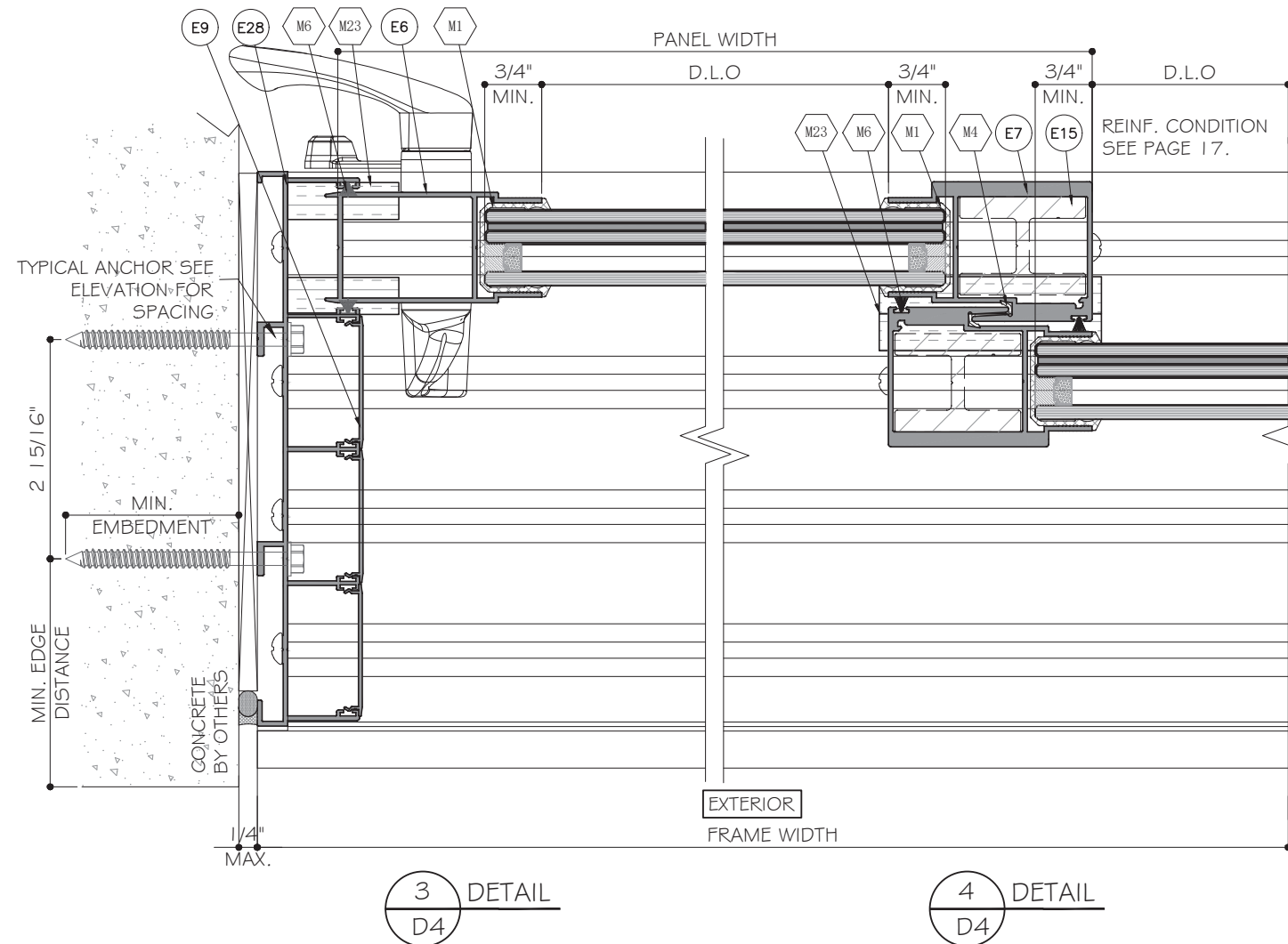
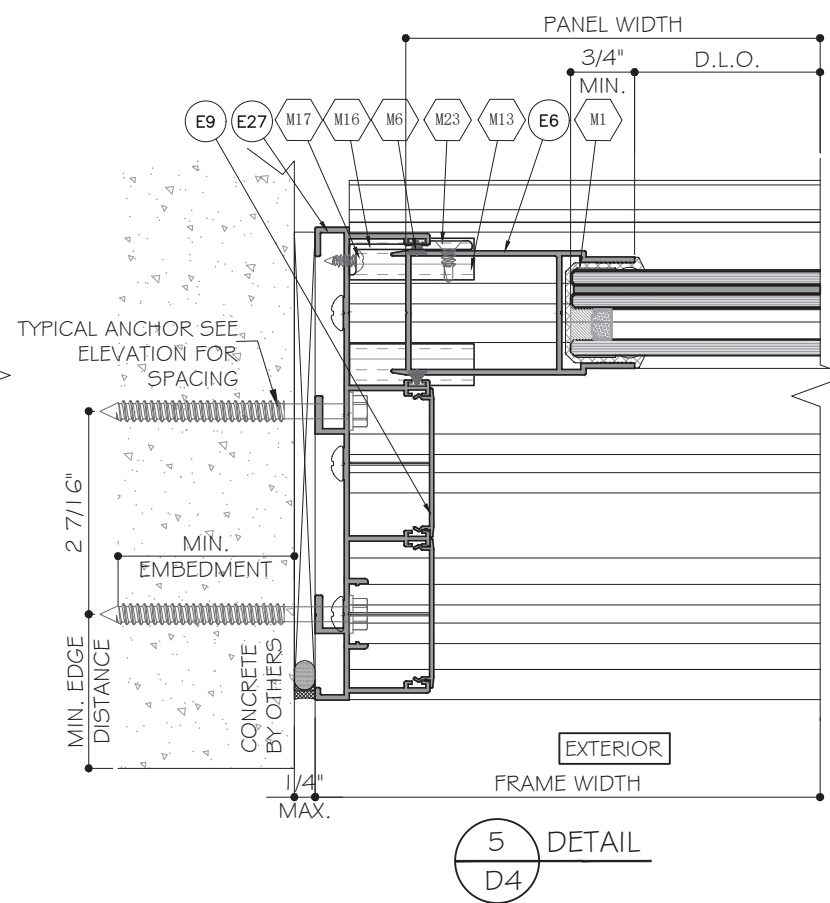
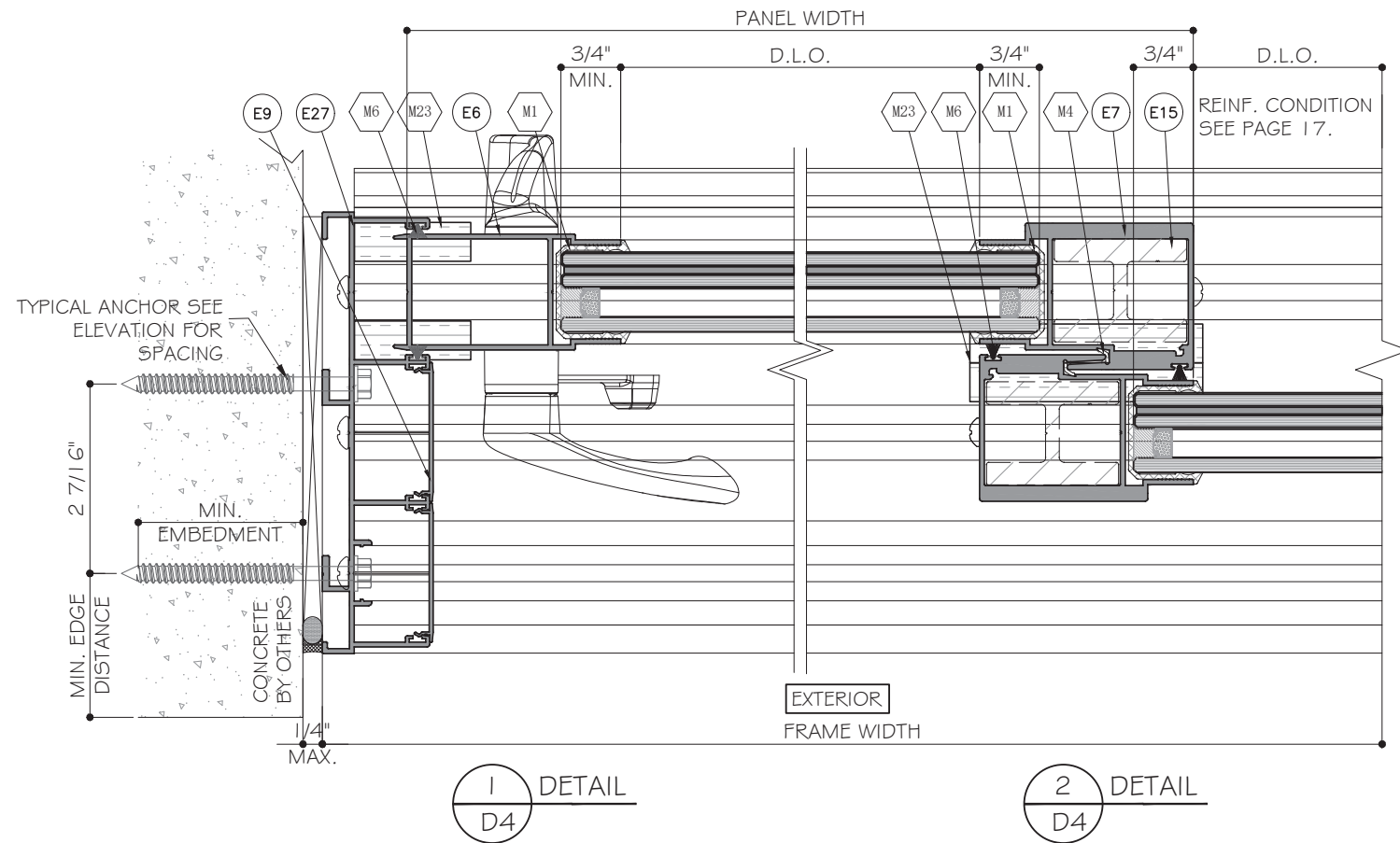
MCY ENGINEERING, INC.
GLAZING CONSULTANTS

12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com

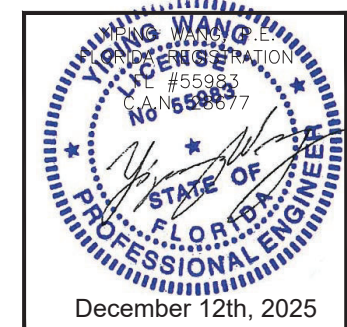
EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

E.S. WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL: (305) 624-7775

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION
Scale AS SHOWN			
Drawing No. AD25-34			
Sheet No. 23 OF 30			



FLORIDA APPROVAL:
FL47760

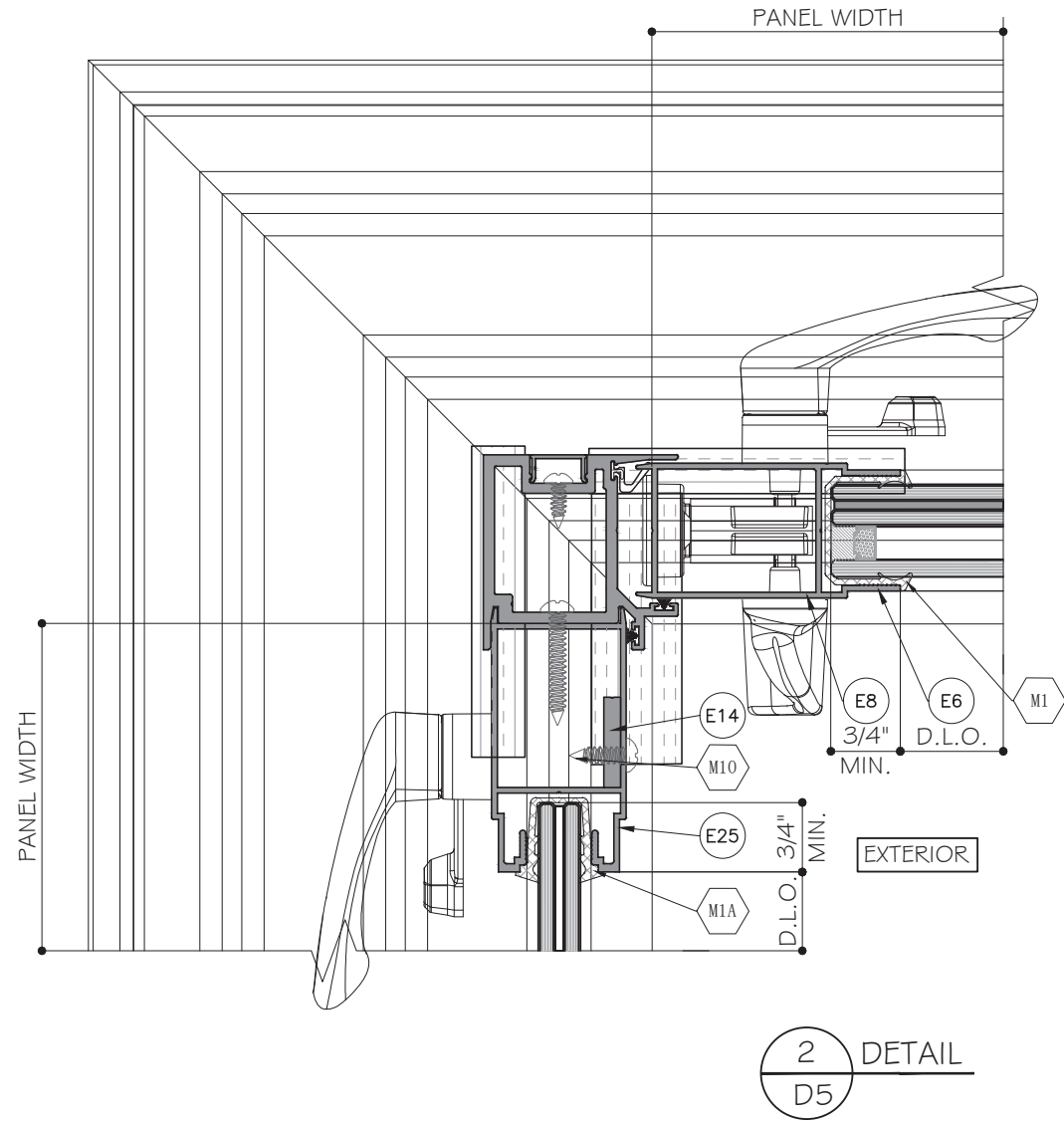
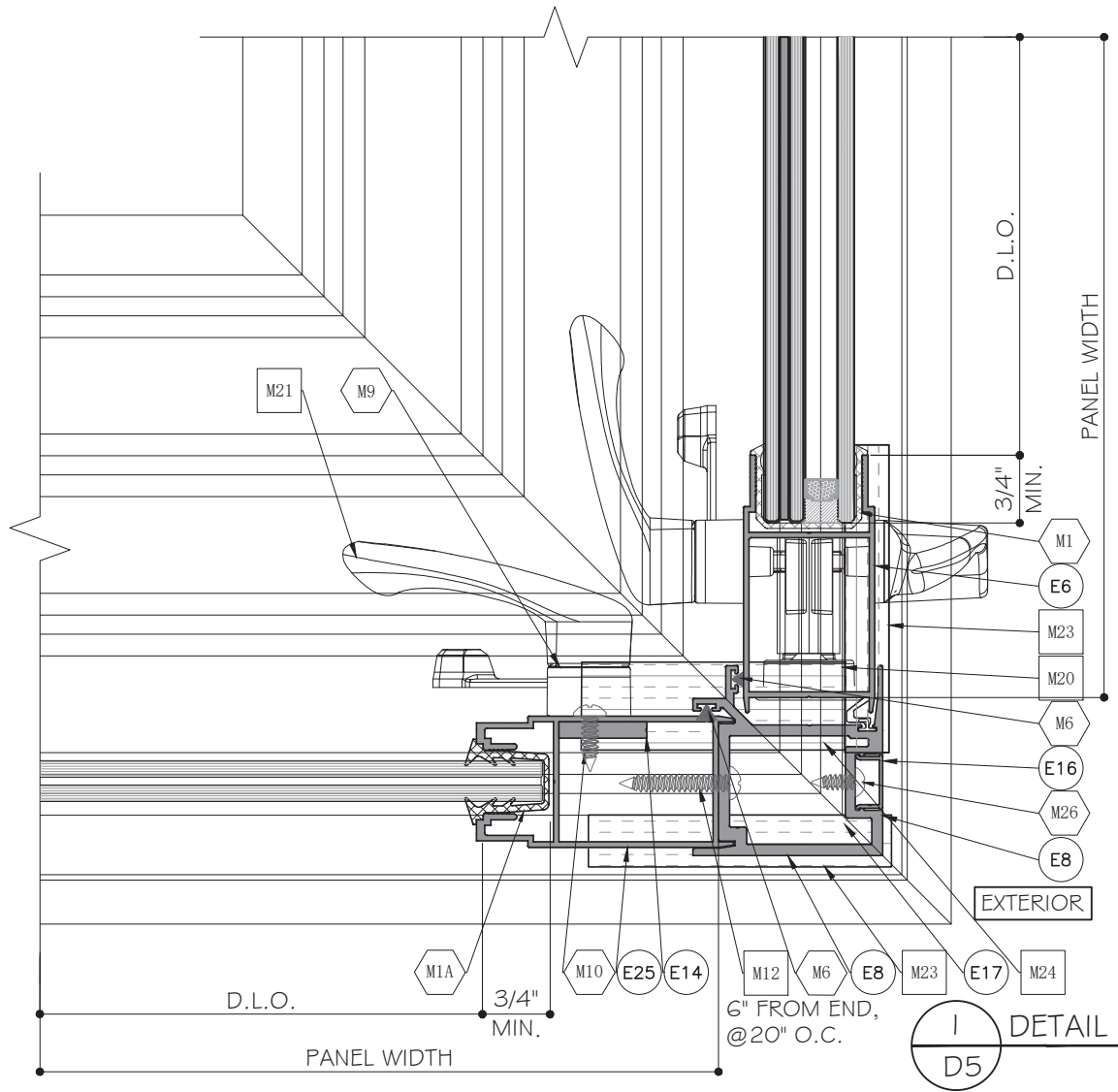


EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

E.S. WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL: (305) 624-7775

MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION
D4			
AD25-34			
24 OF 30			



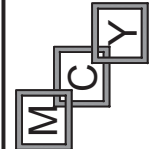
FLORIDA APPROVAL:
FL47760



December 12th, 2025

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

E.S. WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL. (305) 624-7775



MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION
D5			
25 OF 30			

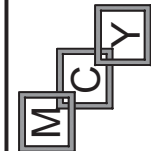


NOTE:
METAL STRUCTURES OR WOOD STRUCTURES BY OTHERS TO BE
DESIGNED TO SUPPORT THE LOADS IMPOSED BY THIS GLAZING
SYSTEM AND TO TRANSFER SUCH LOADS TO THE BUILDING MAIN
STRUCTURE.



--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

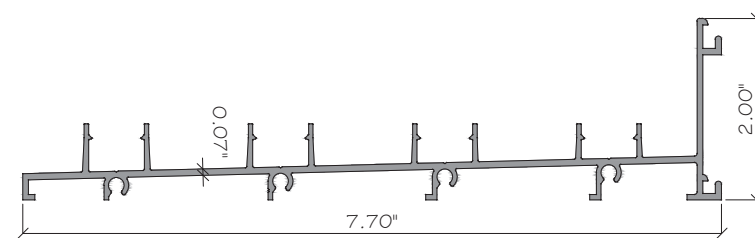
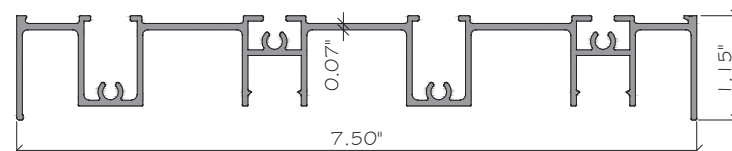
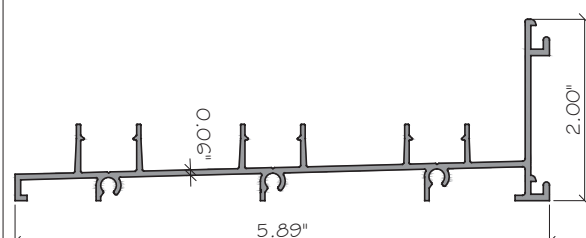
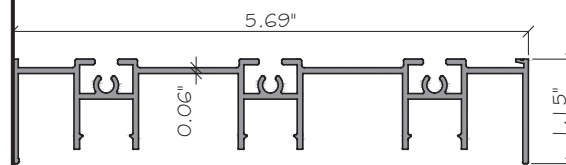
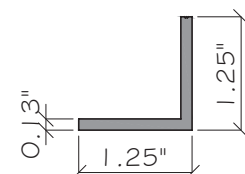
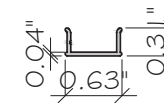
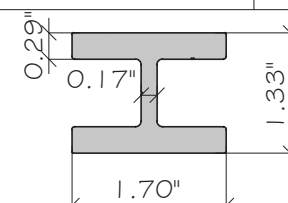
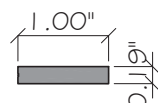
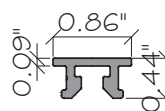
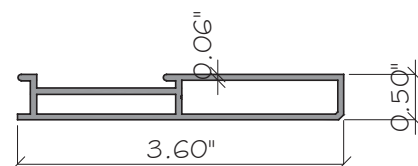
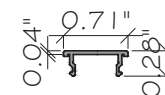
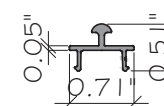
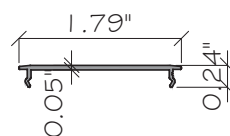
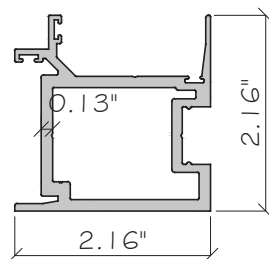
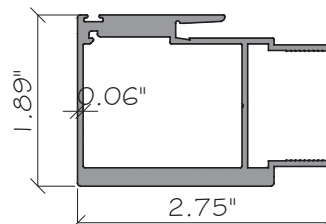
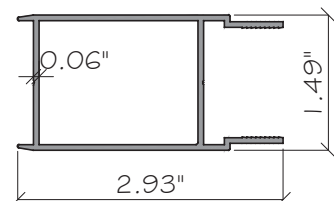
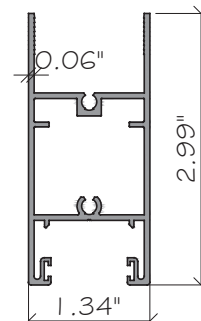
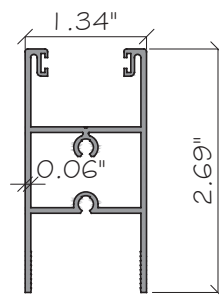
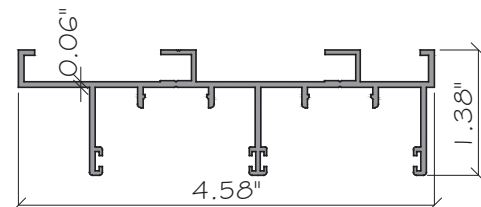
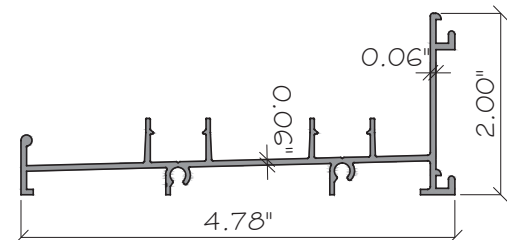
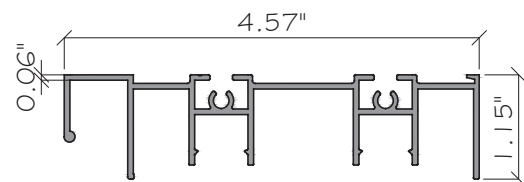
E.S.WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL. (305) 624-7775



MCY ENGINEERING, INC.
GLAZING CONSULTANTS

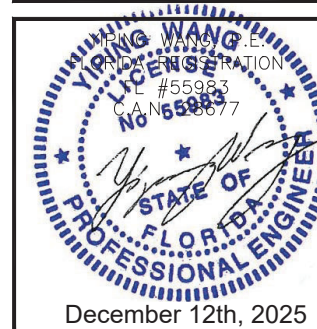
12781 MIRAMAR PKWY. STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
mcy@mcengineering.com

mcy@mcyengineering.com



FLORIDA APPROVAL:

FL47760



EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

E.S.WINDOWS, INC.

10653 NE QUAYBRIDGE CT.

MIAMI, FL33138

TEL.(305) 624-7775

MCY ENGINEERING, INC.

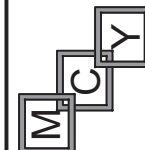
GLAZING CONSULTANTS

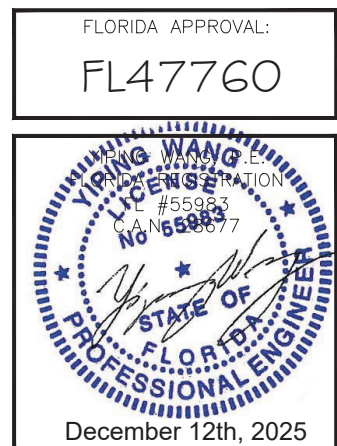
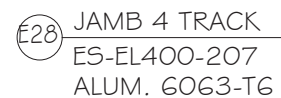
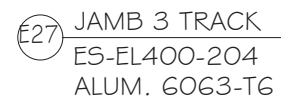
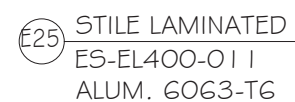
12781 MIRAMAR PKWY.STE.301

MIRAMAR, FL 33027 P: 305.588.5224

www.MCYEngineering.com

mcy@mcyengineering.com

[illegible]

[illegible]

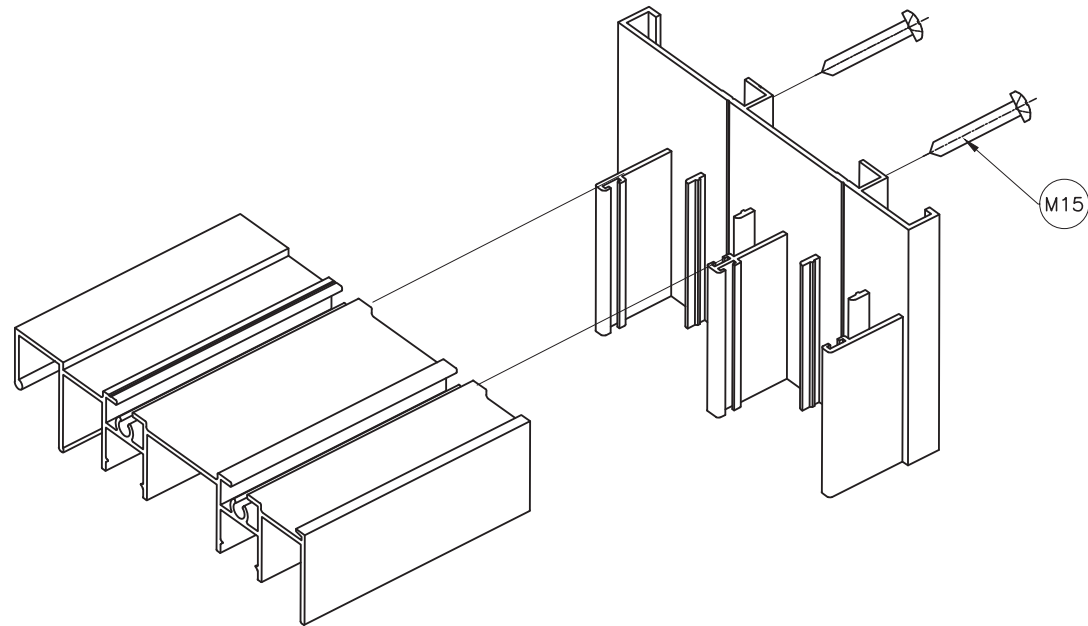
EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT

E.S.WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL.(305) 624-7775

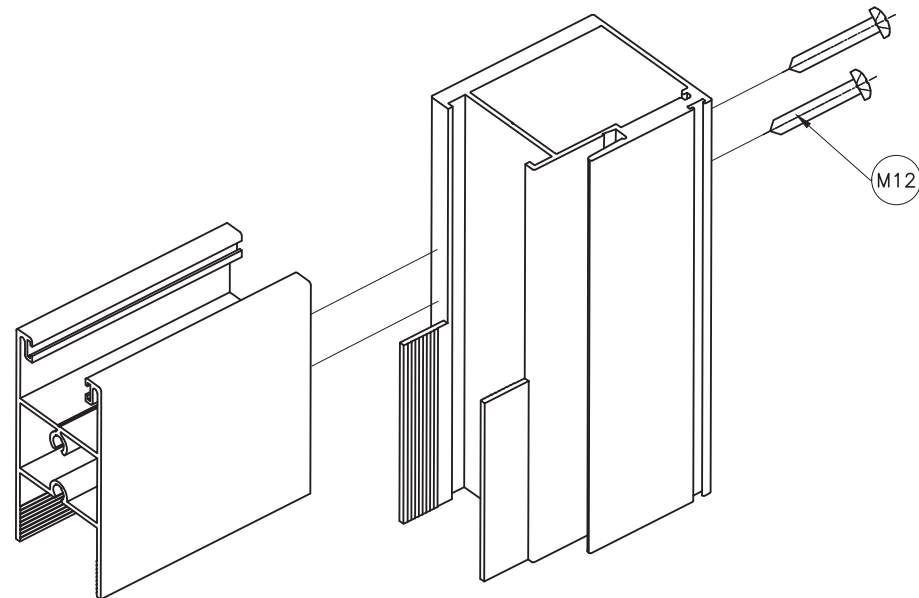


MCY ENGINEERING, INC.
GLAZING CONSULTANTS

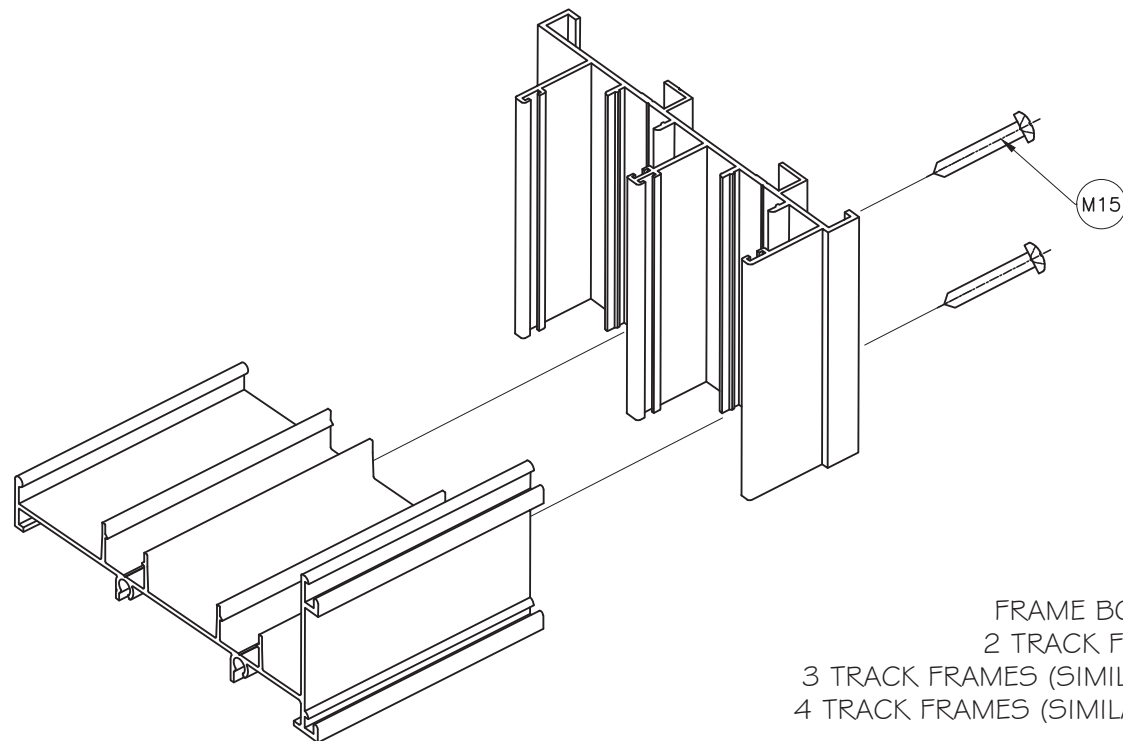
12781 MIRAMAR PKWY. STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
mcy@mcengineering.com



FRAME TOP CORNER
2 TRACK FRAMES (SHOWN)
3 TRACK FRAMES (SIMILAR) WITH (1) ADDL. FASTENER
4 TRACK FRAMES (SIMILAR) WITH (2) ADDL. FASTENERS

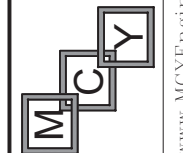
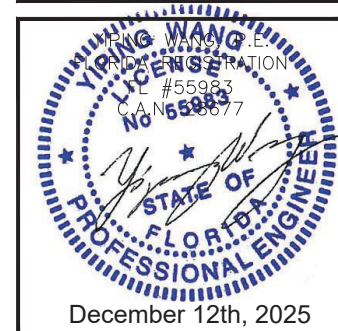


PANEL TOP/BOTTOM CORNER
INSUL. LAM. GLASS RAIL & STILE (SHOWN)
LAM. GLASS RAIL & STILE (SIMILAR)



FRAME BOTTOM CORNER
2 TRACK FRAMES (SHOWN)
3 TRACK FRAMES (SIMILAR) WITH (1) ADDL. FASTENER
4 TRACK FRAMES (SIMILAR) WITH (2) ADDL. FASTENERS

FLORIDA APPROVAL:
FL47760



MCY ENGINEERING, INC.
GLAZING CONSULTANTS
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com

EL-400 SLIDING DOOR SYSTEM - LARGE MISSILE IMPACT
E.S.WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL.(305) 624-7775

Rev. No.	Date	Drawn By	Description
R1	12.05.2025	JAMES	NEW APPLICATION
Drawn Date 12.05.2025 Scale AS SHOWN			
DRAWING NO. AD25-34			
ASSEMBLY			
Sheet No. 30 OF 30			