



MIAMI-DADE COUNTY  
PRODUCT CONTROL SECTION

11805 SW 26 Street, Room 208  
Miami, FL 33175  
T (786) 315-2590 F (786) 315-2599

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)  
BOARD AND CODE ADMINISTRATION DIVISION

[www.miamidade.gov/economy](http://www.miamidade.gov/economy)

**NOTICE OF ACCEPTANCE (NOA)**

**CGI Windows and Doors, Inc.**  
3780 W 104<sup>th</sup> Street  
Hialeah, FL 33018

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

**DESCRIPTION: Series "Sentinel" Unclipped Mullion - L.M.I.**

**APPROVAL DOCUMENT:** Drawing No. MD-SENMUL, titled "Series Sentinel Unclipped Mullions", sheets 1 through 7 of 7, dated 06/03/2020, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

**MISSILE IMPACT RATING: Large and Small Missile Impact Resistant**

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state, model/series, and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises and renews** NOA# 18-0117.01 and consists of this page 1 and evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Sifang Zhao, P.E.**



*S.Z.*  
09/10/2020

NOA No. 20-0610.11  
Expiration Date: September 22, 2025  
Approval Date: September 10, 2020

**CGI Windows and Doors, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**1. EVIDENCE SUBMITTED UNDER PREVIOUS NOA's**

**A. DRAWINGS**

1. Manufacturer's die drawings and sections. *(Submitted under NOA No.10-0510.14)*
2. Drawing No M10-01, titled "Series Sentinel Unclipped Alum. Mullions", sheets 1 through 7 of 7, dated 04/02/10, with revision D dated 11/08/17, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.

**B. TESTS**

1. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94  
2) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94  
3) Water Resistance Test, per FBC, TAS 202-94  
along with marked-up drawings and installation diagram of an aluminum tube mullion, prepared by Hurricane test Laboratory, LLC, Test Report No. **HTL-0080-0303-11**, dated 03/24/11, signed and sealed by Vinu J. Abraham, P.E.  
*(Submitted under NOA No.11-0330.22)*
2. Test reports on: 1) Air Infiltration Test, per FBC, TAS 202-94  
2) Uniform Static Air Pressure Test, Loading per FBC TAS 202-94  
3) Water Resistance Test, per FBC, TAS 202-94  
4) Large Missile Impact Test per FBC, TAS 201-94  
5) Cyclic Wind Pressure Loading per FBC, TAS 203-94  
along with marked-up drawings and installation diagram of an aluminum tube mullion, prepared by Hurricane test Laboratory, LLC, Test Report No. **HTL-0080-0301-10**, dated 03/30/10, signed and sealed by Vinu J. Abraham, P.E.  
*(Submitted under NOA No.10-0510.14)*

**C. CALCULATIONS**

1. Anchor verification calculations and structural analysis, complying with **FBC 6<sup>th</sup> Edition (2017)**, dated 10/15/14 and updated on 09/25/17, prepared by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.

**D. QUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER).

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS**

1. Statement letter of conformance, complying with **FBC 5<sup>th</sup> Edition (2014)**, and of no financial interest, dated October 4, 2014, issued by Al-Farooq Corporation, signed and sealed by Javad Ahmad, P.E.
2. Laboratory compliance letter for Test Report No. **HTL-0080-0303-11**, issued by Hurricane Test Laboratory, LLC, dated March 24, 2011, signed and sealed by Vinu J. Abraham, P.E. *(Submitted under NOA No.11-0330.22)*

Sifang Zhao, P.E.  
Product Control Examiner  
NOA No. 20-0610.11

Expiration Date: September 22, 2025  
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**CGI Windows and Doors, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**F. STATEMENTS (CONTINUED)**

3. Laboratory compliance letter for Test Report No. **HTL-0080-0301-10**, issued by Hurricane Test Laboratory, LLC, dated March 30, 2010, signed and sealed by Vinu J. Abraham, P.E. *(Submitted under NOA No. 10-0510.14)*
4. Proposal No. **09-1942** issued by BCCO, dated November 05, 2009, signed by Manuel Perez, P.E. *(Submitted under NOA No.10-0510.14)*

**G. OTHERS**

1. Notice of Acceptance No. **14-1103.09**, issued to CGI Windows & Doors for their Series “Sentinel” Unclipped, Extruded Aluminum Tube Mullion - L.M.I. approved on 03/05/15 and expiring on 09/22/20.

**2. NEW EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. Drawing No. MD-SENMUL, titled “Series Sentinel Unclipped Mullions”, sheets 1 through 7 of 7, dated 06/03/2020, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

**B. TESTS**

1. None

**C. CALCULATIONS**

1. Anchor verification calculations and structural analysis, complying with **FBC-6<sup>th</sup> Edition (2017)** and **FBC-7<sup>th</sup> (2020)** dated 05/27/2020, prepared by manufacturer, signed and sealed by Anthony Lynn Miller, P.E.

**D. QUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS**

1. Statement letter of conformance, complying with **FBC 6<sup>th</sup> Edition (2017)** and with **FBC 7<sup>th</sup> Edition (2020)**, and of no financial interest, dated June 03, 2020, signed and sealed by Anthony Lynn Miller, P.E.
2. Statement letter of successor engineer per 61G15-27.001 Florida Administrative Code.

**G. OTHERS**

1. Notice of Acceptance No. **18-0117.01**, issued to CGI Windows & Doors for their Series “Sentinel” Unclipped, Extruded Aluminum Tube Mullion - L.M.I. approved on 03/01/18 and expiring on 09/22/20.



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Sifang Zhao, P.E.  
Product Control Examiner  
NOA No. 20-0610.11  
Expiration Date: September 22, 2025  
Approval Date: September 10, 2020

**SERIES SENTINEL UNCLIPPED ALUMINUM MULLIONS WINDOW FRAME MEMBER INCLUDED IN PROPERTIES**

THESE MULLIONS TO BE USED WITH  
 SERIES 130 SENTINEL FIXED WINDOW  
 SERIES 110 SENTINEL SINGLE HUNG WINDOW  
 SERIES 120 SENTINEL HORIZ. SLIDING WINDOW  
 FOR WINDOWS IMPACT AND LOAD RATINGS SEE  
 CORRESPONDING NOA'S.

LOWER DESIGN PRESSURE FROM WINDOW APPROVALS  
 OR MULLION CHARTS WILL APPLY TO ENTIRE SYSTEM.

**NOTES:**

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2017 (6TH EDITION)/2020 (7TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

ALL GLAZING PRODUCTS USED WITH THESE MULLIONS MUST MEET THE APPLICABLE CODE REQUIREMENTS I.E.: WIND LOAD, WATER INFILTRATION, FORCED ENTRY RESISTANCE, SAFEGUARDS ETC.

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.

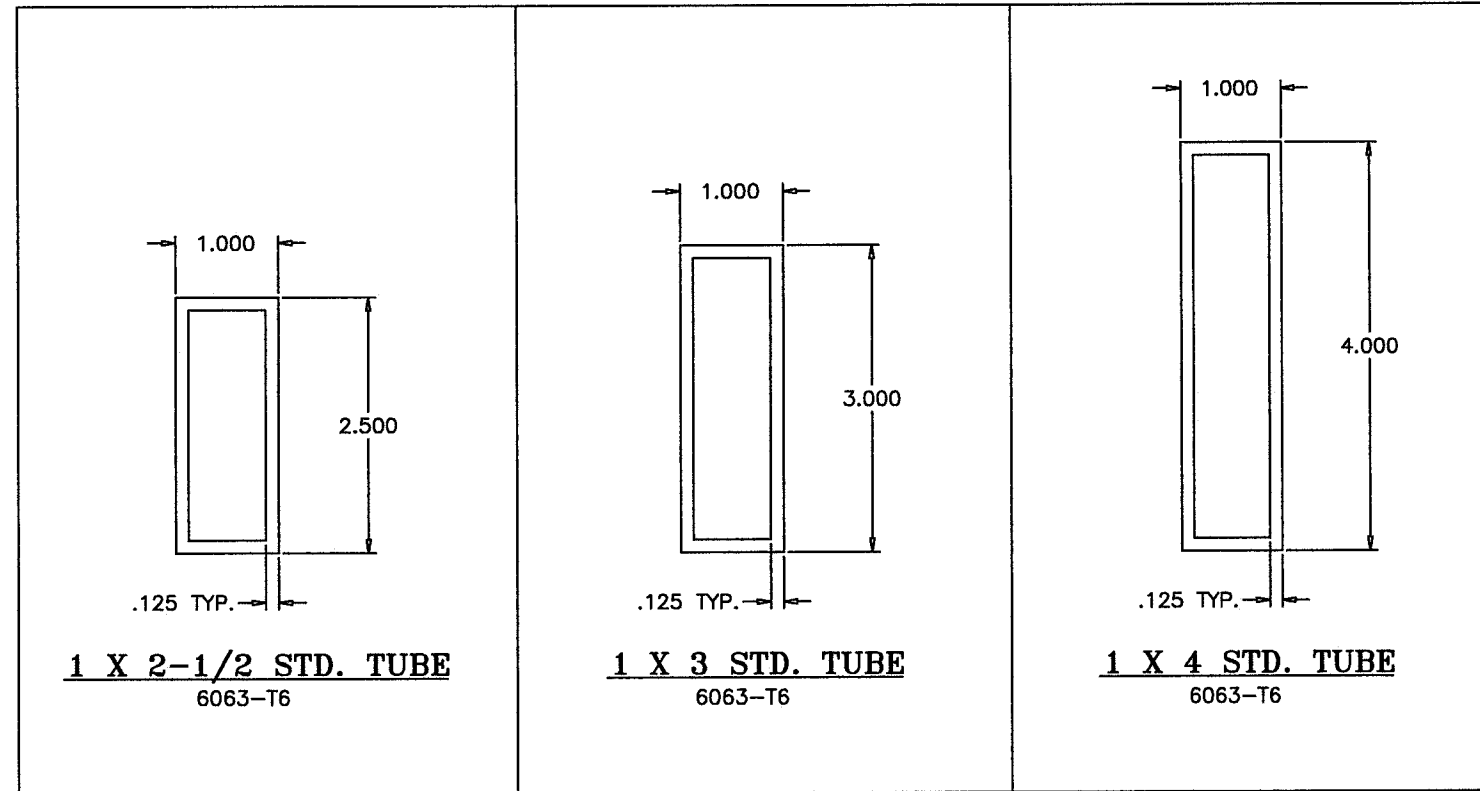
A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2017/2020 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.

THESE MULLIONS ARE RATED FOR LARGE & SMALL MISSILE IMPACT



**INSTRUCTIONS:**

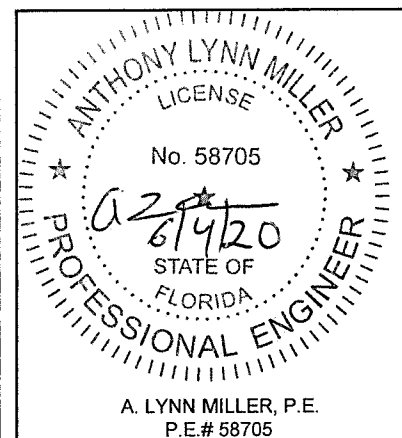
USE CHARTS AS FOLLOWS.

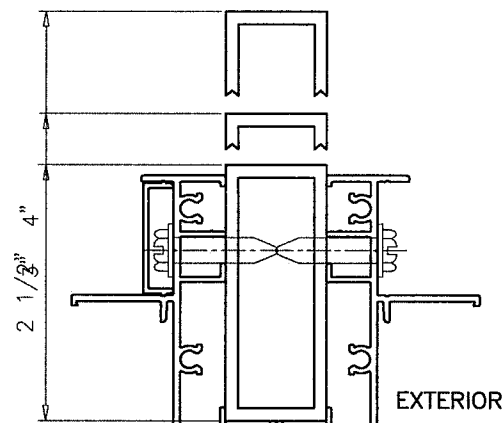
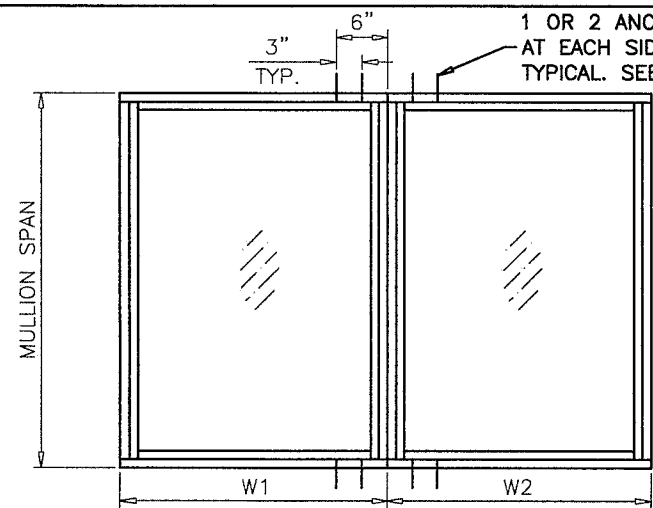
- STEP 1** DETERMINE DESIGN LOAD REQUIRED PER ASCE 7 FOR PARTICULAR OPENING.
- STEP 2** USE CONNECTION OF WINDOWS TO MULLION AS PER PRODUCT APPROVAL.
- STEP 3** USING CHARTS ON SHEETS 3 THRU 5 SELECT MULLION TYPE AND ANCHOR QUANTITIES WITH DESIGN RATING MORE THAN THE DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 4** CAPACITY OF SELECTED CGI'S WINDOWS AND MULLION MUST EQUAL OR EXCEED REQUIRED LOADS.

**PRODUCT REVISED**  
 as complying with the Florida  
 Building Code  
 NOA-No. **20-0610.11**  
 Expiration Date **09/22/2025**  
 By   
 Miami-Dade Product Control

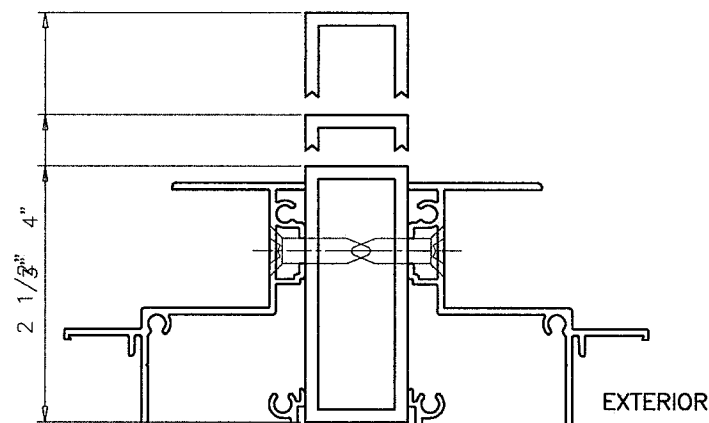
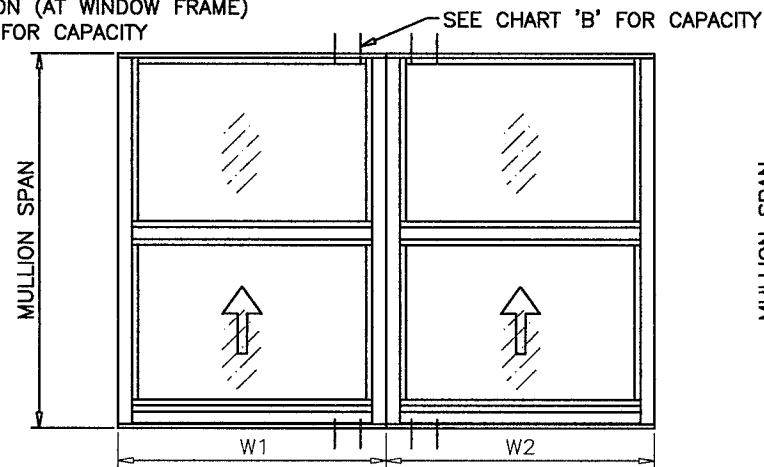
Revision: A) UPDATED TO FBC 2020.  
 AK - 06/03/20

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	REGISTRATION #29296	Date	06/03/20	Rev.	A
		By	AGK		
Impact Resistant Windows & Doors WE'RE STRONGER™ CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	MULLIONS, INSTRUCTIONS, NOTES	SENTINEL UNCLIPPED MULLION	DWG No.	MD-SENMUL	
			Scale	1 OF 7	
			Sheet	NTS	

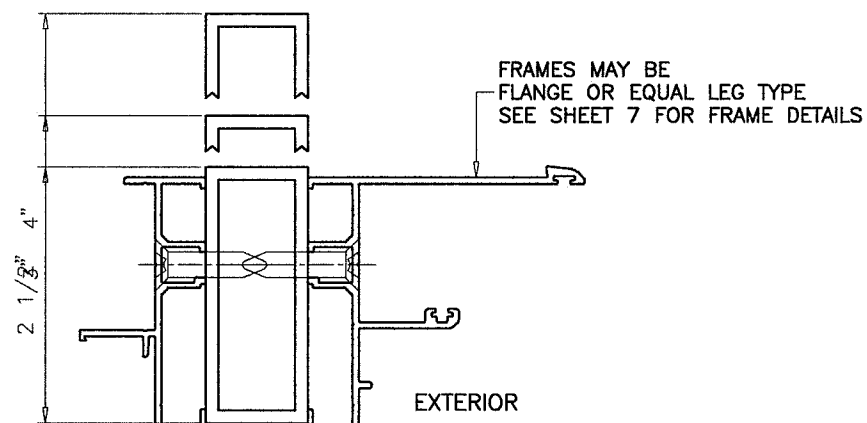
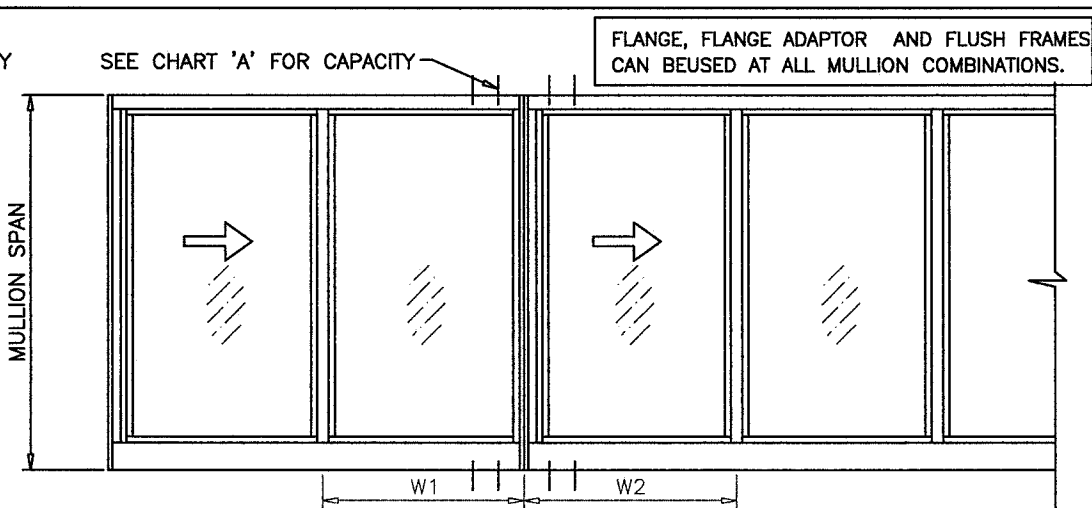




**FIXED TO FIXED**

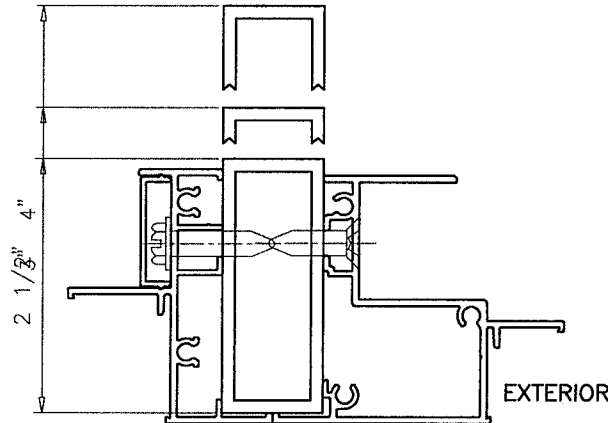
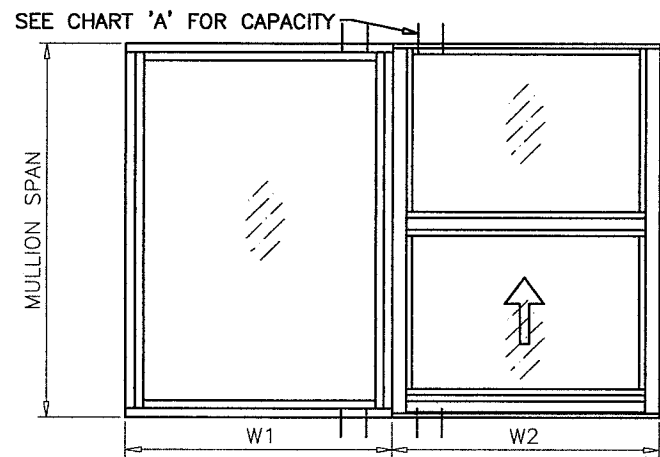


**S.H. TO S.H.**

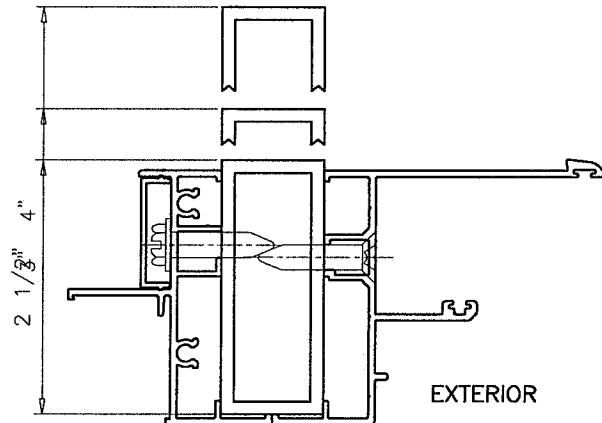
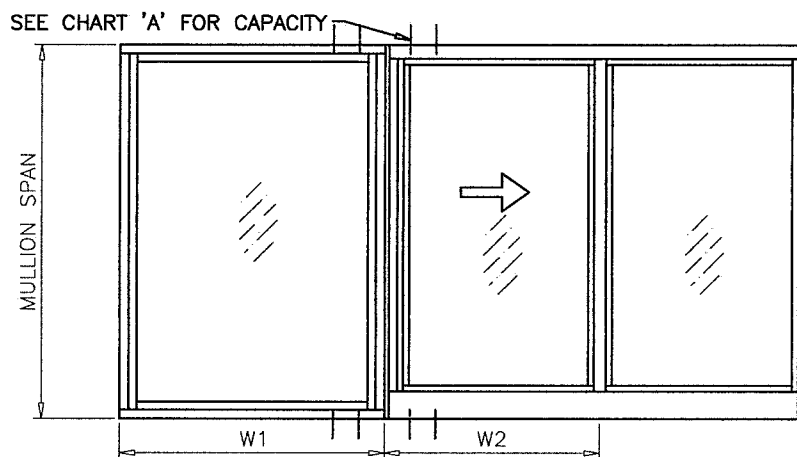


**H.R. TO H.R.**

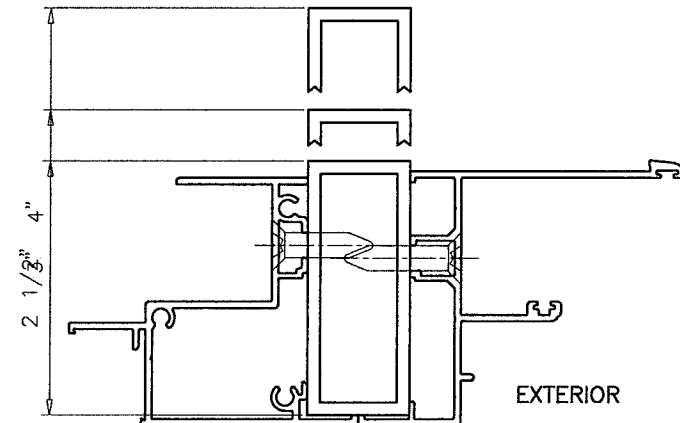
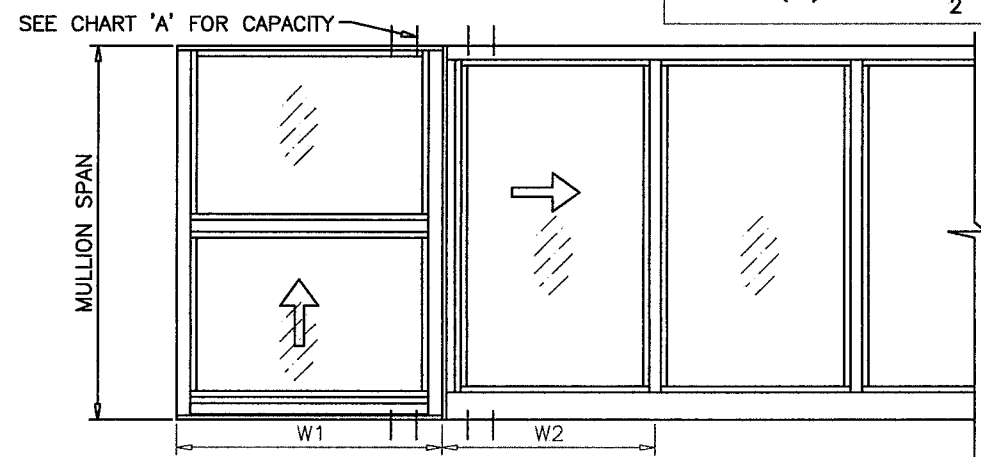
$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$



**FIXED TO S.H.**



**FIXED TO H.R.**

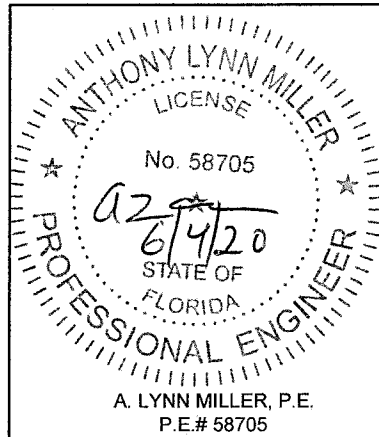


**S.H. TO H.R.**

**PRODUCT REVISED**  
 as complying with the Florida  
 Building Code  
 NOA-No. **20-0610.11**  
 Expiration Date **09/22/2025**  
 By   
 Miami-Dade Product Control

Revision: A) NO CHANGES THIS SHEET.  
 AK - 06/03/20

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	REGISTRATION #29296 06/03/20	Rev. A
	Date	Rev. A
<b>Impact Resistant Windows &amp; Doors</b> <b>WERE STRONGER™</b> CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	Drawn By AGK	MD-SENMUL
	Title Desc.	DWG No.
CONFIGURATIONS SENTINEL UNCLIPPED MULLION	Scale 2 OF 7	Sheet NTS
Series	Title	Desc.



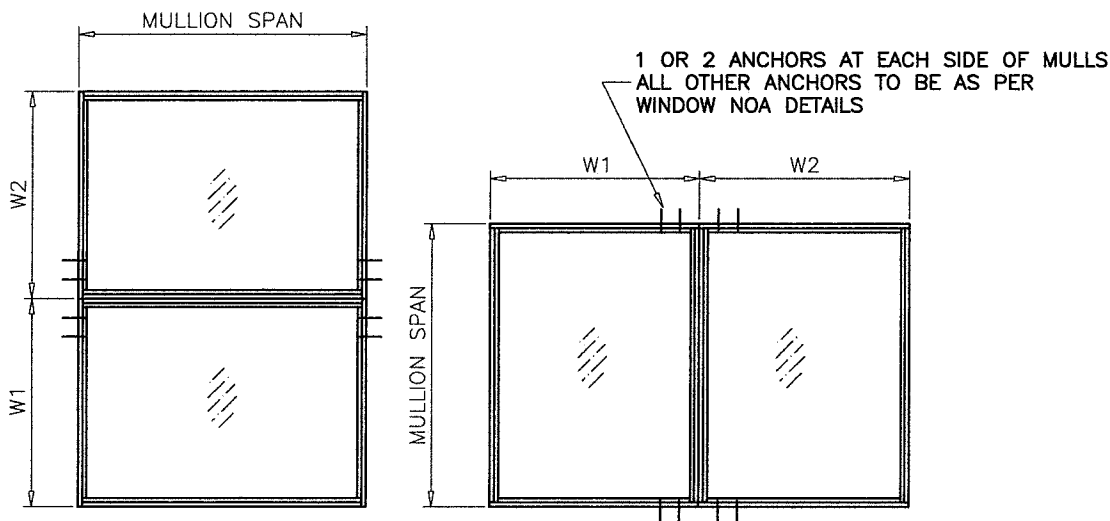
**CHART 'A' DESIGN LOAD CAPACITY - PSF**  
MULLION WITH ANY COMBINATION OF SERIES SENTINEL  
FIXED, HORIZONTAL SLIDING OR SINGLE HUNG WINDOWS

WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION			2 ANCHORS AT EACH SIDE OF MULLION		
WIDTH (W)	MULL SPAN	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4
19-1/8"	50-5/8"	90.0	90.0	90.0	90.0	90.0	90.0
26-1/2"		90.0	90.0	90.0	90.0	90.0	90.0
37"		82.9	82.9	82.9	90.0	90.0	90.0
49"		76.9	76.9	76.9	90.0	90.0	90.0
53-1/8"		76.9	76.9	76.9	90.0	90.0	90.0
19-1/8"	63"	90.0	90.0	90.0	90.0	90.0	90.0
26-1/2"		74.7	74.7	74.7	90.0	90.0	90.0
37"		59.8	59.8	59.8	83.3	90.0	90.0
49"		52.2	52.2	52.2	70.7	90.0	90.0
53-1/8"	50.9	50.9	50.9	68.5	90.0	90.0	
19-1/8"	76"	77.5	77.5	77.5	81.5	90.0	90.0
26-1/2"		59.2	59.2	59.2	60.2	80.3	90.0
37"		45.3	46.3	46.3	45.3	60.4	90.0
49"		37.0	39.0	39.0	37.0	49.3	77.3
53-1/8"		35.2	37.5	37.5	35.2	47.0	73.4
19-1/8"	85"	57.9	68.3	68.3	57.9	77.3	90.0
26-1/2"		42.6	51.8	51.8	42.6	56.8	90.0
37"		31.7	40.0	40.0	31.7	42.3	74.3
49"		25.5	33.2	33.2	25.5	34.0	59.3
53-1/8"		24.1	31.7	31.7	24.1	32.2	55.9
19-1/8"	90"	48.7	64.0	64.0	48.7	65.0	90.0
26-1/2"		35.7	47.7	48.4	35.7	47.7	83.7
37"		26.5	35.3	37.2	26.5	35.3	62.1
49"		21.1	28.2	30.7	21.1	28.2	49.5
19-1/8"	96"	40.0	53.4	59.6	40.0	53.4	90.0
26-1/2"		29.3	39.1	44.9	29.3	39.1	68.7
37"		21.6	28.9	34.3	21.6	28.9	50.7

NOTE:  
MULLIONS RATED IN THESE CHARTS WITH ANY COMBINATION OF FIXED, SINGLE HUNG OR HORIZ. SLIDING WINDOWS MAY BE ORIENTED VERTICALLY OR HORIZONTALLY. (INTERPOLATION BETWEEN WIDTHS ALLOWED)

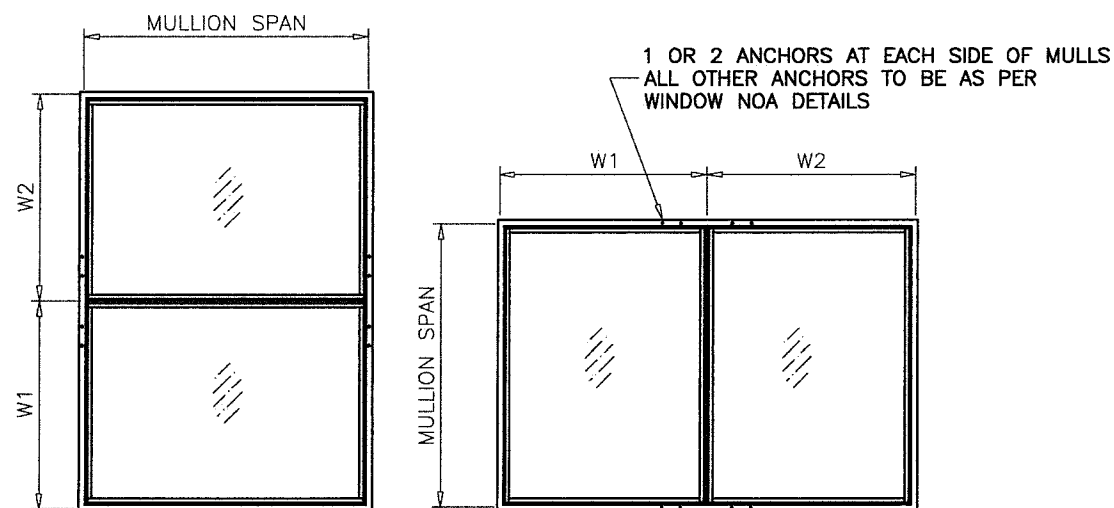
**CHART 'A' DESIGN LOAD CAPACITY - PSF**  
MULLION WITH ANY COMBINATION OF SERIES SENTINEL  
FIXED, HORIZONTAL SLIDING OR SINGLE HUNG WINDOWS

WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION			2 ANCHORS AT EACH SIDE OF MULLION		
WIDTH (W)	MULL SPAN	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4
24"	48"	90.0	90.0	90.0	90.0	90.0	90.0
30"		90.0	90.0	90.0	90.0	90.0	90.0
36"		90.0	90.0	90.0	90.0	90.0	90.0
42"		86.9	86.9	86.9	90.0	90.0	90.0
48"		85.5	85.5	85.5	90.0	90.0	90.0
54"		85.5	85.5	85.5	90.0	90.0	90.0
60"		85.5	85.5	85.5	90.0	90.0	90.0
24"	60"	85.5	85.5	85.5	90.0	90.0	90.0
30"		73.0	73.0	73.0	90.0	90.0	90.0
36"		65.1	65.1	65.1	90.0	90.0	90.0
42"		60.1	60.1	60.1	90.0	90.0	90.0
48"		57.0	57.0	57.0	84.9	90.0	90.0
54"		55.3	55.3	55.3	81.7	90.0	90.0
60"		54.7	54.7	54.7	80.6	90.0	90.0
24"	72"	68.4	68.4	68.4	77.8	90.0	90.0
30"		57.6	57.6	57.6	63.9	85.3	90.0
36"		50.7	50.7	50.7	55.0	73.4	90.0
42"		46.0	46.0	46.0	49.0	65.4	90.0
48"		42.8	42.8	42.8	45.0	60.0	85.5
54"		40.5	40.5	40.5	42.2	56.2	81.1
60"		39.1	39.1	39.1	40.3	53.8	78.2
24"	84"	48.4	57.0	57.0	48.4	64.6	90.0
30"		39.5	47.6	47.6	39.5	52.7	90.0
36"		33.7	41.5	41.5	33.7	44.9	78.4
42"		29.7	37.2	37.2	29.7	39.6	68.8
48"		26.9	34.2	34.2	26.9	35.8	61.9
54"		24.8	32.0	32.0	24.8	33.1	56.9
60"		22.2	29.6	29.6	22.2	29.6	51.9
24"	96"	32.2	43.0	48.9	32.2	43.0	75.5
30"		26.1	34.9	40.5	26.1	34.9	61.2
36"		22.2	29.6	35.1	22.2	29.6	51.9
42"		-	25.9	31.3	-	25.9	45.5
48"		-	23.2	28.5	-	23.2	40.8



$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$

**FLANGE OR FLUSH FRAMES**



$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$

**FIN FRAMES**

NOTE:  
REFER TO PAGE 2 FOR OTHER COMBINATIONS.

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. **20-0610.11**  
Expiration Date **09/22/2025**  
By *[Signature]*  
**Miami-Dade Product Control**

Revision: A) NO CHANGES THIS SHEET.  
AK - 06/03/20

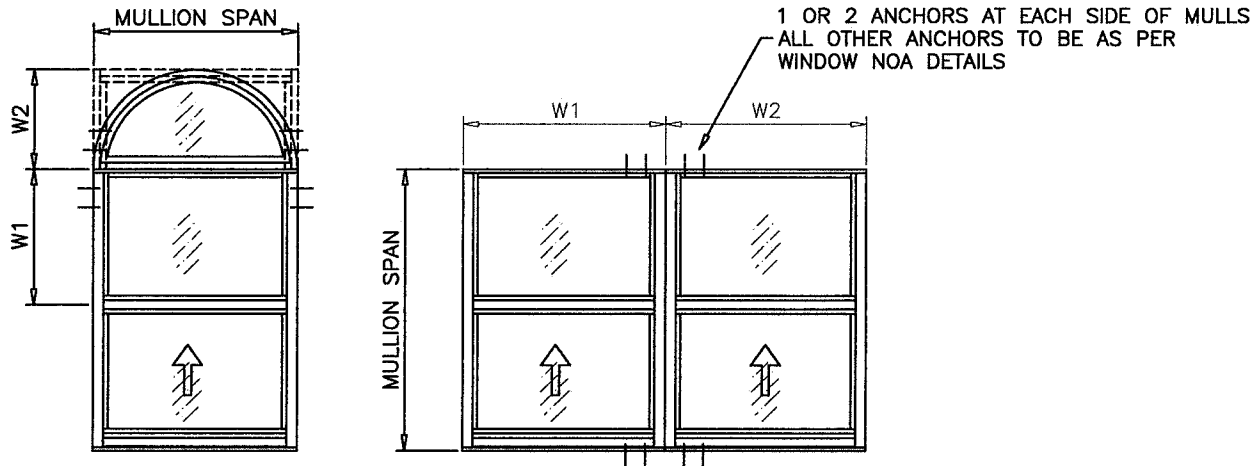
PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	REGISTRATION #29296 Date: 06/03/20	Rev.	A
		MD-SENMUL	
<b>Impact Resistant Windows &amp; Doors</b> <b>WERE STRONGER™</b> CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	LOAD CHARTS SENTINEL UNCLIPPED MULLION	Drawn By	AGK
		DWG No.	MD-SENMUL
		Sheet	3 OF 7
		Scale	NTS
		Series	SEN MUL

ANTHONY LYNN MILLER  
LICENSE  
No. 58705  
6/4/20  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
A. LYNN MILLER, P.E.  
P.E.# 58705

**CHART 'B' DESIGN LOAD CAPACITY - PSF**  
MULLION WITH COMBINATION OF SERIES SENTINEL  
SINGLE HUNG WINDOWS OR FIXED TRANSOM

WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION			2 ANCHORS AT EACH SIDE OF MULLION		
WIDTH (W)	MULL SPAN	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4
19-1/8"	50-5/8"	90.0	90.0	90.0	90.0	90.0	90.0
26-1/2"		90.0	90.0	90.0	90.0	90.0	90.0
37"		82.9	82.9	82.9	90.0	90.0	90.0
49"		76.9	76.9	76.9	90.0	90.0	90.0
53-1/8"		76.9	76.9	76.9	90.0	90.0	90.0
19-1/8"	63"	90.0	90.0	90.0	90.0	90.0	90.0
26-1/2"		74.7	74.7	74.7	90.0	90.0	90.0
37"		59.8	59.8	59.8	90.0	90.0	90.0
49"		52.2	52.2	52.2	90.0	90.0	90.0
53-1/8"		50.9	50.9	50.9	89.4	90.0	90.0
19-1/8"	76"	77.5	77.5	77.5	90.0	90.0	90.0
26-1/2"		59.2	59.2	59.2	78.5	90.0	90.0
37"		46.3	46.3	46.3	59.0	74.2	90.0
49"		39.0	39.0	39.0	48.2	60.6	78.1
53-1/8"		37.5	37.5	37.5	46.0	57.7	75.0
19-1/8"	85"	68.3	68.3	68.3	75.6	90.0	90.0
26-1/2"		51.8	51.8	51.8	55.6	69.8	90.0
37"		40.0	40.0	40.0	41.4	52.0	80.1
49"		33.2	33.2	33.2	33.2	41.7	66.5
53-1/8"		31.4	31.7	31.7	31.4	39.5	63.5
19-1/8"	90"	63.5	64.0	64.0	63.5	79.8	90.0
26-1/2"		46.6	48.4	48.4	46.6	58.6	90.0
37"		34.5	37.2	37.2	34.5	43.4	70.1
49"		27.5	30.7	30.7	27.5	34.6	55.9
19-1/8"	96"	52.2	59.6	59.6	52.2	65.6	90.0
26-1/2"		38.2	44.9	44.9	38.2	48.1	77.6
37"		28.2	34.3	34.3	28.2	35.4	57.3


NOTE:  
MULLIONS RATED IN THESE CHARTS WITH SINGLE HUNG FRAMES  
MAY BE ORIENTED VERTICALLY OR HORIZONTALLY AS SHOWN BELOW.  
(INTERPOLATION BETWEEN WIDTHS ALLOWED)



$$\text{WIDTH (W)} = \frac{W1 + W2}{2}$$

**CHART 'B' DESIGN LOAD CAPACITY - PSF**  
MULLION WITH COMBINATION OF SERIES SENTINEL  
SINGLE HUNG WINDOWS OR FIXED TRANSOM

WINDOW DIMS.		1 ANCHOR AT EACH SIDE OF MULLION			2 ANCHORS AT EACH SIDE OF MULLION		
WIDTH (W)	MULL SPAN	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4	MULL TUBE 1 X 2-1/2	MULL TUBE 1 X 3	MULL TUBE 1 X 4
24"	48"	90.0	90.0	90.0	90.0	90.0	90.0
30"		90.0	90.0	90.0	90.0	90.0	90.0
36"		90.0	90.0	90.0	90.0	90.0	90.0
42"		86.9	86.9	86.9	90.0	90.0	90.0
48"		85.5	85.5	85.5	90.0	90.0	90.0
54"		85.5	85.5	85.5	90.0	90.0	90.0
60"		85.5	85.5	85.5	90.0	90.0	90.0
24"	60"	85.5	85.5	85.5	90.0	90.0	90.0
30"		73.0	73.0	73.0	90.0	90.0	90.0
36"		65.1	65.1	65.1	90.0	90.0	90.0
42"		60.1	60.1	60.1	90.0	90.0	90.0
48"		57.0	57.0	57.0	90.0	90.0	90.0
54"		55.3	55.3	55.3	90.0	90.0	90.0
60"		54.7	54.7	54.7	90.0	90.0	90.0
24"	72"	68.4	68.4	68.4	90.0	90.0	90.0
30"		57.6	57.6	57.6	83.4	90.0	90.0
36"		50.7	50.7	50.7	71.8	90.0	90.0
42"		46.0	46.0	46.0	64.0	80.4	90.0
48"		42.8	42.8	42.8	58.6	73.7	85.5
54"		40.5	40.5	40.5	55.0	69.1	81.1
60"		39.1	39.1	39.1	52.6	66.1	78.2
24"	84"	57.0	57.0	57.0	63.2	79.4	90.0
30"		47.6	47.6	47.6	51.5	64.7	90.0
36"		41.5	41.5	41.5	43.9	55.2	82.9
42"		37.2	37.2	37.2	38.7	48.7	74.4
48"		34.2	34.2	34.2	35.0	44.0	68.4
54"		32.0	32.0	32.0	32.4	40.7	64.0
60"		32.0	32.0	32.0	32.4	40.7	64.0
24"	96"	42.0	48.9	48.9	42.0	52.8	85.3
30"		34.1	40.5	40.5	34.1	42.8	69.2
36"		28.9	35.1	35.1	28.9	36.3	58.7
42"		25.3	31.3	31.3	25.3	31.8	51.4
48"		22.7	28.5	28.5	22.7	28.5	46.1
60"		22.7	28.5	28.5	22.7	28.5	46.1

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. **20-0610.11**  
Expiration Date **09/22/2025**  
By   
**Miami-Dade Product Control**

Revision: A) NO CHANGES THIS SHEET.  
AK - 06/03/20

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296	Date	06/03/20	Rev.	A
	Drawn By	AGK	MD-SENMUL	
	Scale	SENTINEL UNCLIPPED MULLION	4 OF 7	
	Series	SENMMUL	NTS	

Impact Resistant Windows & Doors  
WERE STRONGER™  
CGI DOORS AND WINDOWS, INC.  
3780 W 104TH STREET  
HIALEAH, FL 33018  
(305) 593-6590

LOAD CHARTS  
SENTINEL UNCLIPPED MULLION

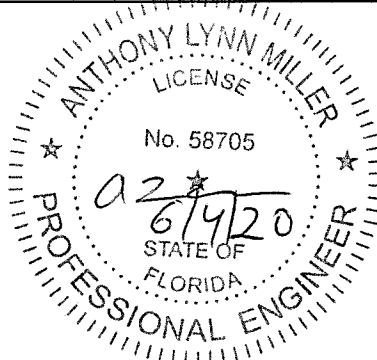
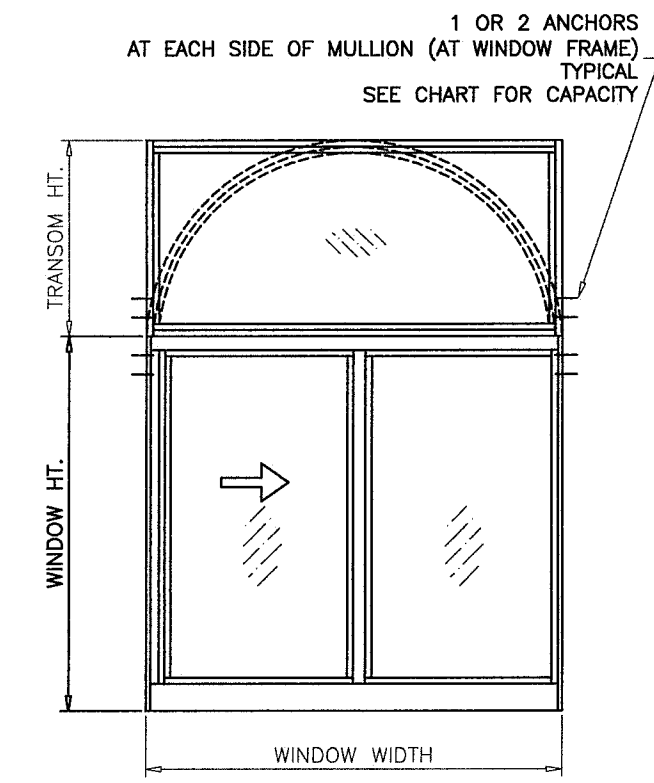
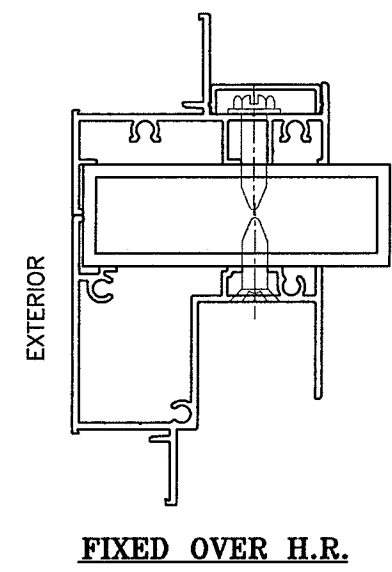
  
 ANTHONY LYNN MILLER  
 LICENSE  
 No. 58705  
 02/6/20  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER  
 A. LYNN MILLER, P.E.  
 P.E.# 58705

CHART 'C' DESIGN LOAD CAPACITY - PSF HORIZONTAL MULLION WITH COMBINATION OF SERIES SENTINEL FIXED OVER HORIZ. SLIDING WINDOW						
WINDOW DIMS.			1 ANCHOR AT EACH SIDE OF MULLION		2 ANCHORS AT EACH SIDE OF MULLION	
WINDOW WIDTH	WINDOW HEIGHT	TRANSOM HEIGHT	MULL TUBE 1 X 2-1/2	MULL TUBES 1 X 3 1 X 4	MULL TUBE 1 X 3	MULL TUBE 1 X 4
52-1/8"	25"	12"	90.0	90.0	90.0	90.0
		18"	90.0	90.0	90.0	90.0
		24"	90.0	90.0	90.0	90.0
		30"	90.0	90.0	90.0	90.0
		36"	90.0	90.0	90.0	90.0
		42"	90.0	90.0	90.0	90.0
		48"	90.0	90.0	90.0	90.0
		73"	12"	90.0	90.0	90.0
	18"	90.0	90.0	90.0	90.0	
	24"	82.9	82.9	90.0	90.0	
	30"	74.3	74.3	90.0	90.0	
	36"	68.1	68.1	90.0	90.0	
	42"	63.6	63.6	85.0	90.0	
	48"	60.3	60.3	77.5	90.0	
52-1/8"	37-3/8"	12"	90.0	90.0	90.0	90.0
		18"	90.0	90.0	90.0	90.0
		24"	90.0	90.0	90.0	90.0
		30"	90.0	90.0	90.0	90.0
		36"	89.4	89.4	90.0	90.0
		42"	86.3	86.3	90.0	90.0
		48"	84.8	84.8	90.0	90.0
		73"	12"	90.0	90.0	90.0
	18"	78.3	78.3	90.0	90.0	
	24"	69.7	69.7	90.0	90.0	
	30"	63.5	63.5	88.0	90.0	
	36"	58.9	58.9	80.0	90.0	
	42"	55.5	55.5	73.3	90.0	
	48"	52.9	53.0	67.6	90.0	
36"	49-5/8"	12"	90.0	90.0	90.0	90.0
		18"	90.0	90.0	90.0	90.0
		24"	90.0	90.0	90.0	90.0
		30"	90.0	90.0	90.0	90.0
		36"	90.0	90.0	90.0	90.0
		42"	90.0	90.0	90.0	90.0
		48"	90.0	90.0	90.0	90.0
		52-1/8"	12"	90.0	90.0	90.0
	18"	90.0	90.0	90.0	90.0	
	24"	87.3	87.3	90.0	90.0	
	30"	81.8	81.8	90.0	90.0	
	36"	78.1	78.1	90.0	90.0	
	42"	75.7	75.7	90.0	90.0	
	48"	74.5	74.5	90.0	90.0	
73"	49-5/8"	12"	75.3	75.3	90.0	90.0
		18"	66.5	66.5	90.0	90.0
		24"	60.1	60.1	82.7	90.0
		30"	55.5	55.5	75.6	90.0
		36"	52.0	52.0	69.6	90.0
		42"	49.3	49.3	64.5	85.9
		48"	47.0	47.3	60.1	80.6

CHART 'C' DESIGN LOAD CAPACITY - PSF HORIZONTAL MULLION WITH COMBINATION OF SERIES SENTINEL FIXED OVER HORIZ. SLIDING WINDOW						
WINDOW DIMS.			1 ANCHOR AT EACH SIDE OF MULLION		2 ANCHORS AT EACH SIDE OF MULLION	
WINDOW WIDTH	WINDOW HEIGHT	TRANSOM HEIGHT	MULL TUBE 1 X 2-1/2	MULL TUBES 1 X 3 1 X 4	MULL TUBE 1 X 3	MULL TUBE 1 X 4
36"	62"	12"	90.0	90.0	90.0	90.0
		18"	90.0	90.0	90.0	90.0
		24"	90.0	90.0	90.0	90.0
		30"	90.0	90.0	90.0	90.0
		36"	90.0	90.0	90.0	90.0
		42"	90.0	90.0	90.0	90.0
		48"	90.0	90.0	90.0	90.0
		52-1/8"	12"	90.0	90.0	90.0
	18"	82.4	82.4	90.0	90.0	
	24"	76.4	76.4	90.0	90.0	
	30"	72.2	72.2	90.0	90.0	
	36"	69.3	69.3	90.0	90.0	
	42"	67.4	67.4	90.0	90.0	
	48"	66.4	66.4	90.0	90.0	
73"	62"	12"	64.2	64.2	85.5	90.0
		18"	57.7	57.7	77.9	90.0
		24"	52.9	52.9	71.6	90.0
		30"	49.2	49.2	66.2	85.5
		36"	46.4	46.4	61.6	80.3
		42"	44.3	44.3	57.5	75.7
		48"	42.2	42.7	54.0	71.5



**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. **20-0610.11**  
Expiration Date **09/22/2025**  
By *[Signature]*  
**Miami-Dade Product Control**

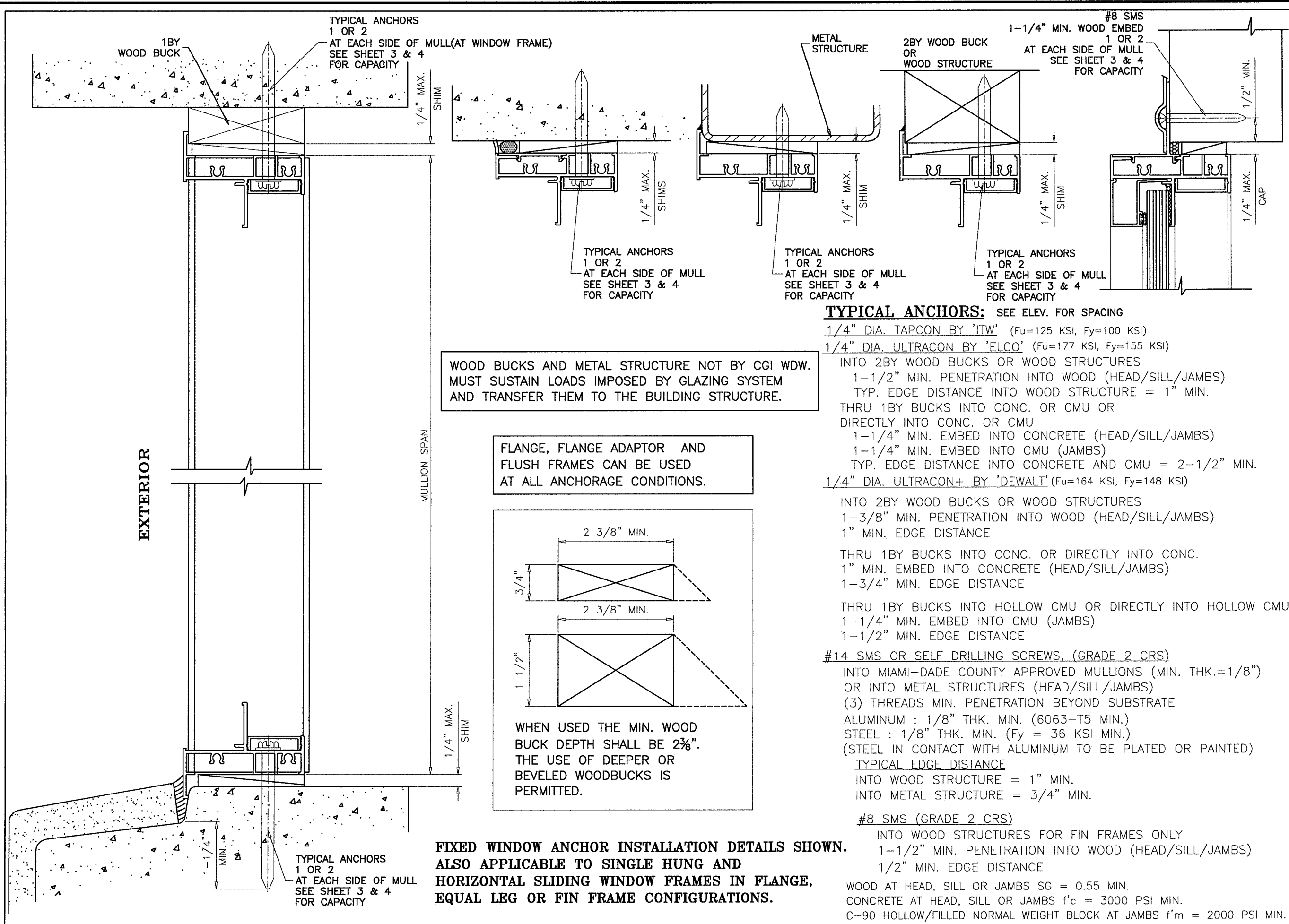
Revision: A) NO CHANGES THIS SHEET.  
AK - 06/03/20

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600 REGISTRATION #29296	Date	06/03/20	Drawn By AGK	Rev.	A
	LOAD CHARTS			DWG No.	MD-SENMUL
<b>Impact Resistant</b> <b>Windows &amp; Doors</b> <b>WERE STRONGER™</b> CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	SENTINEL UNCLIPPED MULLION		Sheet	5 OF 7	
	SENTINEL UNCLIPPED MULLION		Scale	NTS	

ANTHONY LYNN MILLER  
 LICENSE  
 No. 58705  
*92*  
 6/19/20  
 STATE OF  
 FLORIDA  
 PROFESSIONAL ENGINEER

A. LYNN MILLER, P.E.  
P.E.# 58705





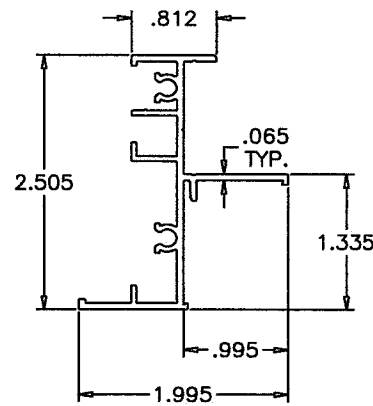
**PRODUCT REVISED**  
 as complying with the Florida  
 Building Code  
 NOA-No. **20-0610.11**  
 Expiration Date **09/22/2025**  
 By *[Signature]*  
 Miami-Dade Product Control

Revision:  
 A) ADDED ULTRACON+  
 ANCHORS.  
 AK - 06/03/20

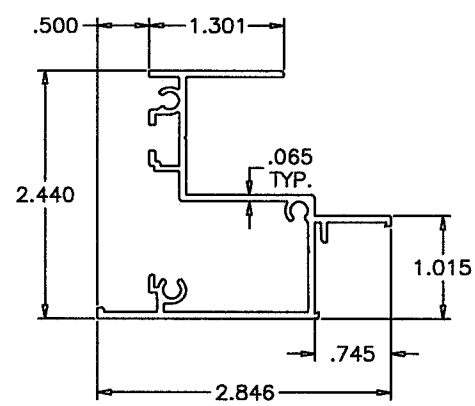
PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	REGISTRATION #29296	Date	06/03/20	Rev.	A
	INSTALLATION DETAILS, ANCHORS	Drawn By	AGK	MD-SENMUL	
Impact Resistant Windows & Doors WERE STRONGER™ CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	SENTINEL UNCLIPPED MULLION	DWG No.	6 OF 7	Sheet	NTS
		Scale	SEN MUL		

ANTHONY LYNN MILLER  
 LICENSE  
 No. 58705  
*02/20*  
 6/4/20  
 STATE OF  
 FLORIDA  
 PROFESSIONAL ENGINEER  
 A. LYNN MILLER, P.E.  
 P.E.# 58705

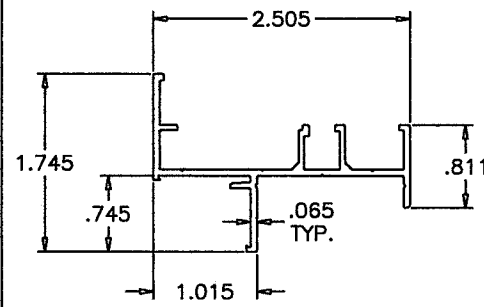
**TYPICAL ANCHORS:** SEE ELEV. FOR SPACING  
 1/4" DIA. TAPCON BY 'ITW' (Fu=125 KSI, Fy=100 KSI)  
 1/4" DIA. ULTRACON BY 'ELCO' (Fu=177 KSI, Fy=155 KSI)  
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES  
 1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)  
 TYP. EDGE DISTANCE INTO WOOD STRUCTURE = 1" MIN.  
 THRU 1BY BUCKS INTO CONC. OR CMU OR DIRECTLY INTO CONC. OR CMU  
 1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)  
 1-1/4" MIN. EMBED INTO CMU (JAMBS)  
 TYP. EDGE DISTANCE INTO CONCRETE AND CMU = 2-1/2" MIN.  
 1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)  
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES  
 1-3/8" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)  
 1" MIN. EDGE DISTANCE  
 THRU 1BY BUCKS INTO CONC. OR DIRECTLY INTO CONC.  
 1" MIN. EMBED INTO CONCRETE (HEAD/SILL/JAMBS)  
 1-3/4" MIN. EDGE DISTANCE  
 THRU 1BY BUCKS INTO HOLLOW CMU OR DIRECTLY INTO HOLLOW CMU  
 1-1/4" MIN. EMBED INTO CMU (JAMBS)  
 1-1/2" MIN. EDGE DISTANCE  
 #14 SMS OR SELF DRILLING SCREWS, (GRADE 2 CRS)  
 INTO MIAMI-DADE COUNTY APPROVED MULLIONS (MIN. THK.=1/8")  
 OR INTO METAL STRUCTURES (HEAD/SILL/JAMBS)  
 (3) THREADS MIN. PENETRATION BEYOND SUBSTRATE  
 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)  
 TYPICAL EDGE DISTANCE  
 INTO WOOD STRUCTURE = 1" MIN.  
 INTO METAL STRUCTURE = 3/4" MIN.  
 #8 SMS (GRADE 2 CRS)  
 INTO WOOD STRUCTURES FOR FIN FRAMES ONLY  
 1-1/2" MIN. PENETRATION INTO WOOD (HEAD/SILL/JAMBS)  
 1/2" MIN. EDGE DISTANCE  
 WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.  
 CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.  
 C-90 HOLLOW/FILLED NORMAL WEIGHT BLOCK AT JAMBS f'm = 2000 PSI MIN.



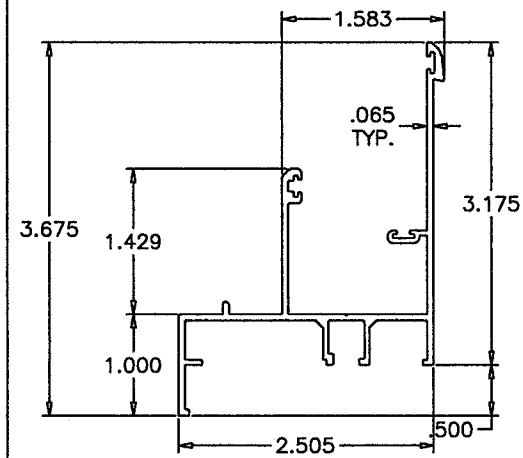
SERIES 130 SENTINEL  
FIX. WDW. FLANGE FRAME  
CGI-118



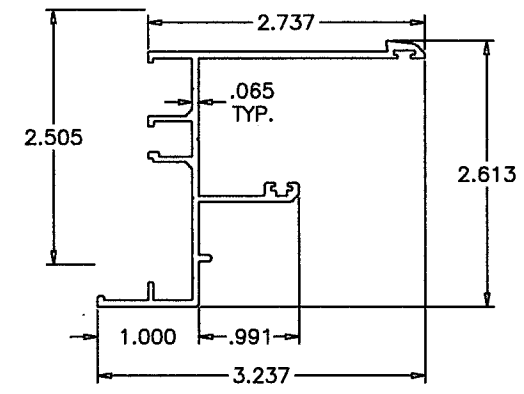
H.R. WDW. FLANGE FRAME HEAD  
S.H. WDW. FLANGE FRAME JAMB  
CGI-136



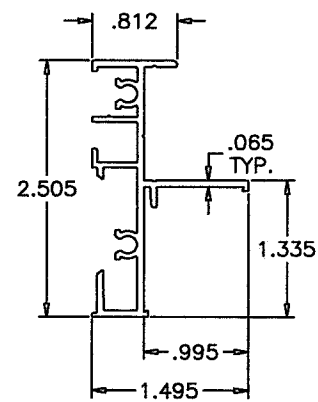
H.R. WDW. FLANGE FRAME JAMB  
S.H. WDW. FLANGE FRAME HEAD  
CGI-135



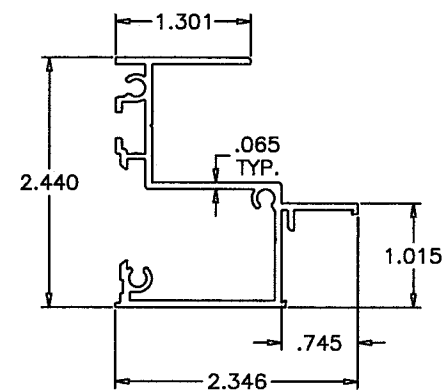
SERIES 110 SENTINEL  
S.H. WDW. FLANGE FRAME SILL  
CGI-137



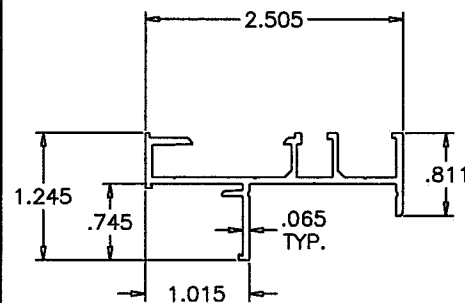
SERIES 120 SENTINEL  
H.R. WDW. FLANGE FRAME JAMB  
CGI-139



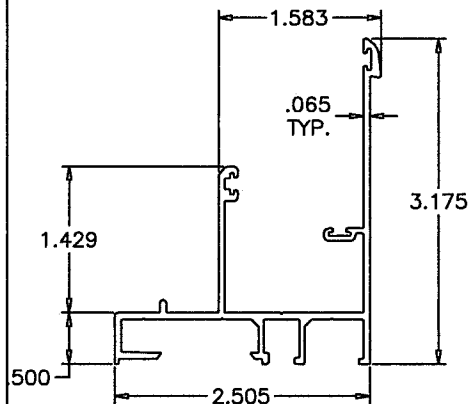
SERIES 130 SENTINEL  
FIX. WDW. FLUSH FRAME  
CGI-119



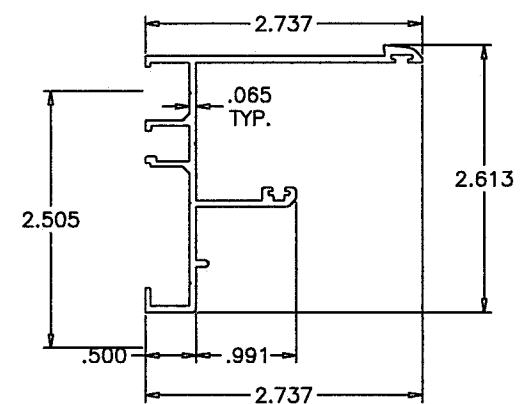
H.R. WDW. FLUSH FRAME HEAD  
S.H. WDW. FLUSH FRAME JAMB  
CGI-102



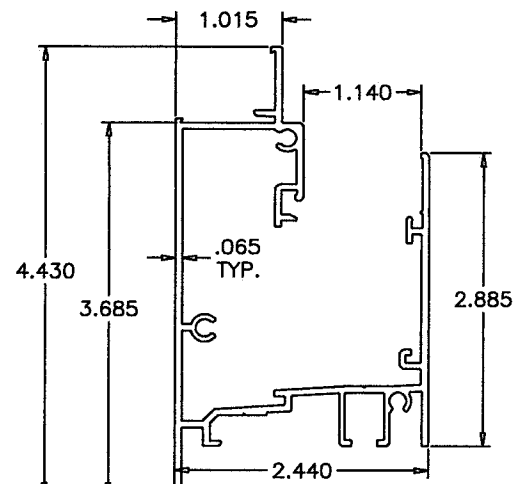
H.R. WDW. FLUSH FRAME JAMB  
S.H. WDW. FLUSH FRAME HEAD  
CGI-100



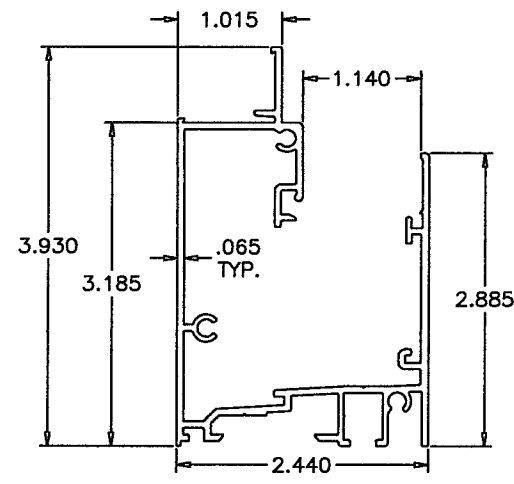
SERIES 110 SENTINEL  
S.H. WDW. FLUSH FRAME SILL  
CGI-101



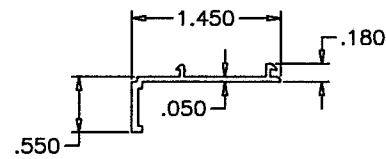
SERIES 120 SENTINEL  
H.R. WDW. FLUSH FRAME JAMB  
CGI-116



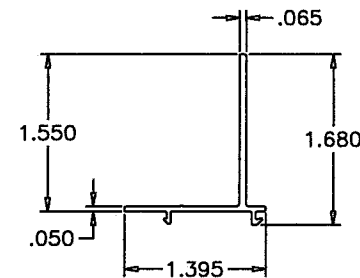
SERIES 120 SENTINEL  
H.R. WDW. FLANGE FRAME SILL  
CGI-138



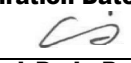
SERIES 120 SENTINEL  
H.R. WDW. FLUSH FRAME SILL  
CGI-113



FLANGE ADAPTOR  
CGI-109

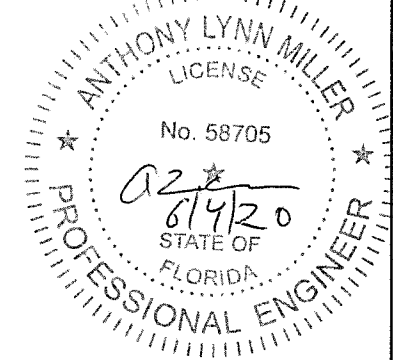


FIN ADAPTOR  
CGI-110

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
NOA-No. **20-0610.11**  
Expiration Date **09/22/2025**  
By   
Miami-Dade Product Control

Revision:  
A) NO CHANGES THIS SHEET.  
AK - 06/03/20

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	REGISTRATION #29296	06/03/20	Rev	A
	EXTRUSIONS	SENTINEL UNCLIPPED MULLION	AGK	MD-SENMUL
CGI DOORS AND WINDOWS, INC. 3780 W 104TH STREET HIALEAH, FL 33018 (305) 593-6590	Drawn	By	No.	DWG
			7 OF 7	Sheet
			NTS	Scale
			SEN MUL	Series

  
A. LYNN MILLER, P.E.  
P.E.# 58705