

THESE WINDOWS ARE RATED FOR LARGE & SMALL MISSILE IMPACT.
SHUTTERS ARE NOT REQUIRED.

ES-P252 (L.M.I.)
THERMAL ALUMINUM CASEMENT WINDOW

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE
COMBINATIONS OF CASMT./CASMT. OR CASEMENT WITH OTHER
WINDOW TYPES IN MODULES OF TWO OR MORE WINDOWS USING
F.B.C. APPROVED MULLIONS IN BETWEEN.
LOWER DESIGN PRESSURE FROM WINDOWS OR MULLION APPROVAL
WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE
REQUIREMENTS OF THE 2023 (8TH EDITION)/2026 (9TH EDITION) FLORIDA
BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

1BY OR 2BY WOOD BUCKS & BUCK FASTENERS BY OTHERS, MUST BE
DESIGNED AND INSTALLED ADEQUATELY TO TRANSFER APPLIED PRODUCT
LOADS TO THE BUILDING STRUCTURE.

ANCHORS SHALL BE CORROSION RESISTANT, SPACED AS SHOWN ON DETAILS
AND INSTALLED PER MANUF'S INSTRUCTIONS. SPECIFIED EMBEDMENT TO BASE
MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

ALL SHIMS TO BE LOAD-BEARING, (HIGH DENSITY PLASTIC/COMPOSITE, METAL
OR OTHER RIGID MATERIALS).

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT
COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE
REQUIREMENTS OF THE 2023/2026 FLORIDA BLDG. CODE & ADOPTED STANDARDS.

THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION
FOR A SITE SPECIFIC PROJECT, i.e. LIFE SAFETY OF THIS PRODUCT, ADEQUACY
OF STRUCTURE RECEIVING THIS PRODUCT AND SEALING AROUND OPENING FOR
WATER INFILTRATION RESISTANCE ETC.
CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY,
AND TO BE REVIEWED BY BUILDING OFFICIAL.

DESIGN LOADS SHOWN ARE BASED ON 'ALLOWABLE STRESS DESIGN (ASD)'.

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.

FASTENERS AND CONNECTORS (AS APPLICABLE) SHOWN IN THIS APPROVAL MAY NOT MEET
CORROSION RESISTANCE REQUIREMENTS FOR COASTAL OR SALT WATER EXPOSURE ZONES.
COMPLIANCE WITH THESE CONDITIONS TO BE CHECKED PER FBC 1711.

Sealed: 8/25/2026

FL #20692

A- 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.
B- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF
ALTERED BY ANY MEANS.
C- 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. ENGINEER OF RECORD, ACTING AS A DELEGATED
ENGINEER TO THE P.E.D. ENGINEER SHALL SUBMIT TO THIS LATTER THE SITE
SPECIFIC DRAWINGS FOR REVIEW.
D- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF
THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

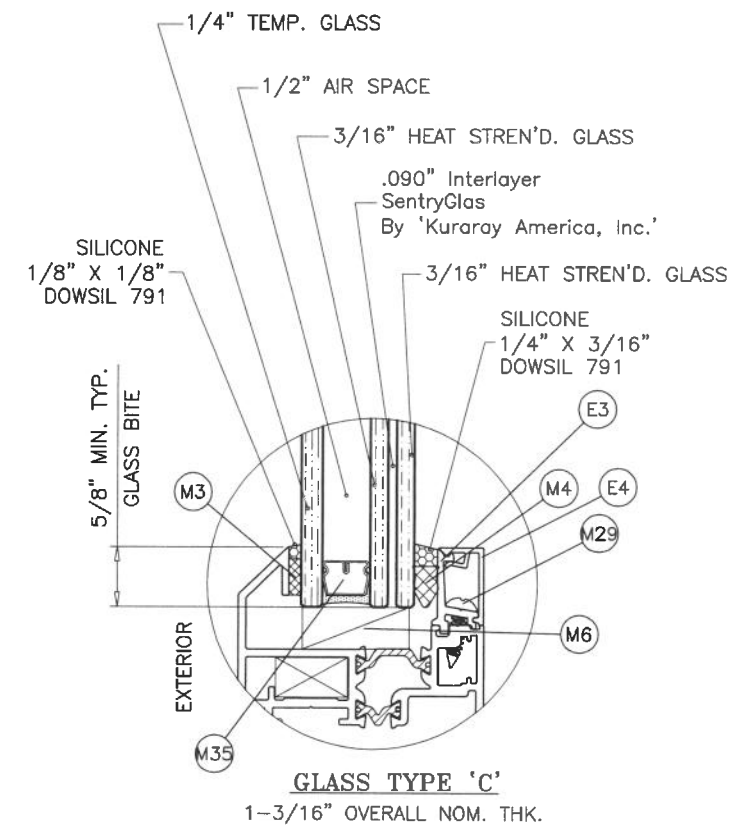
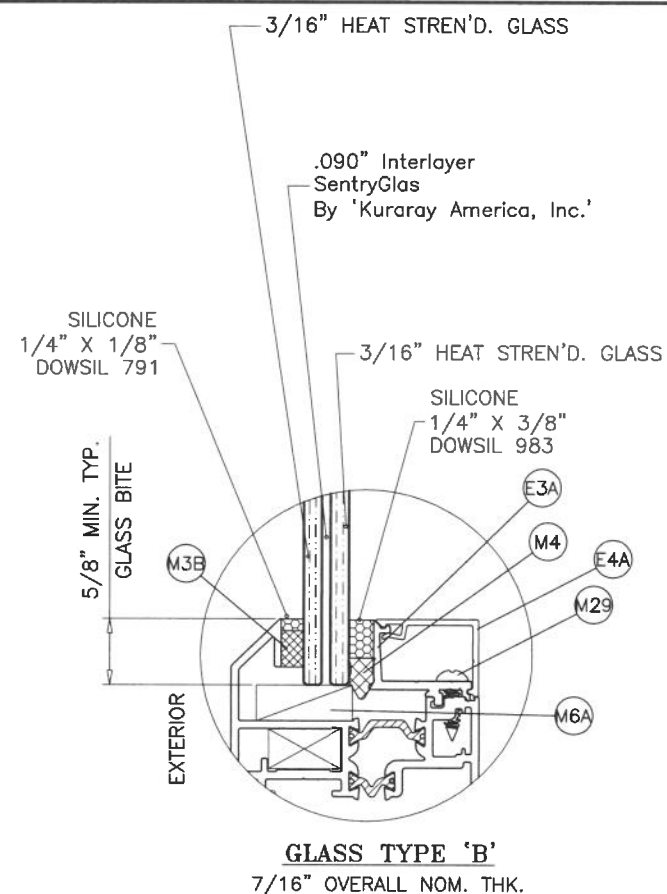
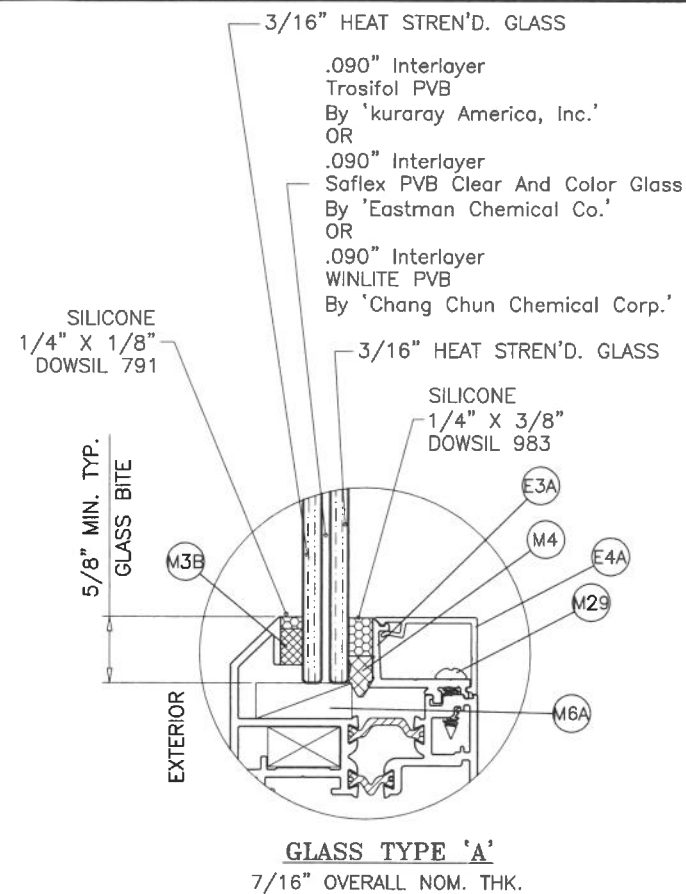


AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978

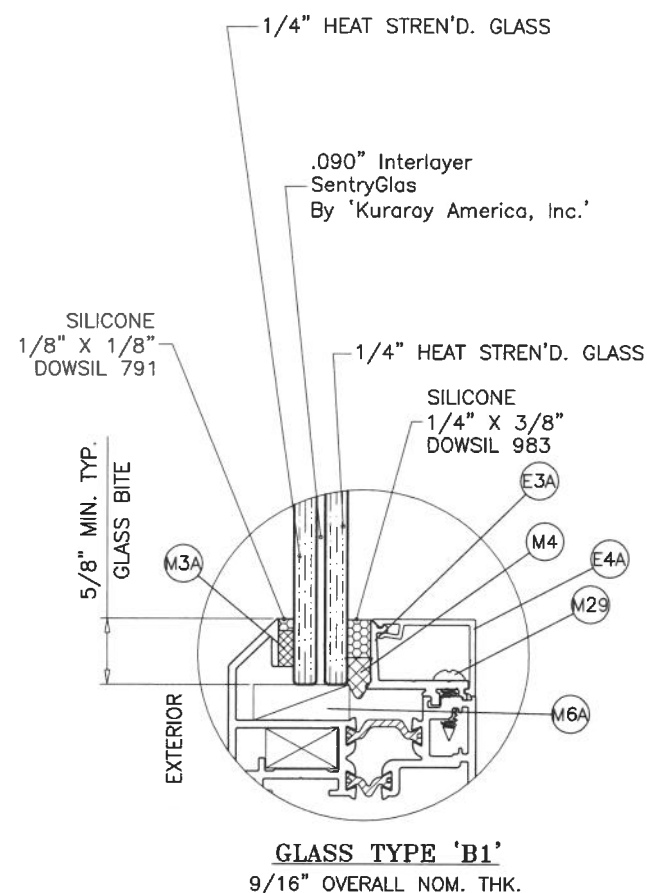
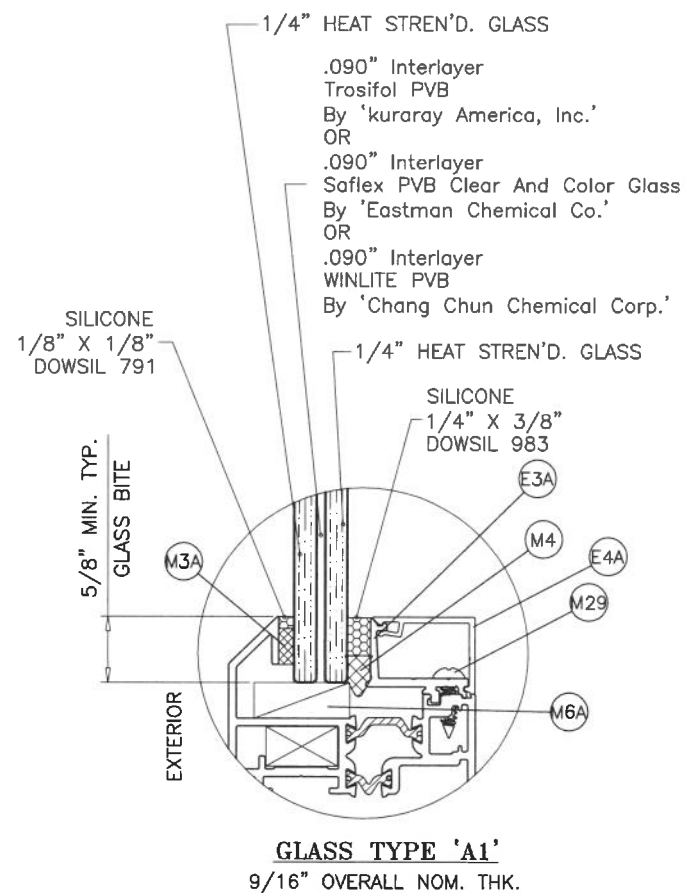
ES-P252 THERMAL ALUM CASEMENT WDW. (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:	
no	date
G	06.15.23
H	07.07.23
I	08.09.24
J	08.21.26
description	
GLASS TYPE E ADDED	
UPDATED TO 2023 FBC	
WINLITE INTERLAYER ADDED	
UPDATED TO 2026 FBC	
date:	06-13-16
scale:	1/2"=1'-0"
dr. by:	TARIQ
chk. by:	
drawing no.	W16-46
sheet	1 of 8

COMP-ANL\W16-46-ES



GLASS TYPE 'C' MAXIMUM DESIGN LOAD RATING = + 95.0 PSF (FOR SIZE SHOWN ON SHEET 1.1 OR SMALLER) - 105.0 PSF
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GLASS TYPES 'A' & 'A1' —————
 MAXIMUM DESIGN LOAD RATING = + 80.0 PSF
 (FOR SIZE SHOWN ON SHEET 1.1 OR SMALLER) — 80.0 PSF

GLASS TYPES 'B' & 'B1' —————
 MAXIMUM DESIGN LOAD RATING = + 85.0 PSF
 (FOR SIZE SHOWN ON SHEET 1.1 OR SMALLER) — 105.0 PSF

1/2" AIR SPACE CONSISTING OF:
SPACER:
'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.
PERIMETER SEALANT:
SILICONE
DOWSIL 791
GE 2000

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-16 (3 SEC. GUSTS)
AND FLORIDA BUILDING COMMISSION
DECLARATORY STATEMENT DCA05-DEC-219



Sealed: 8/25/2026

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COMP--ANL\W1

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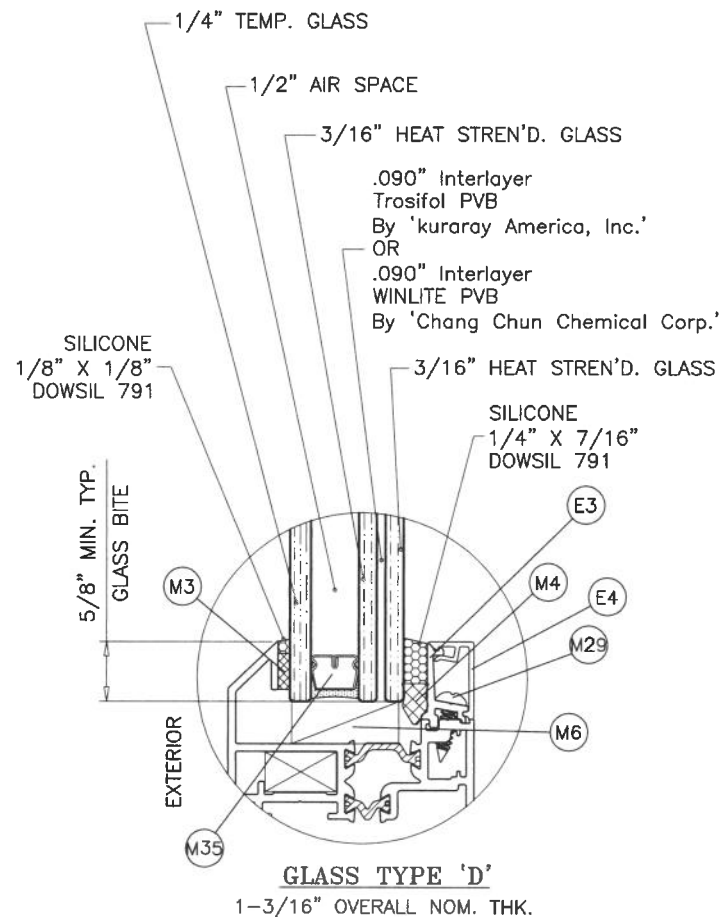
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drawing no.
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sheet 1.2 of 8



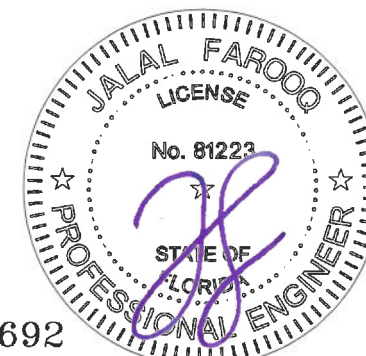
GLASS TYPE 'D'
MAXIMUM DESIGN LOAD RATING = + 70.0 PSF
 (FOR SIZES 42" W X 84" HT. OR SMALLER) **- 75.0 PSF**

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PERIMETER SEALANT:
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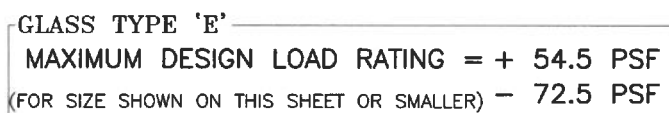
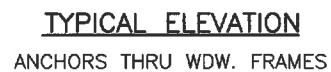
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W16-46
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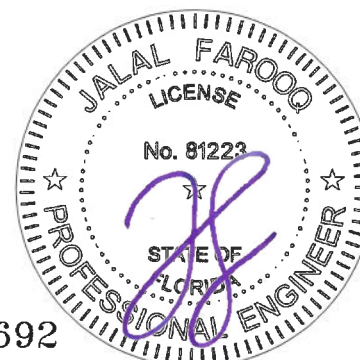


1/2" AIR SPACE CONSISTING OF:
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 BY 'LINGERMANN GMBH'
 AROUND THE PERIMETER OF THE GLASS.
PERIMETER SEALANT:
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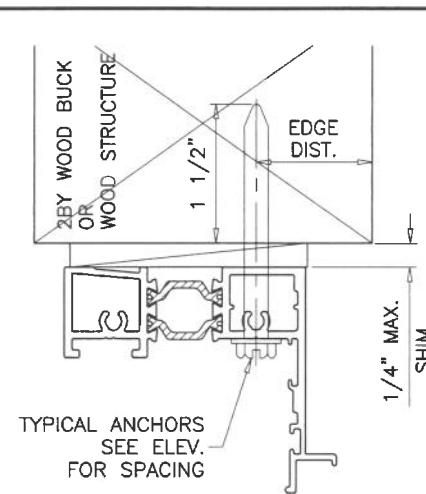
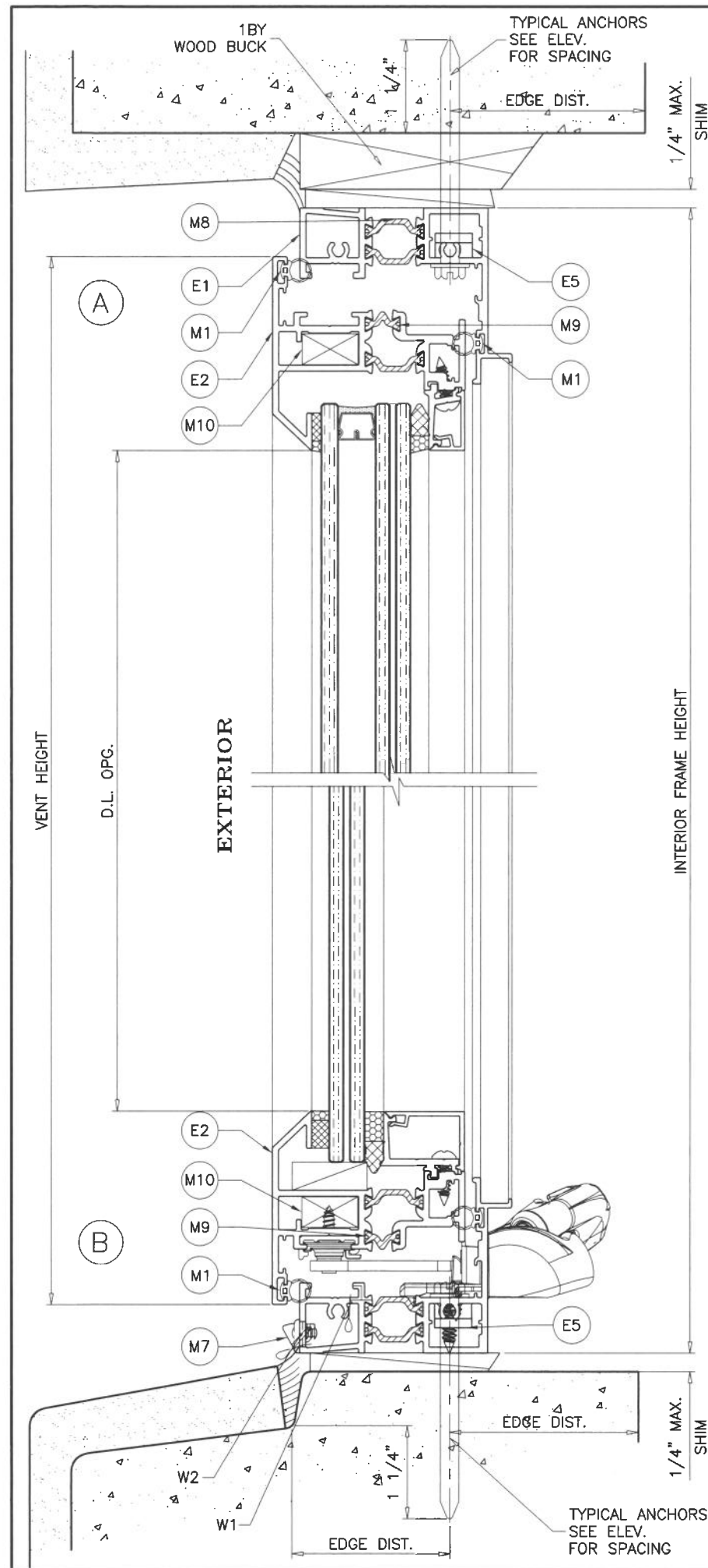
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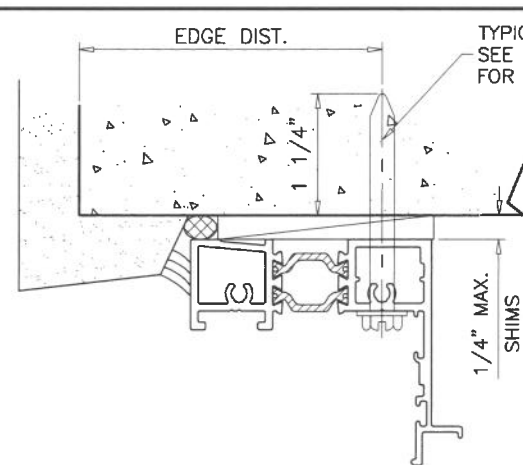
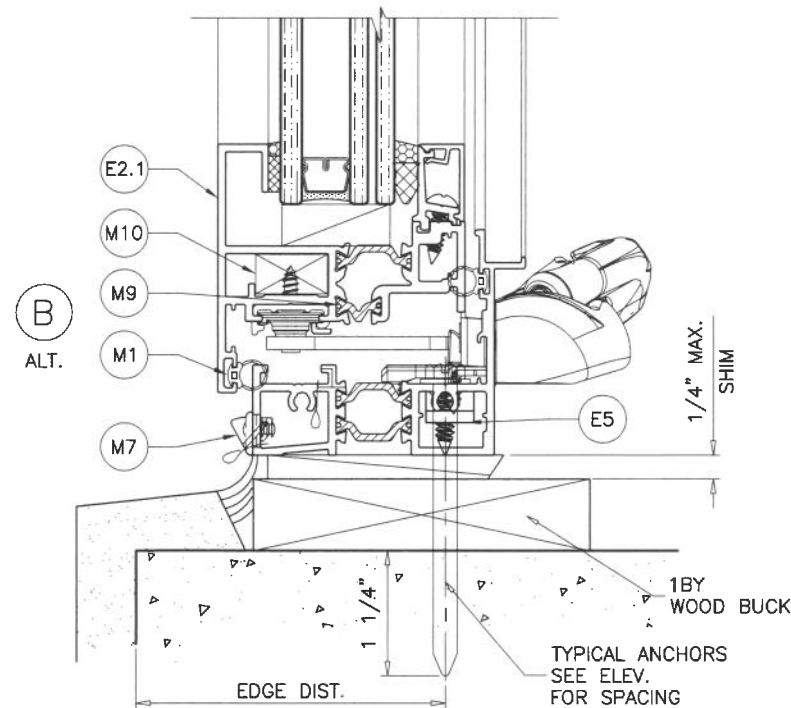
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sheet 1.4 of 8



1BY OR 2BY WOOD BUCKS AND METAL STRUCTURE NOT BY 'E.S. WDW.' MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

WEEPHOLES:

- W1 = 2" X 5/16" WEEPHOLES AT 3-1/4" FROM EACH END AND AT MIDSPAN
- W2 = 1-1/2" X 1/4" WEEPHOLES AT 6" FROM EACH END WITH NYLON BAFFLE



TYPICAL ANCHORS: SEE ELEV. FOR SPACING

1/4" DIA. CRETE-FLEX SS4 BY 'DEWALT' (Fu=190 KSI, Fy=127 KSI)

1/4" DIA. ULTRACON SS4 410 BY 'DEWALT' (Fu=190 KSI, Fy=164 KSI)

1/4" DIA. AGGRE-GATOR 300 BY 'DEWALT' (Fu=96 KSI, Fy=57 KSI)

1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)

INTO 2BY WOOD BUCKS OR WOOD STRUCTURES

1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)

THRU 1BY BUCKS INTO CONC. OR BLOCKS

1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL)

1-1/2" MIN. EMBED INTO FILLED BLOCKS (JAMBS)

DIRECTLY INTO CONC. OR BLOCKS

1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL)

1-1/2" MIN. EMBED INTO FILLED BLOCKS (JAMBS)

1/4" DIA. BI-FLEX 300 SELF DRILLING SCREWS BY 'DEWALT'

1/4" DIA. DRIL-FLEX SELF DRILLING SCREWS BY 'DEWALT' (GRADE 5 CRS)

INTO F.B.C. APPROVED MULLIONS

OR

INTO METAL STRUCTURES (HEAD/SILL/JAMBS)

(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS

ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)

STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)

(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES

INTO CONCRETE AND BLOCKS = 2-1/2" MIN.

INTO WOOD STRUCTURE = 1" MIN.

INTO METAL STRUCTURE = 3/4" MIN.

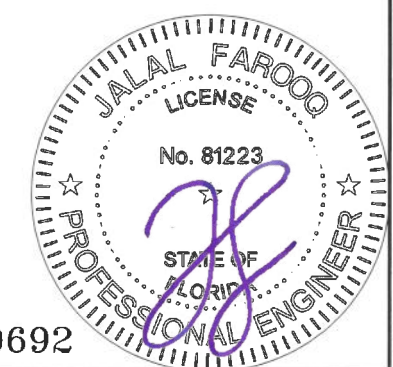
WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.

CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.

C-90 GROUT FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.

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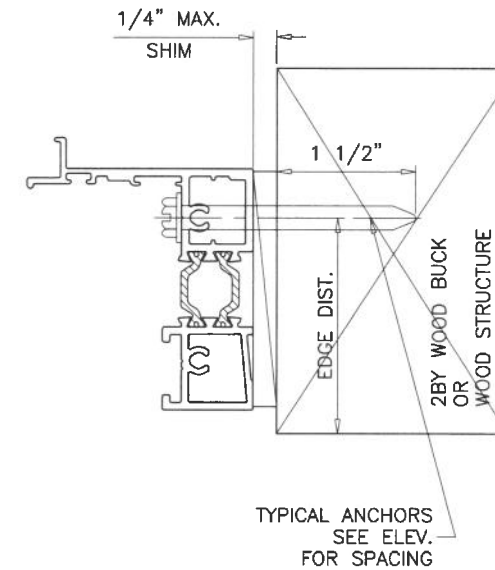
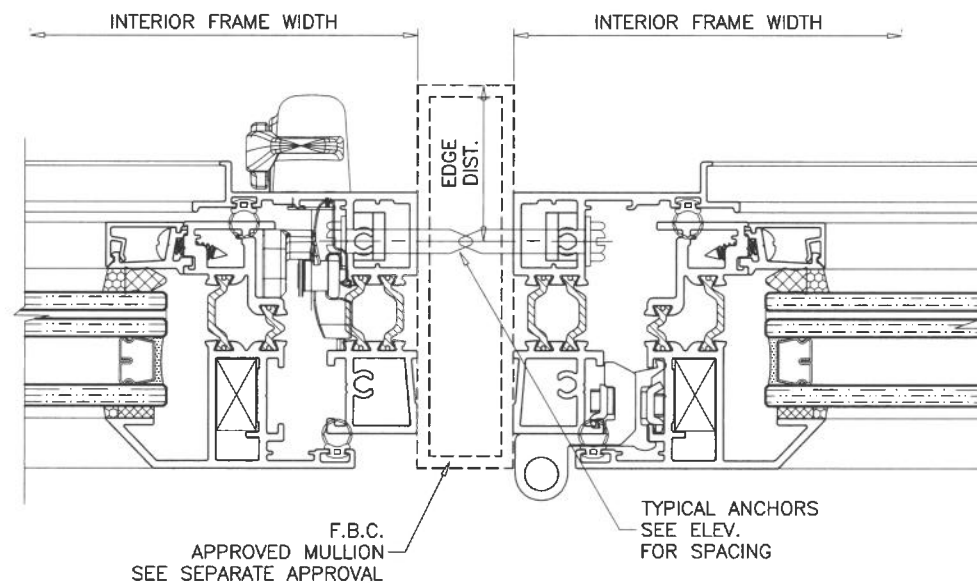
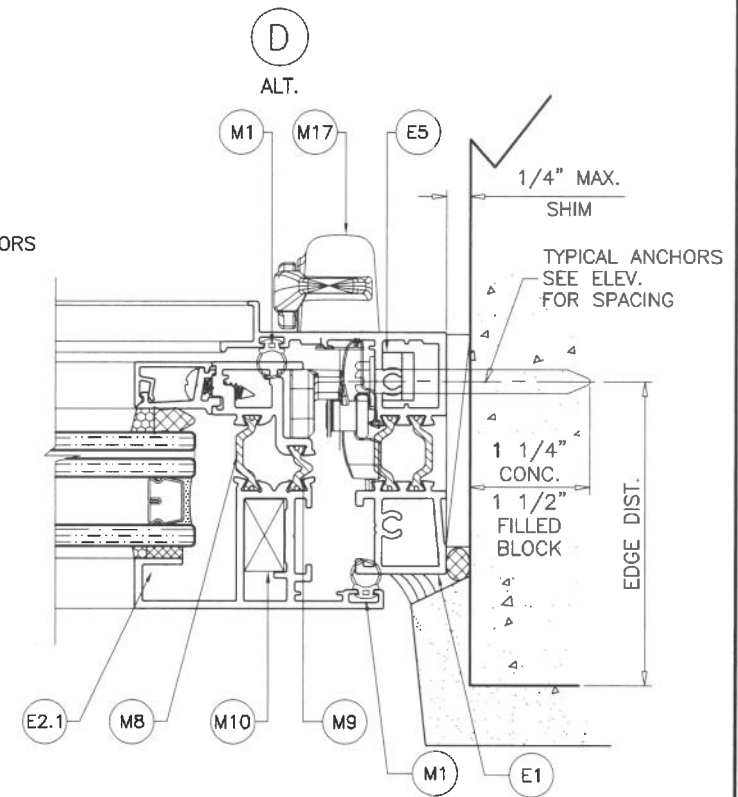
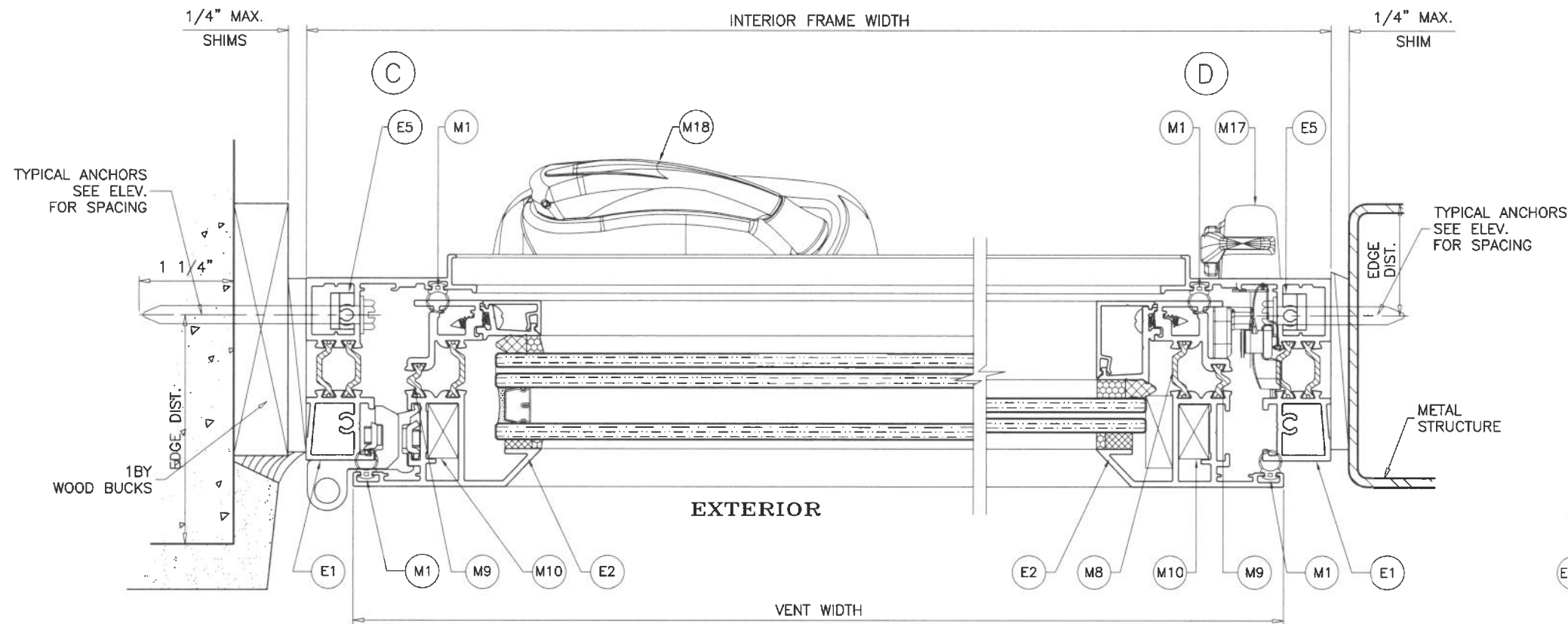
ES-P252 THERMAL ALUM CASEMENT WDW. (L.M.I.)

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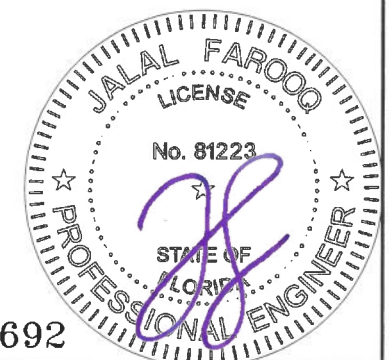
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sheet 2 of 8



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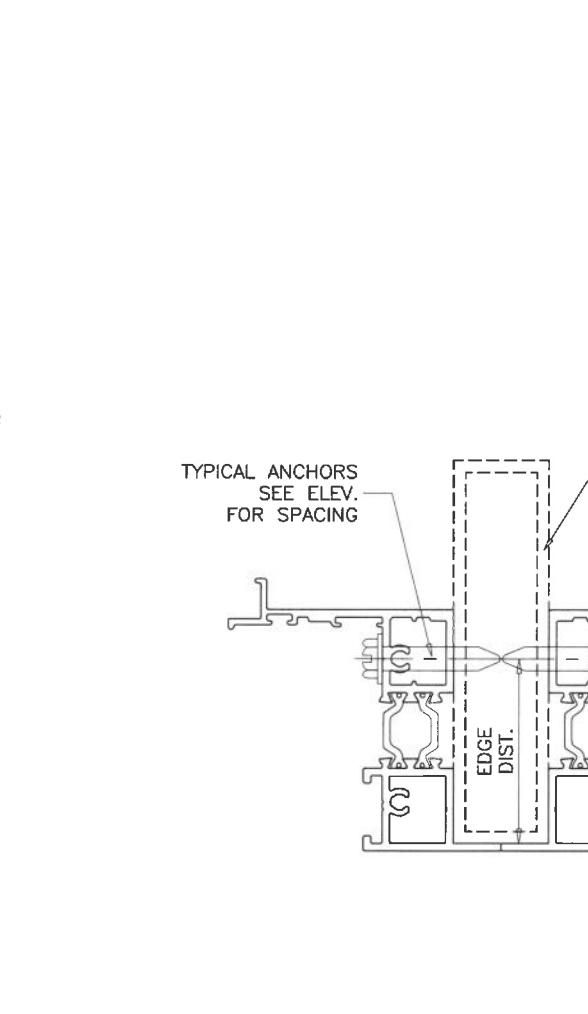
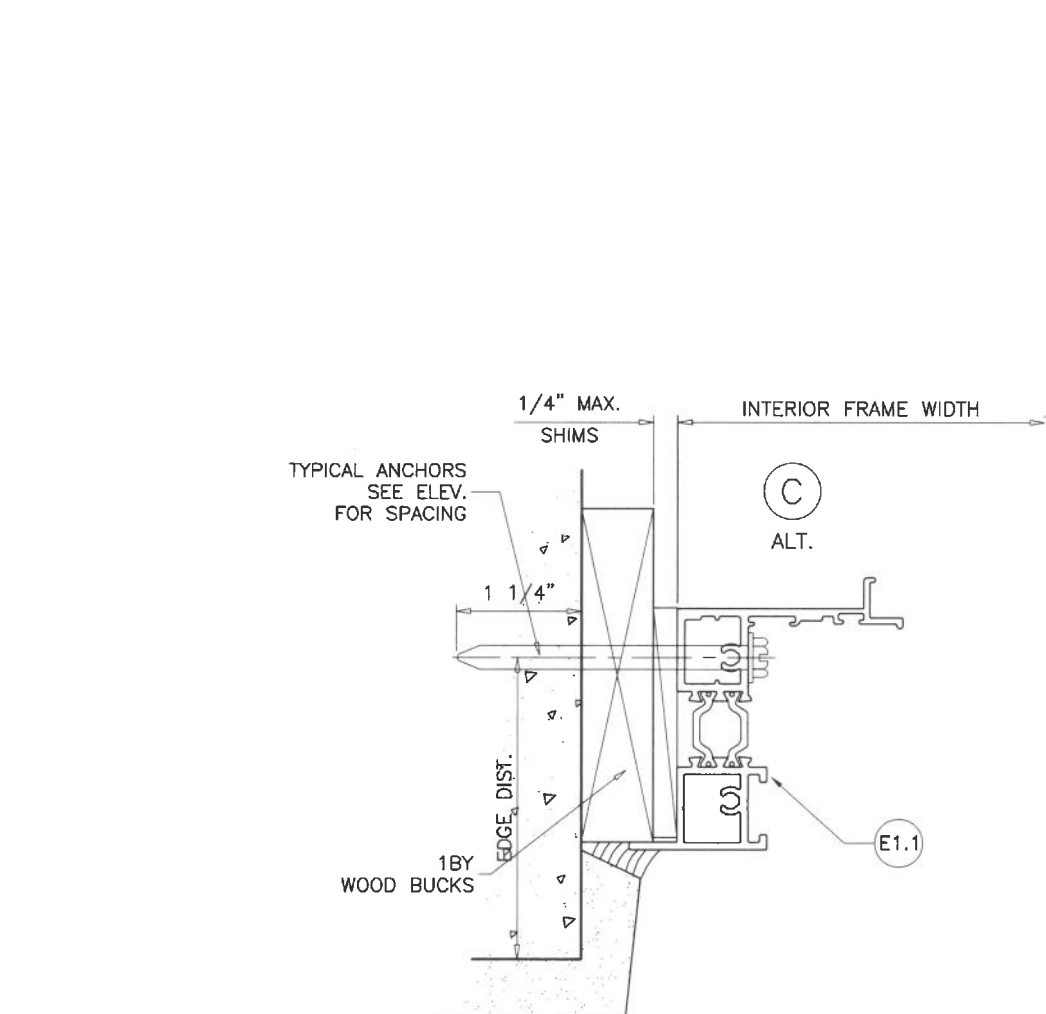
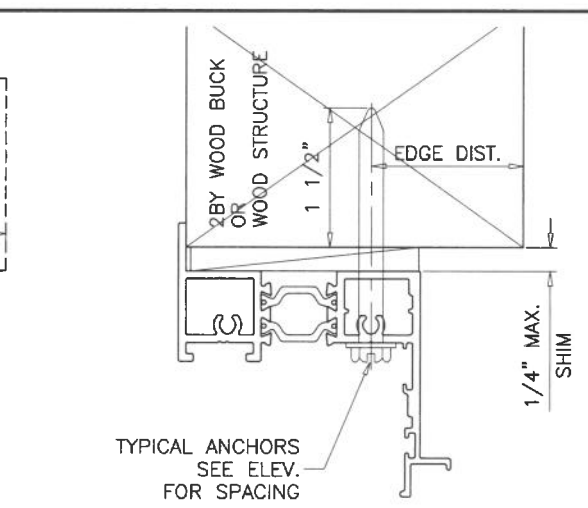
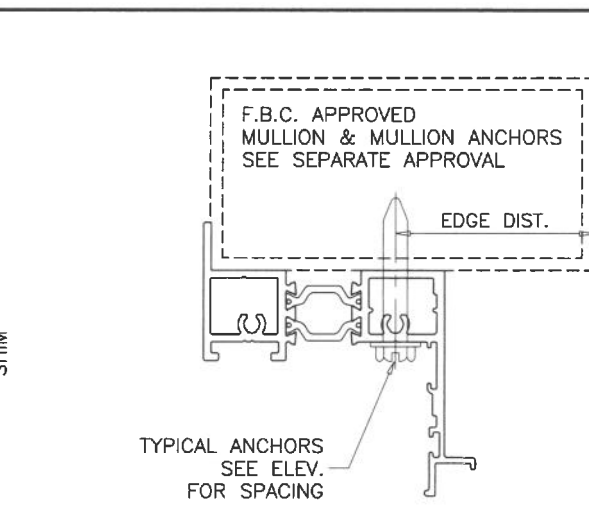
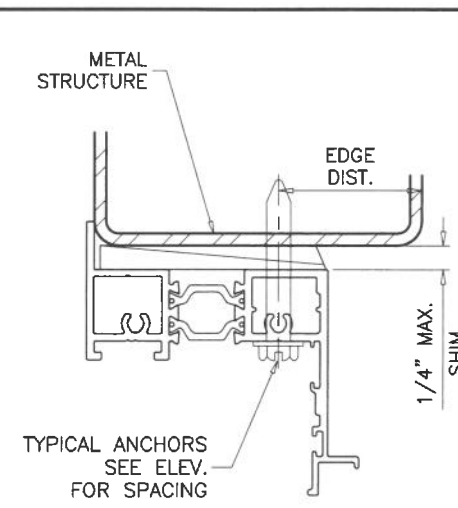
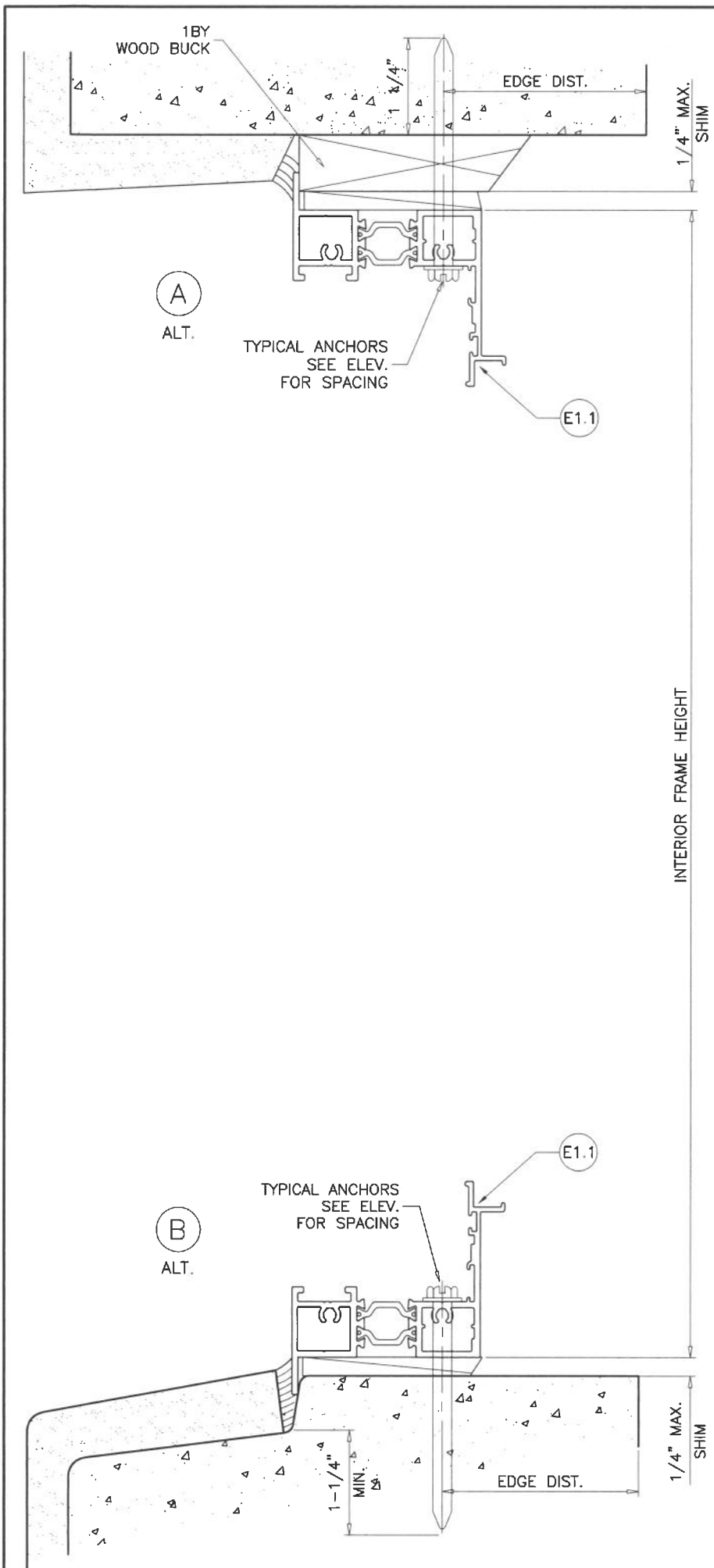
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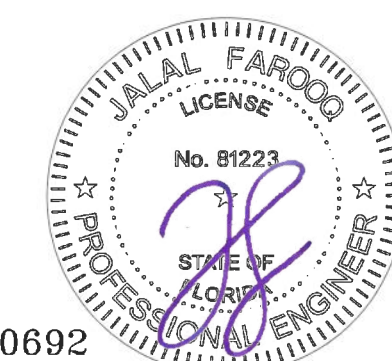
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 sheet 3 of 8



INSTALLATION DETAILS WITH FLANGE FRAME
SEE SHEETS 2 & 3 FOR WINDOW DETAILS

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EXTERIOR



ALT.

EXTERIOR

A circular professional engineer seal for Jalal Farooq. The outer ring contains the text "JALAL FAROOQ" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. Inside this ring is a dotted circle with the word "LICENSE" at the top and "STATE OF FLORIDA" at the bottom, also separated by two stars. In the center, the license number "No. 81223" is printed. A large, stylized purple signature is written across the center of the seal, overlapping the license number and the "STATE OF FLORIDA" text. The number "692" is printed in the bottom left corner of the page.

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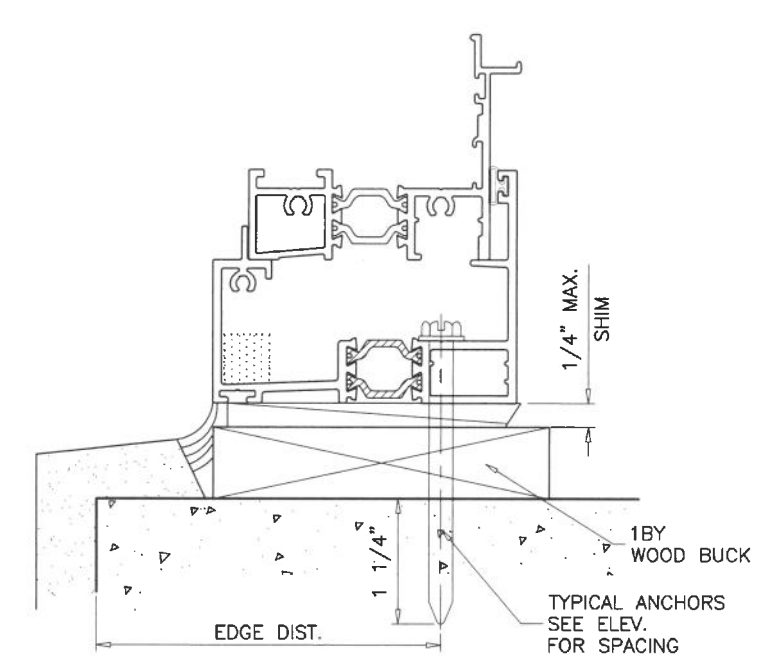
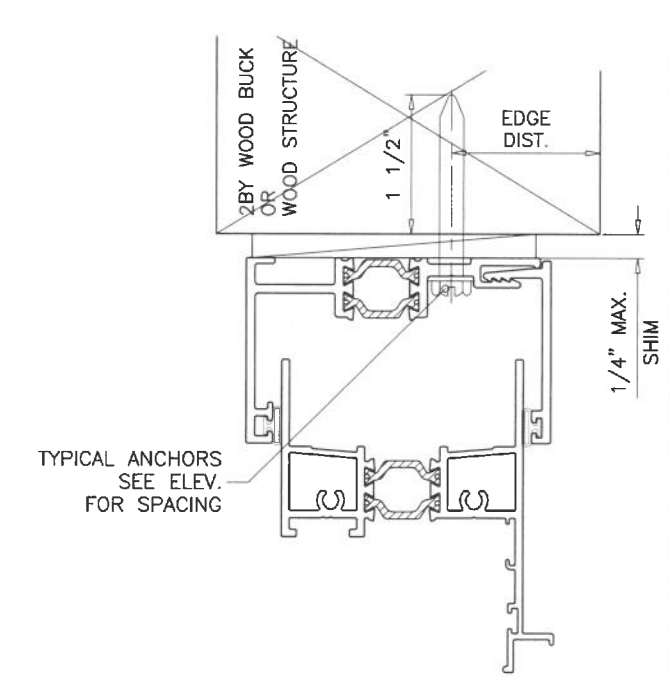
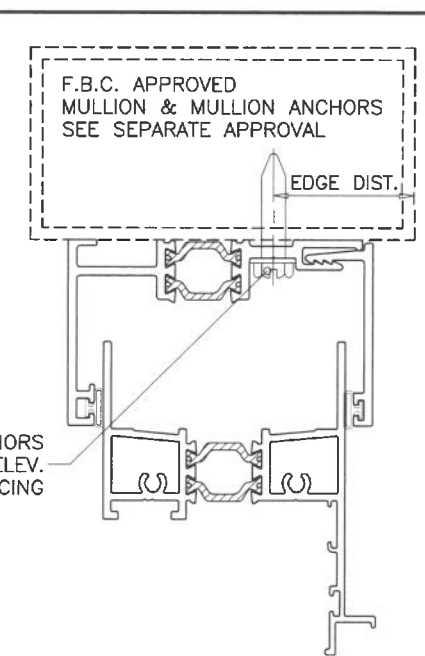
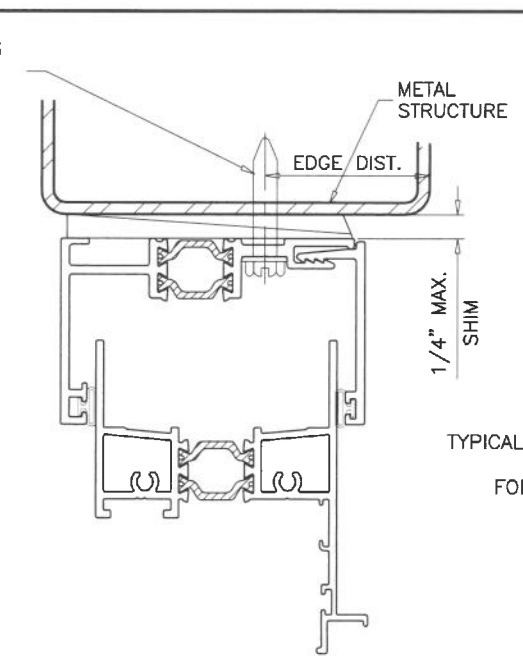
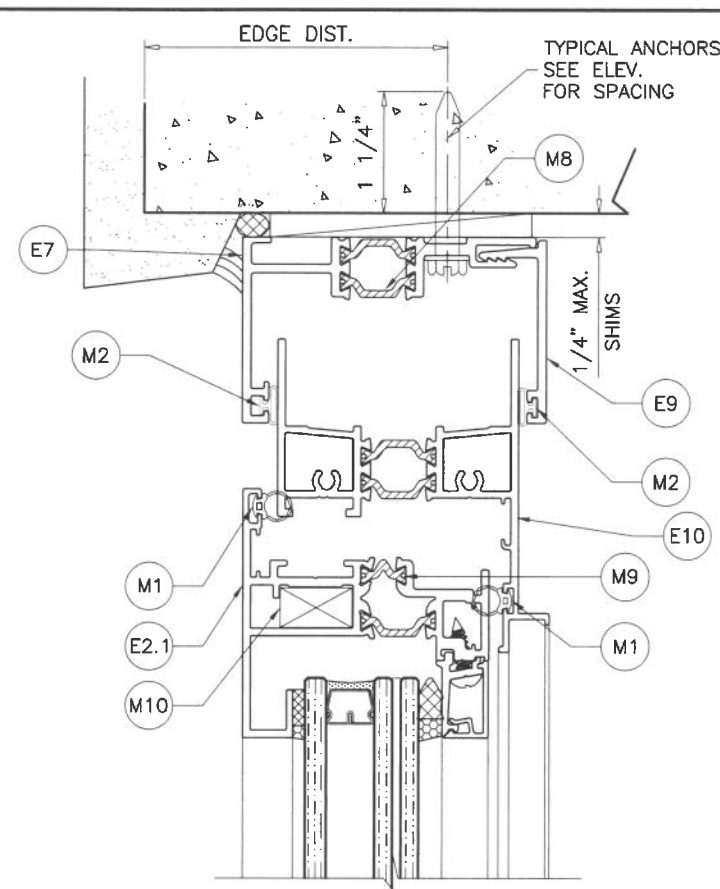
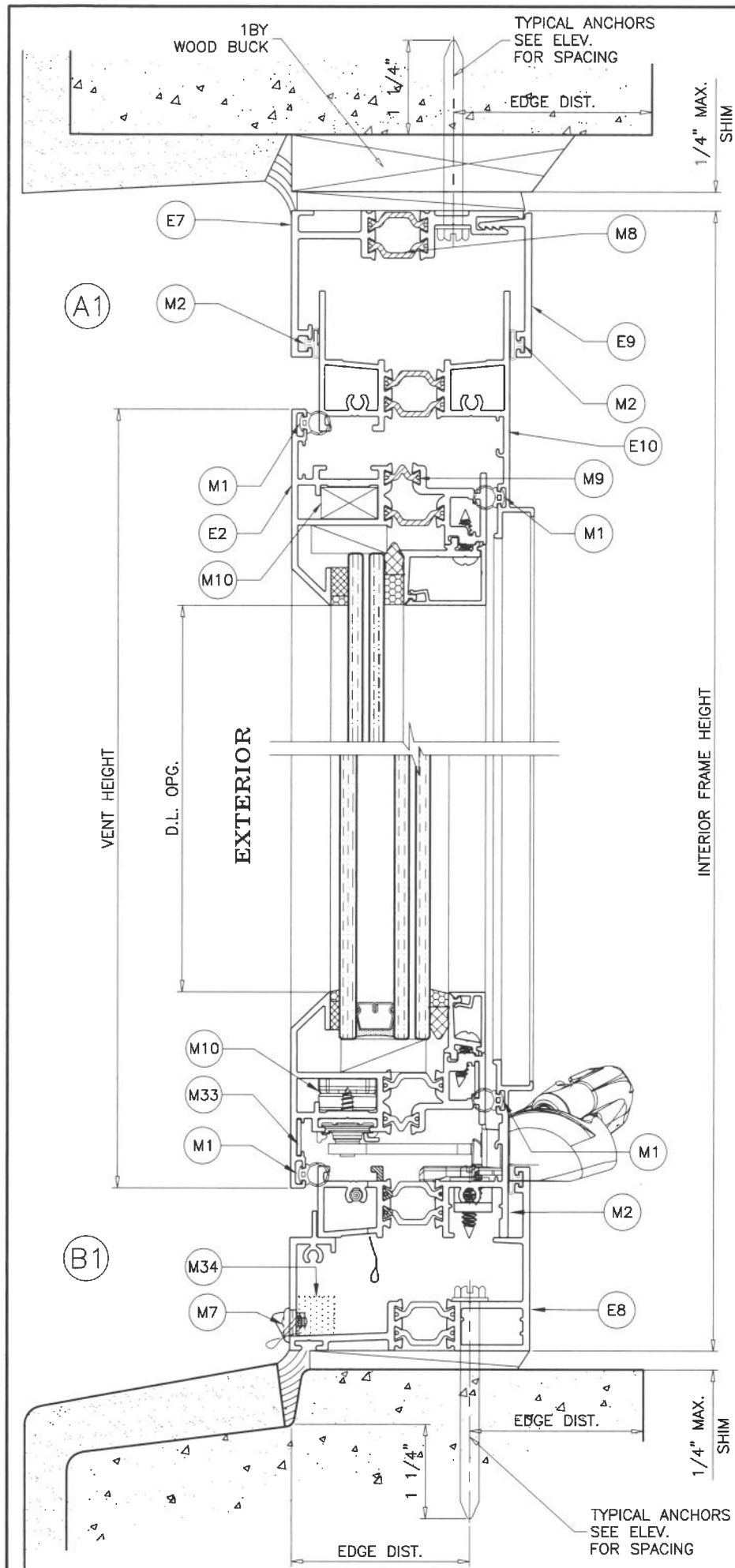
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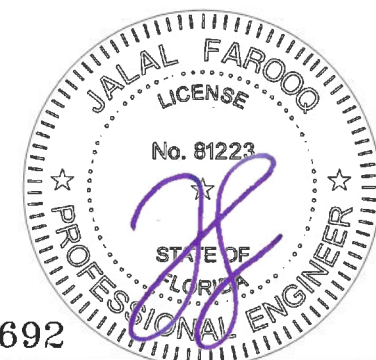
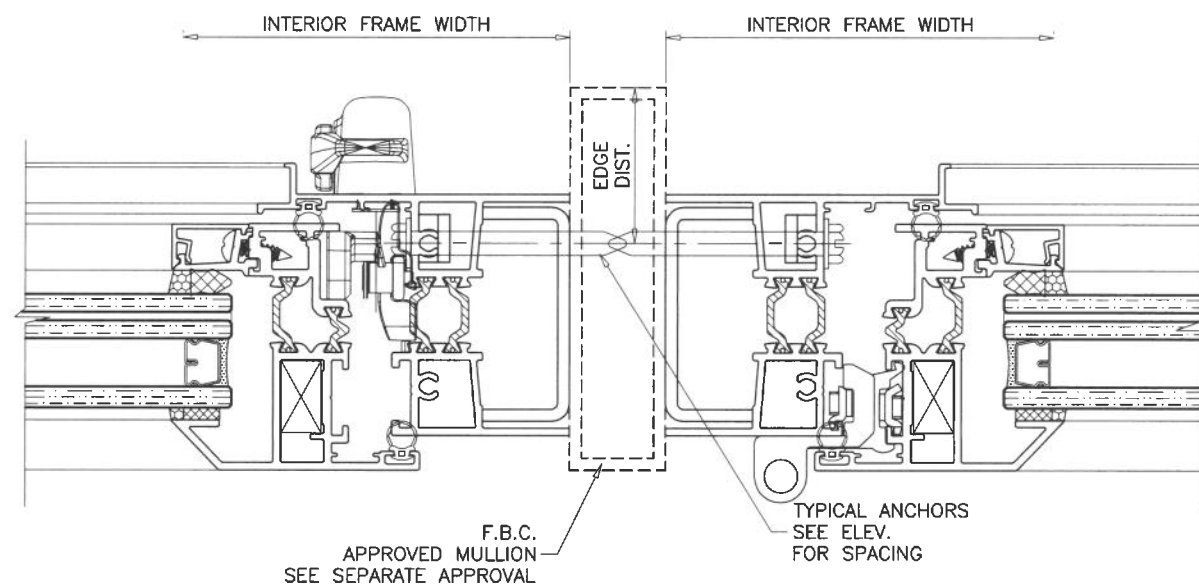
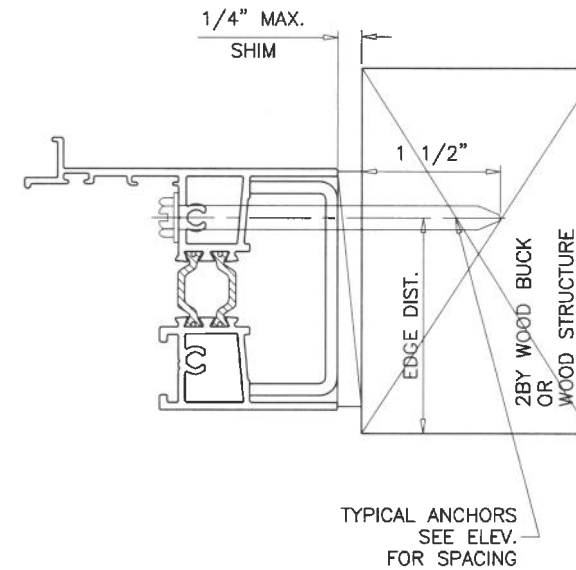
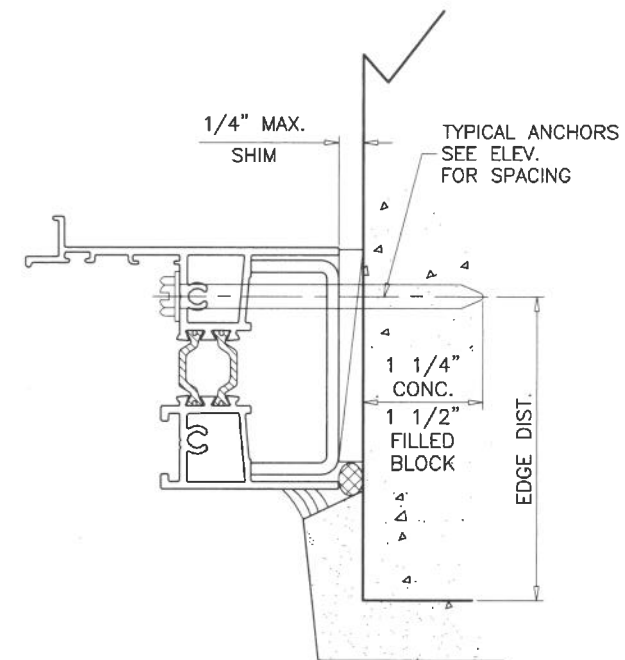
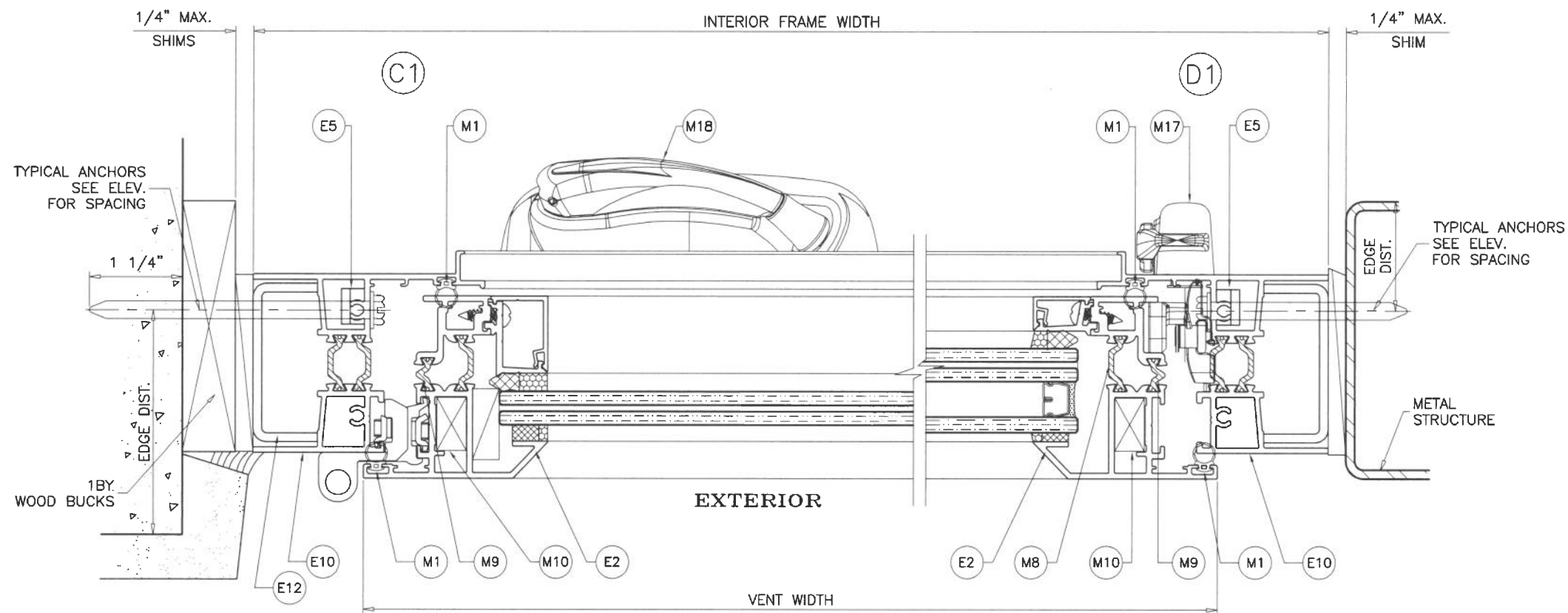


Sealed: 8/25/2026



FL #20692

		AL-FAROOQ CORPORATION ENGINEERS & PRODUCT DEVELOPMENT 9360 SUNSET DRIVE, SUITE 220 MIAMI, FLORIDA 33173 <i>(C.A.N. 3538)</i> TEL. (305) 264-8100 FAX. (305) 262-8978		COMP-ANL\W16-46-ES	
ES-P252 THERMAL ALUM CASEMENT WDW. (L.M.I.)		E.S. WINDOWS, LLC 3550 N.W. 49 STREET MIAMI, FL. 33142 TEL. (305) 638-5151 FAX. (305) 638-5158			
revisions:					
no		date		by description	
date: 06-13-16		scale: 1/2" = 1"			
		dr. by: TARIQ			
		chk. by:			
drawing no. W16-46					
sheet 4 of 8					



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ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978

COMP-ANL\W16-46-ES

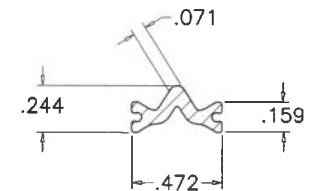
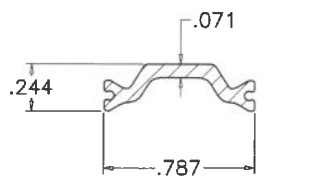
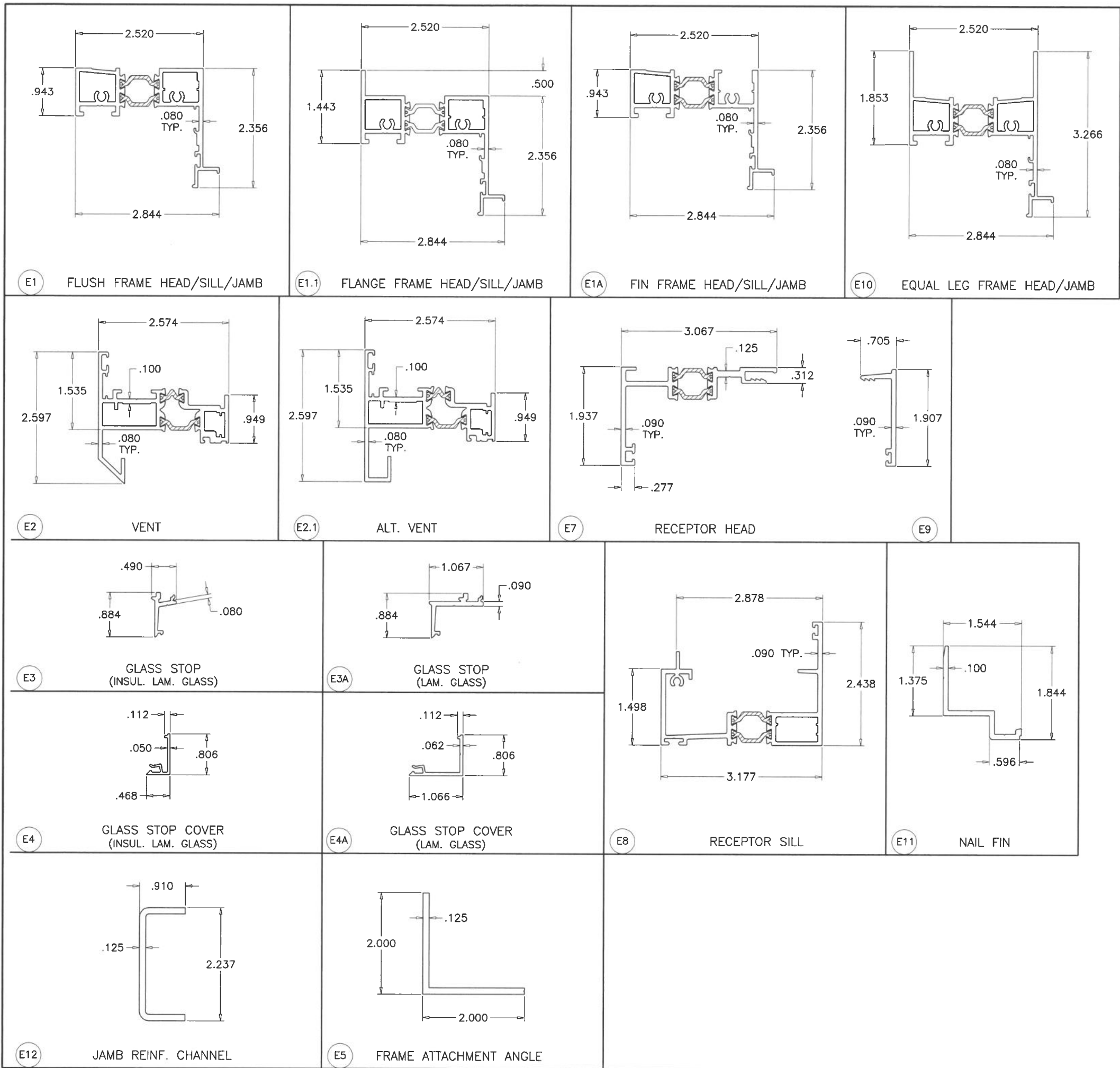
ES-P252 THERMAL ALUM CASEMENT WDW. (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:	
no	date by description

date: 06-13-16	scale: 1/2" = 1"	dr. by: TARIQ	chk. by:
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drawing no.	no.
	W16-46
sheet 5 of 8	



TECATHERM® 66 GF INSULBARS
SCALE 1:1

MATERIAL = POLYAMIDE
TENSILE STRENGTH = 13031 PSI
RATE OF BURN = .752 IN./MIN.
SELF IGNITION TEMP. = 793° F
FLASH IGNITION TEMP. = 781°C
SMOKE DENSITY = 1.63



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revisions:	
no	date by description

date: 06-13-16

scale: 1/2" = 1"

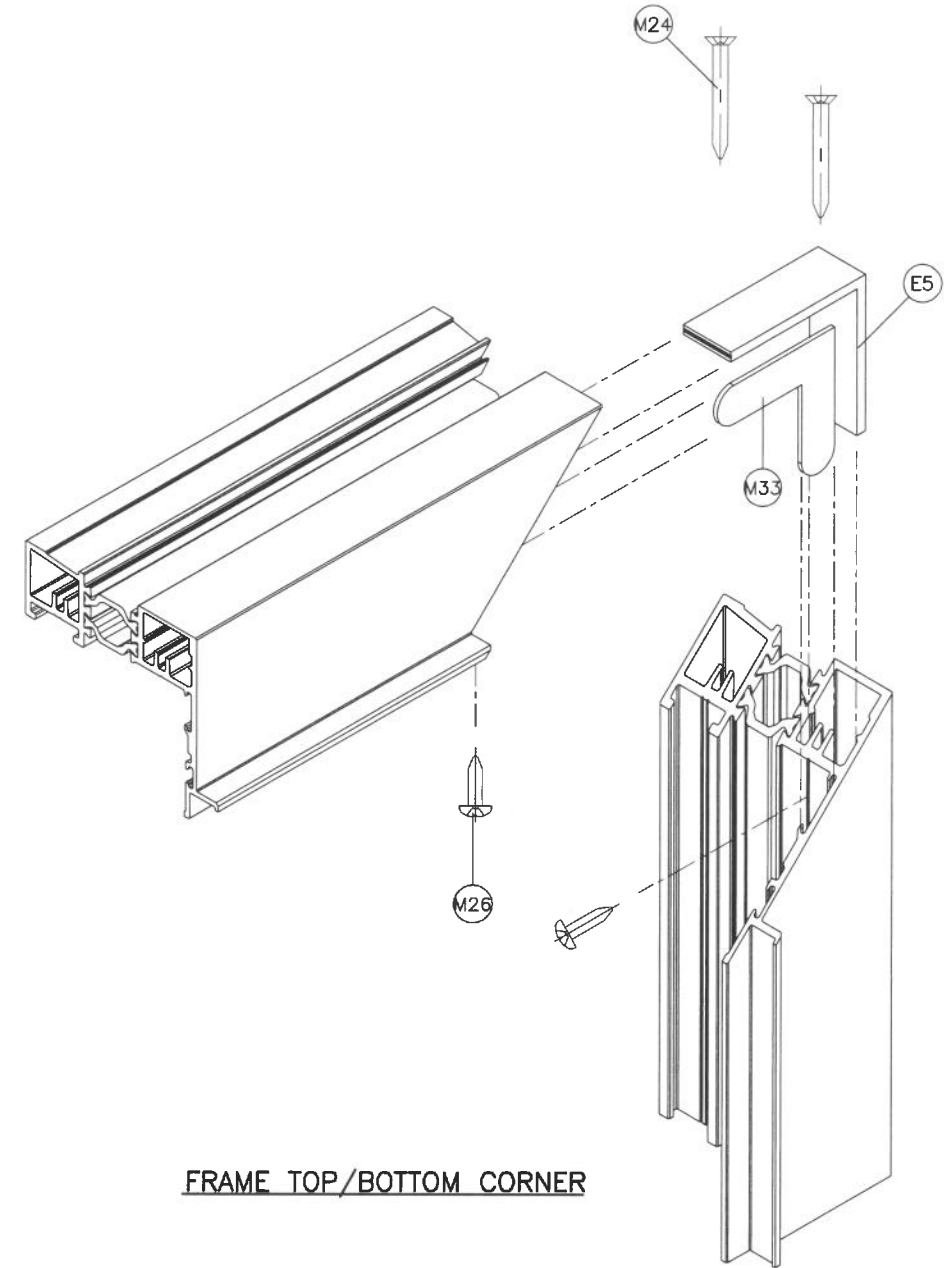
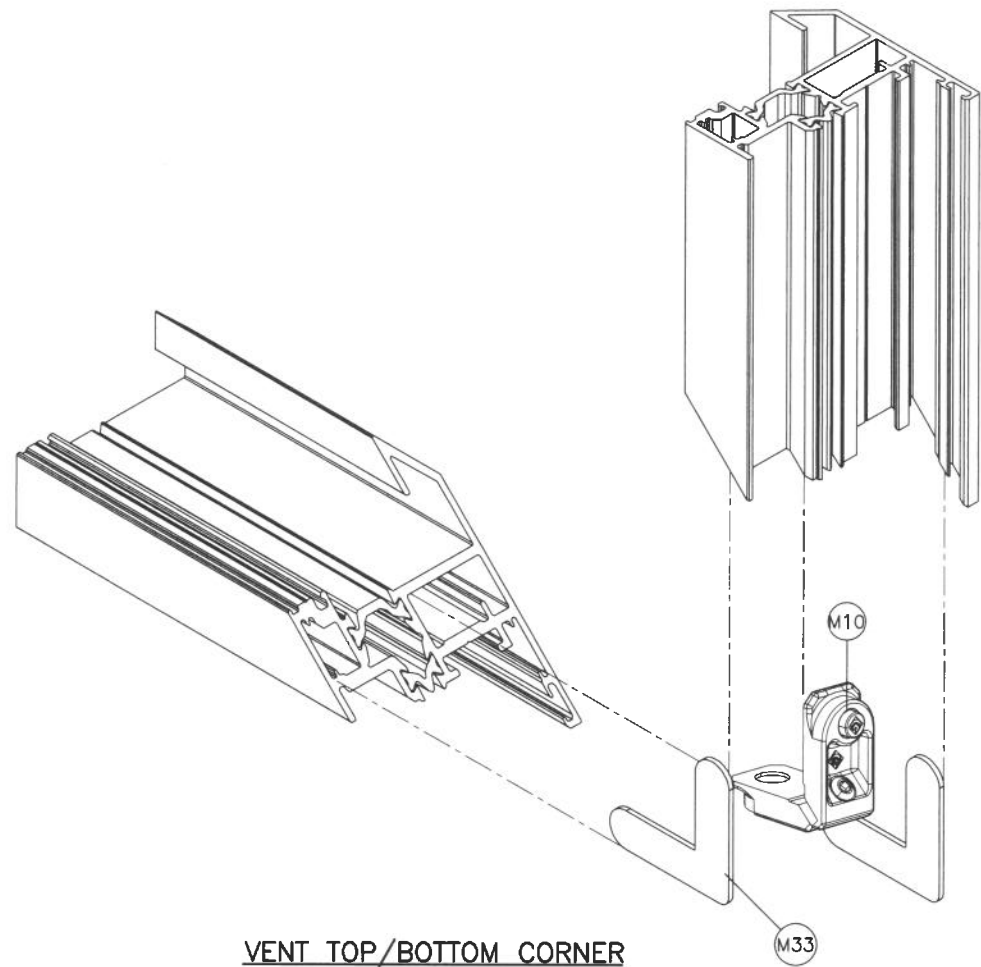
dr. by: TARIQ

chk. by:

drawing no.

W16-46

sheet 7 of 8



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drawing no.
W16-46
sheet 8 of 8

COMP-ANL\W16-46-ES