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 AND MASONRY OPENING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING AND MASONRY OPENING 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 THE MULLION. WINDOWS MUST BE APPROVED UNDER SEPARATE APPROVAL.
6) SINGLE UNITS TO BE MULLED ARE NOT LIMITED TO THOSE SHOWN IN THIS DRAWING. SINGLE UNITS TO BE MULLED TOGETHER MUST BE MANUFACTURED BY MI WINDOWS AND DOORS
7) DESIGN PRESSURE OF MULLED UNIT SHALL BE CONTROLLED BY THE LESSER DESIGN PRESSURE OF THE MULLION OR THE INDIVIDUAL WINDOW UNIT.
8) VERTICAL MULLIONS ARE NOT PART OF THIS APPROVAL. VERTICAL MULLIONS USED TO MULL UNITS SIDE BY SIDE MUST HAVE SEPARATE APPROVAL.
9) FOR ADDITIONAL APPROVED CONFIGURATIONS SEE SHEETS 2 TO 4.

ANCHORING NOTES:

1) FOR ANCHORING INTO CONCRETE USE 3/16" ELCO ULTRACON TAPCONS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 1'' MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
2) FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK USE #10 WOOD SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/8" MINIMUM EMBEDMENT INTO SUBSTRATE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
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) FOR ATTACHING WINDOW UNITS TO MULLION USE #10 TEK 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.
5) FOR WINDOW UNITS ANCHORING SCHEDULE REFER TO WINDOW APPROVED INSTALLATION INSTRUCTIONS.
6) ALL FASTENERS TO BE CORROSION RESISTANT.
7) 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. METAL STRUCTURE: STEEL 18GA (.048") FY=33KSI/FU=52KSI OR ALUMINUM 6063–T5 FU=30KSI .062" THICK MINIMUM

TABLE OF CONTENTS

SIGNED: 10/24/2019

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

CM–18534 HORIZONTAL MULLION
SINGLE, TWIN AND TRIPLE WITH TRANSOM
NOTES

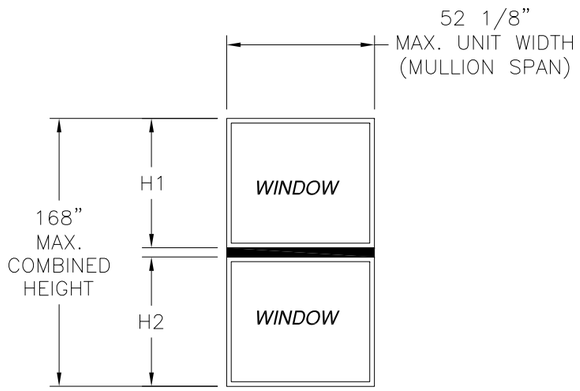
DRAWN:	DWG NO.	REV
A.R.	08–03423	–

SCALE	DATE	SHEET
NTS	04/16/19	1 OF 6

L. ROBERTO LOMAS P.E.
1432 WOODFORD RD LEWISVILLE, NC 27023
434-688-0609 rllomas@lrlomaspe.com

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

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



Maximum design presssure (psf)
For units installed in wood or metal framing

Tributary height (in)	Mullion span (in)						
	18.00	***24.00***	***30.00***	***36.00***	***42.00***	***48.00***	***52.13***
18.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
24.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
30.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
36.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
48.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
54.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
60.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
66.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
72.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
78.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
84.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0

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

Maximum design presssure (psf)
For units installed in masonry/concrete

Tributary height (in)	Mullion span (in)						
	18.00	***24.00***	***30.00***	***36.00***	***42.00***	***48.00***	***52.13***
18.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
24.00	120.0	120.0	120.0	120.0	120.0	120.0	116.6
30.00	120.0	120.0	120.0	120.0	120.0	113.5	100.8
36.00	120.0	120.0	120.0	120.0	120.0	104.0	91.4
42.00	120.0	120.0	120.0	120.0	120.0	99.0	85.9
48.00	120.0	120.0	120.0	120.0	120.0	97.5	83.2
54.00	120.0	120.0	120.0	120.0	120.0	97.5	82.7
60.00	120.0	120.0	120.0	120.0	120.0	97.5	82.7
66.00	120.0	120.0	120.0	120.0	120.0	97.5	82.7
72.00	120.0	120.0	120.0	120.0	120.0	97.5	82.7
78.00	120.0	120.0	120.0	120.0	120.0	97.5	82.7
84.00	120.0	120.0	120.0	120.0	120.0	97.5	82.7

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

DESIGN PRESSURE TABLE INSTRUCTIONS:

1) DEFINE REQUIRED DESIGN LOAD PER TEXAS BUILDING CODE CHAPTER 16.
2) DETERMINE TRIBUTARY HEIGHT AND MULLION SPAN BASED ON PRODUCT TO BE INSTALLED. SEE FORMULA FOR TRIBUTARY HEIGHT.
3) LOCATE MULLION SPAN (UNIT WIDTH) AND TRIBUTARY HEIGHT. AT THE INTERSECTION OF COLUMN AND ROW 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.

$$\text{TRIBUTARY HEIGHT} = \frac{H1 + H2}{2}$$

SIGNED: 10/24/2019

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

CM-18534 HORIZONTAL MULLION
SINGLE, TWIN AND TRIPLE WITH TRANSOM
SINGLE HORIZONTAL MULLION

DRAWN:	DWG NO.	REV
A.R.	08-03423	-

SCALE	DATE	SHEET
NTS	04/16/19	2 OF 6

L. ROBERTO LOMAS P.E.
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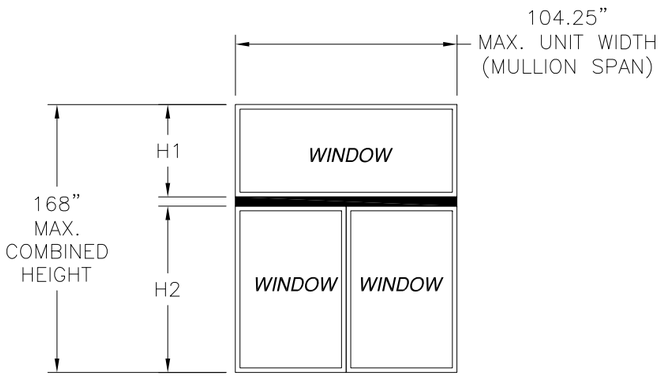
434-688-0609 rllomas@lrlomaspe.com

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

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



Maximum design pressure capacity chart (psf) for concrete installation

Tributary Height (in)	Mullion Span and individual unit width (in)						
	36.00	***48.00***	***60.00***	***72.00***	***84.00***	***96.00***	***104.25***
	18.00	***24.00***	***30.00***	***36.00***	***42.00***	***48.00***	***52.13***
18.00	120.0	120.0	120.0	99.0	83.2	71.7	65.5
24.00	120.0	120.0	97.5	78.0	65.0	55.7	50.7
30.00	120.0	112.4	83.2	65.7	54.3	46.2	41.9
36.00	120.0	100.6	73.8	57.8	47.3	40.0	36.2
42.00	120.0	92.4	67.1	52.2	42.4	35.7	32.1
48.00	120.0	86.7	62.1	48.0	38.9	32.5	29.2
54.00	120.0	82.1	58.3	44.7	36.1	30.1	26.9
60.00	118.9	78.0	55.5	42.2	33.8	28.1	25.1
66.00	112.4	74.3	53.1	40.1	32.0	26.5	23.6
72.00	106.7	70.9	50.9	38.5	30.5	25.2	22.4
78.00	101.5	67.8	48.9	37.1	29.3	24.0	21.4
84.00	96.7	65.0	47.1	35.9	28.3	23.1	20.5

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

Maximum design pressure capacity chart (psf) for wood and metal framing installation

Tributary Height (in)	Mullion Span and individual unit width (in)						
	36.00	***48.00***	***60.00***	***72.00***	***84.00***	***96.00***	***104.25***
	18.00	***24.00***	***30.00***	***36.00***	***42.00***	***48.00***	***52.13***
18.00	120.0	120.0	120.0	120.0	120.0	120.0	120.0
24.00	120.0	120.0	120.0	120.0	120.0	120.0	110.5
30.00	120.0	120.0	120.0	120.0	118.2	100.7	91.4
36.00	120.0	120.0	120.0	120.0	103.0	87.1	78.8
42.00	120.0	120.0	120.0	113.7	92.5	77.7	70.0
48.00	120.0	120.0	120.0	104.5	84.7	70.8	63.5
54.00	120.0	120.0	120.0	97.4	78.6	65.5	58.6
60.00	120.0	120.0	120.0	91.8	73.7	61.2	54.7
66.00	120.0	120.0	115.7	87.4	69.7	57.7	51.5
72.00	120.0	120.0	110.9	83.9	66.5	54.8	48.8
78.00	120.0	120.0	106.6	80.9	63.8	52.4	46.5
84.00	120.0	120.0	102.6	78.1	61.6	50.3	44.6

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

DESIGN PRESSURE TABLE INSTRUCTIONS:

1) DEFINE REQUIRED DESIGN LOAD PER TEXAS BUILDING CODE CHAPTER 16.
2) DETERMINE TRIBUTARY HEIGHT AND MULLION SPAN BASED ON PRODUCT TO BE INSTALLED. SEE FORMULA FOR TRIBUTARY HEIGHT.
3) LOCATE MULLION SPAN (UNIT WIDTH) AND TRIBUTARY HEIGHT. AT THE INTERSECTION OF COLUMN AND ROW 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.

$$\text{TRIBUTARY HEIGHT} = \frac{H1 + H2}{2}$$

SIGNED: 10/24/2019

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

CM-18534 HORIZONTAL MULLION
SINGLE, TWIN AND TRIPLE WITH TRANSOM
HORIZONTAL MULLION, TWIN WITH TRANSOM

DRAWN:	DWG NO.	REV
A.R.	08-03423	-

SCALE	DATE	SHEET
NTS	04/16/19	3 OF 6

L. ROBERTO LOMAS P.E.
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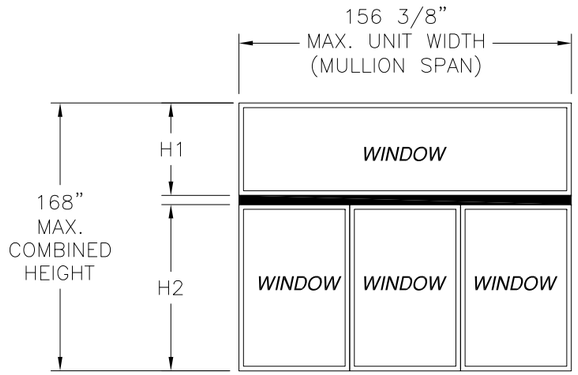

Maximum design pressure capacity chart (psf)
For concrete installation

Tributary Height (in)	Mullion Span and individual unit width (in)						
	54.00	*72.00*	*90.00*	*108.00*	*126.00*	*144.00*	*156.38*
	18.00	*24.00*	*30.00*	*36.00*	*42.00*	*48.00*	*52.13*
18.00	120.0	99.0	77.0	63.0	53.3	46.2	42.3
24.00	110.4	78.0	60.0	48.8	41.1	35.5	32.4
30.00	93.1	65.3	49.9	40.3	33.7	29.0	26.5
36.00	81.6	56.7	43.2	34.7	28.9	24.8	22.5
42.00	73.4	50.5	38.3	30.7	25.5	21.7	19.8
48.00	67.5	45.9	34.6	27.6	22.9	19.5	17.7
54.00	63.0	42.3	31.7	25.2	20.9	17.8	16.1
60.00	59.4	39.5	29.4	23.3	19.2	16.3	-
66.00	56.2	37.3	27.5	21.7	17.9	15.2	-
72.00	53.3	35.5	25.9	20.4	16.8	-	-
78.00	50.7	33.9	24.7	19.3	15.8	-	-
84.00	48.4	32.5	23.6	18.4	-	-	-

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

Maximum design pressure capacity chart (psf)
For wood and metal framing installation

Tributary Height (in)	Mullion Span and individual unit width (in)						
	54.00	*72.00*	*90.00*	*108.00*	*126.00*	*144.00*	*156.38*
	18.00	*24.00*	*30.00*	*36.00*	*42.00*	*48.00*	*52.13*
18.00	120.0	120.0	120.0	120.0	116.2	87.5	68.2
24.00	120.0	120.0	120.0	106.2	89.4	66.1	51.5
30.00	120.0	120.0	108.7	87.7	73.5	53.3	41.5
36.00	120.0	120.0	94.1	75.5	62.9	44.7	34.8
42.00	120.0	110.0	83.4	66.8	55.5	38.7	30.1
48.00	120.0	99.9	75.3	60.1	49.9	34.2	26.5
54.00	120.0	92.1	69.0	54.9	45.5	30.7	23.8
60.00	120.0	86.0	64.0	50.7	41.9	27.9	21.6
66.00	120.0	81.1	59.9	47.3	38.9	25.6	19.8
72.00	116.2	77.2	56.5	44.4	36.1	23.7	18.3
78.00	110.5	73.9	53.7	42.0	33.8	22.1	17.1
84.00	105.4	70.8	51.4	40.0	31.8	20.8	16.0

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

DESIGN PRESSURE TABLE INSTRUCTIONS:

1) DEFINE REQUIRED DESIGN LOAD PER TEXAS BUILDING CODE CHAPTER 16.
2) DETERMINE TRIBUTARY HEIGHT AND MULLION SPAN BASED ON PRODUCT TO BE INSTALLED. SEE FORMULA FOR TRIBUTARY HEIGHT.
3) LOCATE MULLION SPAN (UNIT WIDTH) AND TRIBUTARY HEIGHT. AT THE INTERSECTION OF COLUMN AND ROW 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.

$$\text{TRIBUTARY HEIGHT} = \frac{H1 + H2}{2}$$

SIGNED: 10/24/2019

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

CM-18534 HORIZONTAL MULLION
SINGLE, TWIN AND TRIPLE WITH TRANSOM
HORIZON & VERT MULLION TRIPLE W/TRANSOM

DRAWN:	DWG NO.	REV
A.R.	08-03423	-

SCALE	DATE	SHEET
NTS	04/16/19	4 OF 6

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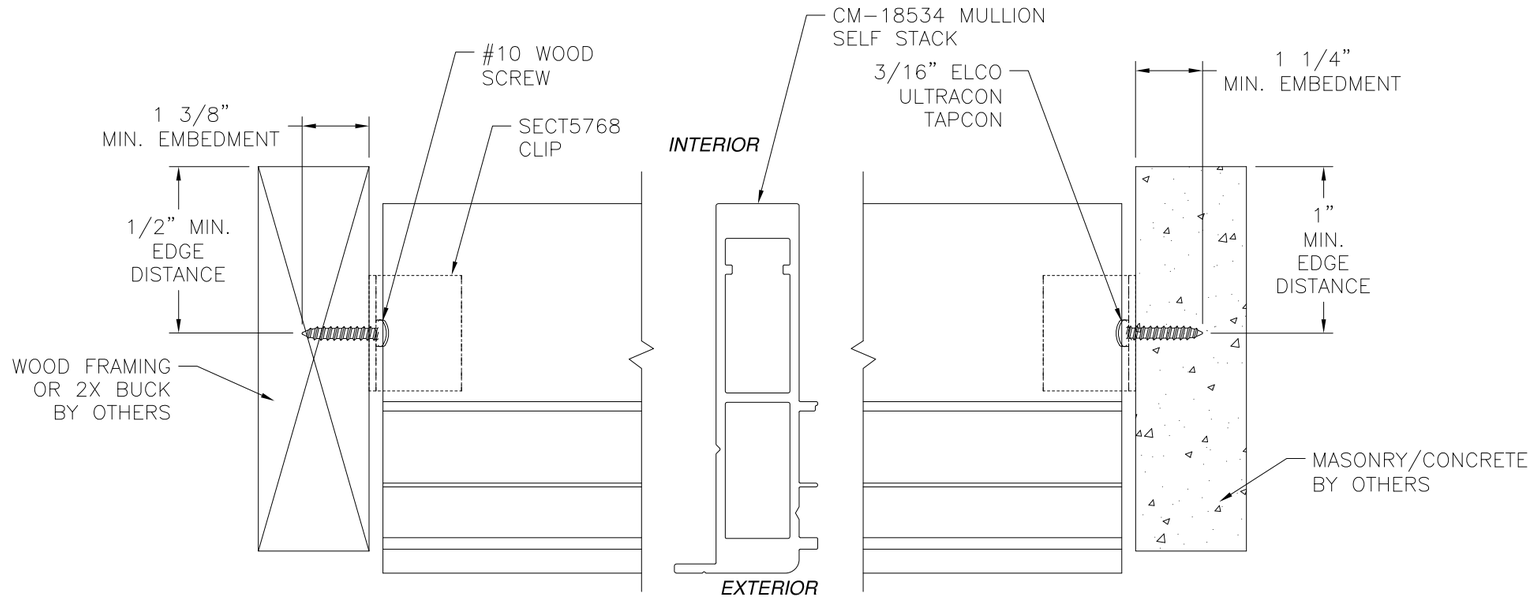
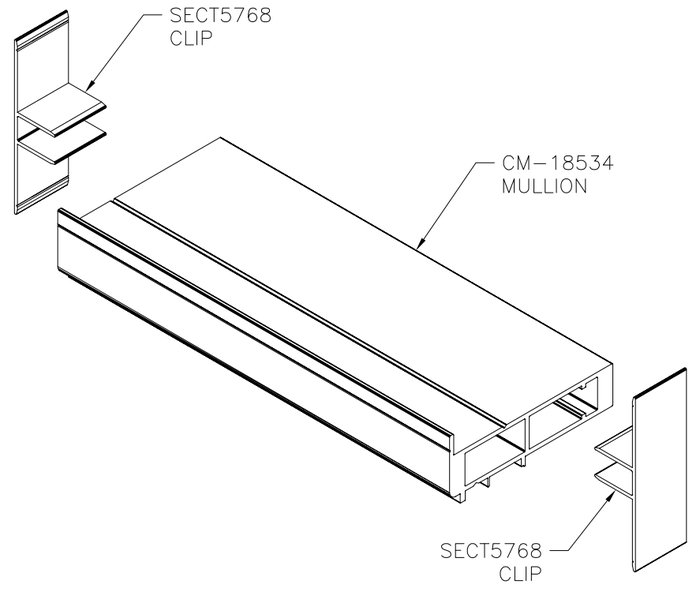
STATE OF TEXAS
LUIS R. LOMAS
101889
LICENSED
PROFESSIONAL ENGINEER

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

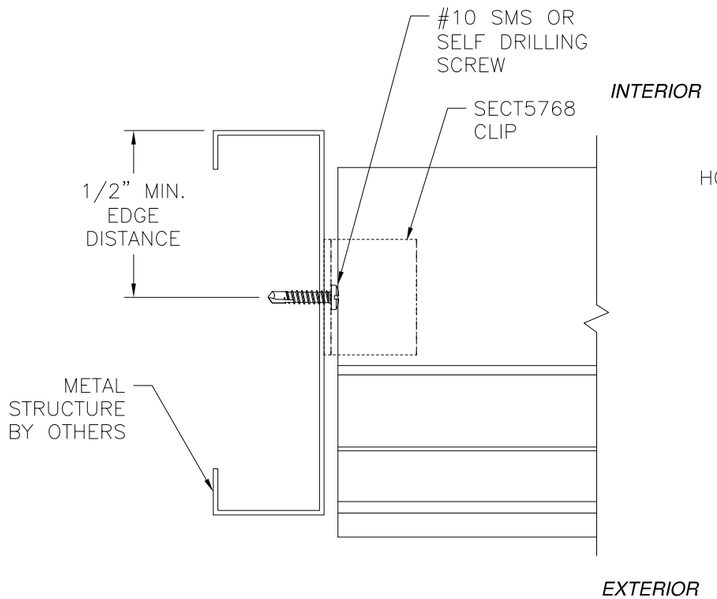
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



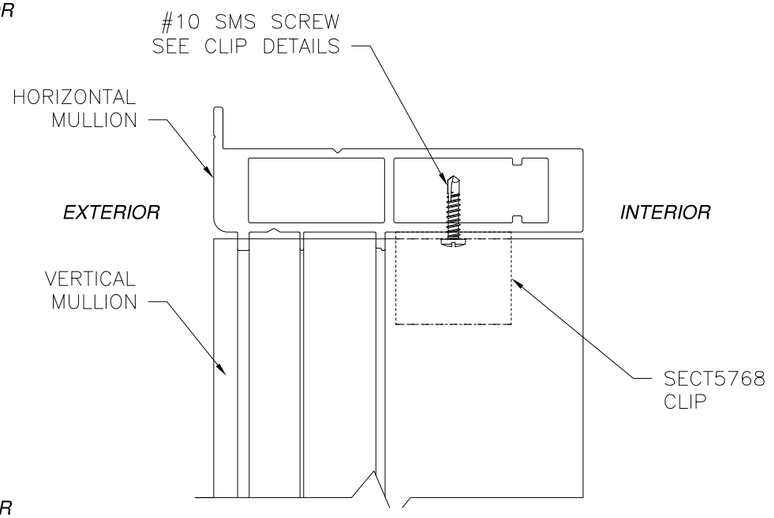
MULLION INSTALLATION
WOOD & CONCRETE



CLIP INSTALLATION



MULLION INSTALLATION
METAL STRUCTURE



MULLION CONNECTION

NOTES:
1. *INTERIOR AND EXTERIOR FINISHES, BY OTHERS, NOT SHOWN FOR CLARITY.*
2. *PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112*

SIGNED: 10/24/2019

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

CM–18534 HORIZONTAL MULLION
SINGLE, TWIN AND TRIPLE WITH TRANSOM
INSTALLATION DETAILS

DRAWN:	DWG NO.	REV
A.R.	08–03423	–

SCALE	DATE	SHEET
NTS	04/16/19	5 OF 6

L. ROBERTO LOMAS P.E.
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STATE OF TEXAS
LUIS R. LOMAS
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REVISIONS			
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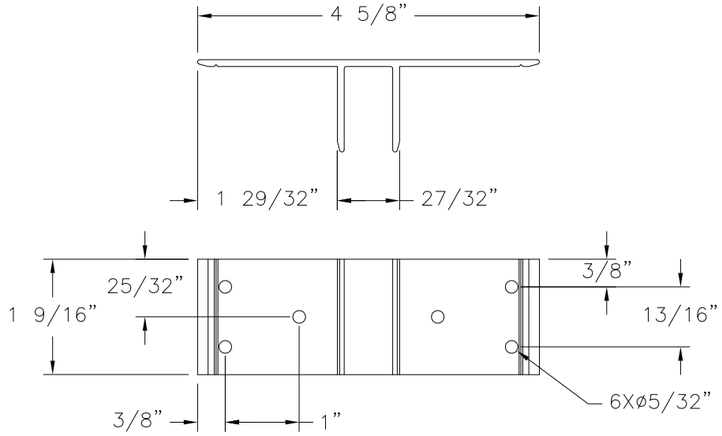
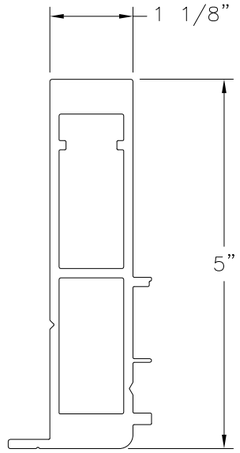
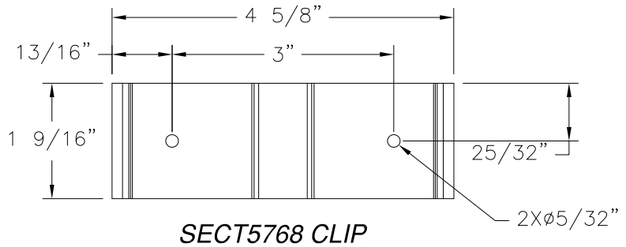


SECT5768 CLIP
ALUMINUM 6063-T5 .093" THICK
FOR WOOD FRAMING INSTALLATION



CM-18534 MULLION
ALUMINUM 6005-T5 .125" THICK



SECT5768 CLIP
ALUMINUM 6063-T5 .093" THICK
FOR MASONRY/CONCRETE INSTALLATION

SIGNED: 10/24/2019

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

CM-18534 HORIZONTAL MULLION
SINGLE, TWIN AND TRIPLE WITH TRANSOM
COMPONENTS

DRAWN:	DWG NO.	REV
A.R.	08-03423	-

SCALE	DATE	SHEET
NTS	04/16/19	6 OF 6

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