

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

NOTES:

- 1) THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE 2006 IBC AND THE 2006 IRC WITH STATE OF TEXAS MODIFICATIONS AND WITH THE 2009 IBC, 2009 IRC, 2012 IBC, 2012 IRC, 2015 IBC AND 2015 IRC.
- 2) WOOD FRAMING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
- 3) ALLOWABLE STRESS INCREASE OF 1/3 WAS NOT USED IN THE DESIGN OF THE PRODUCT SHOWN HEREIN. WIND LOAD DURATION FACTOR Cd=1.6 WAS USED FOR WOOD ANCHOR CALCULATIONS.
- 4) APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS UP TO WIND ZONE 3.
- 5) DESIGN PRESSURE AND INSTALLATION DETAILS SHOWN IN THIS DOCUMENT APPLY ONLY TO MULLION. WINDOWS MUST BE APPROVED UNDER SEPARATE APPROVAL.
- 6) SINGLE WINDOWS TO BE MULLED ARE NOT LIMITED TO THOSE SHOWN IN THIS DRAWING. WINDOWS MUST BE MANUFACTURED BY MI WINDOWS AND DOORS, INC.
- 7) DESIGN PRESSURE OF MULLED UNIT SHALL BE CONTROLLED BY THE LESSER DESIGN PRESSURE OF THE MULLION OR THE INDIVIDUAL WINDOW OR DOOR UNIT.
- 8) UNITS MAY BE MULLED TOGETHER INDEFINITELY AS LONG AS SINGLE UNIT WIDTH AND HEIGHT ARE NOT EXCEEDED AND MULLION IS ANCHORED AS SHOWN HEREIN.
- 9) MULLION VERTICAL INSTALLATION IS SHOWN, MULLION MAY BE USED IN HORIZONTAL APPLICATIONS AS LONG AS DIMENSIONS INDICATED HEREIN ARE NOT EXCEEDED AND MULLION IS ANCHORED ACCORDING TO THIS DOCUMENT.

DESIGN PRESSURE TABLE INSTRUCTIONS:

- 1) DEFINE REQUIRED DESIGN LOAD PER TEXAS BUILDING CODE CHAPTER 16.
- 2) DETERMINE TRIBUTARY WIDTH AND MULLION SPAN BASED ON PRODUCT TO BE INSTALLED. SEE FORMULA FOR TRIBUTARY WIDTH.
- 3) LOCATE MULLION SPAN (UNIT HEIGHT) AND TRIBUTARY WIDTH. AT THE INTERSECTION OF ROW AND COLUMN CONTAINING THE MULLION SPAN AND TRIBUTARY WIDTH RESPECTIVELY IS THE MULLION RATING FOR PRODUCT IN STEP 2. MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.

$$\text{TRIBUTARY WIDTH} = \frac{W1 + W2}{2}$$

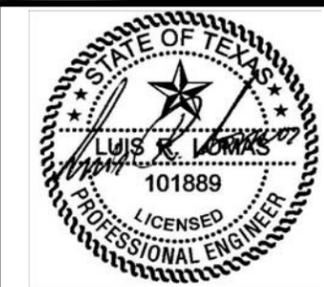
ANCHORING NOTES:

- 1) FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK USE #10 WOOD SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/8" MINIMUM EMBEDMENT. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS SHEET 3.
- 2) FOR ANCHORING INTO CONCRETE USE 3/16" ELCO ULTRACON TAPCON WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT WITH 1" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS SHEET 4.
- 3) FOR ANCHORING INTO METAL FRAMING USE #10 SMS OR SELF DRILLING SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 3 THREADS MINIMUM BEYOND STRUCTURE INTERIOR WALL. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
- 4) ALL FASTENERS TO BE CORROSION RESISTANT.
- 5) INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BELOW:
 - A. WOOD – MINIMUM SPECIFIC GRAVITY OF G=0.42
 - B. CONCRETE – MINIMUM COMPRESSIVE STRENGTH OF 3,200 PSI.
 - C. MASONRY – STRENGTH CONFORMANCE TO ASTM C-90, GRADE N, TYPE 1 (OR GREATER).
 - D. METAL STRUCTURE: STEEL 18GA (.048") FY=33KSI/FU=52KSI OR ALUMINUM 6063-T5 FU=30KSI .063" THICK MINIMUM.
- 6) FOR ATTACHING WINDOW UNITS TO MULLION USE #10 SELF TAPPING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A MINIMUM EMBEDMENT OF THREE THREADS PAST THE MULLION WALL. LOCATE SCREWS 6" FROM EACH MULLION END AND 12" MAX. O.C. THEREAFTER. STAGGER SCREWS AT EACH WINDOW.

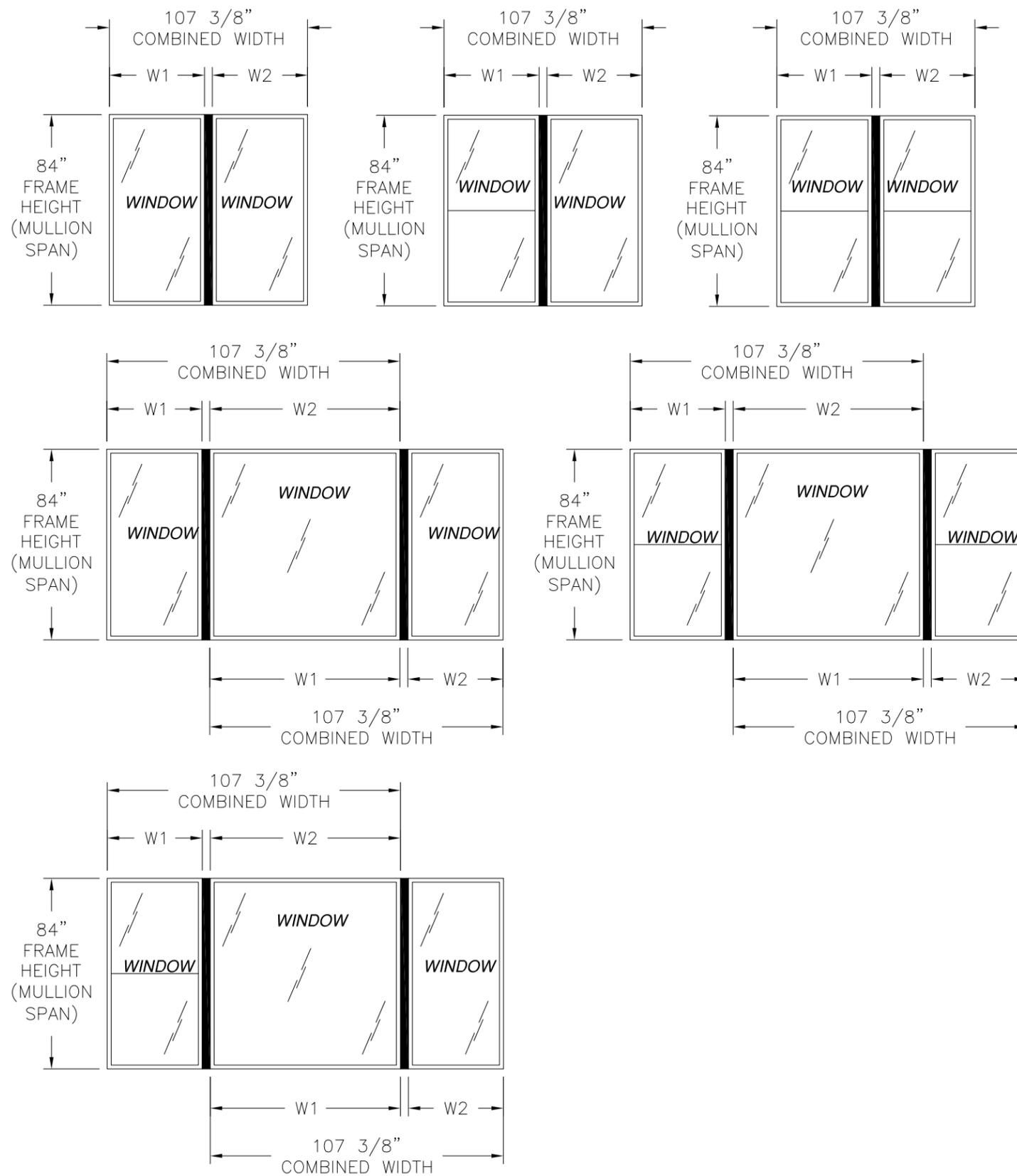
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MI WINDOWS AND DOORS, LLC 650 WEST MARKET STREET GRATZ, PA 17030-0370		
CM-18514 VERTICAL MULLION 83" MULLION SPAN NOTES		
DRAWN: A.R.	DWG NO. 08-03420	REV -
SCALE NTS	DATE 04/15/19	SHEET 1 OF 4
L. ROBERTO LOMAS P.E. 1432 WOODFORD RD LEWISVILLE, NC 27023 434-688-0609 rllomas@rlomaspe.com		

SIGNED: 05/06/2019



Luis R. Lomas P.E.
TX No.: 101889



APPROVED CONFIGURATIONS
 MULTIPLE UNITS MAYBE MULLED TOGETHER AS LONG AS COMBINED WIDTH DOES NOT EXCEED 107 3/8" AS SHOWN HEREIN.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

Design pressure rating (psf) Units anchored into wood framing						
Mullion span (in)	Tributary width (in)					
	18.13	25.50	36.00	42.00	48.00	52.13
25.00	120.0	120.0	120.0	120.0	120.0	120.0
37.38	120.0	120.0	120.0	120.0	120.0	120.0
49.63	120.0	98.3	81.2	76.9	75.2	75.1
62.00	95.1	70.0	53.2	48.1	44.8	43.3
65.63	79.9	58.6	44.2	39.7	36.7	35.3
72.00	60.2	43.9	32.7	29.2	26.7	25.5
84.00	37.7	27.3	20.1	17.7	16.0	15.1

Design pressure rating with rebar option (psf) Units anchored into wood framing						
Mullion span (in)	Tributary width (in)					
	18.13	25.50	36.00	42.00	48.00	52.13
25.00	120.0	120.0	120.0	120.0	120.0	120.0
37.38	120.0	120.0	120.0	120.0	120.0	120.0
49.63	120.0	98.3	81.2	76.9	75.2	75.1
62.00	96.4	73.6	58.4	53.7	50.7	49.4
65.63	90.2	68.6	53.9	49.3	46.3	44.8
72.00	81.0	61.2	45.8	40.8	37.3	35.6
84.00	52.7	38.1	28.0	24.7	22.3	21.1

Design pressure rating (psf) Units anchored into metal structure						
Mullion span (in)	Tributary width (in)					
	3.56	4.36	4.84	4.85	4.85	4.85
25.00	120.0	120.0	120.0	120.0	120.0	120.0
37.38	120.0	120.0	120.0	120.0	120.0	120.0
49.63	120.0	106.7	88.1	83.4	81.6	81.5
62.00	95.1	70.0	53.2	48.1	44.8	43.3
65.63	79.9	58.6	44.2	39.7	36.7	35.3
72.00	60.2	43.9	32.7	29.2	26.7	25.5
84.00	37.7	27.3	20.1	17.7	16.0	15.1

Design pressure rating with rebar option (psf) Units anchored into metal or masonry/concrete						
Mullion span (in)	Tributary width (in)					
	18.13	25.50	36.00	42.00	48.00	52.13
25.00	120.0	120.0	120.0	120.0	120.0	120.0
37.38	120.0	120.0	120.0	120.0	120.0	120.0
49.63	120.0	109.2	90.2	85.4	83.5	83.4
62.00	107.1	81.8	64.8	59.7	56.3	54.8
65.63	100.2	76.2	59.9	54.8	51.3	49.4
72.00	84.2	61.4	45.8	40.8	37.3	35.6
84.00	52.7	38.1	28.0	24.7	22.3	21.1

Design pressure rating (psf) Units anchored into masonry/concrete						
Mullion span (in)	Tributary width (in)					
	18.13	25.50	36.00	42.00	48.00	52.13
25.00	120.0	120.0	120.0	120.0	120.0	120.0
37.38	120.0	120.0	120.0	120.0	120.0	120.0
49.63	120.0	109.2	90.2	85.4	83.5	83.4
62.00	95.1	70.0	53.2	48.1	44.8	43.3
65.63	79.9	58.6	44.2	39.7	36.7	35.3
72.00	60.2	43.9	32.7	29.2	26.7	25.5
84.00	37.7	27.3	20.1	17.7	16.0	15.1

LARGE AND SMALL MISSILE IMPACT, LEVEL D, WIND ZONE 3
 DIMENSIONS IN CHART ARE FRAME DIMENSIONS AND DO NOT INCLUDE FLANGE

SIGNED: 05/06/2019

MI WINDOWS AND DOORS, LLC
 650 WEST MARKET STREET
 GRATZ, PA 17030-0370

CM-18514 VERTICAL MULLION
 83" MULLION SPAN
 CONFIGURATIONS AND DP CHARTS

DRAWN: A.R. DWG NO. 08-03420 REV -

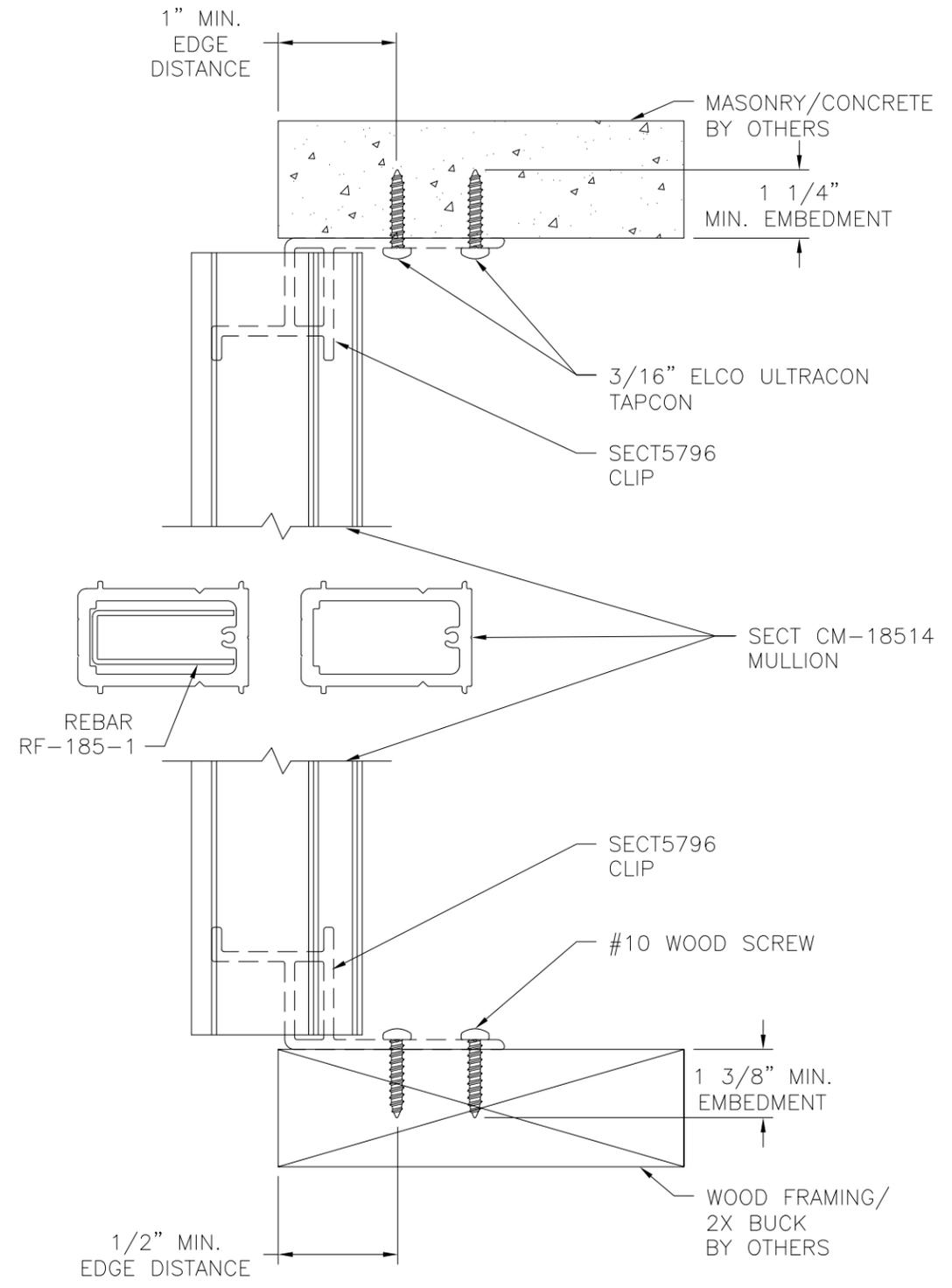
SCALE NTS DATE 04/15/19 SHEET 2 OF 4

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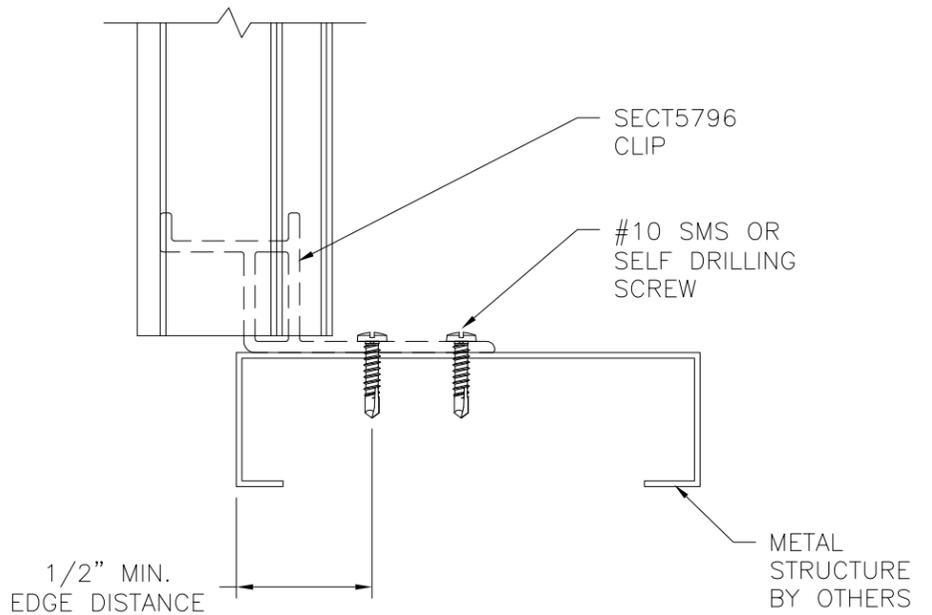


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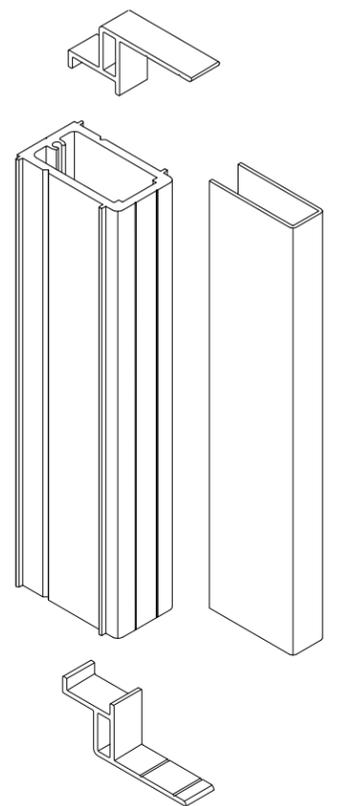
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VERTICAL CROSS SECTION
MASONRY/CONCRETE AND WOOD FRAMING
INSTALLATION



VERTICAL CROSS SECTION
METAL INSTALLATION



CLIP INSTALLATION

SIGNED: 05/06/2019

MI WINDOWS AND DOORS, LLC
650 WEST MARKET STREET
GRATZ, PA 17030-0370

CM-18514 VERTICAL MULLION
83" MULLION SPAN
INSTALLATION DETAILS

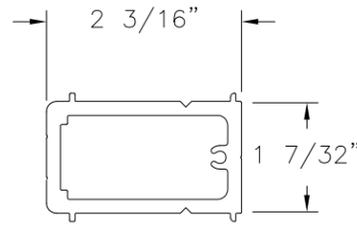
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SCALE NTS	DATE 04/15/19	SHEET 3 OF 4

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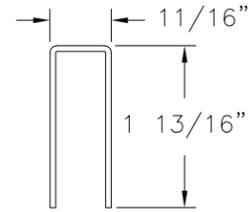


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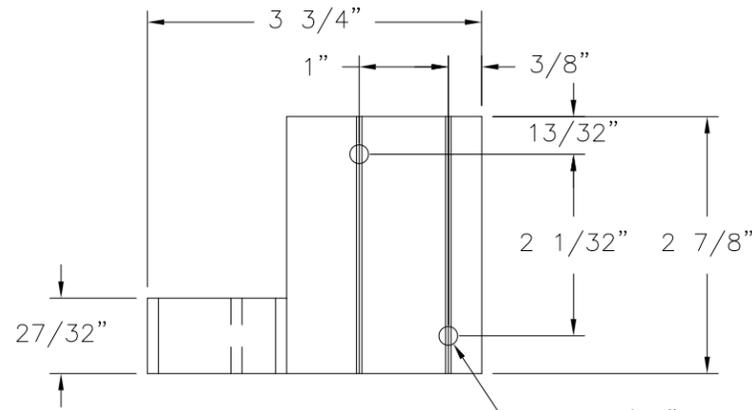
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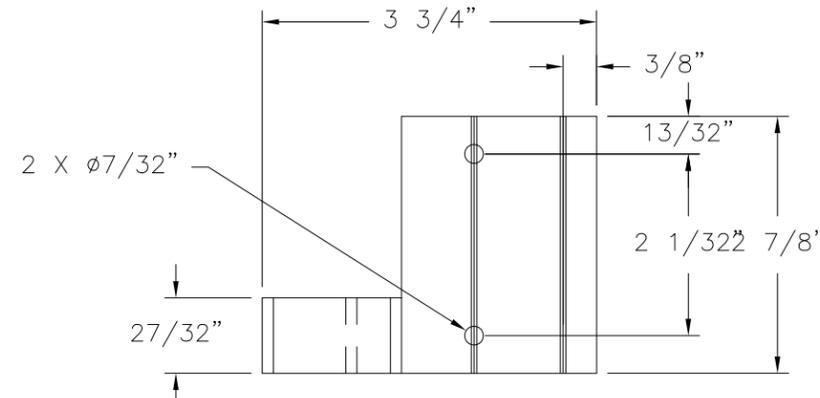
SECT CM-18514 MULLION
ALUMINUM 6005-T5 .125" THICK



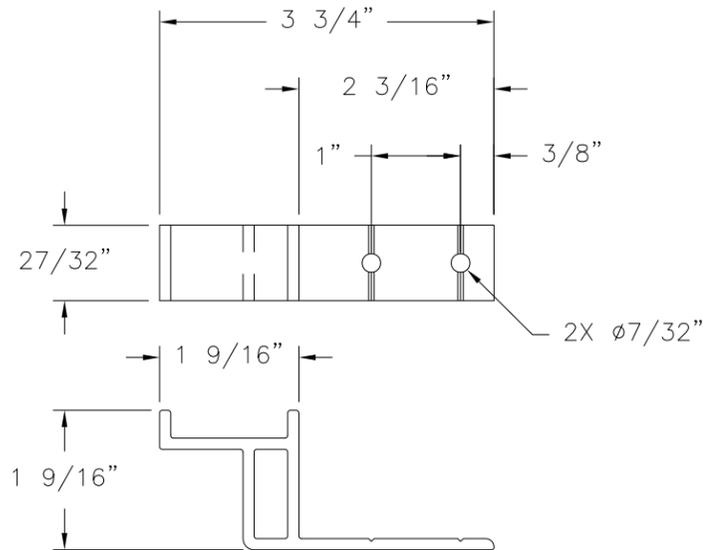
RF-185-1 REBAR
16 GA (.063") GALVANIZED STEEL



SECT5796 CLIP
FOR CONCRETE INSTALLATION
ALUMINUM 6063-T5 .125" THICK



SECT5796 CLIP
FOR CONCRETE INSTALLATION
ALUMINUM 6063-T5 .125" THICK



SECT5796 CLIP
FOR WOOD AND METAL FRAMING INSTALLATION
ALUMINUM 6063-T5 .125" THICK

MI WINDOWS AND DOORS, LLC 650 WEST MARKET STREET GRATZ, PA 17030-0370		
CM-18514 VERTICAL MULLION 83" MULLION SPAN COMPONENTS		
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