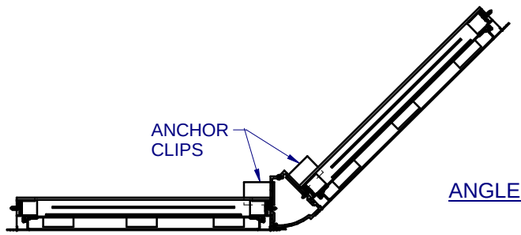
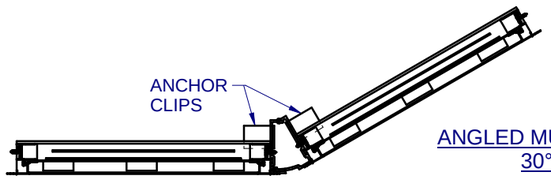
ANGLED MULL BAR - NON-IMPACT

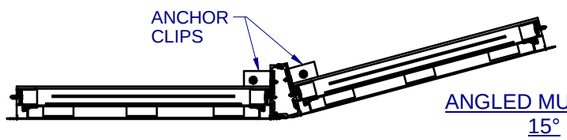
SHOWN w/DIFFERENT OPTIONS



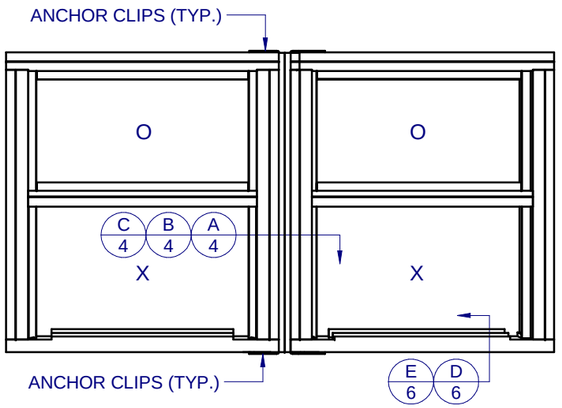
ANGLED MULL BAR
45°



ANGLED MULL BAR
30°



ANGLED MULL BAR
15°



EXAMPLE ALUMINUM WINDOW WITH ANGLED MULL BAR
(FOR SECTION VIEW CALLOUTS ONLY)

TABLE OF CONTENTS

GENERAL NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH THE FLORIDA BUILDING CODE (FBC), CURRENT EDITION.
2. CONFIGURATIONS (SEE SHEET 5): VERTICAL
3. SEE MULLION CHARTS FOR MAX. DESIGN PRESSURES AND LENGTH. (REFER TO SHEET 2)
4. ANCHORAGE: THE 33 1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. SEE SHEET 6 FOR ANCHOR DETAIL. WINDLOAD DURATION FACTOR Cd=1.6 WAS USED FOR WOOD ANCHOR CALCULATIONS.
5. NOT APPROVED FOR IMPACT RESISTANCE. IMPACT PROTECTIVE SYSTEM IS REQUIRED IN WIND BORNE DEBRIS REGION.
6. DESIGN PRESSURE OF MULLED UNITS SHALL BE CONTROLLED BY THE LESSER DESIGN PRESSURE OF THE MULLION OR THE INDIVIDUAL WINDOW UNITS.
7. DESIGN PRESSURES AND INSTALLATION DETAILS SHOWN IN THIS DOCUMENT APPLY ONLY TO THE MULLION. WINDOWS MUST BE APPROVED UNDER SEPARATE APPROVAL.
8. RESPONSIBILITY OF SELECTING FENESTRATION PRODUCTS TO MEET ANY APPLICABLE LOCAL LAWS, BUILDING CODES, ORDINANCES OR OTHER SAFTEY REQUIREMENTS RESTS SOLEY WITH THE ARCHITECT, ENGINEER OF RECORD, BUILDING OWNER OR CONTRACTOR.
9. SINGLE UNITS TO BE MULLED ARE NOT LIMITED TO THOSE SHOWN IN THIS DRAWING. SINGLE UNITS TO BE MULLED TOGETHER MUST BE MANUFACTURED BY CUSTOM WINDOW SYSTEMS, INC. AND MUST BE MADE OUT OF PVC OR EXTRUDED ALUMINUM.
10. VERTICAL MULLED UNITS MAY BE MULLED INDEFINITELY AS LONG AS THE SINGLE UNIT WIDTH AND HEIGHT ARE NOT EXCEEDED, AND MULLIONS ARE ANCHORED AS SHOWN HERE IN.

Lucas Turner
2023.10.11
17:42:55
-05'00'

Pella Corporation
102 Main Street
Pella, IA 50219
www.pella.com

ANGLED (15/30/45) MULL BAR NON-IMPACT

FLORIDA APPROVAL NO.:
33621

LUCAS A. TURNER LICENSE No. 58201 STATE OF FLORIDA PROFESSIONAL ENGINEER

10/11/2023

LUCAS A. TURNER, P.E.
FL PE # 58201
Turner Engineering & Consulting, Inc.
2428 Old Natchez Trc Trl
Camden, TN 38320
PH. 941-380-1574

SHEET DESCRIPTION:
GENERAL NOTES AND ELEVATIONS

DRAWN BY:	DATE:
MCS	10/3/2023
DWG #:	REV.:
PEL-243	A
SCALE:	SHEET
1:10	1 OF 6

ITW TAPCON INTO HOLLOW BLOCK DESIGN PRESSURE CHART (PSF) FOR NON-IMPACT ANGLED VERTICAL MULLION, 1373/1376

MULL LENGTH (in.)	OPENING WIDTH (in.)										
	48	54	60	66	72	78	84	90	96	102	106
24	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
30	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
36	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42	120.0	120.0	115.2	110.9	108.0	106.3	105.8	105.8	105.8	105.8	105.8
48	108.0	100.2	94.3	89.8	86.4	84.0	82.3	81.3	81.0	81.0	81.0
54	92.6	85.3	79.8	75.4	72.0	69.4	67.3	65.8	64.8	64.2	64.0
60	81.0	74.3	69.1	65.0	61.7	59.1	57.0	55.3	54.0	53.0	52.6
66	72.0	65.8	61.0	57.1	54.0	51.5	49.4	47.7	46.3	45.2	44.6
72	64.8	59.1	54.6	50.9	48.0	45.6	43.6	41.9	40.5	39.3	38.7
76	60.8	55.3	51.0	47.5	44.7	42.3	40.4	38.8	37.4	36.2	35.6

ITW TAPCON or DEWALT ULTRACON+ INTO SOLID CONCRETE DESIGN PRESSURE CHART (PSF) FOR NON-IMPACT ANGLED VERTICAL MULLION, 1373/1376

MULL LENGTH (in.)	OPENING WIDTH (in.)										
	48	54	60	66	72	78	84	90	96	102	106
24	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
30	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
36	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
48	120.0	120.0	120.0	117.5	113.1	109.9	107.7	106.4	106.0	106.0	106.0
54	120.0	111.7	104.4	98.7	94.2	90.8	88.1	86.1	84.8	84.0	83.8
60	106.0	97.3	90.5	85.1	80.8	77.3	74.5	72.4	70.7	69.4	68.8
66	94.2	86.1	79.8	74.8	70.7	67.3	64.6	62.4	60.6	59.1	58.3
72	84.8	77.3	71.4	66.7	62.8	59.6	57.0	54.8	53.0	51.5	50.6
76	79.5	72.4	66.7	62.2	58.5	55.4	52.9	50.7	48.9	47.4	46.5

#10 SCREW INTO WOOD or METAL DESIGN PRESSURE CHART (PSF) FOR NON-IMPACT ANGLED VERTICAL MULLION, 1373/1376

MULL LENGTH (in.)	OPENING WIDTH (in.)										
	48	54	60	66	72	78	84	90	96	102	106
24	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
30	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
36	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
48	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
54	120.0	120.0	120.0	120.0	120.0	120.0	120.0	117.8	116.0	114.9	114.6
60	120.0	120.0	120.0	116.4	109.5	103.5	98.7	94.9	91.9	89.7	88.5
66	120.0	112.5	102.7	94.8	88.4	83.2	78.9	75.4	72.5	70.2	68.9
72	104.3	93.7	85.3	78.5	73.0	68.5	64.7	61.6	58.9	56.7	55.5
76	91.2	82.0	74.7	68.8	64.0	60.1	56.8	54.0	51.7	49.8	48.7

NOTE: OPENING WIDTH IS THE SUM OF THE INDIVIDUAL WIDTHS OF THE TWO WINDOWS BEING MULLED.

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ANGLED (15/30/45) MULL BAR NON-IMPACT

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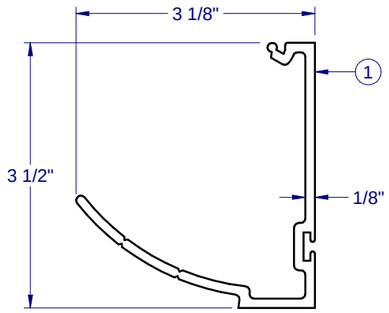
2428 Old Natchez Trc Trl
Camden, TN 38320
PH. 941-380-1574

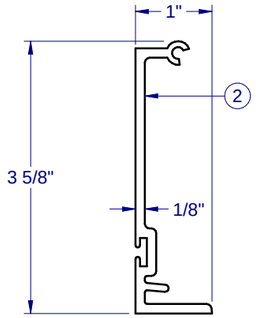
SHEET DESCRIPTION:
DESIGN PRESSURE CHARTS

DRAWN BY:	DATE:
MCS	10/3/2023
DWG #:	REV.:
PEL-243	A
SCALE:	SHEET
1:1	2 OF 6

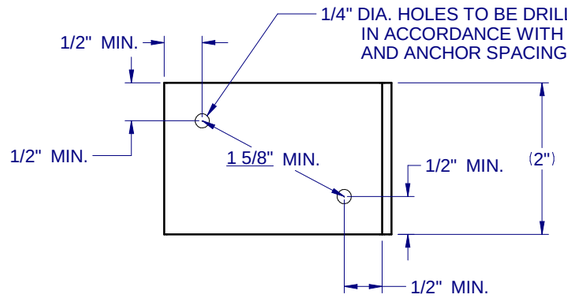
ITEM	PART #	DESCRIPTION
1	S-1373	ANGLED MULL BAR - 1
2	S-1376	ANGLED MULL BAR - 2
3	P-3767	#10 x 1" HEX WASHER HEAD TEK
4	P-1767	ANCHOR CLIP, ANGLED MULL

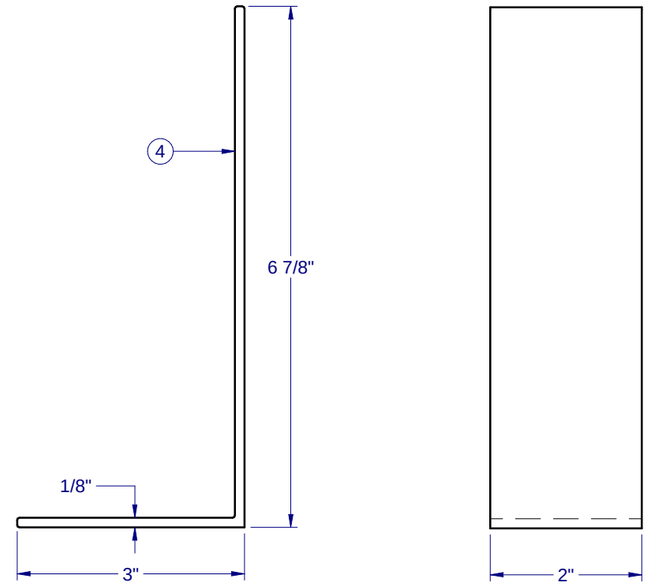


ANGLED MULL 1 - 1373



ANGLED MULL 2 - 1376





ANCHOR CLIP - 1767

NOTE: ALL EXTRUSIONS ARE 6063-T6 ALUMINUM

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ANGLED (15/30/45) MULL BAR NON-IMPACT

FLORIDA APPROVAL NO.:
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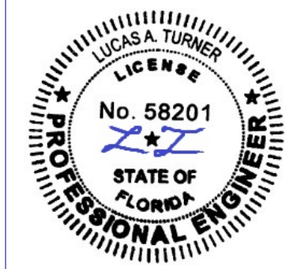

10/11/2023

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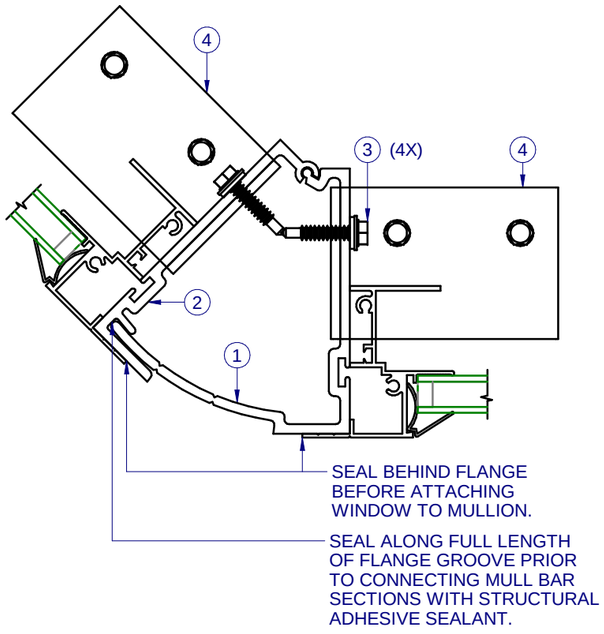
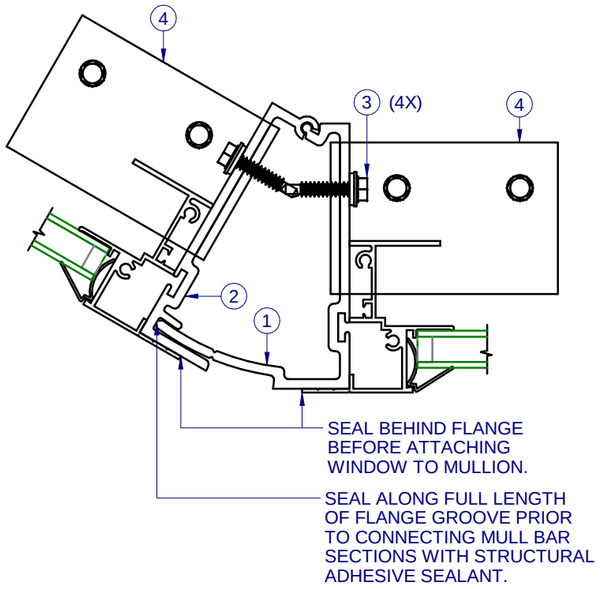
Turner Engineering & Consulting, Inc.
2428 Old Natchez Trc Trl
Camden, TN 38320
PH. 941-380-1574

SHEET DESCRIPTION:
BOM AND EXTRUSIONS

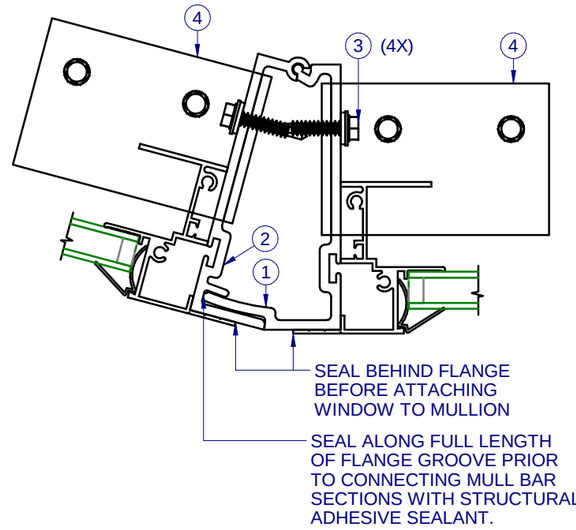
DRAWN BY:	DATE:
MCS	10/3/2023
DWG #:	REV.:
PEL-243	A
SCALE:	SHEET
1:2	3 OF 6



A/4 ANGLED MULL BAR SECTION
TWIN WINDOWS - 45°



B/4 ANGLED MULL BAR SECTION
TWIN WINDOWS - 30°



C/4 ANGLED MULL BAR SECTION
TWIN WINDOWS - 15°

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ANGLED (15/30/45) MULL BAR NON-IMPACT

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PH. 941-380-1574

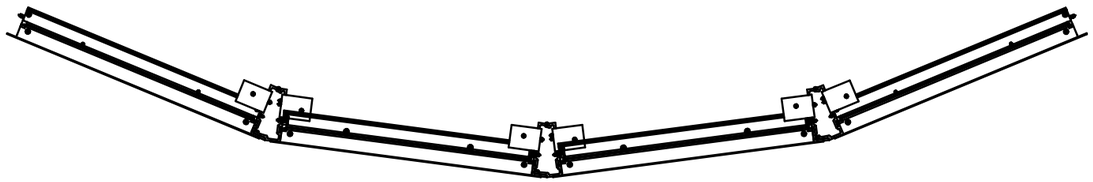
SHEET DESCRIPTION:
SECTION VIEWS

DRAWN BY:	DATE:
MCS	10/3/2023
DWG #:	REV.:
PEL-243	A
SCALE:	SHEET
1:2	4 OF 6

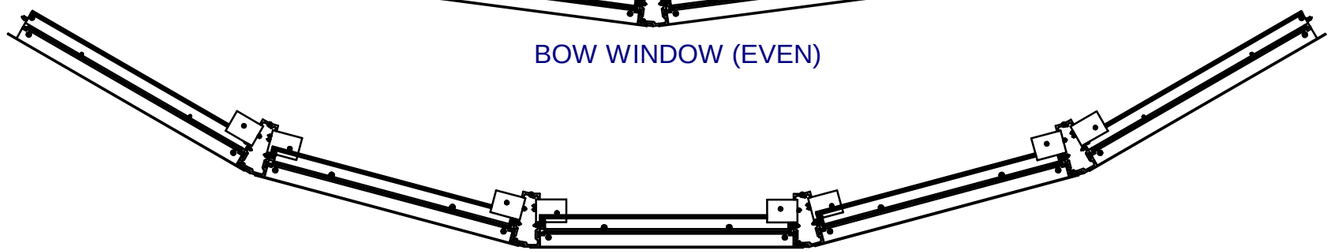
ANGLED MULL BAR ASSEMBLY OPTIONS

APPLIES TO 45, 30 & 15 DEGREE CONFIGURATIONS

BAY WINDOW



BOW WINDOW (EVEN)



BOW WINDOW (ODD)

NOTES:

1. AT MULLION LOCATION, ATTACH WINDOW UNIT(S) TO MULLBAR THRU FRAME AS SPECIFIED IN WINDOW UNIT APPROVAL DOCUMENTS. IF ALUMINUM ATTACHMENT IS NOT SPECIFIED IN THE WINDOW UNIT APPROVAL DOCUMENTS, FOLLOW THE ANCHOR SPACING AS INDICATED IN THE WINDOW APPROVAL FOR ATTACHMENT TO WOOD SUBSTRATE, USING A HEX WASHER HEAD TEK SCREW OF THE SAME SIZE (#10 OR #12) AS THE WOOD SCREW INDICATED IN THE WINDOW APPROVAL. TEK SCREWS SHALL BE LONG ENOUGH TO ENSURE THREE (3) THREADS OF PENETRATION BEYOND THE INSIDE WALL OF MULLBAR.

2. THE INSTALLER SHALL DRILL HOLES THRU MULL BAR AND MULL CLIP PRIOR TO INSTALLING SCREWS. A MINIMUM EDGE DISTANCE OF 1/2" SHALL BE MAINTAINED ON THE CLIP IN ANY DIRECTION. A MINIMUM CENTER TO CENTER SCREW SPACING ON THE CLIP SHALL FOLLOW NOTE 7 BELOW. THE INSTALLER MAY LOCATE SCREWS, WITHIN THE ABOVE CONSTRAINTS, AS NEEDED.

3. MULL CLIP INSTALLATION ANCHOR TYPE, SIZE, SPACING AND EMBEDMENT SHALL BE AS SPECIFIED IN THESE DRAWINGS, SEE TABLE 1, SHEET 6.

4. ALL MULL CLIP INSTALLATION ANCHORS MUST BE MADE OF OR PROTECTED WITH A CORROSION RESISTANT MATERIAL OR COATING. DISSIMILAR METALS OR MATERIALS IN CONTACT WITH PRESSURE TREATED WOOD MUST BE PROTECTED TO PREVENT REACTION.

5. INSTALLATION ANCHORS SHALL BE IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM SPECIFIED IN TABLE 1, SHEET 6.

6. ANCHOR EMBEDMENT TO SUBSTRATE SHALL BE BEYOND WALL DRESSING OR STUCCO. FOR CONCRETE/CMU OPENINGS, EMBEDMENT SHALL BE BEYOND WOOD BUCKS, IF USED, INTO SUBSTRATE - 1X BUCKS ARE OPTIONAL.

7. A MINIMUM CENTER-TO-CENTER SPACING SHALL BE MAINTAINED BETWEEN ALL FASTENERS: 1-5/8" FOR MASONRY, 3/4" FOR WOOD AND METAL.

8. WOOD OR MASONRY OPENINGS, BUCKS AND BUCK FASTENERS SHALL BE PROPERLY DESIGNED BY THE ARCHITECT OR ENGINEER OF RECORD AND INSTALLED TO TRANSFER WIND LOADS TO THE STRUCTURE. SUBSTRATES SHALL MEET THE MINIMUM STRENGTH REQUIREMENTS AS SHOWN IN TABLE1, SHEET 6. CONCRETE AND MASONRY SUBSTRATES MAY NOT BE CRACKED.

9. SEALING AND FLASHING STRATEGIES FOR OVERALL WATER RESISTANCE OF INSTALLATION SHALL BE DONE BY OTHERS FOLLOWING THE CURRENT VERSION OF THE REFERENCE DOCUMENTS: FMA/AAMA 100(FIN WINDOWS), FMA/AAMA 200(FLANGE WINDOWS), FMA/WDMA 250(BOX WINDOWS), FMA/AAMA/WDMA 300(EXTERIOR DOORS)

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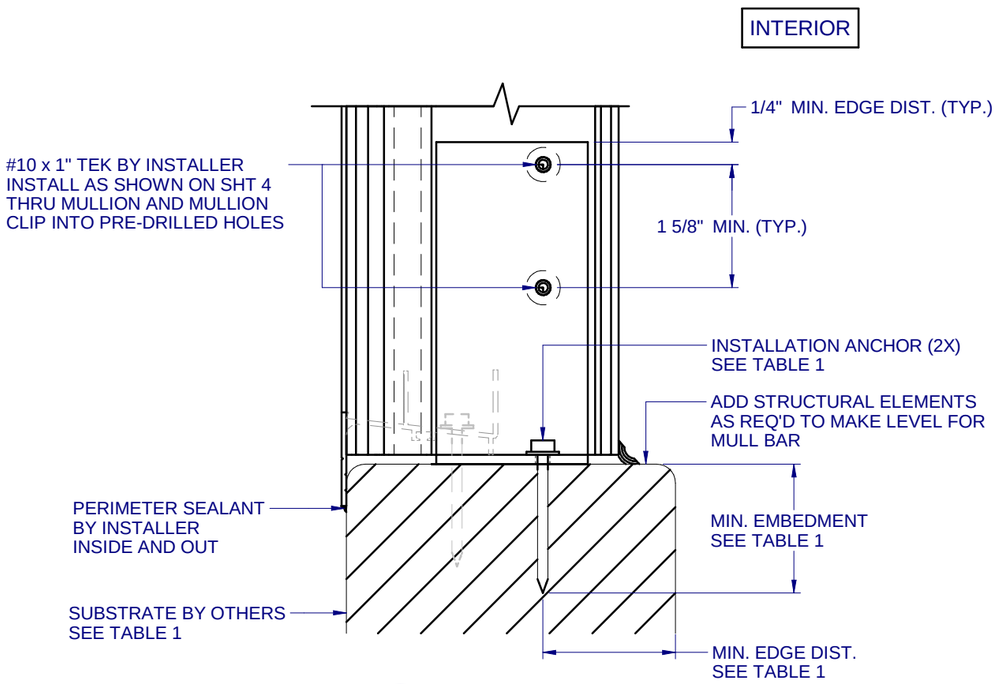
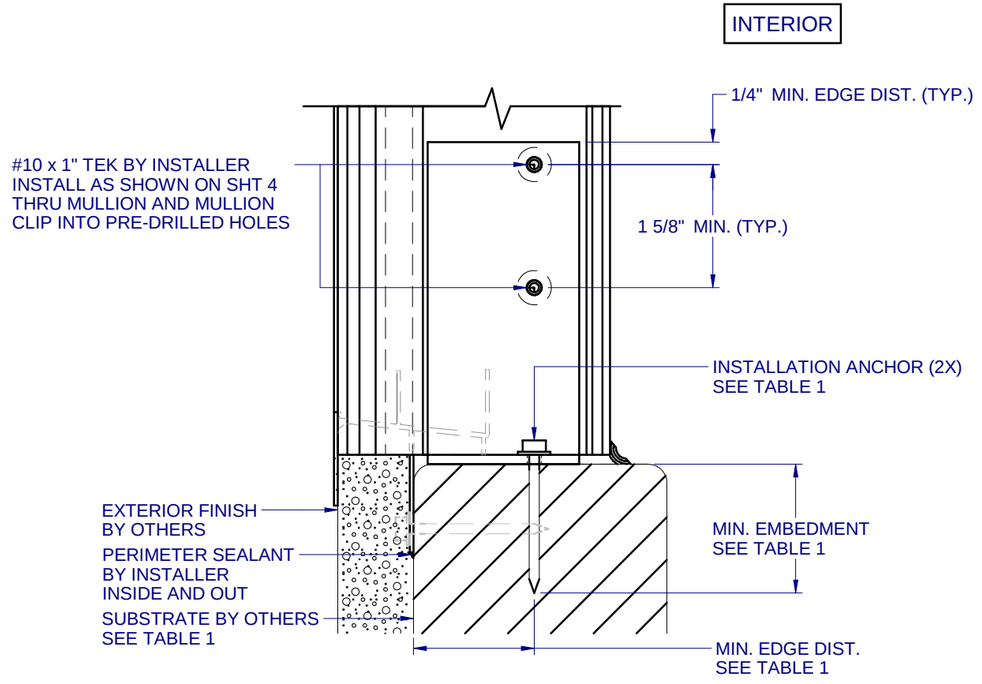
Camden, TN 38320
PH. 941-380-1574

SHEET DESCRIPTION:
CONFIGURATIONS AND ANCHORAGE NOTES

DRAWN BY:	DATE:
MCS	10/3/2023
DWG #:	REV.:
PEL-243	A
SCALE:	SHEET
1:10	5 OF 6



D/6 VERTICAL SECTION
TYPICAL FLANGE ANCHORAGE
HEAD AND JAMBS SIMILAR FOR FLANGE INSTALLATION



E/6 VERTICAL SECTION
TYPICAL FIN ANCHORAGE
HEAD AND JAMBS SIMILAR FOR FIN INSTALLATION

TABLE 1: APPROVED MULL CLIP INSTALLATION FASTENERS

SUBSTRATE TYPE	ANCHOR TYPE	MIN. EMBEDMENT	MIN. EDGE DIST.
CONCRETE (2.0 KSI MIN.)	3/16" ITW TAPCON	1"	3"
HOLLOW OR GROUT-FILLED CMU (117 PCF MIN.)	3/16" ITW TAPCON	1"	3"
CONCRETE (2.85 KSI MIN.)	3/16" DEWALT ULTRACON+	1-3/4"	1"
2X MIN. SOUTHERN PINE (G=0.55)	3/16" ITW TAPCON OR DEWALT ULTRACON+	1-3/8"	7/8"
2X MIN. SOUTHERN PINE (G=0.55)	#10 WOOD SCREW	1-3/8"	7/8"
16 GAUGE (0.060") MIN. STEEL STUD (33 KSI YIELD MIN)	#10-16 HILTI KWIK-FLEX OR ITW TEKS SELF-DRILLING SCREW	FULL THREAD THRU 0.060"	7/16"
1/8" ALUM. (6063-T5 MIN.) OR 1/8" STEEL (33 KSI MIN.)	#10 GRADE 5 SELF-TAPPING / DRILLING SCREW	FULL THREAD THRU 0.125"	7/16"

NOTES:

1. SILL STOOL MUST BE FLUSH AGAINST INSIDE OF MULLED WINDOWS AFTER INSTALLATION.
2. TWO (2) ANCHOR SCREWS REQUIRED PER MULLION CLIP FOR INSTALLATION.
3. FOR ANCHORAGE DETAILS FOR THE WINDOW, REFER TO THE WINDOW SPECIFIC INSTALLATION DETAILS.

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Camden, TN 38320
PH. 941-380-1574

SHEET DESCRIPTION:
INSTALLATION DETAILS

DRAWN BY:	DATE:
MCS	10/3/2023
DWG #: PEL-243	REV.: A
SCALE: 1:2	SHEET 6 OF 6