

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

- STEP 1** DETERMINE DESIGN WIND PRESSURE REQUIREMENTS BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
- STEP 2** SEE CHARTS ON SHEET 3.2 & 4.2 FOR GLASS DESIGN LOAD CAPACITY.
- STEP 3** FOR SSG SYSTEMS USING SHEETS 3, 3.1, 4 & 4.1 VERIFY MINIMUM SILICONE BITE REQD. FOR DESIGN LOADS.
- STEP 4** CHECK MULLION DESIGN LOAD CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEETS 5 THRU 7.1 THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 5** USING CHARTS ON SHEETS 8 THRU 9.1 SELECT ANCHOR OPTION WITH DESIGN LOAD CAPACITY MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 6** THE LOWEST VALUE RESULTING FROM STEPS 2, 3, 4 AND 5 THAT EXCEED THE DESIGN WIND PRESSURES DETERMINED THRU STEP 1 SHALL APPLY TO ENTIRE SYSTEM.
- STEP 7** FOR UNANCHORED JAMBS, USING SHEET 11, DETERMINE THE MIN. & MAX. GAP DIMENSIONS.
- STEP 8** WHEN USING THIS SYSTEM WITH WINDOWS, THE LOWER VALUE OF THE DESIGN PRESSURE RATING FOR THE SYSTEM AND THE WINDOW SHALL APPLY.

THIS SYSTEM IS RATED FOR SMALL MISSILE IMPACT.
F.B.C. APPROVED IMPACT RESISTANT SHUTTERS REQUIRED FOR INSTALLATIONS UP TO 30 FT. OF GRADE.
SHUTTERS NOT REQD. FOR INSTALLATIONS ABOVE 30 FT. OF GRADE.

ES-8860
ALUMINUM WINDOW WALL 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).

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.

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.

NOTE:
GLASS CAPACITIES ARE BASED ON
ASTM E1300-16 (3 SEC. GUSTS).

WINDOW WALL SYSTEM COMPLIES WITH REQUIREMENTS
OF ANSI Z97.1.

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.

LAMINATED GLASS
SMALL MISSILE IMPACT

Sealed: 10/5/2026

FL #22526

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.



afcc

AL-FAROOQ CORPORATION

ENGINEERS & PRODUCT DEVELOPMENT

9360 SUNSET DRIVE, SUITE 220

MIAMI, FLORIDA 33173

TEL. (305) 264-8100

FAX. (305) 262-6978

ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

E.S. WINDOWS, LLC

3550 N.W. 49 STREET

MIAMI, FL. 33142

TEL. (305) 638-5151

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revisions:

no.	date	by	description
C	10.23.20		GENERAL REVISION
D	04.12.22		NEW TEST ADDED
E	07.31.23		UPDATED TO 2023 FBC
F	09.01.26		UPDATED TO 2026 FBC

date: 06-09-17

scale: 3/8"=1'-0"

dr. by: TARIQ

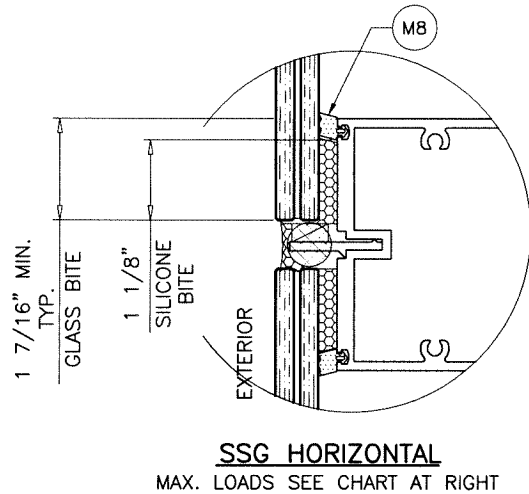
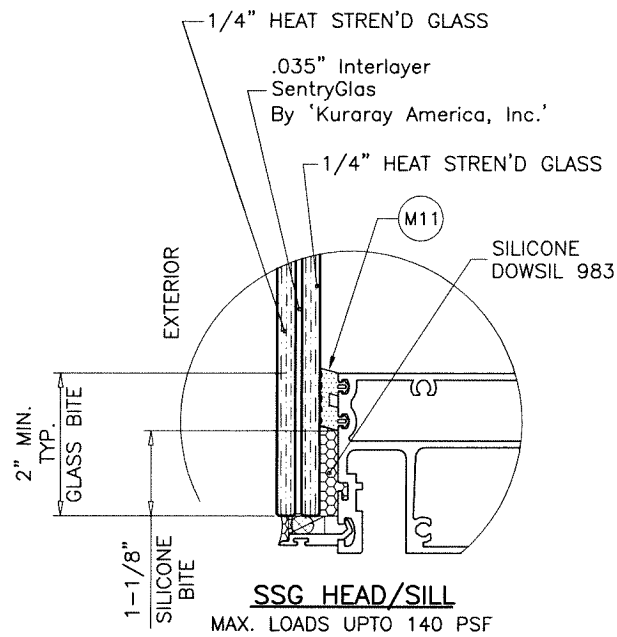
chk. by:

drawing no.

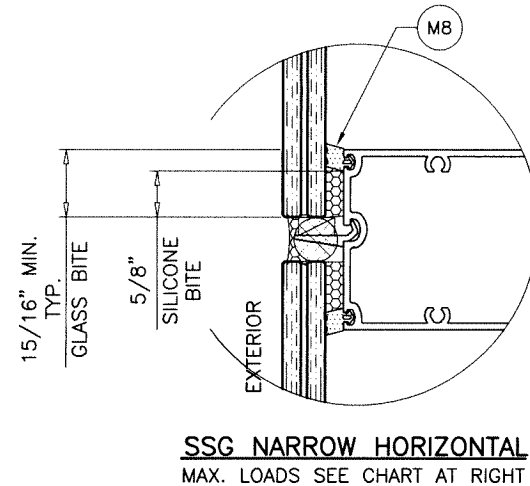
W17-57

sheet 1 of 20

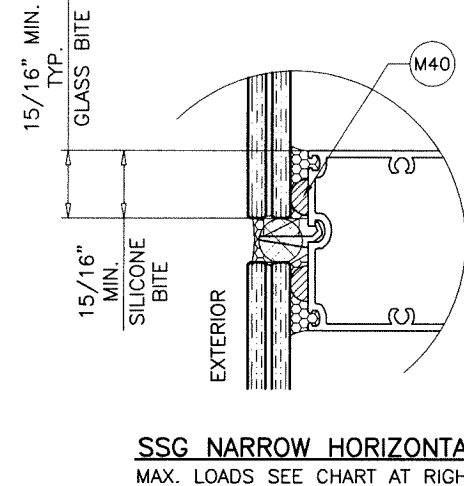
STORE\W17-57ES



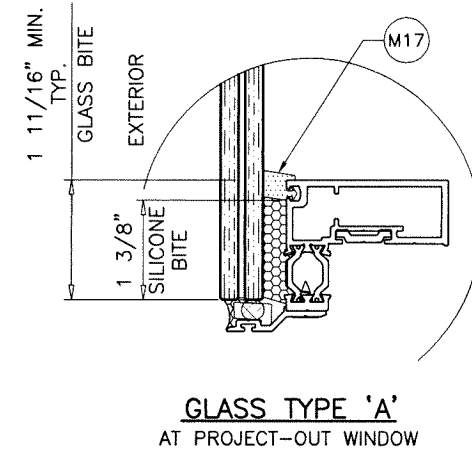
SSG LOAD CAPACITY 1-1/8" SILICONE BITE		
D.L.O. WIDTH	EXT.(+) INT.(-)	
38-1/2"	140.0	
44-1/2"	140.0	
50-1/2"	140.0	
56-1/2"	140.0	
62-1/2"	140.0	
68-1/2"	140.0	



SSG LOAD CAPACITY 5/8" SILICONE BITE		
D.L.O. WIDTH	EXT.(+) INT.(-)	
38-1/2"	140.0	
44-1/2"	140.0	
50-1/2"	140.0	
56-1/2"	140.0	
62-1/2"	129.6	
68-1/2"	118.2	



SSG LOAD CAPACITY 15/16" SILICONE BITE		
D.L.O. WIDTH	EXT.(+) INT.(-)	
38-1/2"	140.0	
44-1/2"	140.0	
50-1/2"	140.0	
56-1/2"	140.0	
62-1/2"	140.0	
68-1/2"	140.0	

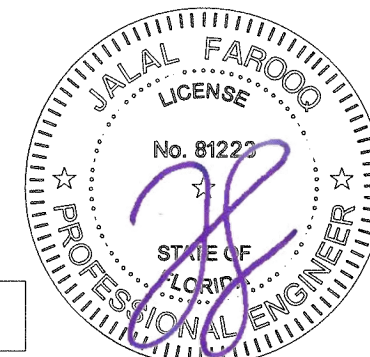


GLAZING DETAILS

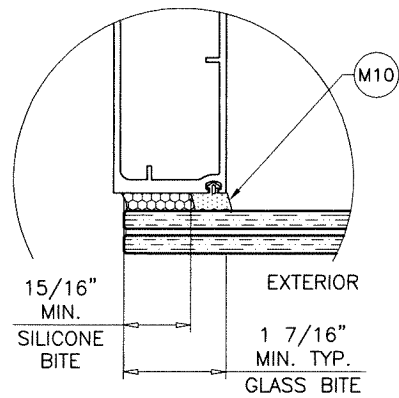
Sealed: 10/5/2026

FL #22526

GLASS TYPE 'A'
UPRIGHT GLASS

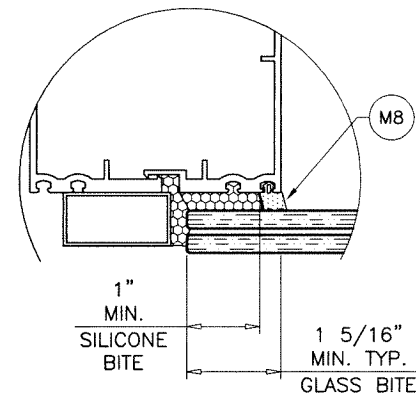


AL-FAROOQ CORPORATION ENGINEERS & PRODUCT DEVELOPMENT 9360 SUNSET DRIVE, SUITE 220 MIAMI, FLORIDA 33173 TEL. (305) 264-8100 FAX. (305) 262-6978 STORE \W17-57ES	
ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.M.I.) E.S. WINDOWS, LLC 3550 N.W. 49 STREET MIAMI, FL. 33142 TEL. (305) 638-5151 FAX. (305) 638-5158	
revisions: no. date by description	date: 06-09-17 scale: - dr. by: TARIQ chk. by:
drawing no. W17-57	
sheet 3 of 20	



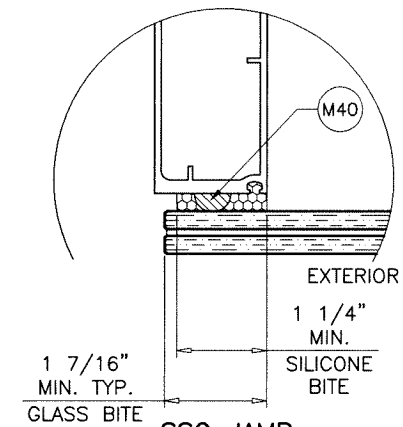
SSG JAMB

MAX. LOADS SEE CHART BELOW



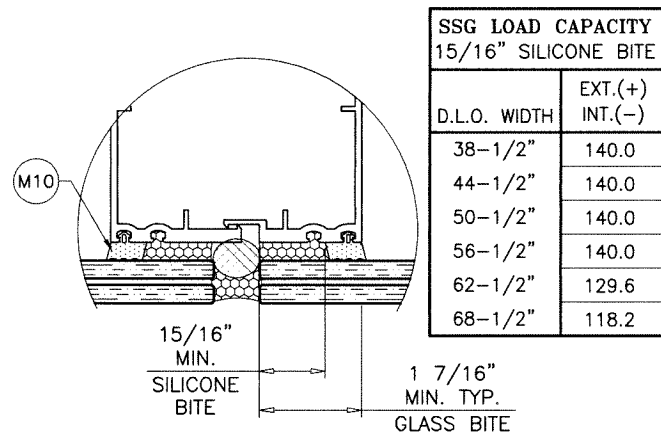
SSG JAMB

MAX. LOADS SEE CHART BELOW



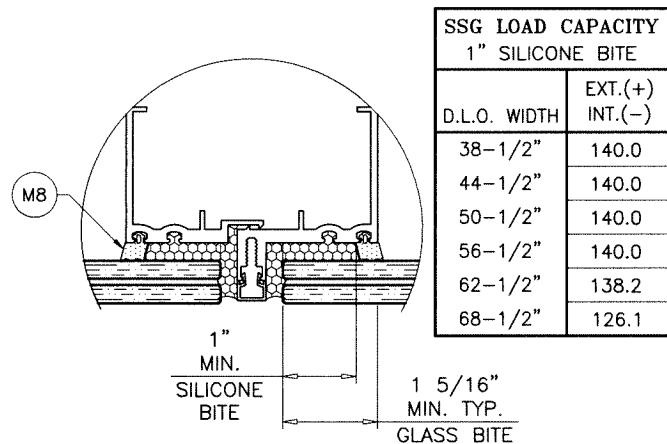
SSG JAMB

MAX. LOADS SEE CHART BELOW



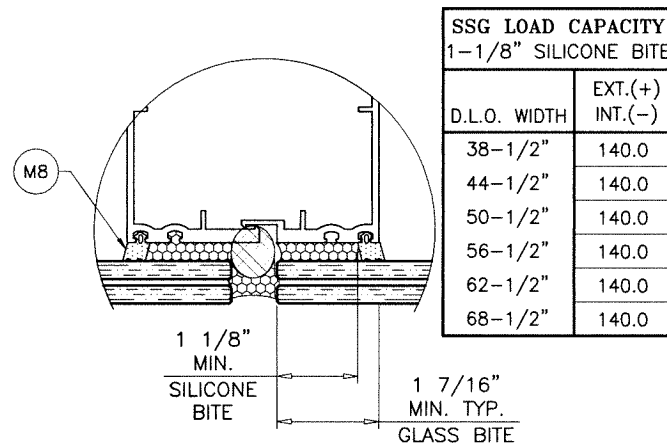
SSG MULLION

MAX. LOADS SEE CHART AT RIGHT



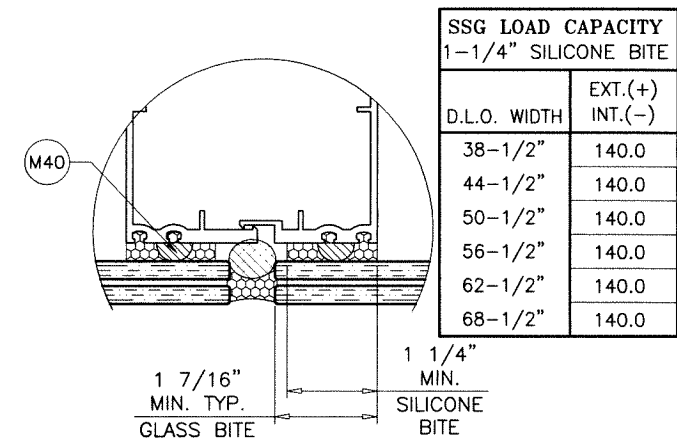
SSG MULLION

MAX. LOADS SEE CHART AT RIGHT



SSG MULLION

MAX. LOADS SEE CHART AT RIGHT



SSG MULLION

MAX. LOADS SEE CHART AT RIGHT

GLAZING DETAILS

Sealed: 10/5/2026

FL #22526

GLASS TYPE 'A'
UPRIGHT GLASS



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revisions:

no	date	by	description

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dr. by: TARIQ

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W17-57

sheet **3.1** of **20**

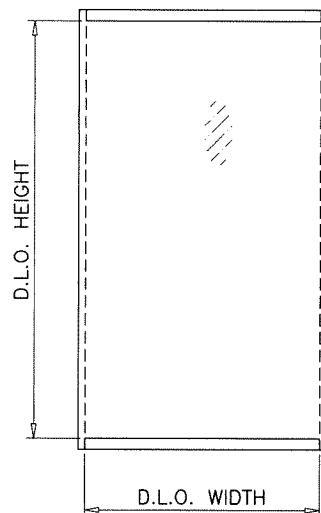
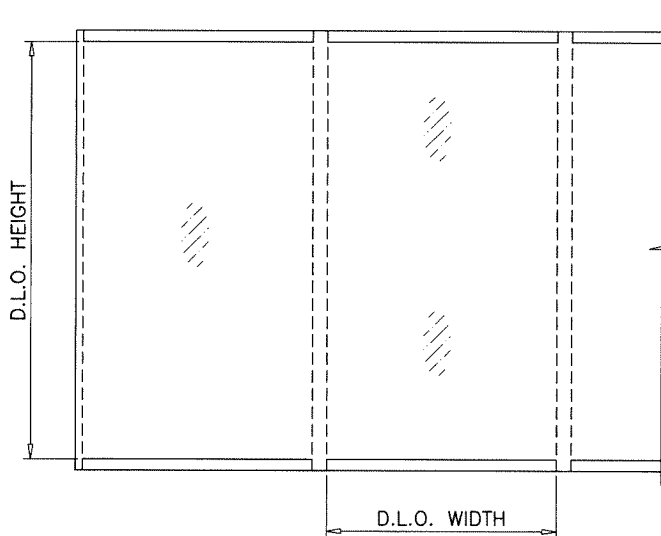
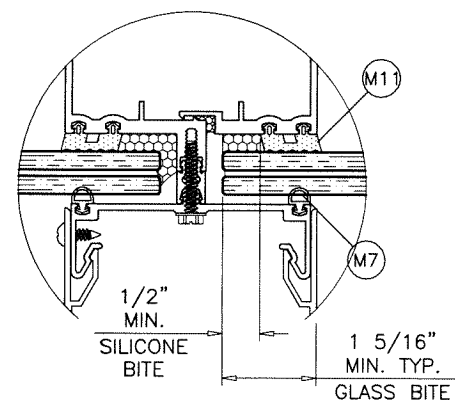
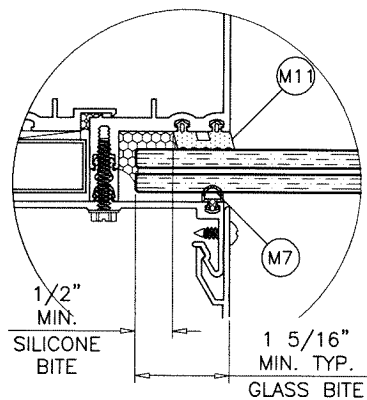
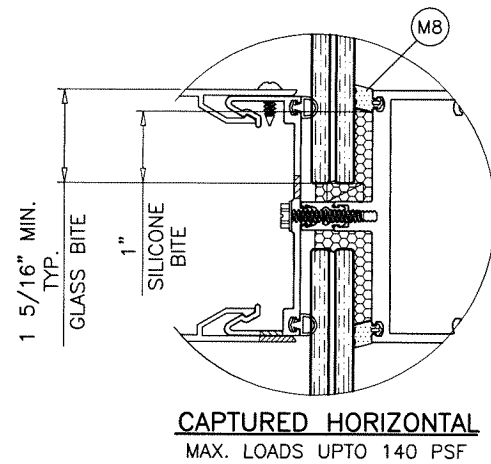
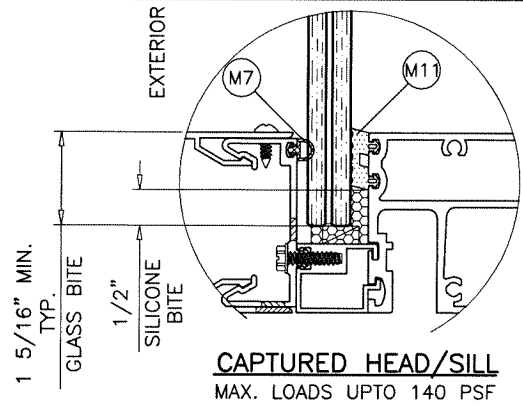
STORE\W17-57ES

DESIGN LOAD CAPACITY - PSF			
NOMINAL DIMS.		GLASS TYPE 'A'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)
26-1/2"	91"	140.0	140.0
32-1/2"		140.0	140.0
38-1/2"		140.0	140.0
44-1/2"		140.0	140.0
50-1/2"		134.0	134.0
56-1/2"		119.8	119.8
62-1/2"		108.4	108.4
68-1/2"		85.0	85.0
26-1/2"	97"	140.0	140.0
32-1/2"		140.0	140.0
38-1/2"		140.0	140.0
44-1/2"		140.0	140.0
50-1/2"		134.0	134.0
56-1/2"		119.8	119.8
62-1/2"		92.7	92.7
68-1/2"		85.0	85.0
26-1/2"	103"	140.0	140.0
32-1/2"		140.0	140.0
38-1/2"		140.0	140.0
44-1/2"		140.0	140.0
50-1/2"		134.0	134.0
56-1/2"		102.0	102.0
62-1/2"		92.7	92.7
68-1/2"		85.0	85.0
26-1/2"	109"	140.0	140.0
32-1/2"		140.0	140.0
38-1/2"		140.0	140.0
44-1/2"		140.0	140.0
50-1/2"		134.0	134.0
56-1/2"		102.0	102.0
62-1/2"		92.7	92.7
68-1/2"		85.0	85.0
26-1/2"	115"	140.0	140.0
32-1/2"		140.0	140.0
38-1/2"		140.0	140.0
44-1/2"		140.0	140.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
62-1/2"		92.7	92.7
68-1/2"		85.0	85.0
48-1/2"	120"	140.0	140.0
26-1/2"	121"	140.0	140.0
32-1/2"		140.0	140.0
38-1/2"		140.0	140.0
44-1/2"		140.0	140.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
62-1/2"		92.7	92.7
68-1/2"		85.0	85.0

DESIGN LOAD CAPACITY - PSF			
NOMINAL DIMS.		GLASS TYPE 'A'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)
26-1/2"	127"	140.0	140.0
32-1/2"		140.0	140.0
38-1/2"		140.0	140.0
44-1/2"		140.0	140.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
62-1/2"		92.7	92.7
68-1/2"		85.0	85.0
26-1/2"	133"	140.0	140.0
32-1/2"		140.0	140.0
38-1/2"		140.0	140.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
62-1/2"		92.7	92.7
68-1/2"		85.0	85.0
26-1/2"	138"	140.0	140.0
32-1/2"		140.0	140.0
38-1/2"		140.0	140.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
62-1/2"		92.7	92.7
68-1/2"		85.0	85.0
26-1/2"	139"	102.0	102.0
32-1/2"		102.0	102.0
38-1/2"		102.0	102.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
62-1/2"		92.7	92.7
68-1/2"		85.0	85.0
26-1/2"	145"	102.0	102.0
32-1/2"		102.0	102.0
38-1/2"		102.0	102.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
62-1/2"		92.7	92.7
26-1/2"	151"	102.0	102.0
32-1/2"		102.0	102.0
38-1/2"		102.0	102.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
62-1/2"		92.7	92.7

DESIGN LOAD CAPACITY - PSF			
NOMINAL DIMS.		GLASS TYPE 'A'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)
26-1/2"	157"	102.0	102.0
32-1/2"		102.0	102.0
38-1/2"		102.0	102.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
26-1/2"	163"	102.0	102.0
32-1/2"		102.0	102.0
38-1/2"		102.0	102.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
26-1/2"	168"	102.0	102.0
32-1/2"		102.0	102.0
38-1/2"		102.0	102.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
26-1/2"	169"	102.0	102.0
32-1/2"		102.0	102.0
38-1/2"		102.0	102.0
50-1/2"		102.0	102.0
56-1/2"		102.0	102.0
26-1/2"	175"	102.0	102.0
32-1/2"		102.0	102.0
38-1/2"		102.0	102.0
50-1/2"		102.0	102.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



GLASS TYPE 'A'
UPRIGHT GLASS

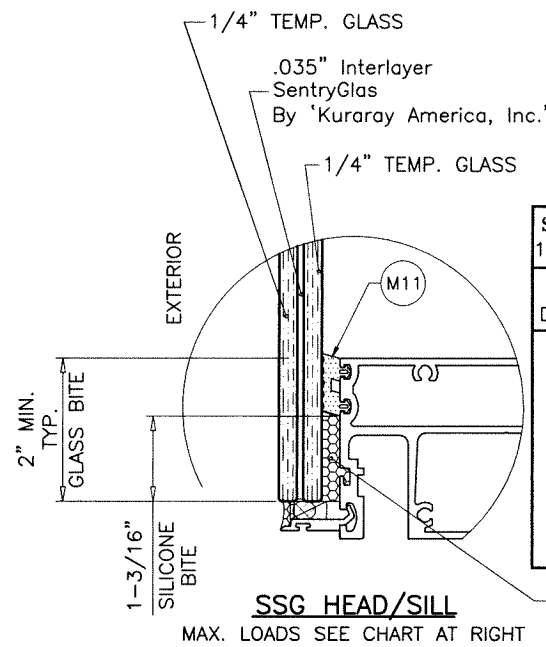
Sealed: 10/5/2026
FL #22526

JALAL FAROOQ
LICENSE
No. 31273
STATE OF FLORIDA
PROFESSIONAL ENGINEER

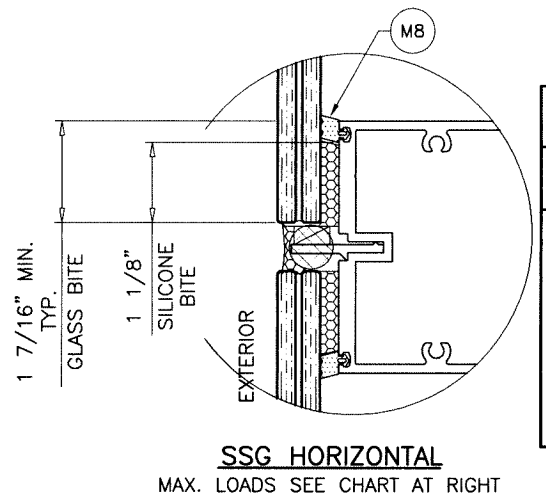
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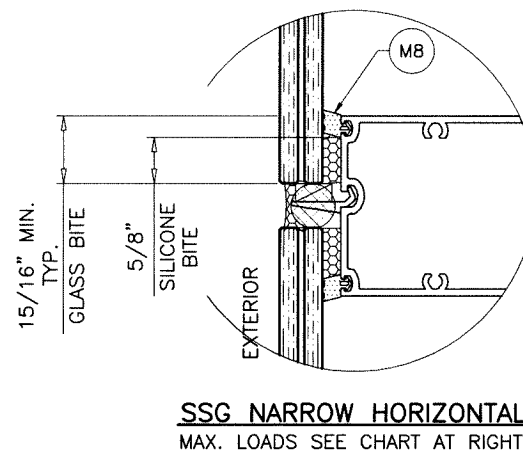
revisions:	no	date	by	description
date:	06-09-17	scale:	-	
dr. by:	TARIQ	chk. by:		
drawing no.	W17-57	sheet	3.2	of 20



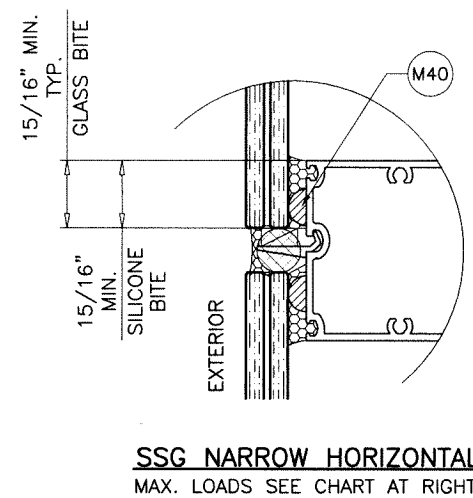
SSG LOAD CAPACITY 1-3/16" SILICONE BITE		
D.L.O. WIDTH	EXT.(+)	INT.(-)
38-1/2"	189.0	
44-1/2"	189.0	
50-1/2"	189.0	
56-1/2"	189.0	
62-1/2"	189.0	
68-1/2"	189.0	
70-5/8"	189.0	



SSG LOAD CAPACITY 1-1/8" SILICONE BITE		
D.L.O. WIDTH	EXT.(+)	INT.(-)
38-1/2"	189.0	
44-1/2"	189.0	
50-1/2"	189.0	
56-1/2"	189.0	
62-1/2"	189.0	
68-1/2"	189.0	
70-5/8"	189.0	



SSG LOAD CAPACITY 5/8" SILICONE BITE		
D.L.O. WIDTH	EXT.(+)	INT.(-)
38-1/2"	140.0	
44-1/2"	140.0	
50-1/2"	140.0	
56-1/2"	140.0	
62-1/2"	129.6	
68-1/2"	118.2	
70-5/8"	114.7	

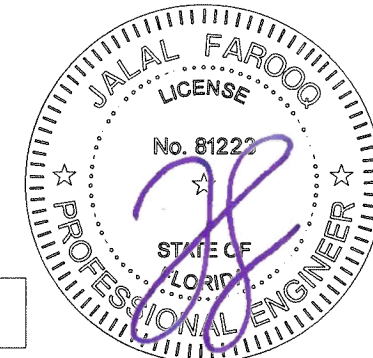


SSG LOAD CAPACITY 15/16" SILICONE BITE		
D.L.O. WIDTH	EXT.(+)	INT.(-)
38-1/2"	140.0	
44-1/2"	140.0	
50-1/2"	140.0	
56-1/2"	140.0	
62-1/2"	140.0	
68-1/2"	140.0	
70-5/8"	140.0	

Sealed: 10/5/2026

FL #22526

GLASS TYPE 'B'
UPRIGHT GLASS



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9360 SUNSET DRIVE, SUITE 220
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revisions:		no	date	by	description

date: 06-09-17

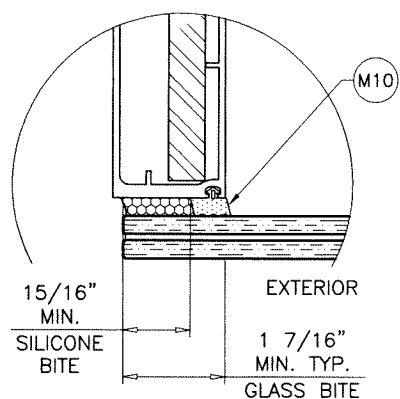
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chk. by:

drawing no.
W17-57

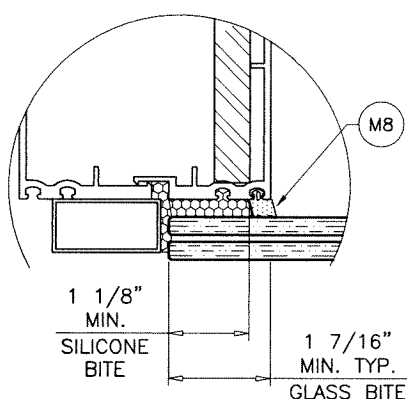
sheet 4 of 20



SSG LOAD CAPACITY 15/16" SILICONE BITE		
D.L.O. WIDTH	EXT.(+)	INT.(-)
38-1/2"	189.0	
44-1/2"	182.0	
50-1/2"	160.4	
56-1/2"	143.4	
62-1/2"	129.6	
68-1/2"	118.2	
70-5/8"	114.7	

SSG JAMB

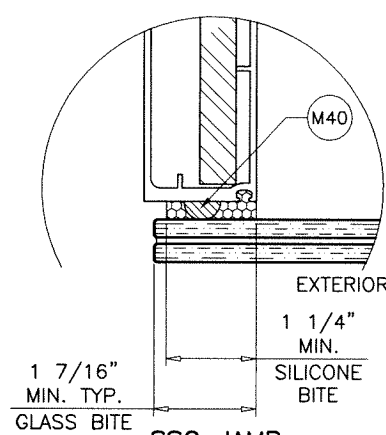
MAX. LOADS SEE CHART AT RIGHT



SSG LOAD CAPACITY 1-1/8" SILICONE BITE		
D.L.O. WIDTH	EXT.(+)	INT.(-)
38-1/2"	189.0	
44-1/2"	189.0	
50-1/2"	189.0	
56-1/2"	172.0	
62-1/2"	155.5	
68-1/2"	141.9	
70-5/8"	137.6	

SSG JAMB

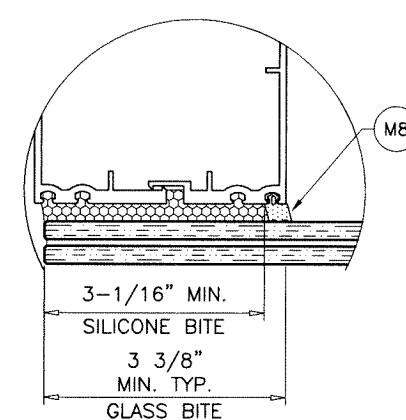
MAX. LOADS SEE CHART AT RIGHT



SSG LOAD CAPACITY 1-1/4" SILICONE BITE		
D.L.O. WIDTH	EXT.(+)	INT.(-)
38-1/2"	189.0	
44-1/2"	189.0	
50-1/2"	189.0	
56-1/2"	189.0	
62-1/2"	172.8	
68-1/2"	157.7	

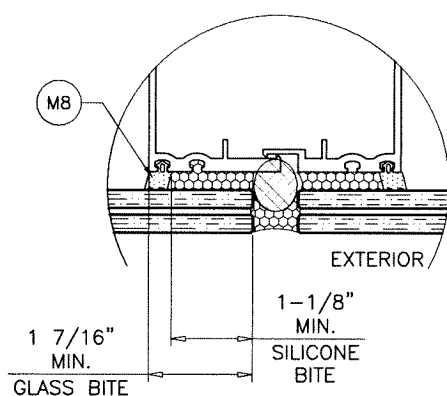
SSG JAMB

MAX. LOADS SEE CHART AT RIGHT



SSG JAMB

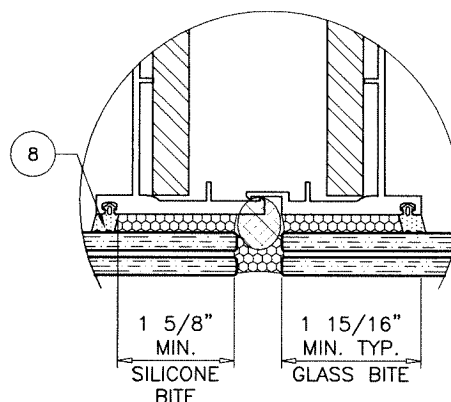
MAX. LOADS UPTO 189 PSF



SSG LOAD CAPACITY 1-1/8" SILICONE BITE		
D.L.O. WIDTH	EXT.(+)	INT.(-)
38-1/2"	189.0	
44-1/2"	189.0	
50-1/2"	189.0	
56-1/2"	172.0	
62-1/2"	155.5	
68-1/2"	141.9	
70-5/8"	137.6	

SSG MULLION

MAX. LOADS SEE CHART AT RIGHT



SSG LOAD CAPACITY 1-5/8" SILICONE BITE		
D.L.O. WIDTH	EXT.(+)	INT.(-)
38-1/2"	189.0	
44-1/2"	189.0	
50-1/2"	189.0	
56-1/2"	189.0	
62-1/2"	189.0	
68-1/2"	189.0	

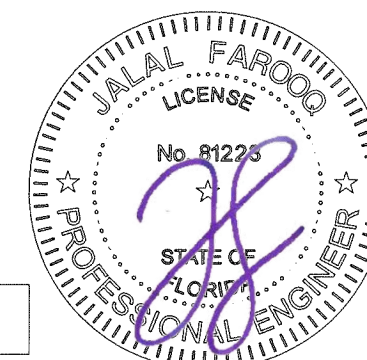
SSG MULLION

MAX. LOADS SEE CHART AT RIGHT

Sealed: 10/5/2026

FL #22526

GLASS TYPE 'B'
UPRIGHT GLASS



afc

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
(C.A.N. 3538)

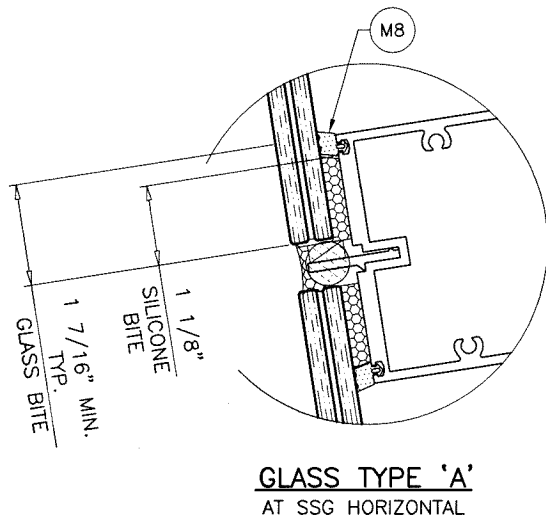
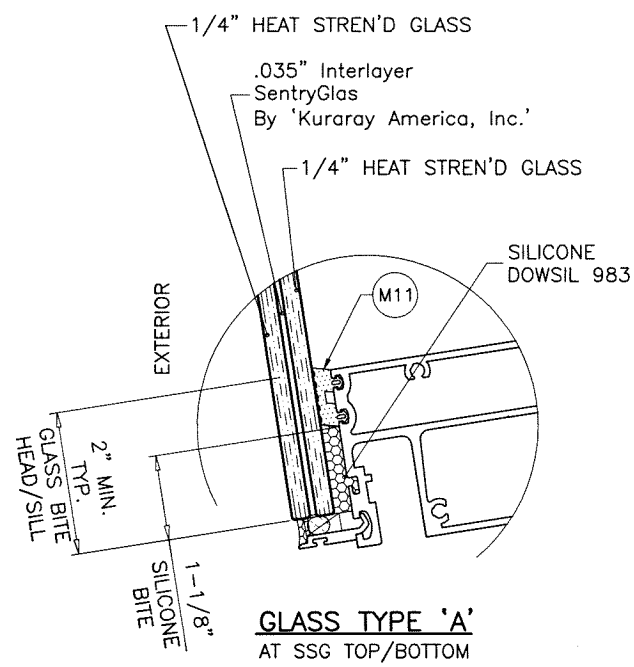
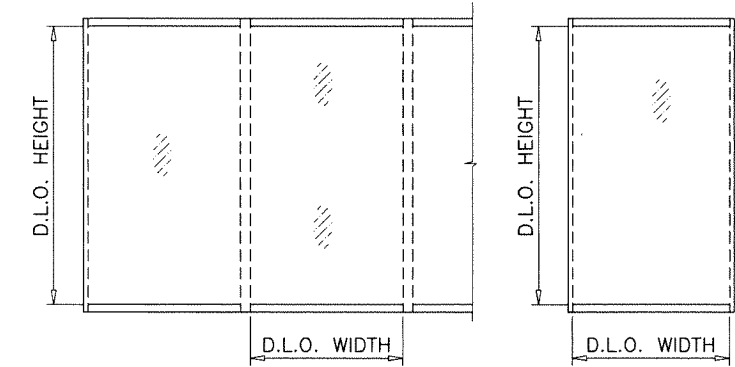
ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

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:	06-09-17	no	date
scale:	-	by	description
dr. by:	TARIQ		
chk. by:			
drawing no.	W17-57		
sheet	4.1 of 20		

STORE W17-57ES

DESIGN LOAD CAPACITY - PSF			
NOMINAL DIMS.		GLASS TYPE 'A'	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)	INT.(-)
26-5/8"	73"	96.0	126.0
32-5/8"		96.0	126.0
38-5/8"		96.0	126.0
44-5/8"		95.6	125.5
50-5/8"		85.0	111.6
56-5/8"		76.5	100.4
62-5/8"		69.5	91.3
68-5/8"		63.8	83.7
26-5/8"	85"	96.0	126.0
32-5/8"		96.0	126.0
38-5/8"		96.0	126.0
44-5/8"		95.6	125.5
50-5/8"		85.0	111.6
56-5/8"		76.5	100.4
62-5/8"		69.5	91.3
26-5/8"	91"	96.0	126.0
32-5/8"		96.0	126.0
38-5/8"		96.0	126.0
44-5/8"		95.6	125.5
50-5/8"		85.0	111.6
56-5/8"		76.5	100.4
26-5/8"	103"	96.0	126.0
32-5/8"		96.0	126.0
38-5/8"		96.0	126.0
44-5/8"		95.6	125.5
50-5/8"		85.0	111.6
26-5/8"	109"	96.0	126.0
32-5/8"		96.0	126.0
38-5/8"		96.0	126.0
44-5/8"		95.6	125.5
26-5/8"	115"	96.0	126.0
32-5/8"		96.0	126.0
38-5/8"		96.0	126.0
44-5/8"		95.6	126.0
26-5/8"	119-3/8"	96.0	126.0
32-5/8"		96.0	126.0
38-5/8"		96.0	126.0
44-7/16"		96.0	126.0



Sealed: 10/5/2026

SLANTED GLASS



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

ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.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: 06-09-17

scale: -

dr. by: TARIQ

chk. by:

drawing no. **W17-57**

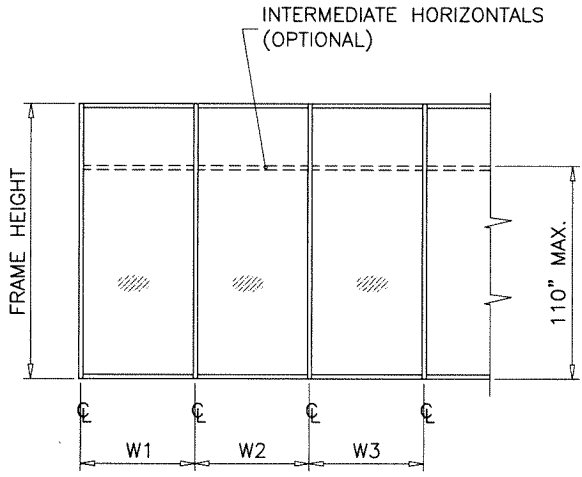
sheet **4.3** of **20**

MULLION DESIGN LOAD CAPACITY - PSF WITH OR WITHOUT INTERMEDIATE HORIZONTALS							
NOMINAL DIMS.		JAMB 'J3'		JAMB 'J4'		MULLION 'M2'	
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)
30"	132"	114.0	140.0	114.0	140.0	114.0	140.0
36"		114.0	140.0	114.0	140.0	114.0	140.0
42"		114.0	140.0	114.0	140.0	114.0	140.0
48"		114.0	140.0	114.0	140.0	114.0	140.0
54"		101.3	124.4	102.0	124.4	101.3	124.4
60"		92.0	112.0	102.0	112.0	92.0	112.0
66"		92.0	101.8	102.0	102.0	92.0	101.8
72"		92.0	93.3	102.0	102.0	92.0	93.3
30"	138"	114.0	140.0	114.0	140.0	114.0	140.0
36"		114.0	140.0	114.0	140.0	114.0	140.0
42"		114.0	140.0	114.0	140.0	114.0	140.0
48"		114.0	140.0	114.0	140.0	114.0	140.0
54"		101.3	124.4	102.0	124.4	101.3	124.4
60"		92.0	112.0	102.0	112.0	92.0	112.0
66"		92.0	101.8	102.0	102.0	92.0	101.8
72"		92.0	92.0	102.0	102.0	92.0	102.0
30"	144"	114.0	140.0	114.0	140.0	114.0	140.0
36"		114.0	140.0	114.0	140.0	114.0	140.0
42"		114.0	140.0	114.0	140.0	114.0	140.0
48"		114.0	140.0	114.0	140.0	114.0	140.0
54"		101.3	124.4	102.0	124.4	101.3	124.4
60"		92.0	112.0	102.0	112.0	92.0	112.0
66"		92.0	101.8	102.0	102.0	92.0	101.8
72"		92.0	92.0	102.0	102.0	92.0	92.0
30"	150"	114.0	140.0	114.0	140.0	114.0	140.0
36"		114.0	140.0	114.0	140.0	114.0	140.0
42"		114.0	140.0	114.0	140.0	114.0	140.0
48"		114.0	140.0	114.0	140.0	114.0	140.0
54"		101.3	124.4	102.0	124.4	101.3	124.4
60"		92.0	112.0	102.0	102.0	92.0	112.0
66"		92.0	92.0	102.0	102.0	102.0	102.0
72"		92.0	92.0	102.0	102.0	102.0	102.0
30"	156"	114.0	140.0	114.0	140.0	114.0	140.0
36"		114.0	140.0	114.0	140.0	114.0	140.0
42"		114.0	140.0	114.0	140.0	114.0	140.0
48"		114.0	140.0	114.0	140.0	114.0	140.0
54"		101.3	124.4	102.0	124.4	101.3	124.4
60"		92.0	112.0	102.0	112.0	102.0	112.0
66"		92.0	92.0	102.0	102.0	102.0	102.0
72"		92.0	92.0	102.0	102.0	102.0	102.0
30"	162"	114.0	140.0	114.0	140.0	114.0	140.0
36"		114.0	140.0	114.0	140.0	114.0	140.0
42"		114.0	140.0	114.0	140.0	114.0	140.0
48"		114.0	140.0	114.0	140.0	114.0	140.0
54"		101.3	124.4	102.0	124.4	102.0	124.4
60"		92.0	112.0	102.0	112.0	102.0	112.0
66"		92.0	92.0	102.0	102.0	102.0	102.0
72"		92.0	92.0	102.0	102.0	102.0	102.0
30"	168"	114.0	140.0	114.0	140.0	114.0	140.0
36"		114.0	140.0	114.0	140.0	114.0	140.0
42"		114.0	140.0	114.0	140.0	114.0	140.0
48"		114.0	140.0	114.0	140.0	114.0	140.0
54"		101.3	124.4	102.0	124.4	102.0	124.4
60"		92.0	92.0	102.0	102.0	102.0	102.0
66"		92.0	92.0	102.0	102.0	102.0	102.0
72"		92.0	92.0	102.0	102.0	102.0	102.0
30"	173"	114.0	140.0	114.0	140.0	114.0	140.0
36"		114.0	140.0	114.0	140.0	114.0	140.0
42"		114.0	140.0	114.0	140.0	114.0	140.0
48"		114.0	136.8	114.0	136.8	114.0	136.8
54"		101.3	124.1	102.0	124.1	102.0	124.1
60"		92.0	92.0	102.0	102.0	102.0	102.0
66"		92.0	92.0	102.0	102.0	102.0	102.0

MULLION DESIGN LOAD CAPACITY - PSF WITH OR WITHOUT INTERMEDIATE HORIZONTALS							
NOMINAL DIMS.		JAMB 'J3'		MULLION 'M2'			
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)		
30"	174"	114.0	140.0	114.0	140.0		
36"		114.0	140.0	114.0	140.0		
42"		114.0	140.0	114.0	140.0		
48"		114.0	136.8	114.0	136.8		
54"		101.3	124.1	101.3	124.1		
60"		92.0	92.0	92.0	92.0		
66"		92.0	92.0	92.0	92.0		
72"		92.0	92.0	92.0	92.0		
30"	180"	114.0	140.0	114.0	140.0		
36"		114.0	140.0	114.0	140.0		
42"		114.0	140.0	114.0	140.0		
48"		114.0	131.5	114.0	131.5		
54"		101.3	119.2	101.3	119.2		
60"		92.0	92.0	92.0	92.0		
66"		92.0	92.0	92.0	92.0		
72"		92.0	92.0	92.0	92.0		
30"	186"	114.0	140.0	114.0	140.0		
36"		114.0	140.0	114.0	140.0		
42"		114.0	140.0	114.0	140.0		
48"		114.0	126.7	114.0	126.7		
53-1/2"		128.1	128.1	123.9	123.9		
54"		92.0	92.0	92.0	92.0		
60"		92.0	92.0	92.0	92.0		
66"		92.0	92.0	92.0	92.0		
72"		92.0	92.0	92.0	92.0		
30"	192"	114.0	140.0	114.0	140.0		
36"		114.0	140.0	114.0	140.0		
42"		114.0	137.1	114.0	137.1		
48"		114.0	122.1	114.0	122.1		
53-1/2"		92.0	92.0	92.0	92.0		
54"		92.0	92.0	92.0	92.0		
60"		92.0	92.0	92.0	92.0		
66"		92.0	92.0	92.0	92.0		
72"		92.0	92.0	92.0	92.0		
30"	193"	114.0	140.0	114.0	140.0		
36"		114.0	140.0	114.0	140.0		
42"		114.0	137.0	114.0	137.1		
48"		114.0	122.1	114.0	122.1		
53-1/2"		118.9	118.9	115.1	115.1		
54"		92.0	92.0	92.0	92.0		
60"		92.0	92.0	92.0	92.0		
66"		92.0	92.0	92.0	92.0		
72"		92.0	92.0	92.0	92.0		
30"	198"	114.0	140.0	114.0	130.0		
36"		114.0	140.0	114.0	140.0		
42"		114.0	132.5	114.0	132.5		
48"		114.0	117.9	114.0	117.9		
54"		92.0	92.0	92.0	92.0		
60"		92.0	92.0	92.0	92.0		
66"		92.0	92.0	92.0	92.0		
72"		92.0	92.0	92.0	92.0		
30"	204"	114.0	130.0	114.0	130.0		
36"		114.0	130.0	114.0	130.0		
42"		114.0	128.1	114.0	128.1		
48"		114.0	114.0	114.0	114.0		
54"		92.0	92.0	92.0	92.0		
60"		92.0	92.0	91.9	91.9		
66"		92.0	92.0	91.9	91.9		
72"		92.0	92.0	91.9	91.9		

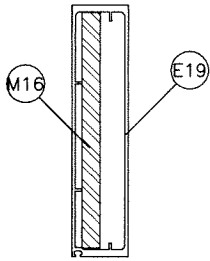
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

MULLION DESIGN LOAD CAPACITY - PSF WITH OR WITHOUT INTERMEDIATE HORIZONTALS							
NOMINAL DIMS.		JAMB 'J3'		MULLION 'M2'			
WIDTH (W)	FRAME HEIGHT	EXT.(+)	INT.(-)	EXT.(+)	INT.(-)		
30"	210"	92.0	92.0	92.0	92.0		
36"		92.0	92.0	92.0	92.0		
42"		92.0	92.0	92.0	92.0		
48"		92.0	92.0	92.0	92.0		
54"		92.0	92.0	92.0	92.0		
60"		89.6	89.6	86.7	86.7		
30"	213"	92.0	92.0	92.0	92.0		
36"		92.0	92.0	92.0	92.0		
42"		92.0	92.0	92.0	92.0		
48"		92.0	92.0	92.0	92.0		
54"		92.0	92.0	92.0	92.0		
60"		87.1	87.1	84.3	84.3		



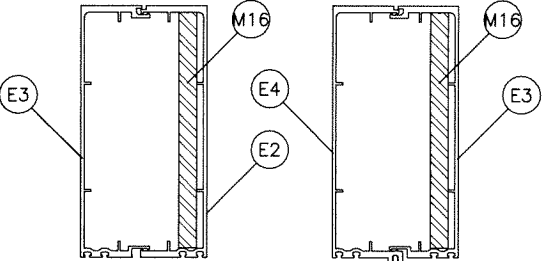
WIDTH (W) = W1
AT JAMB

WIDTH (W) = $\frac{W2 + W3}{2}$
AT MULLION



JAMB 'J3'

	Ix IN^4	Sx IN^3
ALUMINUM	11.5878	3.281
STEEL	11.4427	3.5208
TOTAL Ix ALUM + Ix STL X 2.9	44.7716	



JAMB 'J4'

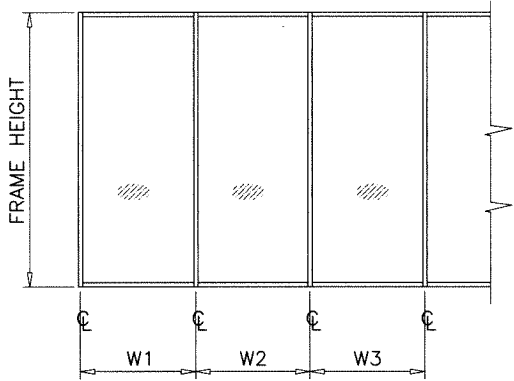
	Ix IN^4	Sx IN^3
ALUMINUM	20.3192	5.532
STEEL	11.4427	3.52
TOTAL Ix ALUM + Ix STL X 2.9	53.503	

MULLION DESIGN LOAD CAPACITY – PSF
WITHOUT INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J3'/'J4' MULL 'M2'/'M2W'	
WIDTH (W)	FRAME HEIGHT	EXT. (+)	INT. (-)
30"	96"	189.0	189.0
36"		189.0	189.0
42"		189.0	189.0
48"		189.0	189.0
54"		189.0	189.0
60"		189.0	189.0
66"		189.0	189.0
72"		189.0	189.0
30"	102"	189.0	189.0
36"		189.0	189.0
42"		189.0	189.0
48"		189.0	189.0
54"		189.0	189.0
60"		189.0	189.0
66"		189.0	189.0
72"		189.0	189.0
30"	108"	189.0	189.0
36"		189.0	189.0
42"		189.0	189.0
48"		189.0	189.0
54"		189.0	189.0
60"		189.0	189.0
66"		189.0	189.0
30"	114"	189.0	189.0
36"		189.0	189.0
42"		189.0	189.0
48"		189.0	189.0
54"		189.0	189.0
60"		189.0	189.0
66"		189.0	189.0
30"	120"	189.0	189.0
36"		189.0	189.0
42"		189.0	189.0
48"		189.0	189.0
54"		189.0	189.0
60"		189.0	189.0
66"		189.0	189.0
30"	126"	189.0	189.0
36"		189.0	189.0
42"		189.0	189.0
48"		189.0	189.0
54"		189.0	189.0
60"		189.0	189.0
66"		189.0	189.0
30"	132"	189.0	189.0
36"		189.0	189.0
42"		189.0	189.0
48"		189.0	189.0
54"		189.0	189.0
60"		189.0	189.0
66"		189.0	189.0

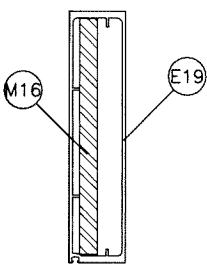
MULLION DESIGN LOAD CAPACITY – PSF
WITHOUT INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J3'/'J4' MULL 'M2'/'M2W'	
WIDTH (W)	FRAME HEIGHT	EXT. (+)	INT. (-)
30"	138"	189.0	189.0
36"		189.0	189.0
42"		189.0	189.0
48"		189.0	189.0
54"		189.0	189.0
30"	144"	189.0	189.0
36"		189.0	189.0
42"		189.0	189.0
48"		189.0	189.0
52"		189.0	189.0



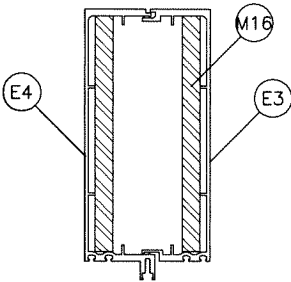
WIDTH (W) = W1
AT JAMB

WIDTH (W) = $\frac{W2 + W3}{2}$
AT MULLION



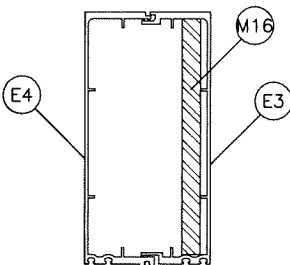
JAMB 'J3'

	Ix IN ⁴	Sx IN ³
ALUMINUM	11.5878	3.281
STEEL	11.4427	3.5208
TOTAL Ix ALUM + Ix STL X 2.9	44.7716	



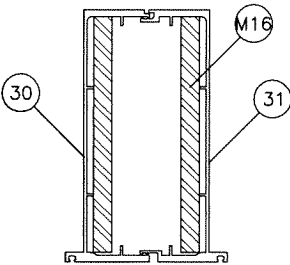
MULLION 'M2'

	Ix IN ⁴	Sx IN ³
ALUMINUM	20.3192	5.532
STEEL	22.8854	7.0417
TOTAL Ix ALUM + Ix STL X 2.9	86.6869	



JAMB 'J4'

	Ix IN ⁴	Sx IN ³
ALUMINUM	20.3192	5.532
STEEL	11.4427	3.5208
TOTAL Ix ALUM + Ix STL X 2.9	53.5030	



MULLION 'M2W'

	Ix IN ⁴	Sx IN ³
ALUMINUM	20.3192	5.532
STEEL	22.8854	7.0417
TOTAL Ix ALUM + Ix STL X 2.9	86.6869	

Sealed: 10/5/2026

FL #22526



UPRIGHT JAMB & MULLION

NOTE:
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

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

ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.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: 06-09-17
scale: -
dr. by: TARIQ
chk. by:

drawing no.
W17-57

sheet 7 of 20

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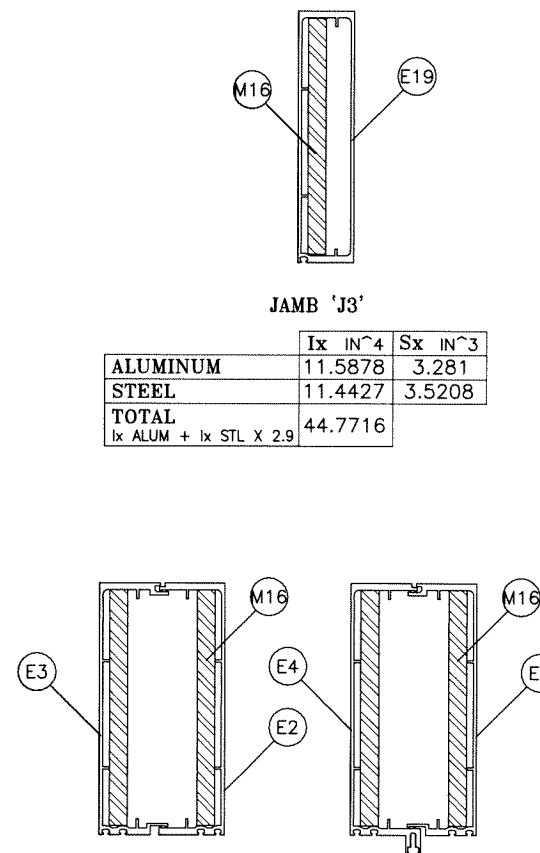
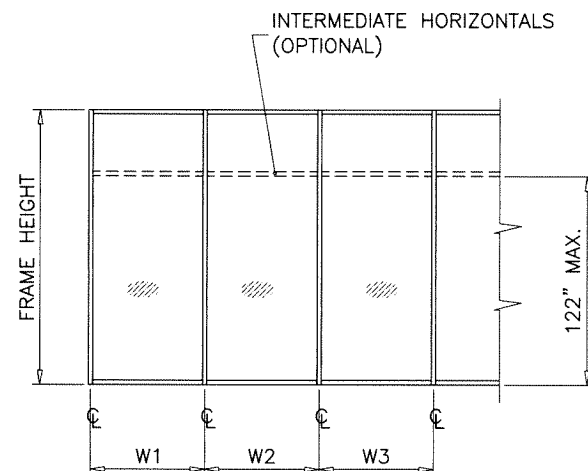
STORE W17-57ES

MULLION DESIGN LOAD CAPACITY - PSF WITH OR WITHOUT INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J3' MULLION 'M2'	
WIDTH (W)	FRAME HEIGHT	EXT. (+)	INT. (-)
30"	108"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
48"		96.0	126.0
54"		96.0	126.0
60"		96.0	126.0
66"		96.0	126.0
72"		96.0	126.0
30"	114"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
48"		96.0	126.0
54"		96.0	126.0
60"		96.0	126.0
66"		96.0	126.0
72"		96.0	126.0
30"	120"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
48"		96.0	126.0
54"		96.0	126.0
60"		96.0	126.0
66"		96.0	126.0
72"		96.0	126.0
30"	126"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
48"		96.0	126.0
54"		96.0	126.0
60"		96.0	126.0
72"		96.0	126.0
30"	132"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
48"		96.0	126.0
54"		96.0	126.0
60"		96.0	126.0
72"		96.0	126.0
30"	138"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
48"		96.0	126.0
54"		96.0	126.0
60"		96.0	126.0
30"	144"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
48"		96.0	126.0
54"		96.0	126.0
60"		96.0	126.0

MULLION DESIGN LOAD CAPACITY - PSF WITH OR WITHOUT INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J3' MULLION 'M2'	
WIDTH (W)	FRAME HEIGHT	EXT. (+)	INT. (-)
30"	150"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
48"		96.0	126.0
30"	156"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
48"		96.0	126.0
30"	162"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
48"		96.0	126.0
30"	168-5/8"	96.0	126.0
36"		96.0	126.0
42"		96.0	126.0
47-13/16"		96.0	126.0



	$I_x \text{ IN}^4$	$S_x \text{ IN}^3$
ALUMINUM	11.5878	3.281
STEEL	11.4427	3.5208
TOTAL $I_x \text{ ALUM} + I_x \text{ STL} \times 2.9$	44.7716	

	$I_x \text{ IN}^4$	$S_x \text{ IN}^3$
ALUMINUM	20.3192	5.532
STEEL	22.8854	7.0417
TOTAL $I_x \text{ ALUM} + I_x \text{ STL} \times 2.9$	86.6869	

NOTE:
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

Sealed: 10/5/2026

FL #22526



SLANTED JAMB & MULLION

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-5978

ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

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

date: 06-09-17		revisions:	
scale: -	no	date	by
dr. by: TARIQ			
chk. by:			
drawing no.			
W17-57			
sheet 7.1 of 20			

METAL STRUCTURES NOT BY 'E.S. WDW.'
MUST SUPPORT LOADS IMPOSED BY GLAZING SYSTEM AND
TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A'

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

DIRECTLY INTO 3000 PSI CONCRETE
1-3/4" MIN. EMBED INTO CONCRETE

ANCHOR EDGE DISTANCES

INTO CONCRETE = 2-1/2" MIN.

TYPE 'B'

5/16" DIA. ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)

DIRECTLY INTO 3500 PSI CONCRETE
2" MIN. EMBED INTO CONCRETE

ANCHOR EDGE DISTANCES

INTO CONCRETE = 3-1/8" MIN.

TYPE 'C'

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

INTO METAL STRUCTURES
(3) THREADS MIN. PENETRATION BEYOND SUBSTRATE
STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES

INTO METAL STRUCTURE = 1" MIN.

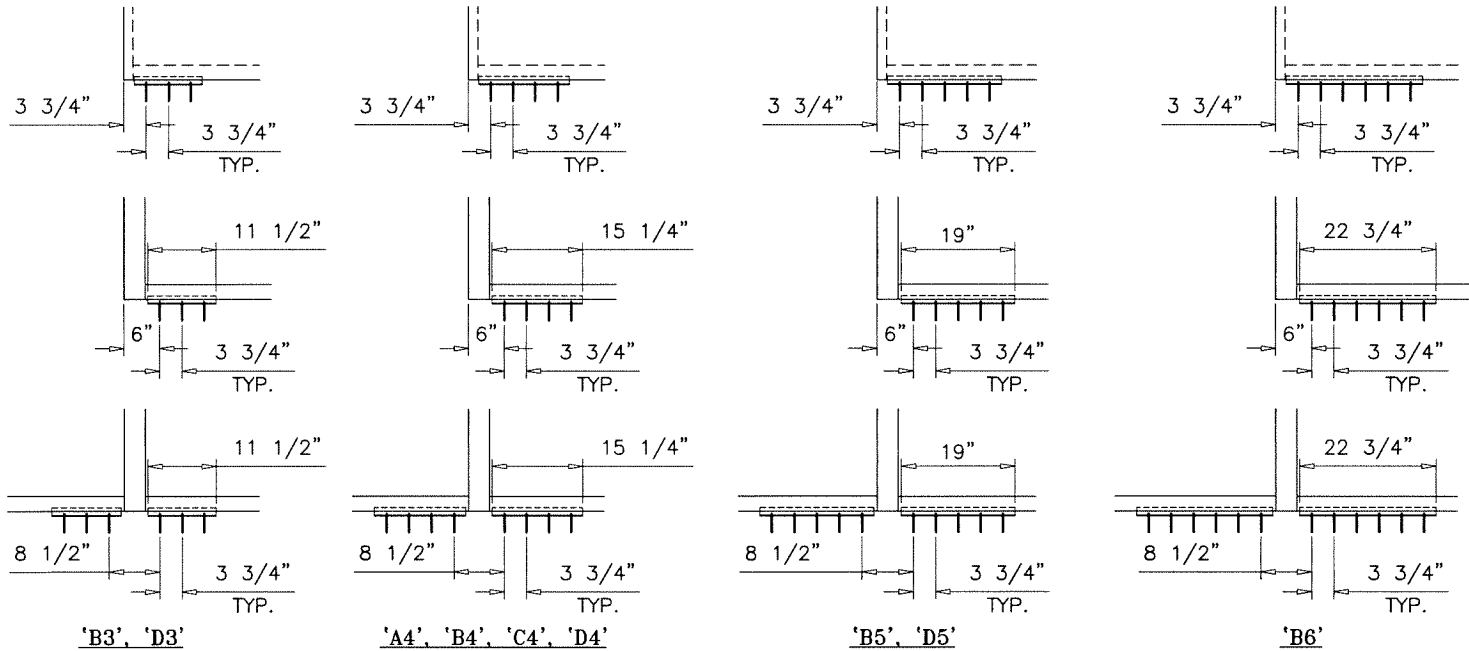
TYPE 'D'

5/16" DIA. DRIL-FLEX SELF DRILLING SCREWS BY 'DEWALT' (GRADE 5 CRS)

INTO METAL STRUCTURES
(3) THREADS MIN. PENETRATION BEYOND SUBSTRATE
STEEL: 3/16" THK. MIN. (Fy = 36 KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES

INTO METAL STRUCTURE = 1" MIN.



ANCHORS TYPES:

B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
D3 = (3) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION

A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
D4 = (4) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION

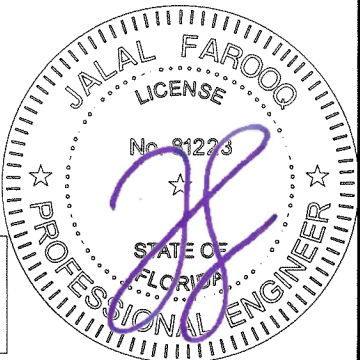
B5 = (5) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
D5 = (5) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION

B6 = (6) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION

Sealed: 10/5/2026

FL #22526

UPRIGHT
JAMB & MULLION ANCHORS



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
(C.A.N. 3538)

ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

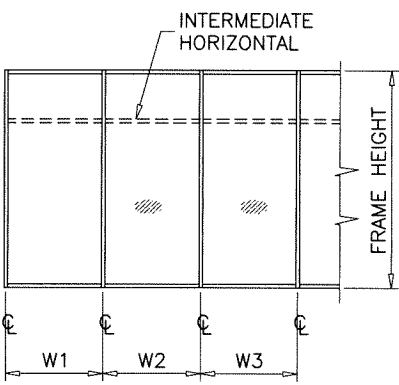
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:		no date by description	
date:	06-09-17	scale:	-
dr. by:	TARIQ	chk. by:	
drawing no.	W17-57	sheet	8 of 20

STORE\W17-57ES

ANCHOR DESIGN LOAD CAPACITY - PSF EXT.(+) & INT.(-)		
NOMINAL DIMS.		ANCHOR TYPES 'A' & 'C'
WIDTH (W)	FRAME HEIGHT	A4/C4
30"	96"	90.0
36"		90.0
42"		90.0
48"		90.0
54"		90.0
60"		90.0
30"	102"	90.0
36"		90.0
42"		90.0
48"		90.0
54"		90.0
30"	108"	90.0
36"		90.0
42"		90.0
48"		90.0
48"		90.0
30"	114"	90.0
36"		90.0
42"		90.0
48"		90.0
30"	120"	90.0
36"		90.0
42"		90.0
48"		90.0
48"		90.0

ANCHOR DESIGN LOAD CAPACITY - PSF EXT.(+) & INT.(-)									
NOMINAL DIMS.		ANCHOR TYPE 'B'				ANCHOR TYPE 'D'			
WIDTH (W)	FRAME HEIGHT	'B3'	'B4'	'B5'	'B6'	'D3'	'D4'		
30"	96"	114.0	140.0	140.0	140.0	114.0	140.0		
36"		114.0	140.0	140.0	140.0	114.0	140.0		
42"		114.0	140.0	140.0	140.0	114.0	140.0		
48"		114.0	140.0	140.0	140.0	114.0	140.0		
54"		114.0	140.0	140.0	140.0	114.0	140.0		
60"		110.3	140.0	140.0	140.0	114.0	140.0		
66"		-	133.6	140.0	140.0	-	140.0		
72"		-	122.5	140.0	140.0	-	140.0		
74-1/8"		-	119.0	140.0	140.0	-	140.0		
30"	102"	114.0	140.0	140.0	140.0	114.0	140.0		
36"		114.0	140.0	140.0	140.0	114.0	140.0		
42"		114.0	140.0	140.0	140.0	114.0	140.0		
48"		114.0	140.0	140.0	140.0	114.0	140.0		
54"		114.0	140.0	140.0	140.0	114.0	140.0		
60"		103.8	138.4	140.0	140.0	114.0	140.0		
66"		-	125.8	140.0	140.0	-	140.0		
72"		-	115.3	140.0	140.0	-	140.0		
74-1/8"		-	112.0	140.0	140.0	-	140.0		
30"	108"	114.0	140.0	140.0	140.0	114.0	140.0		
36"		114.0	140.0	140.0	140.0	114.0	140.0		
42"		114.0	140.0	140.0	140.0	114.0	140.0		
48"		114.0	140.0	140.0	140.0	114.0	140.0		
54"		108.9	140.0	140.0	140.0	114.0	140.0		
60"		-	130.7	140.0	140.0	-	140.0		
66"		-	118.8	140.0	140.0	-	140.0		
72"		-	108.9	136.1	140.0	-	140.0		
74-1/8"		-	105.8	132.2	140.0	-	140.0		
30"	114"	114.0	140.0	140.0	140.0	114.0	140.0		
36"		114.0	140.0	140.0	140.0	114.0	140.0		
42"		114.0	140.0	140.0	140.0	114.0	140.0		
48"		114.0	140.0	140.0	140.0	114.0	140.0		
54"		-	137.5	140.0	140.0	-	140.0		
60"		-	123.8	140.0	140.0	-	140.0		
66"		-	112.5	140.0	140.0	-	140.0		
72"		-	103.2	128.9	140.0	-	140.0		
74-1/8"		-	100.2	125.3	140.0	-	140.0		
30"	120"	114.0	140.0	140.0	140.0	114.0	140.0		
36"		114.0	140.0	140.0	140.0	114.0	140.0		
42"		114.0	140.0	140.0	140.0	114.0	140.0		
48"		110.3	140.0	140.0	140.0	114.0	140.0		
54"		-	130.7	140.0	140.0	-	140.0		
60"		-	117.6	140.0	140.0	-	140.0		
66"		-	106.9	133.6	140.0	-	140.0		
72"		-	98.0	122.5	140.0	-	140.0		
74-1/8"		-	95.2	119.0	140.0	-	140.0		

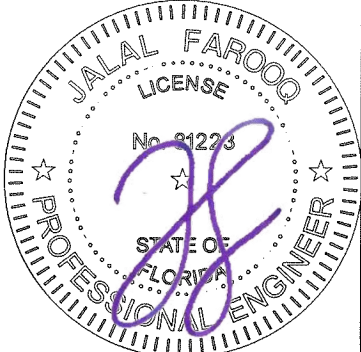


WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION

UPRIGHT
JAMB & MULLION ANCHORS

FL #22526



Sealed: 10/5/2026



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
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revisions:

no	date	by	description

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dr. by: TARIQ

chk. by:

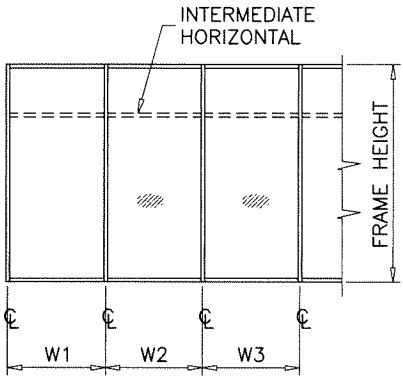
drawing no.
W17-57

sheet **8.1** of **20**

ANCHOR DESIGN LOAD CAPACITY - PSF EXT.(+) & INT.(-)						
NOMINAL DIMS.		ANCHOR TYPE 'B'			ANCHOR TYPE 'D'	
WIDTH (W)	FRAME HEIGHT	'B4'	'B5'	'B6'	'D4'	'D5'
30"	132"	140.0	140.0	140.0	140.0	140.0
36"		140.0	140.0	140.0	140.0	140.0
42"		140.0	140.0	140.0	140.0	140.0
48"		133.6	140.0	140.0	140.0	140.0
54"		118.8	140.0	140.0	140.0	140.0
60"		106.9	133.6	140.0	140.0	140.0
66"		97.2	121.5	140.0	140.0	140.0
72"		89.1	111.4	133.6	140.0	140.0
30"	138"	140.0	140.0	140.0	140.0	140.0
36"		140.0	140.0	140.0	140.0	140.0
42"		140.0	140.0	140.0	140.0	140.0
48"		127.8	140.0	140.0	140.0	140.0
54"		113.6	140.0	140.0	140.0	140.0
60"		102.3	127.8	140.0	140.0	140.0
66"		93.0	116.2	139.4	140.0	140.0
72"		85.2	106.5	127.8	136.4	140.0
30"	144"	140.0	140.0	140.0	140.0	140.0
36"		140.0	140.0	140.0	140.0	140.0
42"		140.0	140.0	140.0	140.0	140.0
48"		122.5	140.0	140.0	140.0	140.0
54"		108.9	136.1	140.0	140.0	140.0
60"		98.0	122.5	140.0	140.0	140.0
66"		89.1	111.4	133.6	140.0	140.0
72"		81.7	102.0	102.0	102.0	102.0
30"	150"	140.0	140.0	140.0	140.0	140.0
36"		140.0	140.0	140.0	140.0	140.0
42"		134.4	140.0	140.0	140.0	140.0
48"		117.6	140.0	140.0	140.0	140.0
54"		104.5	130.7	140.0	140.0	140.0
60"		94.1	117.6	140.0	140.0	140.0
66"		85.5	106.9	128.3	136.9	140.0
72"		78.4	92.0	92.0	92.0	92.0
30"	156"	140.0	140.0	140.0	140.0	140.0
36"		140.0	140.0	140.0	140.0	140.0
42"		129.2	140.0	140.0	140.0	140.0
48"		113.1	140.0	140.0	140.0	140.0
54"		100.5	125.6	140.0	140.0	140.0
60"		90.5	113.1	135.7	140.0	140.0
66"		82.2	102.8	123.4	131.6	140.0
72"		75.4	92.0	92.0	92.0	92.0
30"	162"	140.0	140.0	140.0	140.0	140.0
36"		145.2	140.0	140.0	140.0	140.0
42"		124.4	140.0	140.0	140.0	140.0
48"		108.9	136.1	140.0	140.0	140.0
54"		96.8	121.0	140.0	140.0	140.0
60"		87.1	108.9	130.7	139.4	140.0
66"		79.2	92.0	92.0	92.0	92.0
72"		72.6	90.7	92.0	92.0	92.0
30"	168"	140.0	140.0	140.0	140.0	140.0
36"		140.0	140.0	140.0	140.0	140.0
42"		120.0	140.0	140.0	140.0	140.0
48"		105.0	131.3	140.0	140.0	140.0
54"		93.3	116.7	140.0	140.0	140.0
60"		84.0	105.0	126.0	134.4	140.0
66"		76.4	92.0	92.0	92.0	92.0
72"		70.0	87.5	92.0	92.0	92.0

ANCHOR DESIGN LOAD CAPACITY - PSF EXT.(+) & INT.(-)						
NOMINAL DIMS.		ANCHOR TYPE 'B'			ANCHOR TYPE 'D'	
WIDTH (W)	FRAME HEIGHT	'B4'	'B5'	'B6'	'D4'	'D5'
30"	174"	140.0	140.0	140.0	140.0	140.0
36"		135.2	140.0	140.0	140.0	140.0
42"		115.9	140.0	140.0	140.0	140.0
48"		101.4	126.7	140.0	140.0	140.0
54"		90.1	112.6	135.2	140.0	140.0
60"		81.1	92.0	92.0	92.0	92.0
66"		73.7	92.0	92.0	92.0	92.0
72"		67.6	84.5	92.0	92.0	92.0
30"	180"	140.0	140.0	140.0	140.0	140.0
36"		130.7	140.0	140.0	140.0	140.0
42"		112.0	140.0	140.0	140.0	140.0
48"		98.0	122.5	140.0	140.0	140.0
54"		87.1	108.9	130.7	139.4	140.0
60"		78.4	92.0	92.0	92.0	92.0
66"		71.3	89.1	92.0	92.0	92.0
30"	186"	140.0	140.0	140.0	140.0	140.0
36"		126.5	140.0	140.0	140.0	140.0
42"		108.4	135.5	140.0	140.0	140.0
48"		94.8	118.6	140.0	140.0	140.0
54"		84.3	105.4	126.5	134.9	140.0
60"		75.9	92.0	92.0	92.0	92.0
66"		69.0	86.2	92.0	92.0	92.0
30"	192"	140.0	140.0	140.0	140.0	140.0
36"		122.5	140.0	140.0	140.0	140.0
42"		105.0	131.3	140.0	140.0	140.0
48"		91.9	114.8	137.8	140.0	140.0
54"		81.7	92.0	92.0	92.0	92.0
60"		73.5	91.9	92.0	92.0	92.0
66"		66.8	83.5	92.0	92.0	92.0
30"	198"	130.0	130.0	130.0	130.0	130.0
36"		118.8	130.0	130.0	130.0	130.0
42"		101.8	127.3	130.0	130.0	130.0
48"		89.1	111.4	130.0	130.0	130.0
54"		79.2	92.0	92.0	92.0	92.0
60"		71.3	89.1	92.0	92.0	92.0
30"	204"	130.0	130.0	130.0	130.0	130.0
36"		115.3	130.0	130.0	130.0	130.0
42"		98.8	123.5	130.0	130.0	130.0
48"		86.5	108.1	129.7	130.0	130.0
54"		76.9	92.0	92.0	92.0	92.0
60"		69.2	86.5	92.0	92.0	92.0
30"	210"	92.0	92.0	92.0	92.0	92.0
36"		92.0	92.0	92.0	92.0	92.0
42"		92.0	92.0	92.0	92.0	92.0
48"		84.0	92.0	92.0	92.0	92.0
54"		74.7	92.0	92.0	92.0	92.0
60"		67.2	84.0	92.0	92.0	92.0
30"	213"	92.0	92.0	92.0	92.0	92.0
36"		92.0	92.0	92.0	92.0	92.0
42"		92.0	92.0	92.0	92.0	92.0
48"		82.8	92.0	92.0	92.0	92.0
54"		73.6	92.0	92.0	92.0	92.0
60"		66.3	82.8	92.0	92.0	92.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

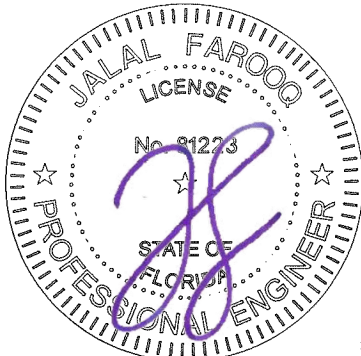


WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION

UPRIGHT
JAMB & MULLION ANCHORS

FL #22526



Sealed: 10/5/2026

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

ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.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: 06-09-17

scale: -

dr. by: TARIQ

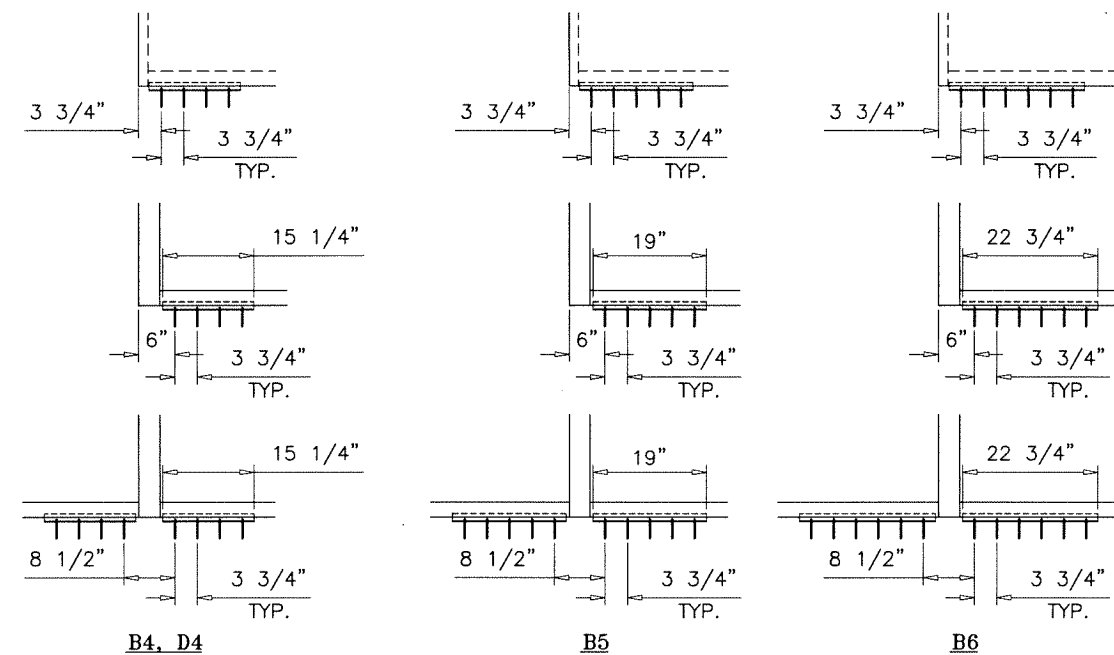
chk. by:

drawing no.
W17-57

sheet **8.2** of **20**

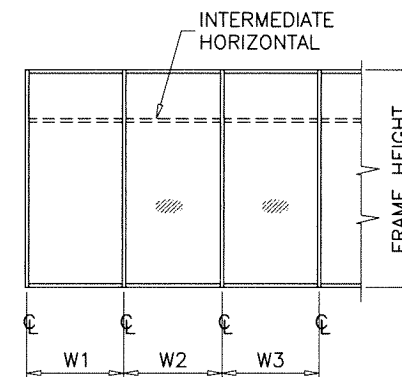
ANCHOR DESIGN LOAD CAPACITY - PSF EXT.(+) & INT.(-)					
NOMINAL DIMS.		ANCHOR TYPE 'B'			ANCHOR TYPE 'D'
WIDTH (W)	FRAME HEIGHT	B4	B5	B6	D4
30"	96"	126.0	126.0	126.0	126.0
36"		126.0	126.0	126.0	126.0
42"		126.0	126.0	126.0	126.0
48"		126.0	126.0	126.0	126.0
54"		118.2	126.0	126.0	126.0
60"		106.4	126.0	126.0	126.0
66"		96.7	120.9	126.0	126.0
72"		88.7	110.8	126.0	126.0
30"	102"	126.0	126.0	126.0	126.0
36"		126.0	126.0	126.0	126.0
42"		126.0	126.0	126.0	126.0
48"		125.2	126.0	126.0	126.0
54"		111.2	126.0	126.0	126.0
60"		100.1	125.2	126.0	126.0
66"		91.0	113.8	126.0	126.0
72"		83.4	104.3	125.2	126.0
30"	108"	126.0	126.0	126.0	126.0
36"		126.0	126.0	126.0	126.0
42"		126.0	126.0	126.0	126.0
48"		118.2	126.0	126.0	126.0
54"		105.1	126.0	126.0	126.0
60"		94.6	118.2	126.0	126.0
66"		86.0	107.5	126.0	126.0
72"		78.8	98.5	118.2	126.0
30"	114"	126.0	126.0	126.0	126.0
36"		126.0	126.0	126.0	126.0
42"		126.0	126.0	126.0	126.0
48"		112.0	126.0	126.0	126.0
54"		99.5	124.4	126.0	126.0
60"		89.6	112.0	126.0	126.0
66"		81.4	101.8	122.2	126.0
30"	120"	126.0	126.0	126.0	126.0
36"		126.0	126.0	126.0	126.0
42"		121.6	126.0	126.0	126.0
48"		106.4	126.0	126.0	126.0
54"		94.6	118.2	126.0	126.0
60"		85.1	106.4	126.0	126.0
66"		77.4	96.7	116.1	126.0
30"	126"	126.0	126.0	126.0	126.0
36"		126.0	126.0	126.0	126.0
42"		115.8	126.0	126.0	126.0
48"		101.3	126.0	126.0	126.0
54"		90.1	112.6	126.0	126.0
60"		81.1	101.3	121.6	126.0
66"					
30"	132"	126.0	126.0	126.0	126.0
36"		126.0	126.0	126.0	126.0
42"		110.5	126.0	126.0	126.0
48"		96.7	120.9	126.0	126.0
54"		86.0	107.5	126.0	126.0
60"		77.4	96.7	116.1	126.0
66"					

ANCHOR DESIGN LOAD CAPACITY - PSF EXT.(+) & INT.(-)					
NOMINAL DIMS.		ANCHOR TYPE 'B'			ANCHOR TYPE 'D'
WIDTH (W)	FRAME HEIGHT	B4	B5	B6	D4
30"	138"	126.0	126.0	126.0	126.0
36"		123.3	126.0	126.0	126.0
42"		105.7	126.0	126.0	126.0
48"		92.5	115.6	126.0	126.0
54"		82.2	102.8	123.3	126.0
30"	144"	126.0	126.0	126.0	126.0
36"		118.2	126.0	126.0	126.0
42"		101.3	126.0	126.0	126.0
48"		88.7	110.8	126.0	126.0
54"		78.8	98.5	118.2	126.0
30"	150"	126.0	126.0	126.0	126.0
36"		113.5	126.0	126.0	126.0
42"		97.3	121.6	126.0	126.0
48"		85.1	106.4	126.0	126.0
54"					
30"	156"	126.0	126.0	126.0	126.0
36"		109.1	126.0	126.0	126.0
42"		93.5	116.9	126.0	126.0
48"		81.8	102.3	122.7	126.0
54"					
30"	162"	126.0	126.0	126.0	126.0
36"		105.1	126.0	126.0	126.0
42"		90.1	112.6	126.0	126.0
48"		78.8	98.5	118.2	126.0
54"					
30"	168-5/8"	121.1	126.0	126.0	126.0
36"		100.9	126.0	126.0	126.0
42"		86.5	108.1	126.0	126.0
48"		76.0	95.0	114.0	126.0
54"					



ANCHORS TYPES:

- B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
D4 = (4) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION
B5 = (5) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
B6 = (6) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION



WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION

METAL STRUCTURES NOT BY 'E.S. WDW.'
MUST SUPPORT LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'B'

5/16" DIA ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)

DIRECTLY INTO CONCRETE (3500 PSI MIN.)
2" MIN. EMBED INTO CONCRETE

ANCHOR EDGE DISTANCES

INTO CONCRETE = 3-1/8" MIN.

TYPE 'D'

5/16" DIA. DRIL-FLEX SELF DRILLING SCREWS (GRADE 5 CRS)

INTO METAL STRUCTURES
(3) THREADS MIN. PENETRATION BEYOND SUBSTRATE
STEEL: 3/16" THK. MIN. (Fy = 36 KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

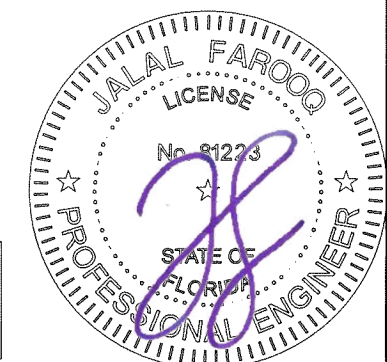
ANCHOR EDGE DISTANCES

INTO METAL STRUCTURE = 1" MIN.

NOTE:
INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

Sealed: 10/5/2026

FL #22526



SLANTED
JAMB & MULLION ANCHORS

AL-FAROOQ CORPORATION
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TEL. (305) 264-8100 FAX. (305) 262-6978

ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
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revisions:	no	date	by	description

date: 06-09-17

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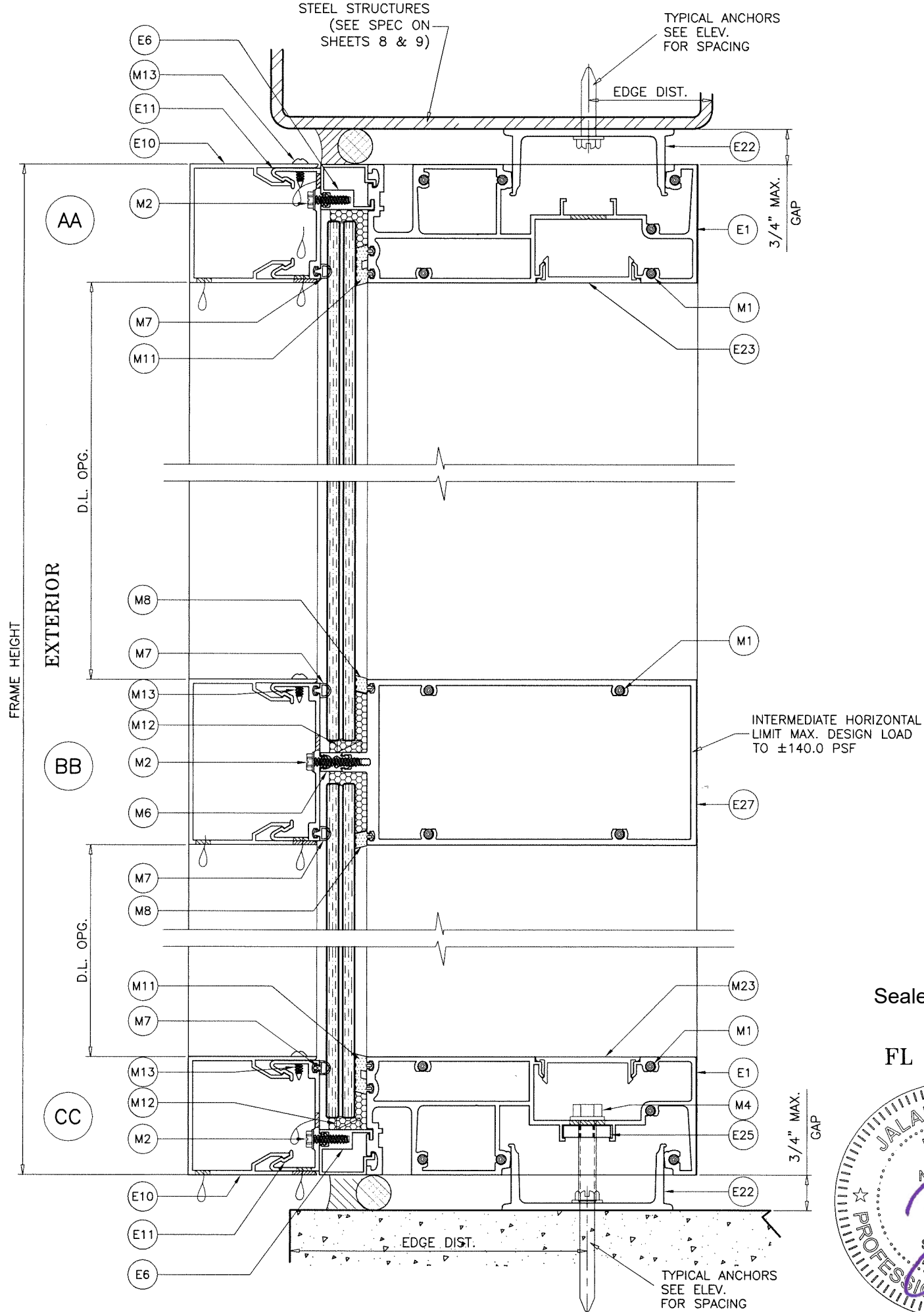
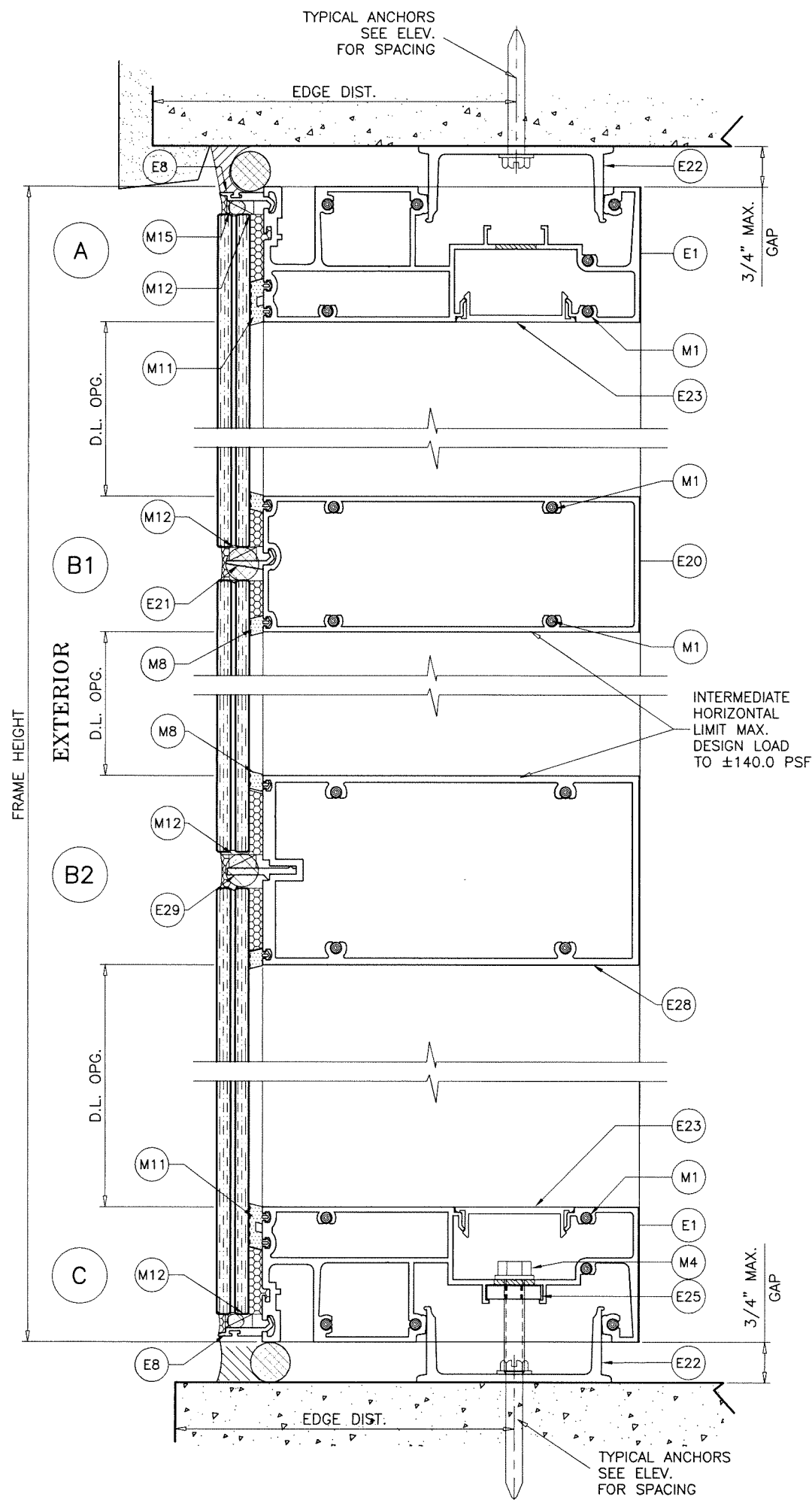
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chk. by:

drawing no.

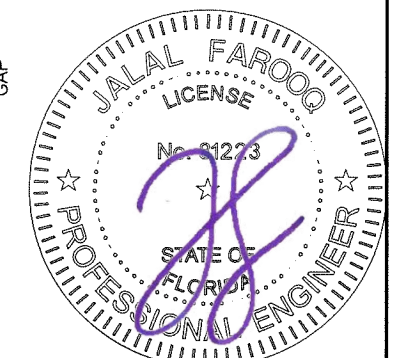
W17-57

sheet 9.1 of 20

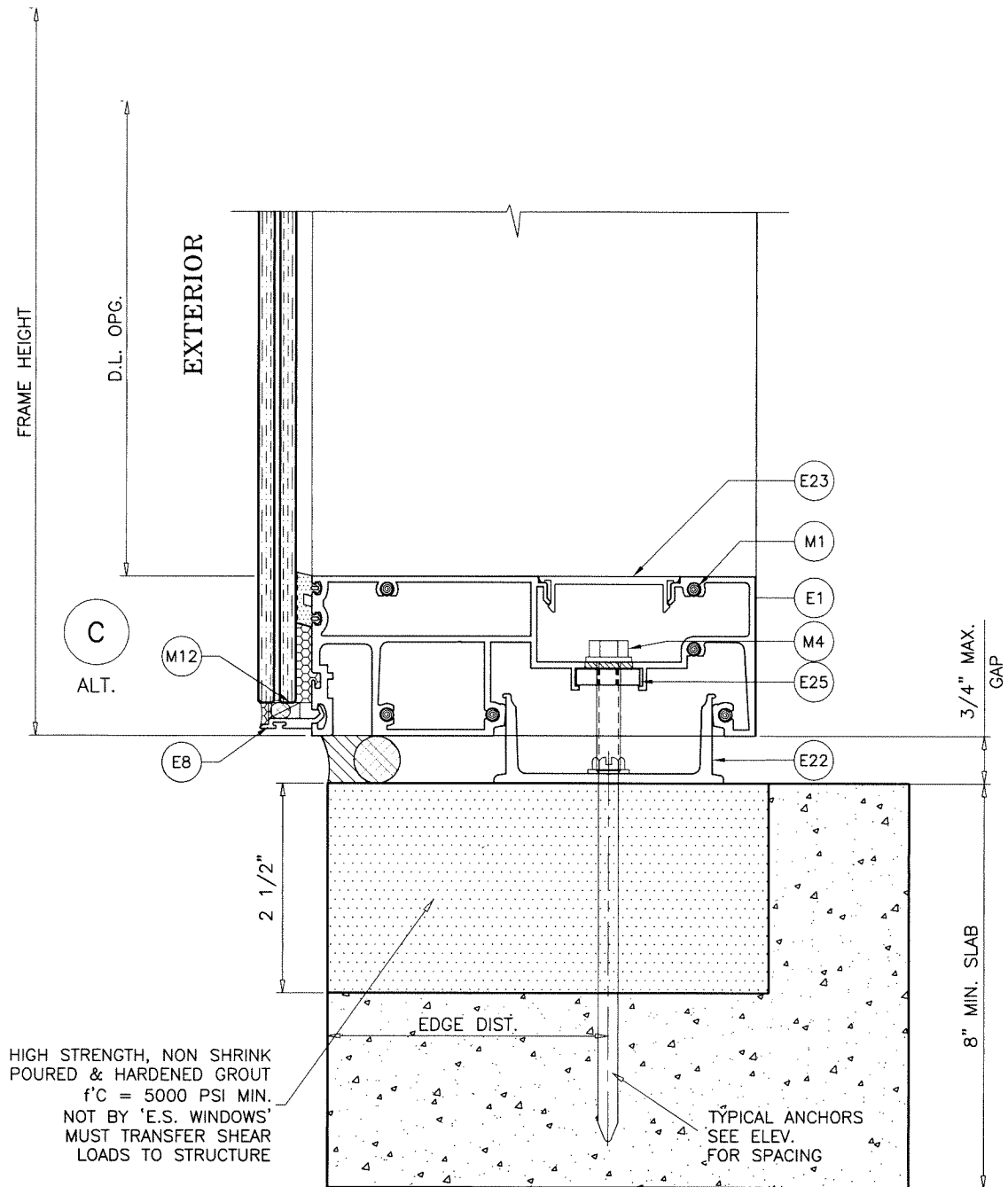


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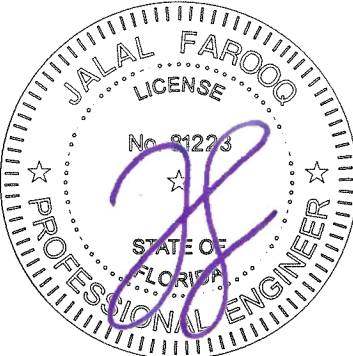


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ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.M.I.) E.S. WINDOWS, LLC 3550 N.W. 49 STREET MIAMI, FL. 33142 TEL. (305) 638-5151 FAX. (305) 638-5158																					
date: 06-09-17 scale: 3/8" = 1" dr. by: TARIQ chk. by:	revisions: <table border="1"> <thead> <tr> <th>no</th> <th>date</th> <th>by</th> <th>description</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	no	date	by	description																
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drawing no. W17-57 sheet 10 of 20																					



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FL #22526



AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
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STORE \ W17-57ES

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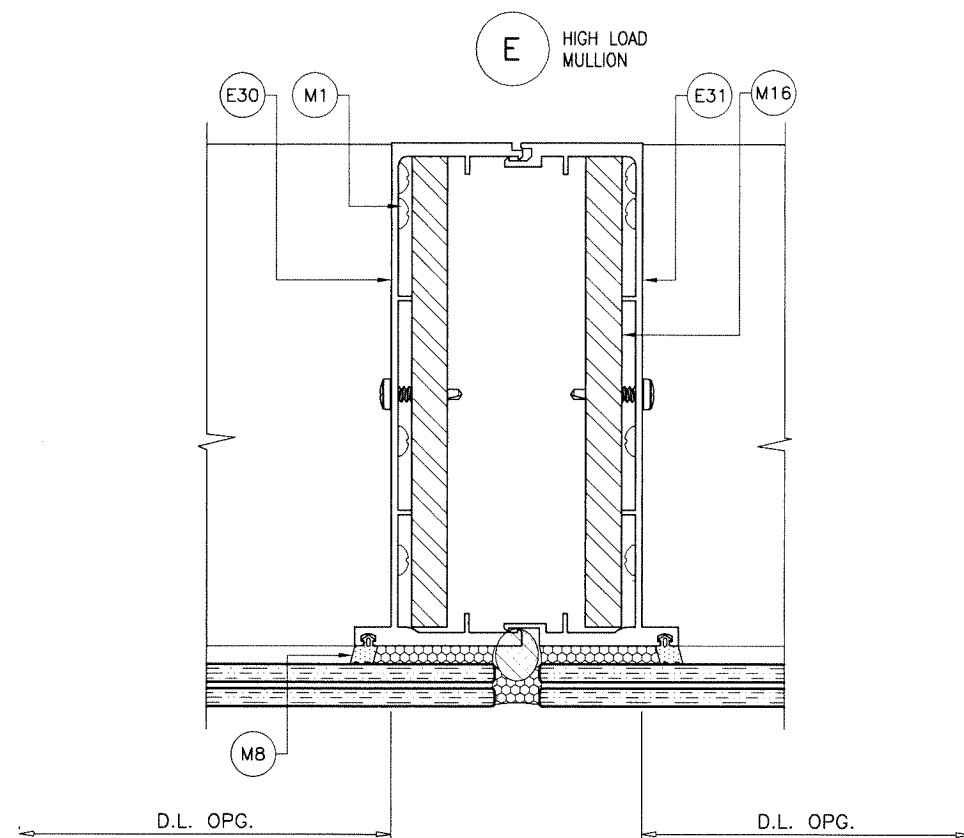
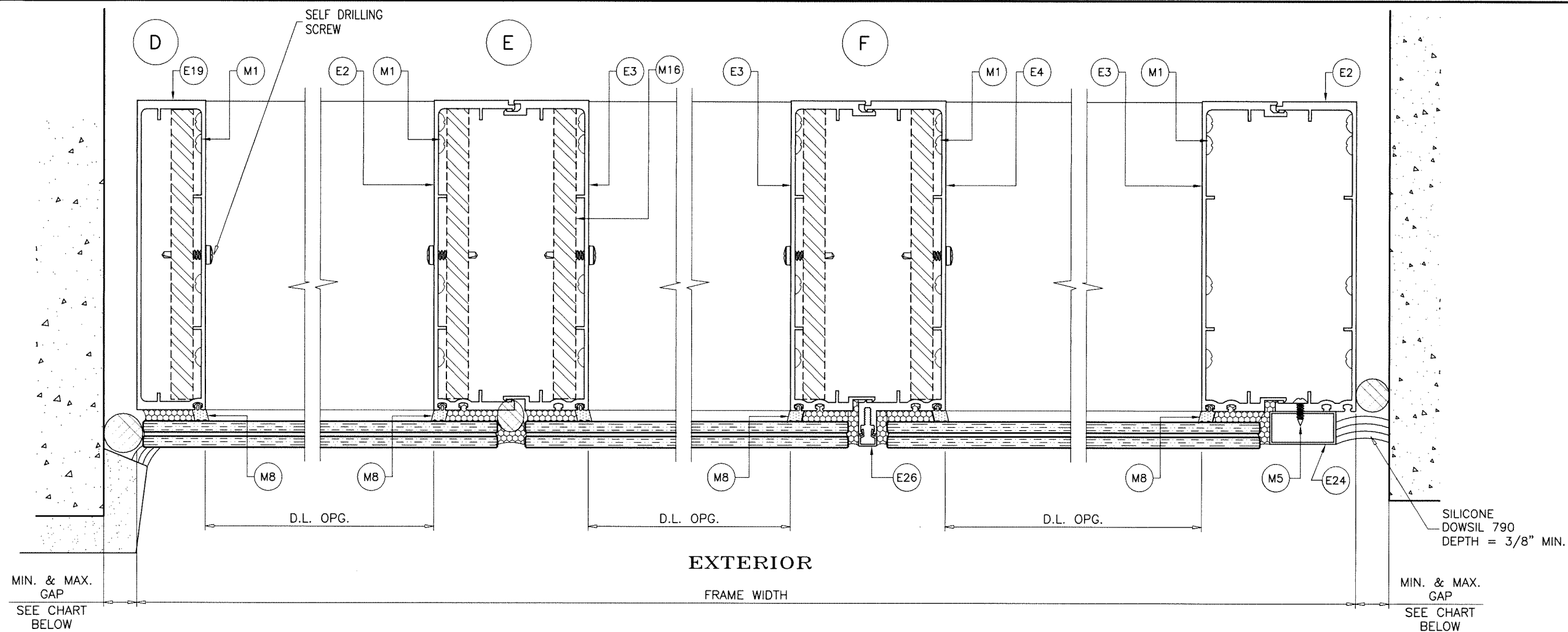
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3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:

no	date	by	description

date: 06-09-17
scale: 3/8" = 1"
dr. by: TARIQ
chk. by:

drawing no.
W17-57
sheet 10.1 of 20



MAX. FRAME HEIGHT	GAP	
	MIN.	MAX.
120"	7/16"	3/4"
168"	9/16"	3/4"
213"	11/16"	3/4"

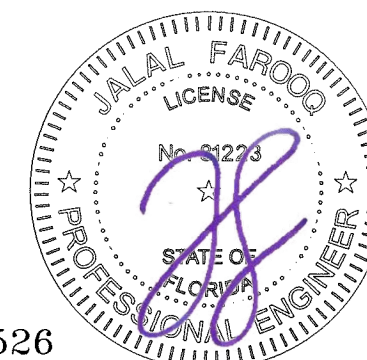
NOTE:
 MAX. MOVEMENT CONSIDERED=100% STRETCH.
 PLEASE REFER TO SEALANT MANUFACTURER'S DATA AND APPLICATION MANUAL FOR COMPATABILITY OF SEALANT TO SUBSTRATE & WINDOWALL MATERIAL/FINISH AND COMPLIANCE FOR WARRANTY.
 REFER TO ACI-117-10 FOR CONSTRUCTION TOLERANCES.

ALTERNATE SEALANTS AT JAMB GAPS CAN BE DESIGNED BY ENGINEER OF RECORD BASED ON MANUFACTURER GUIDE LINES.

GAPS LESS THAN 1/4" MAY BE DESIGNED BY ENGINEER OF RECORD BY THE USE OF BOND BREAKER TAPE OR 15% OF GAP ALLOWED MOVEMENT.

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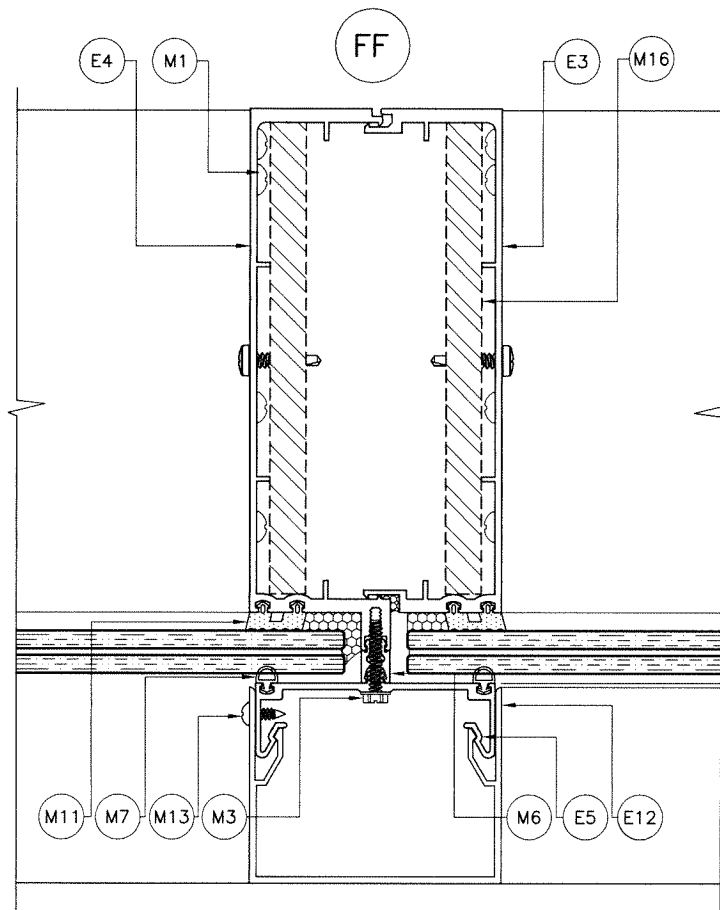
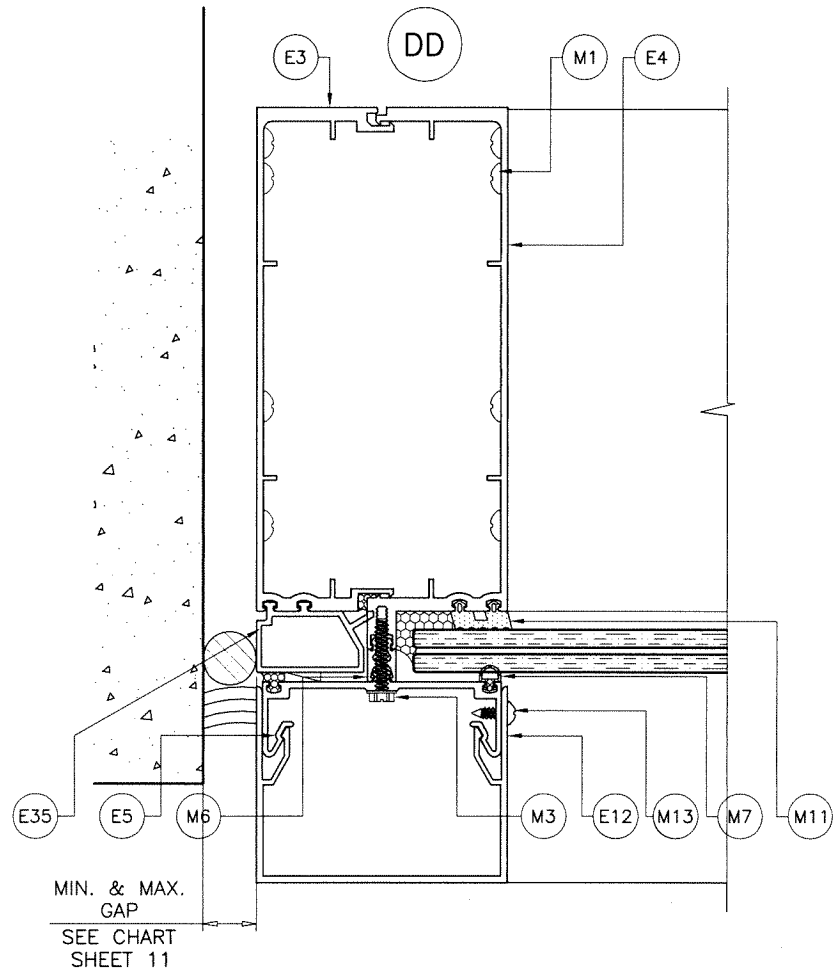
FL #22526



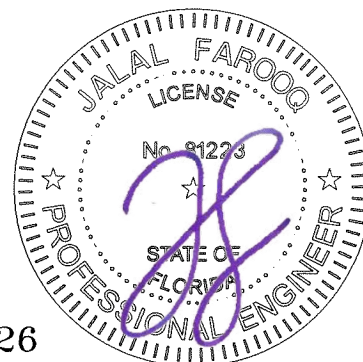
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 ENGINEERS & PRODUCT DEVELOPMENT
 9360 SUNSET DRIVE, SUITE 220
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 STORE \W17-575

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date:	06-09-17	scale:	3/8" = 1"	dr. by:	TARIQ	chk. by:			
drawing no.		W17-57							
sheet		11 of 20							



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ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
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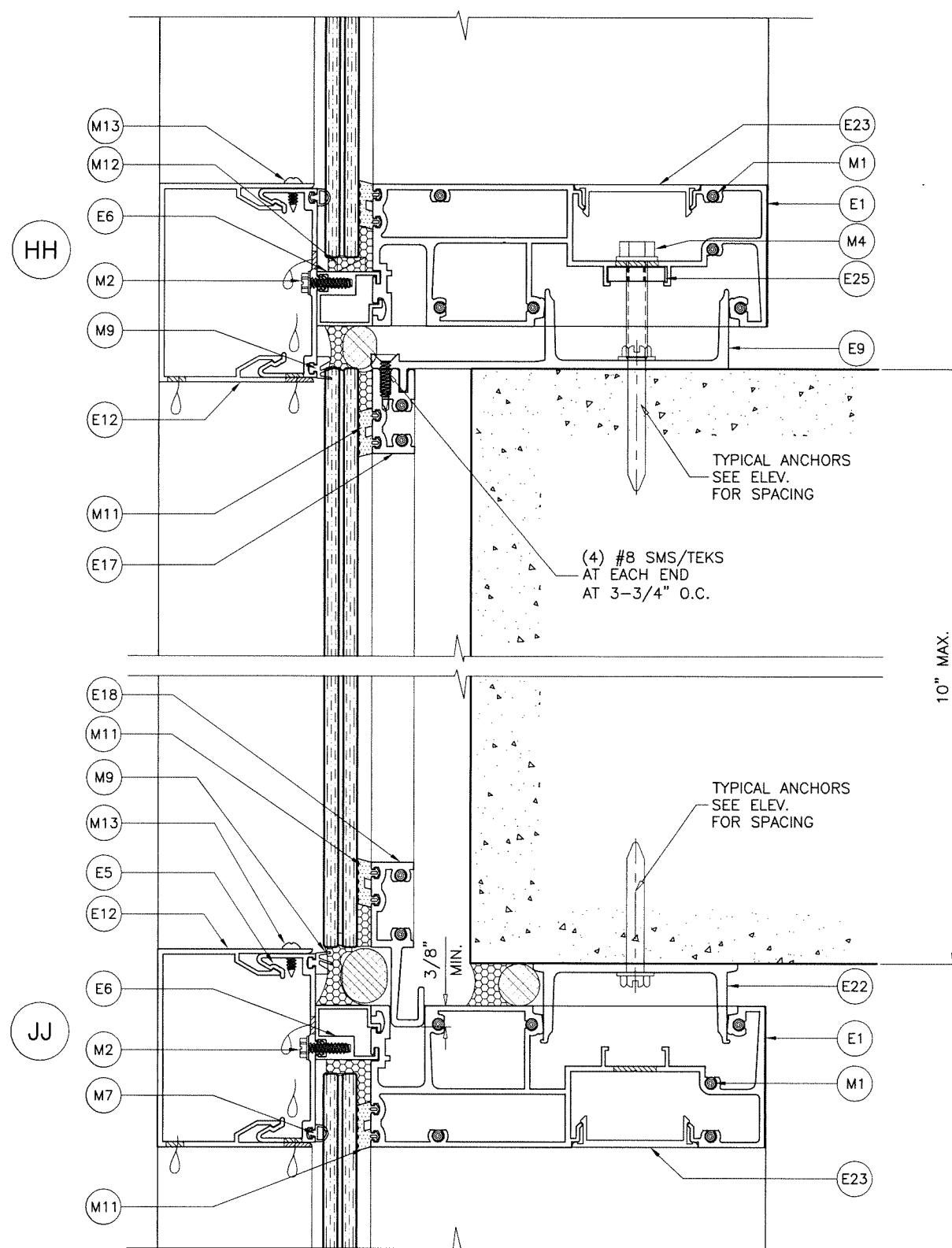
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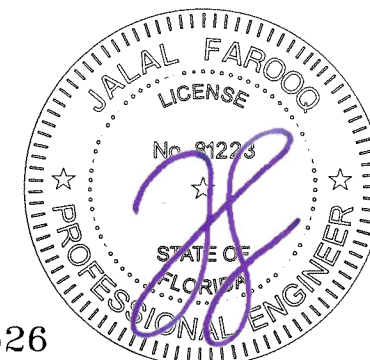
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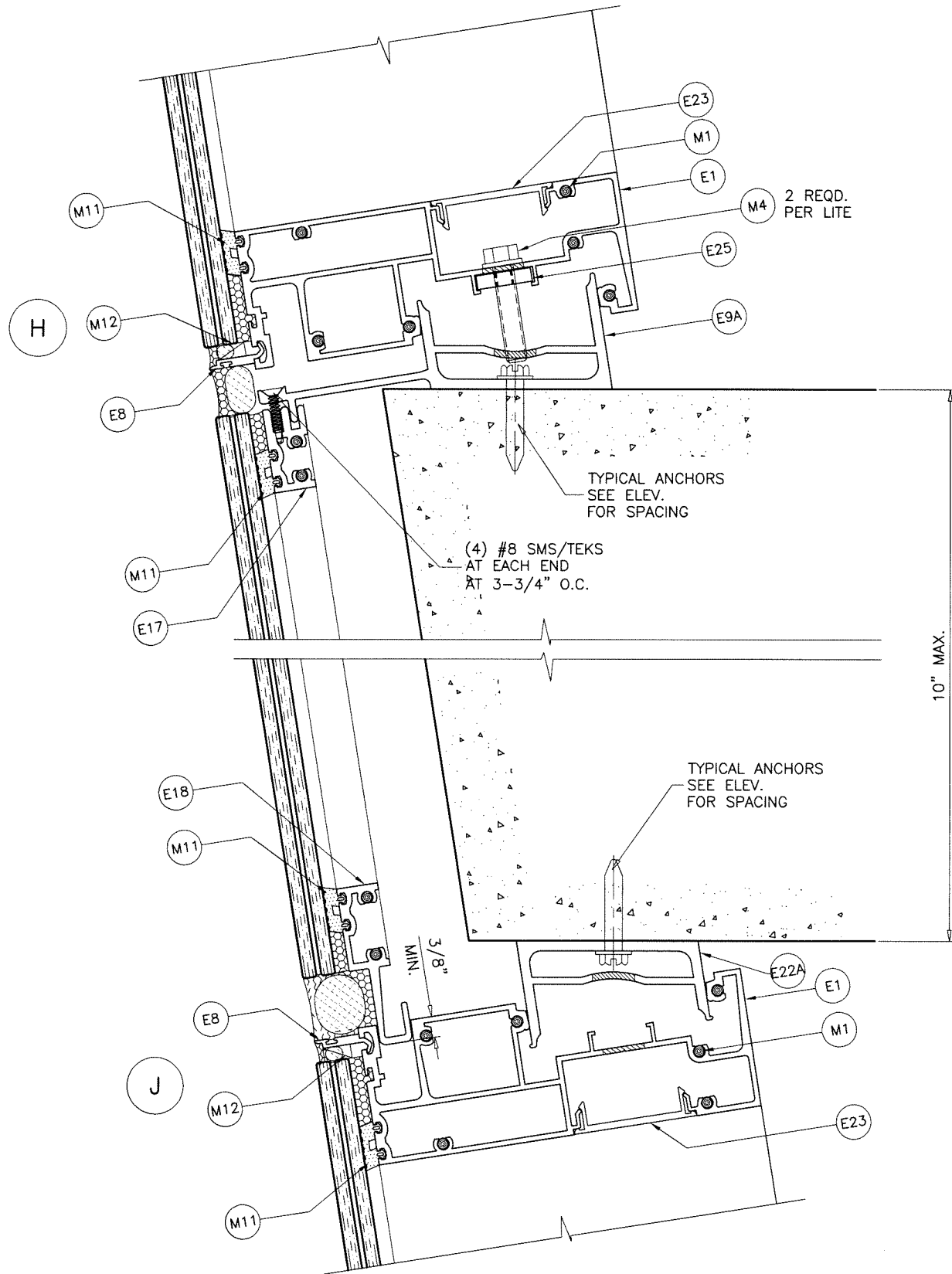
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W17-57			
sheet 12 of 20			



FL #22526

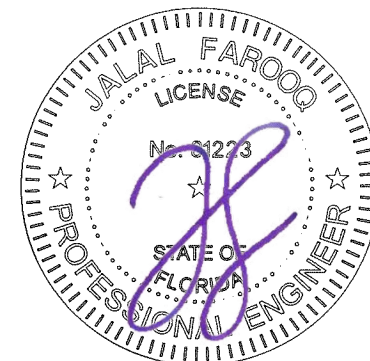


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scale: 3/8" = 1"	no	date	by
dr. by: TARIQ			
chk. by:			
drawing no. W17-57		description	
sheet 13 of 20			



SLANTED WINDOW WALL SYSTEM
 LAMINATED GLASS ONLY
 MAX. DESIGN LOAD NOT TO EXCEED +96.0, -126.0 PSF
 SLOPING ANGLE NOT TO EXCEED 9°

FL #22526



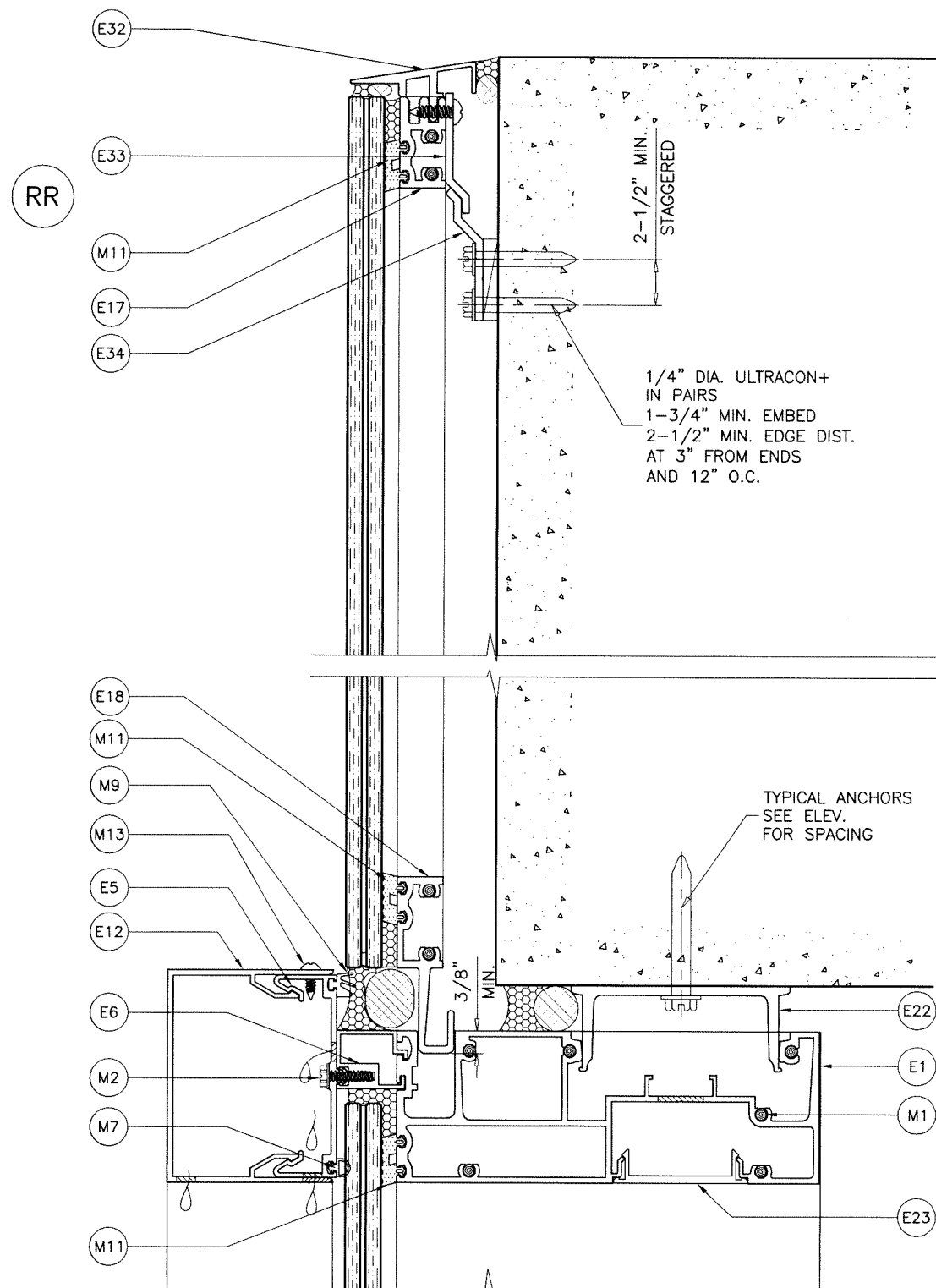
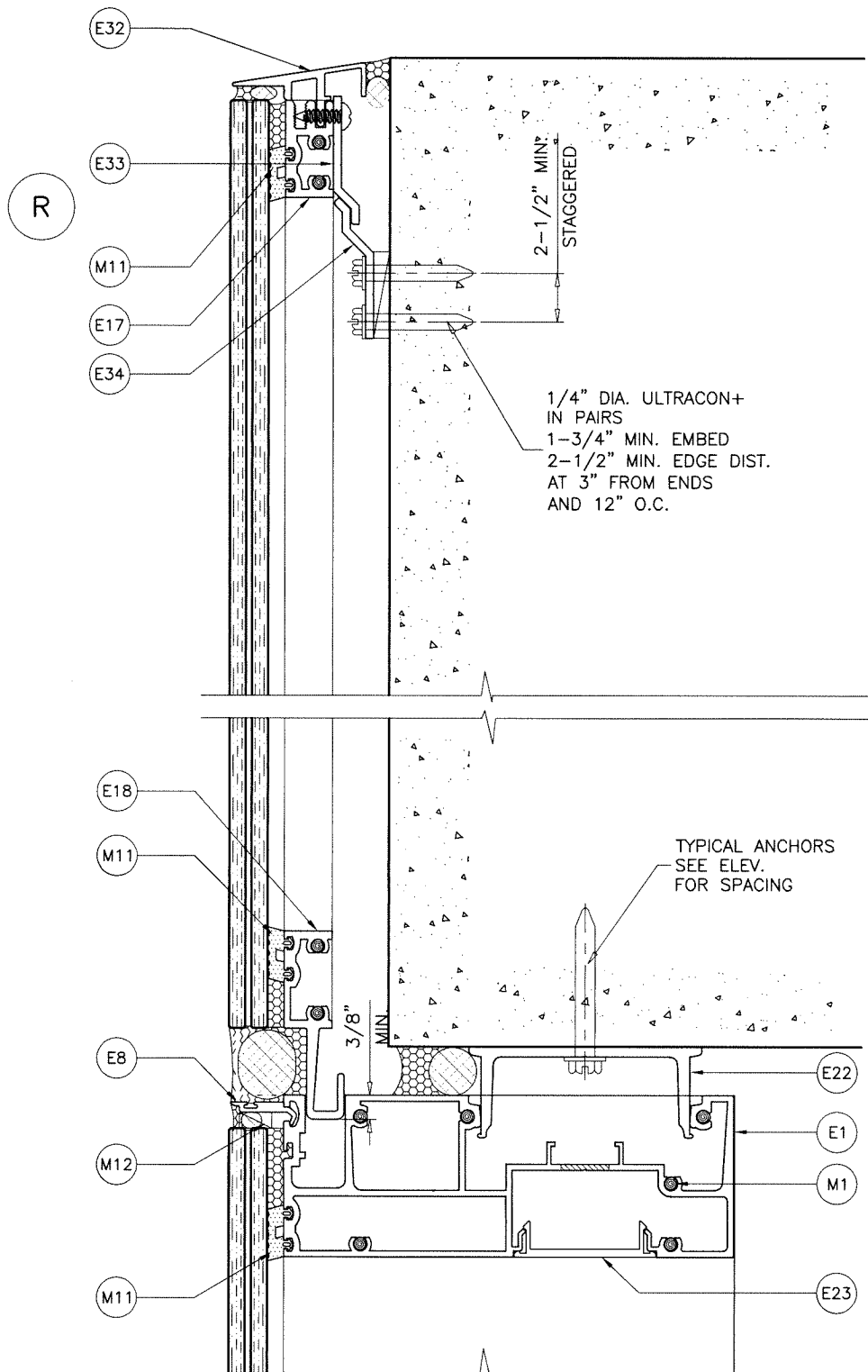
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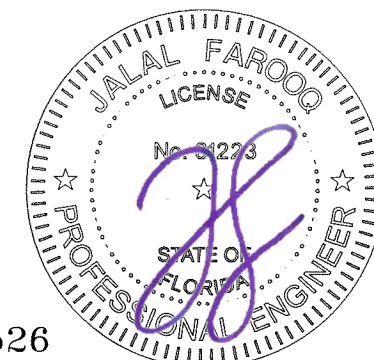
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chk. by:					
drawing no.	W17-57				
sheet	13.1 of 20				

STORE\W17-57ES



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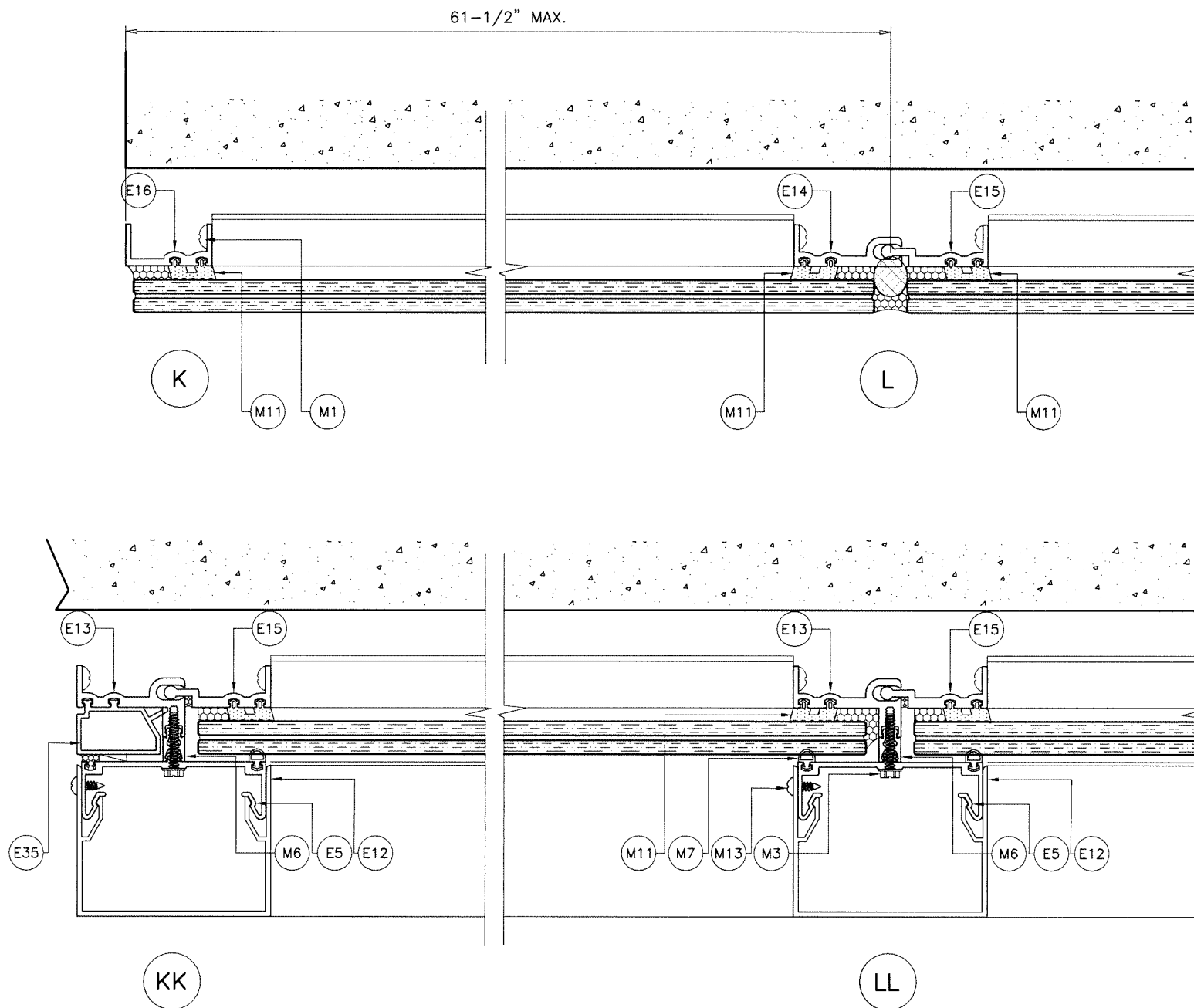
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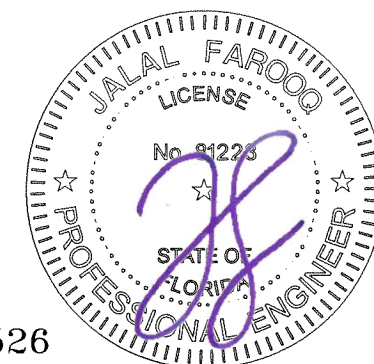
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chk. by:

drawing no.
W17-57
sheet 14 of 20

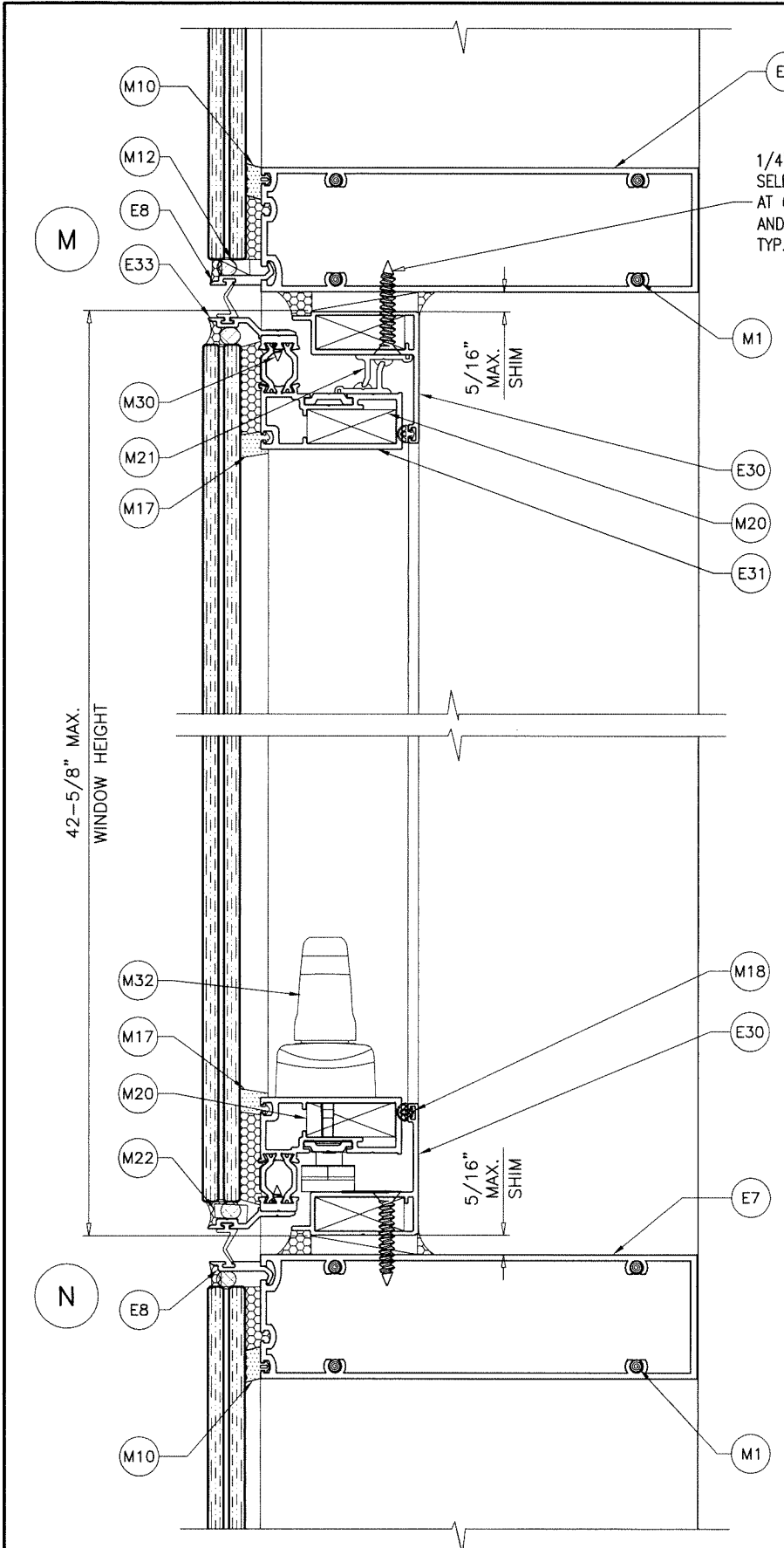


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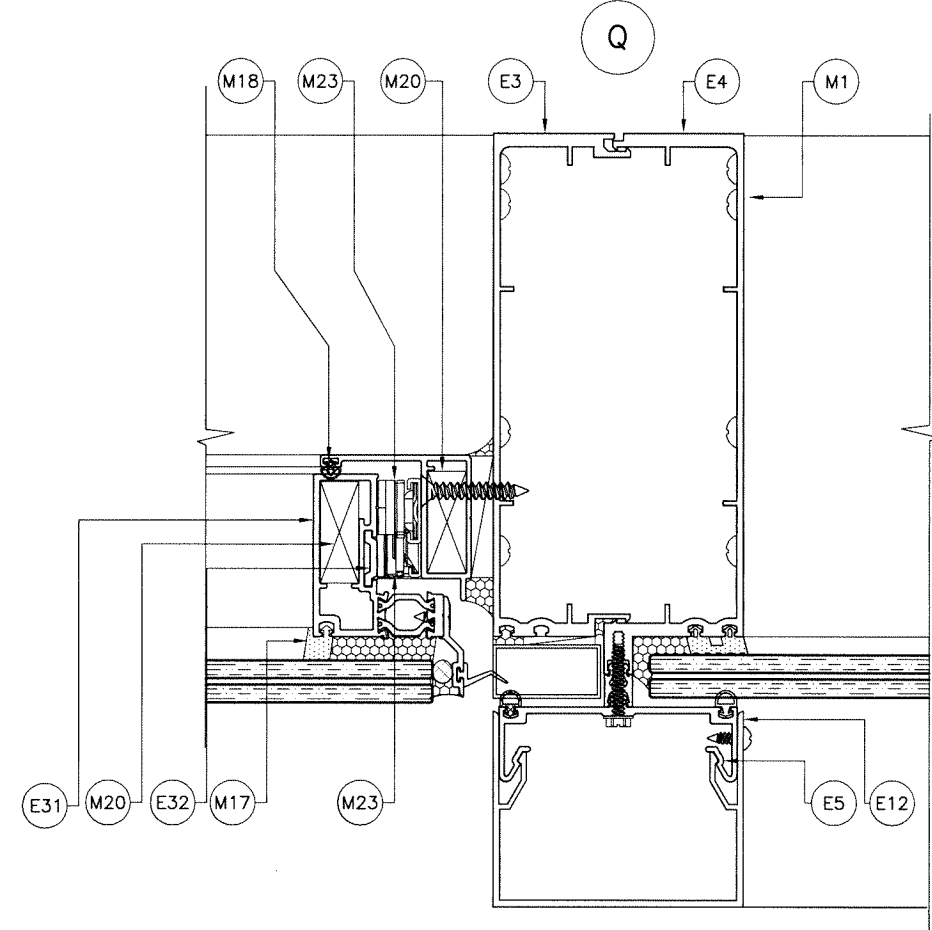
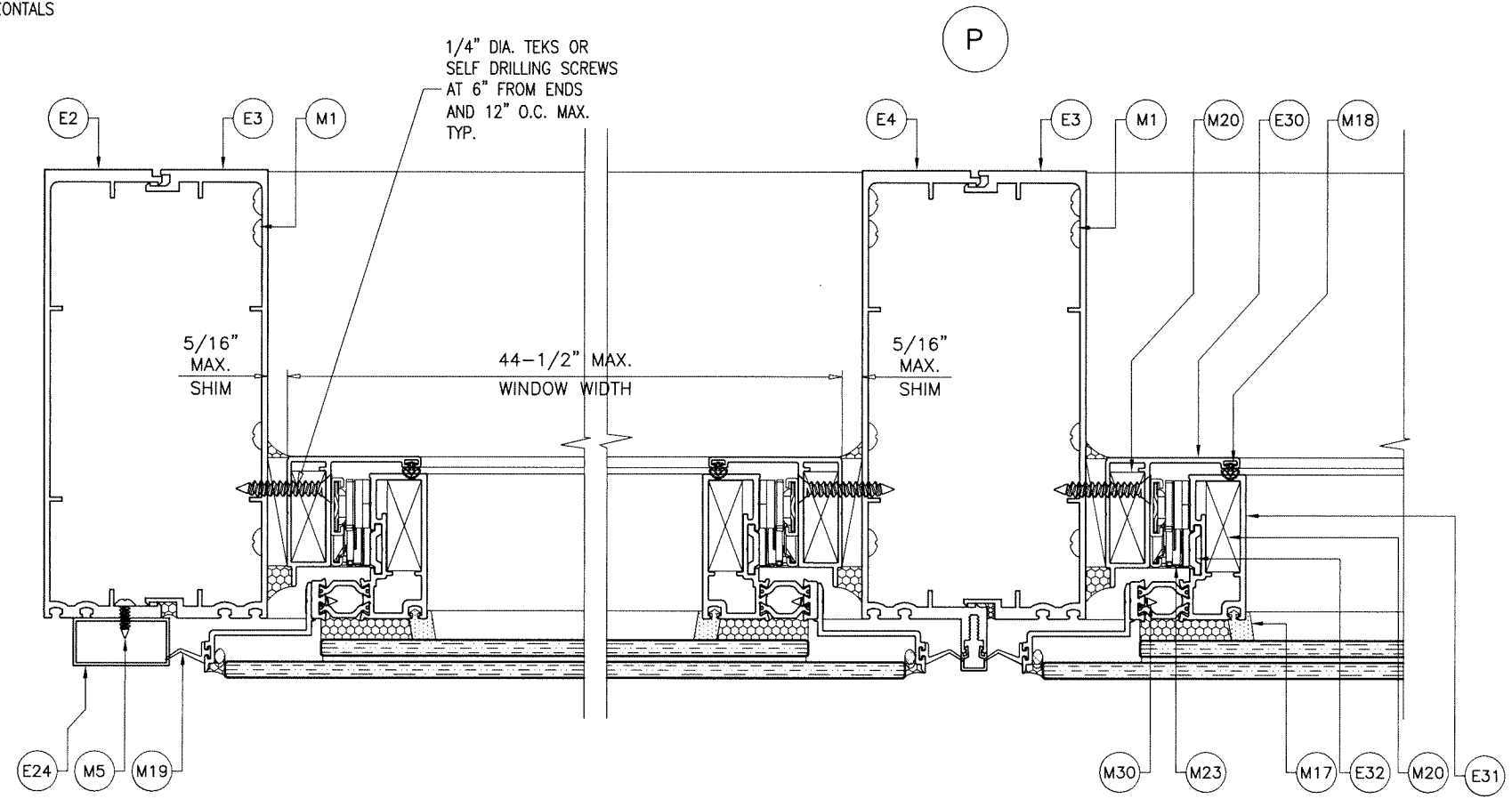
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revisions:		
date:	no.	description
06-09-17	1	3/8" = 1"
scale:	dr. by:	chk. by:
	TARIQ	
drawing no.		
W17-57		
sheet 15 of 20		



E7
LIMIT MAX. LOADS
TO ± 114.0 PSF
FOR THESE HORIZONTALS

1/4" DIA. TEKS OR
SELF DRILLING SCREWS
AT 6" FROM ENDS
AND 12" O.C. MAX.
TYP.



NOTE:
WINDOW WALL SYSTEM WITH
ES7531 AWNING TYPE WINDOW INSERTS
LIMIT MAX. DESIGN LOADS TO ± 114.0 PSF

Sealed: 10/5/2026



FL #22526

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

revisions:

no	date	by description

date: 06-09-17

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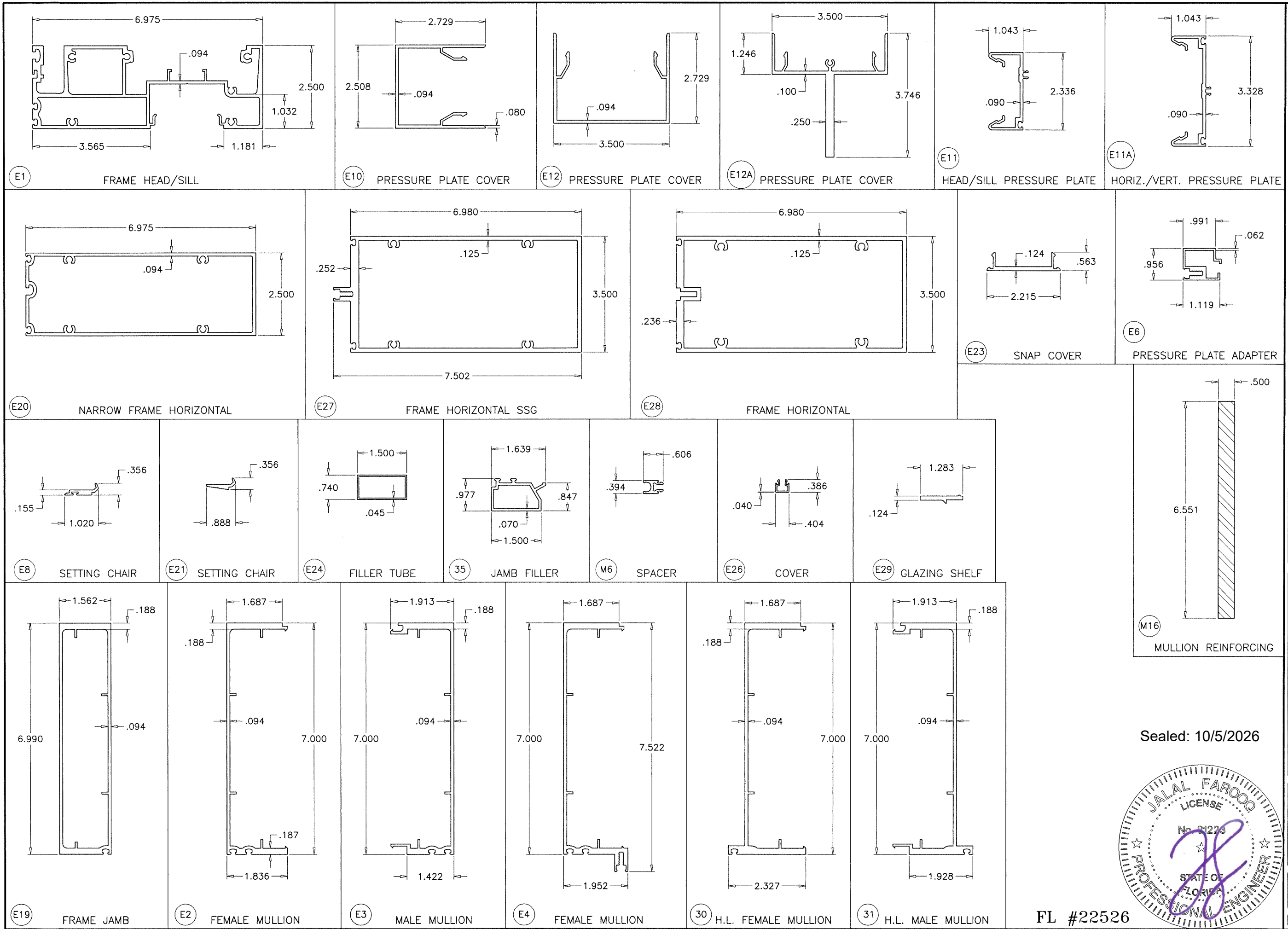
dr. by: TARIQ

chk. by:

drawing no.

W17-57

sheet 16 of 20



Sealed: 10/5/2026



FL #22526

af c

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

STORE \W17-57ES

ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

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

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date: 06-09-17 scale: 3/8" = 1" dr. by: TARIQ chk. by:

drawing no. **W17-57**

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FL #22526

E9 SLAD COVER ANCHOR

E9A SLAD COVER ANCHOR (SLANTED)

E32 SLAD COVER TOP

E33 FIXING FOR LEAF

E34 FIXING FOR FRAME

E22 ANCHOR BASE

E22A ANCHOR BASE (SLANTED)

E13 SSG SLAD COVER

E17 HEAD SLAD COVER

E14 MULLION SSG SLAD COVER

E18 SILL SLAD COVER

E15 MULLION SSG SLAD COVER

E16 JAMB SLAD COVER

Sealed: 10/5/2026

FL #22526

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drawing no. W17-57			
sheet 19 of 20			

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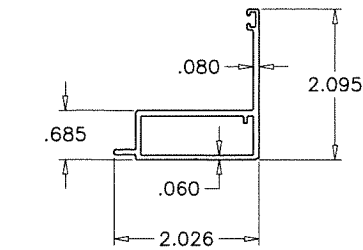
ES-8860 ALUMINUM WINDOW WALL SYSTEM (S.M.I.)

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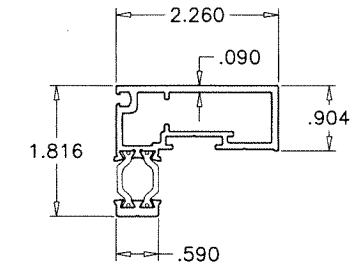
STORE W17-57ES

ES-P7531 PROJECT-OUT WINDOW

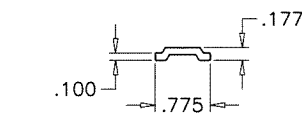
ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
E30	ES-07531-001	AS REQD.	WINDOW FRAME	6063-T6	-
E31	ES-07531-501	AS REQD.	VENT	6063-T6	-
E32	ES-EUR-001	AS REQD.	EORO BAR	6063-T6	-
E33	ES-07531-412	AS REQD.	FRONT TRIM	6063-T6	-
E34	ES-07531-416	AS REQD.	FRONT TRIM	6063-T6	-
M17	ES-7530-G08A	AS REQD.	INTERIOR SPACER SSG	SILICONE	-
M18	ES-P7531-G03	AS REQD.	INNER WATER SEAL	SILICONE	-
M19	ES-8860-G03	AS REQD.	WATER DEFLECTOR	SILICONE	-
M20	0334	AS REQD.	CORNER LOCK	ALUMINUM	-
M21	1549-3	AS REQD.	SNUBBER	ALUMINUM	-
M22	ES-P7531-B02	AS REQD.	SETTING BLOCK	SILICONE	-
M23	316C/320/324	AS REQD.	90° BAR HINGE	STEEL	-
M27	#8 X 1/2"	AS REQD.	SNUBBER & WINDOW RESTRICTOR FASTENERS	ST. STEEL	PH SMS
M28	#10 X 1/2"	AS REQD.	BAR HINGE FASTENERS	ST. STEEL	PH SMS
M29	#10 X 1/2"	AS REQD.	LOCK, HANDLE AND TRIM FASTENERS	ST. STEEL	FH SMS
M30	-	AS REQD.	20 MM INSULBAR	POLYAMIDE	-
M31	WPSA-N1	AS REQD.	3/4" X 3/4" X 2" RETICULATED OPEN CELL FOAM	-	30 PPI
M32	1249-OR	AS REQD.	OFFSET HANDLE	-	-
M33	1315-MC3	AS REQD.	LOCK PLATE	-	-
M34	1355	AS REQD.	KEEPER	-	-
M35	1356-062	AS REQD.	KEEPER SHIM	-	-
M36	8021-430	-	HANDLE CONNECTOR	-	-
M37	1409	-	FRICTION ADJUSTER	-	AMC
M38	8030-80	-	DRIVE ROD	-	AMC



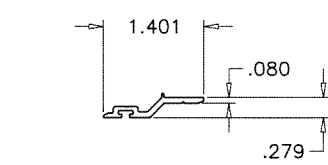
E30 WINDOW FRAME



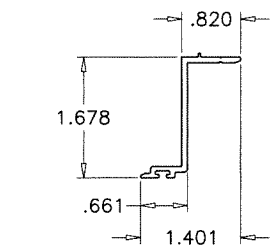
E31 VENT



E32 EURO BAR

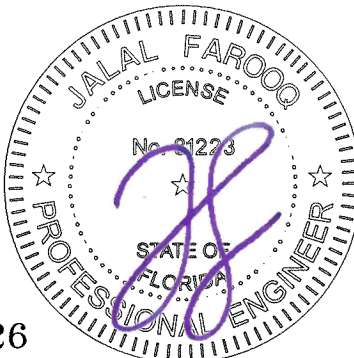


E33 FRONT TRIM



E34 FRONT TRIM

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