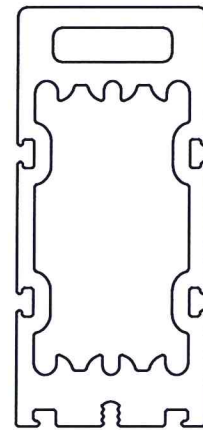




# 4175 Extruded Aluminum Horizontal & Vertical Clipped Structural Mullions



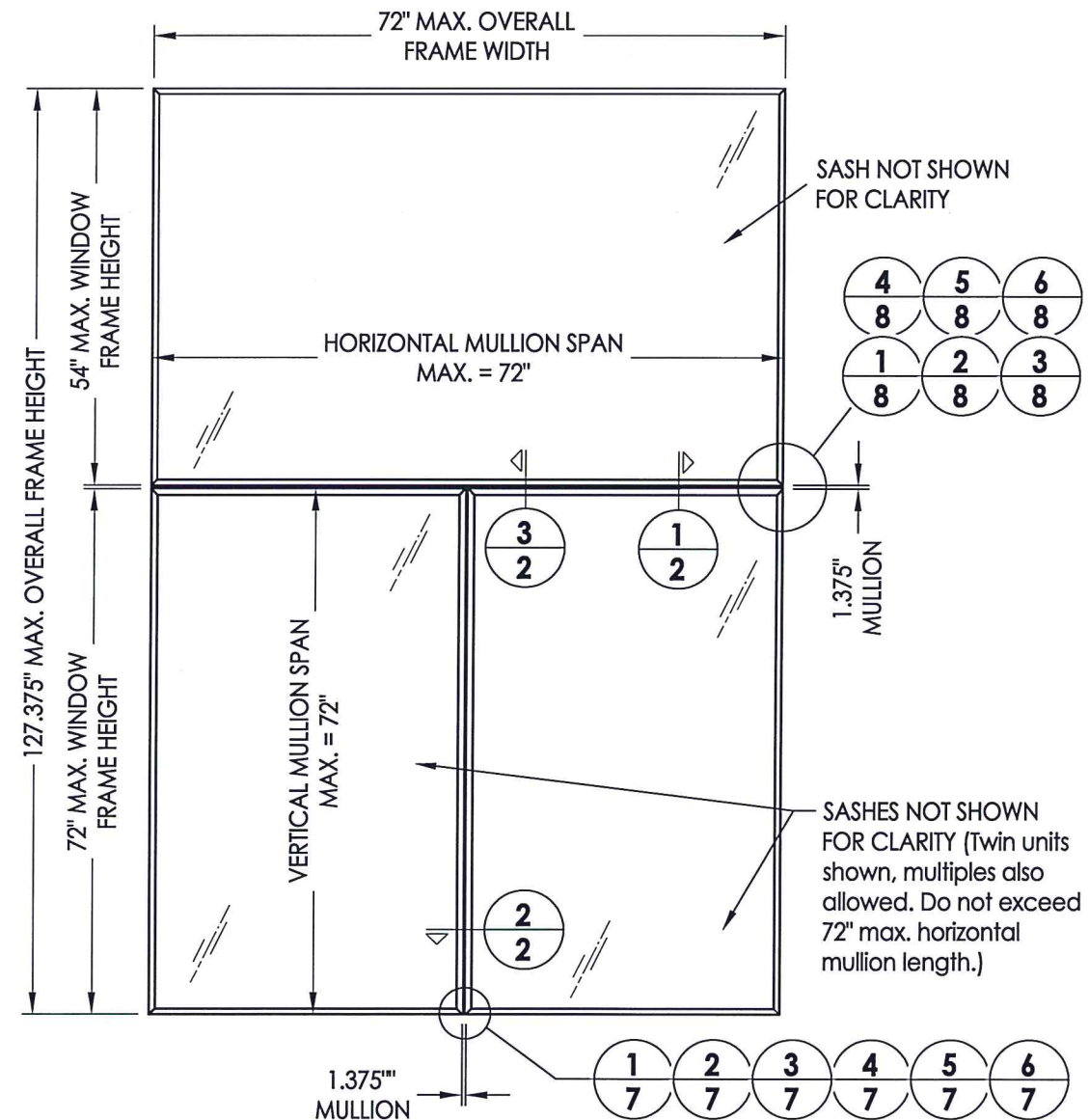
4175 Mullion

## GENERAL NOTES

1. This product has been evaluated and is in compliance with the 7th Edition (2020) Florida Building Code (FBC) structural requirements, including the "High Velocity Hurricane Zone".
2. When used in the "HVHZ", this product (if mulled together with "HVHZ" impact rated windows), complies with Section 1626 of the FBC and does not require an impact resistant covering.
3. Wood bucks by others, must be anchored properly to transfer loads to the structure and be reviewed by the Building Official.
4. Separate product approvals for each glazing product used with these mullions must be submitted along with this mullion product approval. The design pressure rating of the assembly shall be the lesser of the load capacity of the mullion as specified using this approval or the design pressure rating of the individual glazing products used.
5. Anchoring of each glazing product to the mullion shall be as shown in this drawing or as shown in each individual glazing product approval, whichever is more stringent.
6. Mullion anchor embedment to base material shall be beyond wall dressing or stucco.
7. For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
8. Any conditions not covered in this evaluation are subject to separate engineering evaluation.
9. Aluminum components, including fasteners, shall meet the requirements of FBC Section 2003.

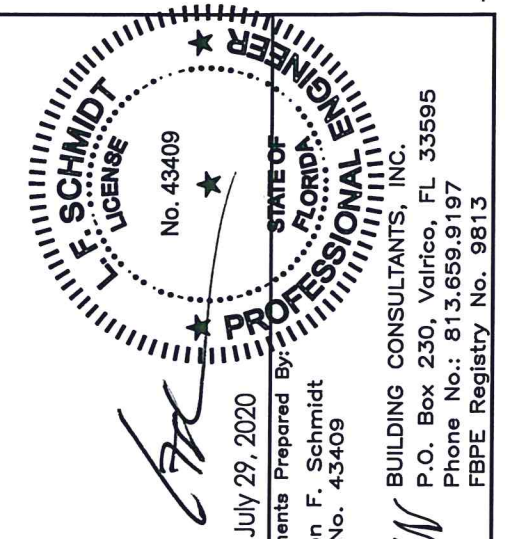
## TABLE OF CONTENTS

| SHEET # | DESCRIPTION                                    |
|---------|------------------------------------------------|
| 1       | Typical elevations & general notes             |
| 2       | Component details & cross sections             |
| 3       | Design pressure tables (concrete installation) |
| 4       | Design pressure tables (concrete installation) |
| 5       | Design pressure tables (wood installation)     |
| 6       | Design pressure tables (wood installation)     |
| 7       | Anchor bracket details (vertical mullion)      |
| 8       | Anchor bracket details (horizontal mullion)    |
| 9       | Buck anchoring                                 |



## MULLED TRANSOM OVER TWIN WINDOW UNITS

See Sheets 3, 4, 5 & 6 for Design Pressure Ratings

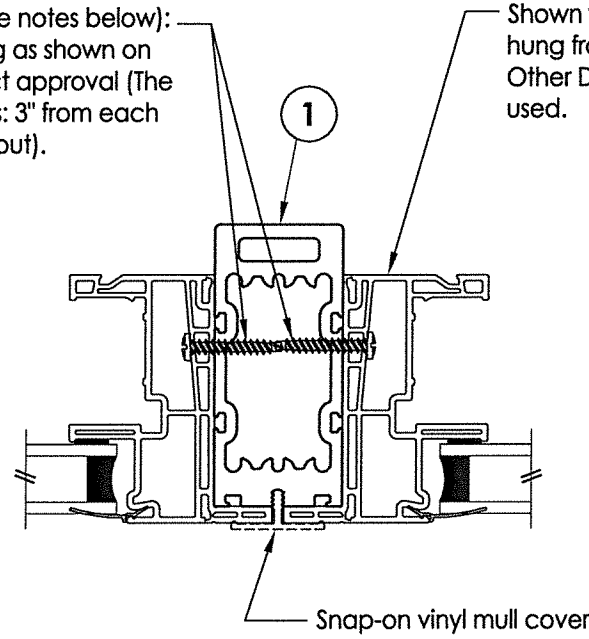


July 29, 2020  
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Lyndon F. Schmidt  
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P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.659.9197  
FBPE Registry No. 9813

|                                    |                 |
|------------------------------------|-----------------|
| PRODUCT:                           | CLIPPED MULLION |
| PART OR ASSEMBLY:                  | LFS JK BY       |
| TYPICAL ELEVATIONS & GENERAL NOTES |                 |
| REVISIONS                          |                 |
| DATE:                              | 12/3/15         |
| SCALE:                             | N.T.S.          |
| DWG. BY:                           | JK              |
| CHK. BY:                           | LFS             |
| DRAWING NO.:                       | FL-15417.8      |
| SHEET                              | 1 OF 9          |

R:\Clients\Doers PERMANENTVA - Florida Product Approvals\FL-15417 Windows - Mullions\C - Drawings\FL 15417 (2020) R7\FL-15417.7-9.dwg, 2-5

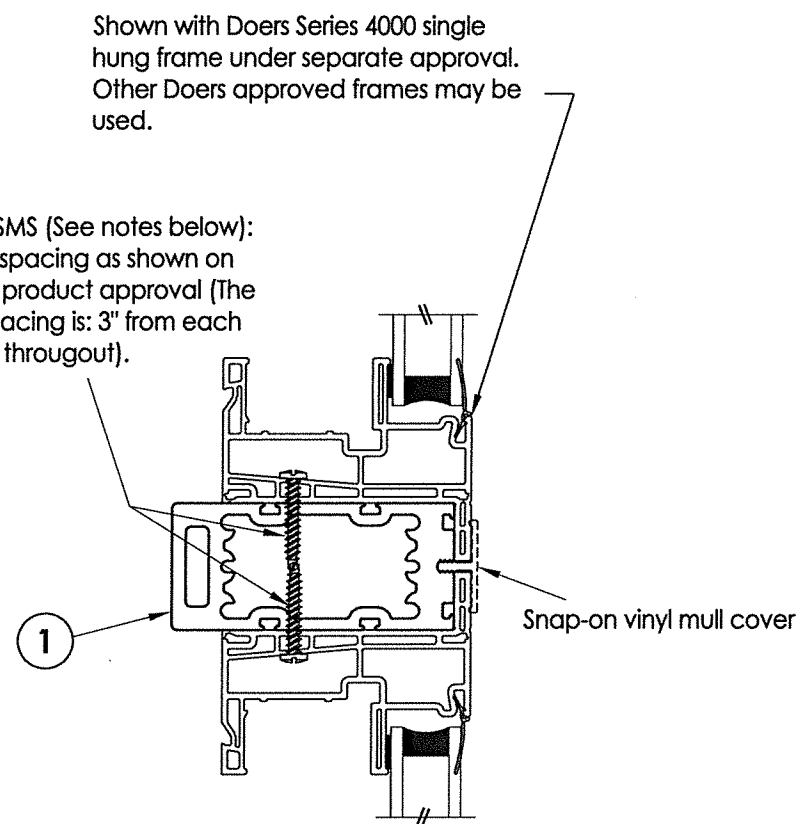
#8 X 1" PH Self-Drilling SMS (See notes below):  
Use the frame anchor spacing as shown on  
the individual window product approval (The  
min. required screw spacing is: 3" from each  
end and 24" max. o.c. throughout).



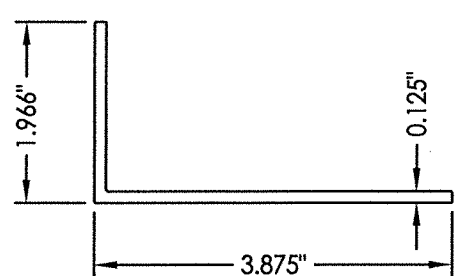
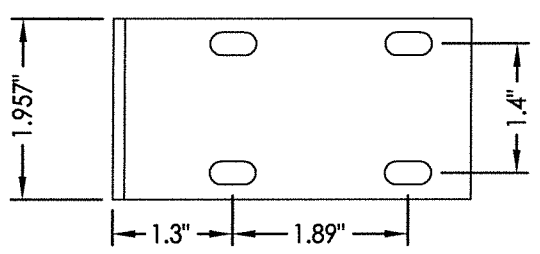
**1** **VERTICAL CROSS SECTION**  
**2** 4175 Mullion to Window Connection

Shown with Doers Series 4000 single  
hung frame under separate approval.  
Other Doers approved frames may be  
used.

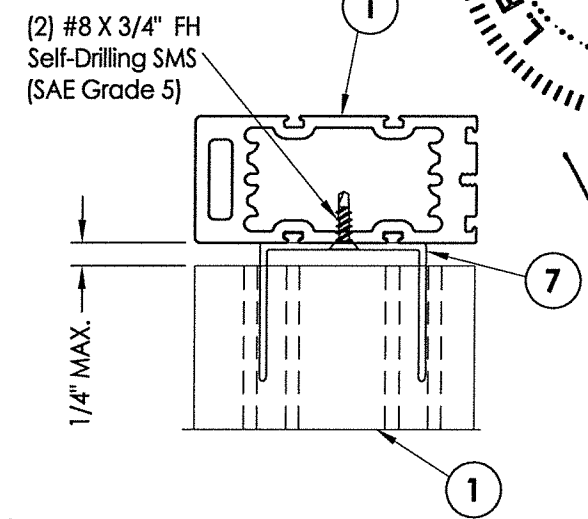
#8 X 1" PH Self-Drilling SMS (See notes below):  
Use the frame anchor spacing as shown on  
the individual window product approval (The  
min. required screw spacing is: 3" from each  
end and 24" max. o.c. throughout).



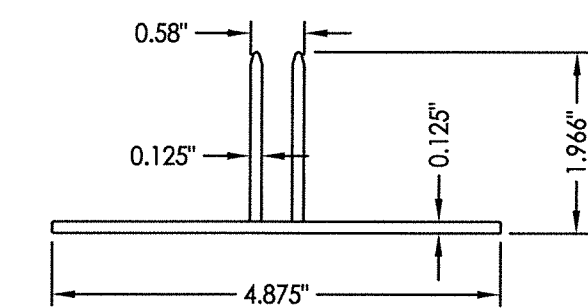
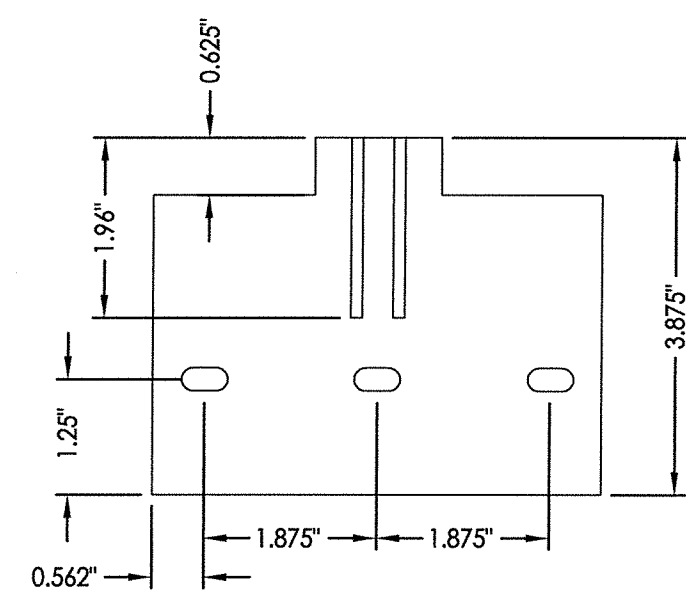
**2** **HORIZONTAL CROSS SECTION**  
**2** 4175 Mullion to Window Connection



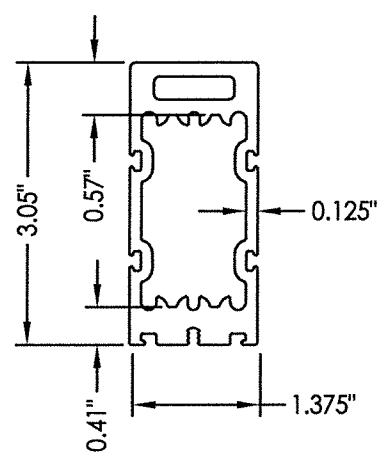
**6** **MULLION ANCHOR BRACKET (3418)**  
6063-T6 ALUM



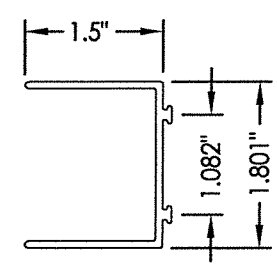
**3** **VERTICAL CROSS SECTION**  
**2** 4175 Mullion-to-mullion connection detail



**5** **MULLION ANCHOR BRACKET (3419)**  
6063-T6 ALUM



**1** **MULLION (4175)**  
6063-T6 ALUM

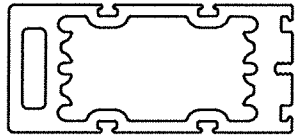


**7** **MULLION-TO-MULLION CLIP (3314)**  
6063-T6 ALUM (1.105" wide)

- Notes:
1. Refer to individual window product approval for fabrication and installation requirements, including glazing details, frame reinforcement and anchoring specifications.
  2. Sheet metal screws (self-drilling) shall have a minimum of 3 threads protrude completely through the mullion frame. Maintain a min. 1/2" edge distance.

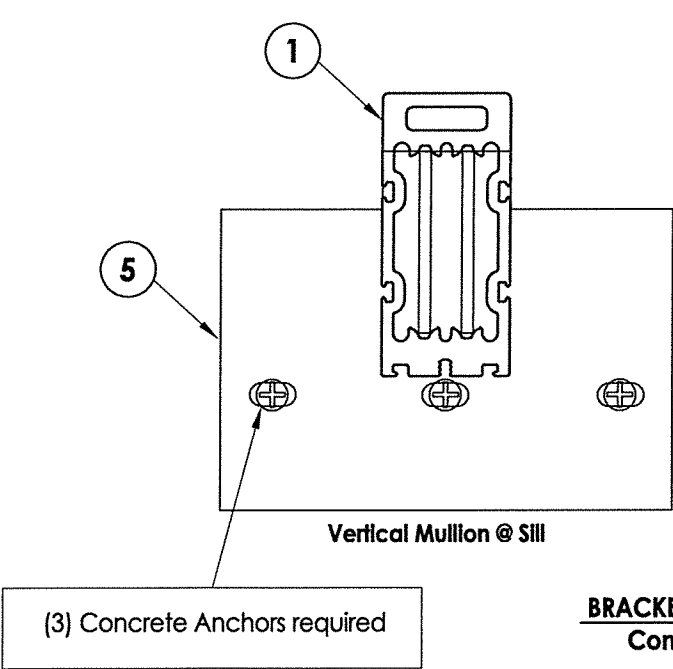
**FLORIDA PROFESSIONAL ENGINEER**  
F. SCHMIDT  
LICENSE No. 43409  
July 29, 2020  
Documents Prepared By: Lyndon F. Schmidt  
P.E. No. 43409  
R.W. BUILDING CONSULTANTS, INC.  
P.O. Box 230, Valrico, FL 33595  
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FBPE Registry No. 9813

|                         |         |                                    |     |
|-------------------------|---------|------------------------------------|-----|
| PRODUCT:                |         | CLIPPED MULLION                    |     |
| PART OR ASSEMBLY:       |         | COMPONENT DETAILS & CROSS SECTIONS |     |
| DATE                    |         | REVISIONS                          |     |
| 2                       | 7/29/20 | UPDATE TO 7TH ED. (2020)           | FBC |
| 1                       | 9/26/17 | UPDATE TO 6TH ED. (2017)           | FBC |
| NO.                     | DATE    |                                    |     |
| DATE: 12/3/15           |         |                                    |     |
| SCALE: N.T.S.           |         |                                    |     |
| DWG. BY: JK             |         |                                    |     |
| CHK. BY: LFS            |         |                                    |     |
| DRAWING NO.: FL-15417.8 |         |                                    |     |
| SHEET 2 OF 9            |         |                                    |     |



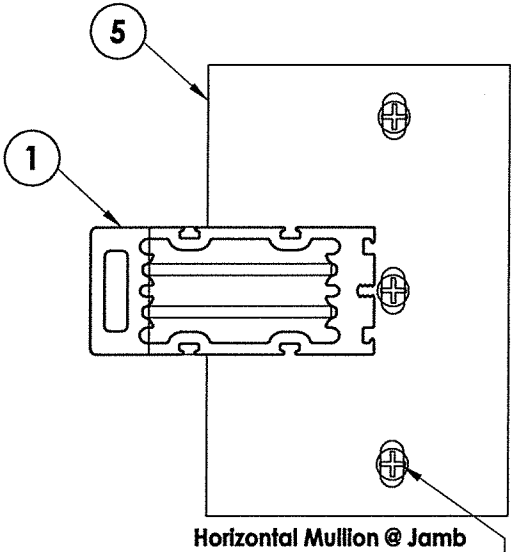
4175 MULLION

| 4175 MULLION                    |     | DESIGN PRESSURE (PSF)     |     |     |     |     |      |      |          |
|---------------------------------|-----|---------------------------|-----|-----|-----|-----|------|------|----------|
|                                 |     | MAX. OVERALL FRAME HEIGHT |     |     |     |     |      |      |          |
|                                 |     | 48"                       | 62" | 74" | 86" | 98" | 110" | 122" | 127.375" |
| MAX. HORIZONTAL<br>MULLION SPAN | 72" | 53                        | 41  | 34  | 29  | 26  | 23   | 21   | 20       |
|                                 | 69" | 55                        | 43  | 36  | 31  | 27  | 24   | 22   | 21       |
|                                 | 66" | 58                        | 45  | 37  | 32  | 28  | 25   | 23   | 22       |
|                                 | 63" | 61                        | 47  | 39  | 34  | 30  | 26   | 24   | 23       |
|                                 | 60" | 64                        | 49  | 41  | 35  | 31  | 28   | 25   | 24       |
|                                 | 54" | 71                        | 55  | 46  | 39  | 34  | 31   | 28   | 26       |
|                                 | 48" | 80                        | 62  | 52  | 44  | 39  | 34   | 31   | 30       |



Vertical Mullion @ Sill

BRACKET (3419) TO MULLION DETAILS  
Concrete Anchor Installation

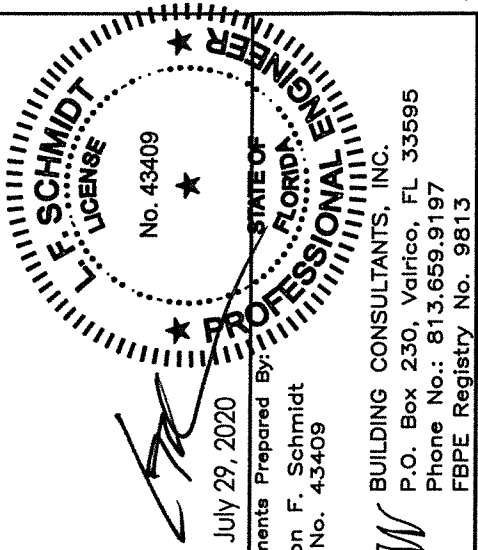


Horizontal Mullion @ Jamb

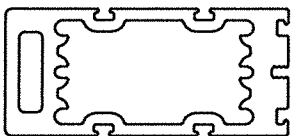
(3) Concrete Anchors required

Notes:

1. Design pressure tables are applicable only for the anchor bracket and anchors specified on this sheet. Refer to Sheets 7 & 8 for cross section details.

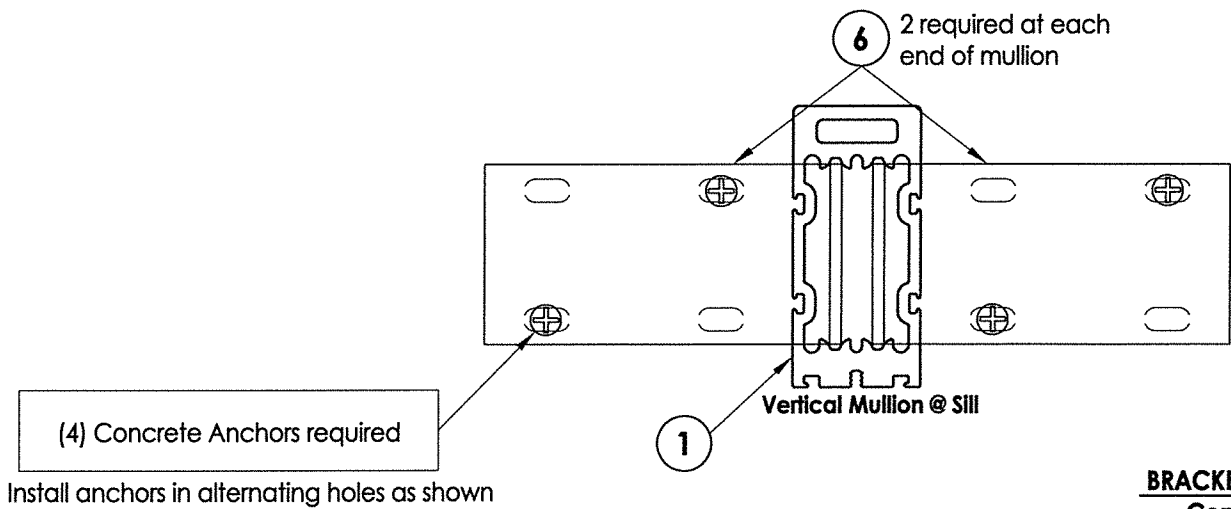


|                   |            |                                                   |        |
|-------------------|------------|---------------------------------------------------|--------|
| PRODUCT:          |            | CLIPPED MULLION                                   |        |
| PART OR ASSEMBLY: |            | DESIGN PRESSURE TABLES<br>(CONCRETE INSTALLATION) |        |
| DATE:             | 12/3/15    | SCALE:                                            | N.T.S. |
| DWG. BY:          | JK         | CHK. BY:                                          | LFS    |
| DRAWING NO.:      | FL-15417.8 | SHEET                                             | 3 OF 9 |
| REVISIONS         |            |                                                   |        |
| NO.               | DATE       | DESCRIPTION                                       | BY     |
| 2                 | 7/29/20    | UPDATE TO 7TH ED (2020) FBC                       | LFS    |
| 1                 | 9/26/17    | UPDATE TO 6TH ED. (2017) FBC                      | JK     |

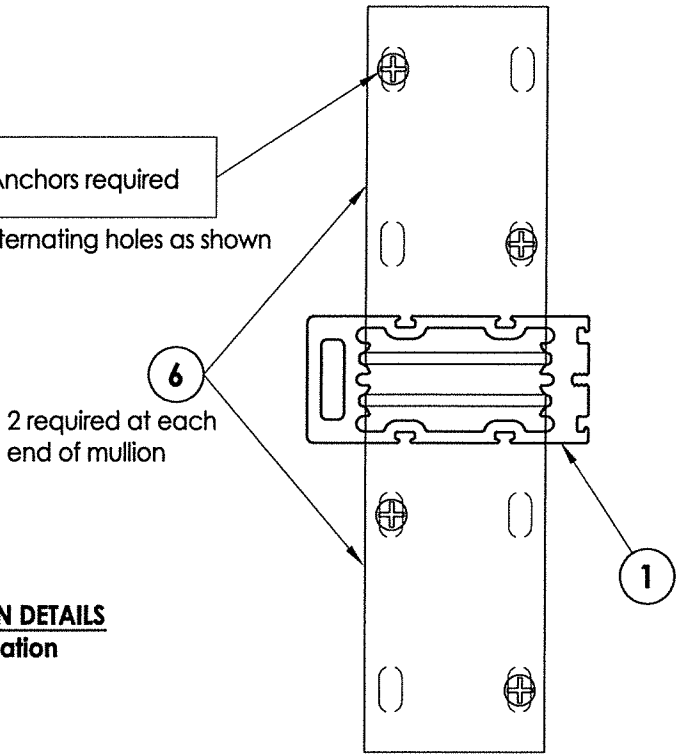


4175 MULLION

| 4175 MULLION                    |     | DESIGN PRESSURE (PSF)     |     |     |     |     |      |      |          |
|---------------------------------|-----|---------------------------|-----|-----|-----|-----|------|------|----------|
|                                 |     | MAX. OVERALL FRAME HEIGHT |     |     |     |     |      |      |          |
|                                 |     | 48"                       | 62" | 74" | 86" | 98" | 110" | 122" | 127.375" |
| MAX. HORIZONTAL<br>MULLION SPAN | 72" | 80                        | 66  | 55  | 47  | 41  | 37   | 33   | 32       |
|                                 | 69" | 80                        | 69  | 57  | 49  | 43  | 39   | 35   | 33       |
|                                 | 66" | 80                        | 72  | 60  | 52  | 45  | 40   | 36   | 35       |
|                                 | 63" | 80                        | 75  | 63  | 54  | 47  | 42   | 38   | 36       |
|                                 | 60" | 80                        | 79  | 66  | 57  | 50  | 44   | 40   | 38       |
|                                 | 54" | 80                        | 80  | 73  | 63  | 55  | 49   | 44   | 42       |
|                                 | 48" | 80                        | 80  | 80  | 71  | 62  | 55   | 50   | 48       |



(4) Concrete Anchors required  
Install anchors in alternating holes as shown

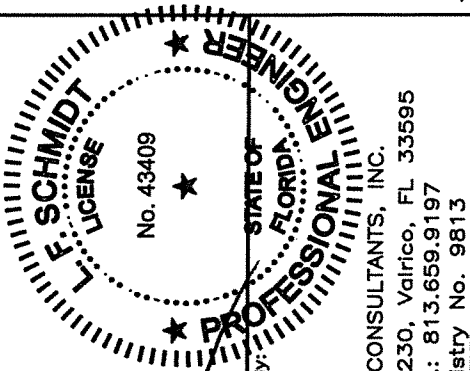


Horizontal Mullion @ Jamb

BRACKET (3418) TO MULLION DETAILS  
Concrete Anchor Installation

Notes:

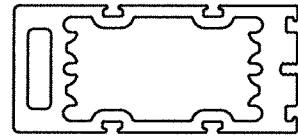
1. Design pressure tables are applicable only for the anchor bracket and anchors specified on this sheet. Refer to Sheets 7 & 8 for cross section details.



July 29, 2020  
Documents Prepared By:  
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FBPE Registry No. 9813

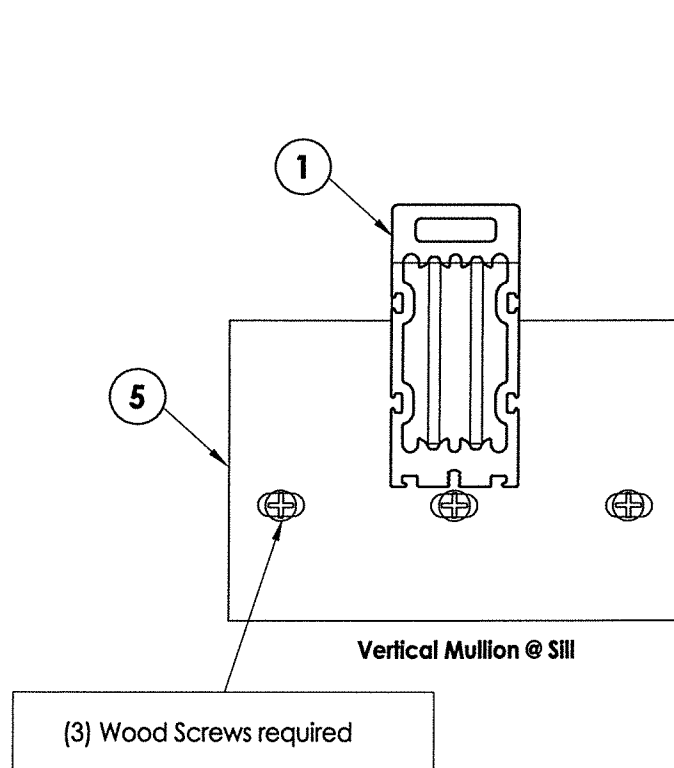
| PRODUCT:                |     | CLIPPED MULLION                                   |                              |
|-------------------------|-----|---------------------------------------------------|------------------------------|
| PART OR ASSEMBLY:       |     | DESIGN PRESSURE TABLES<br>(CONCRETE INSTALLATION) |                              |
| DATE                    | NO. | BY                                                | REVISIONS                    |
| 7/29/20                 | 2   | LFS                                               | UPDATE TO 7TH ED (2020) FBC  |
| 9/26/17                 | 1   | JK                                                | UPDATE TO 6TH ED. (2017) FBC |
| DATE                    | NO. | BY                                                | REVISIONS                    |
| DATE: 12/3/15           |     |                                                   |                              |
| SCALE: N.T.S.           |     |                                                   |                              |
| DWG. BY: JK             |     |                                                   |                              |
| CHK. BY: LFS            |     |                                                   |                              |
| DRAWING NO.: FL-15417.8 |     |                                                   |                              |
| SHEET 4 OF 9            |     |                                                   |                              |

R:\Clients\Doers PERMANENTVA - Florida Product Approvals\FL-15417 Windows - Mullions\C - Drawings\FL 15417 (2020) R7\FL-15417.7-9.dwg, 5-5

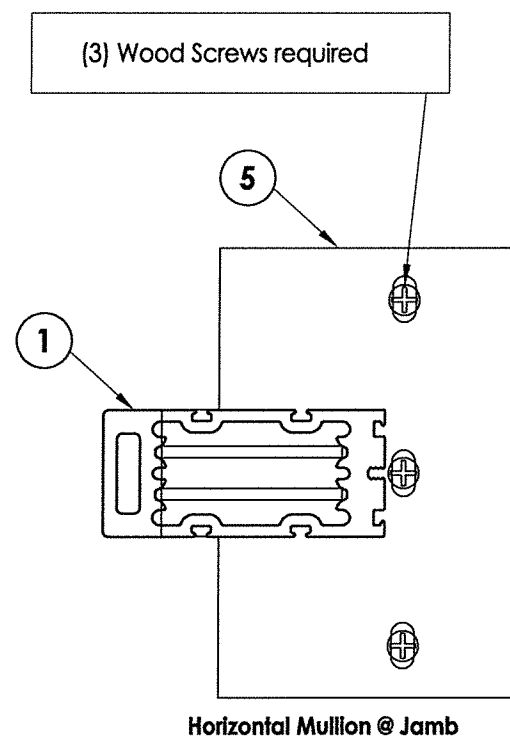


4175 MULLION

| 4175 MULLION                    |     | DESIGN PRESSURE (PSF)     |     |     |     |     |      |      |          |
|---------------------------------|-----|---------------------------|-----|-----|-----|-----|------|------|----------|
|                                 |     | MAX. OVERALL FRAME HEIGHT |     |     |     |     |      |      |          |
|                                 |     | 48"                       | 62" | 74" | 86" | 98" | 110" | 122" | 127.375" |
| MAX. HORIZONTAL<br>MULLION SPAN | 72" | 80                        | 66  | 55  | 47  | 41  | 37   | 33   | 32       |
|                                 | 69" | 80                        | 69  | 57  | 49  | 43  | 39   | 35   | 33       |
|                                 | 66" | 80                        | 72  | 60  | 52  | 45  | 40   | 36   | 35       |
|                                 | 63" | 80                        | 75  | 63  | 54  | 47  | 42   | 38   | 36       |
|                                 | 60" | 80                        | 79  | 66  | 57  | 50  | 44   | 40   | 38       |
|                                 | 54" | 80                        | 80  | 73  | 63  | 55  | 49   | 44   | 42       |
|                                 | 48" | 80                        | 80  | 80  | 71  | 62  | 55   | 50   | 48       |



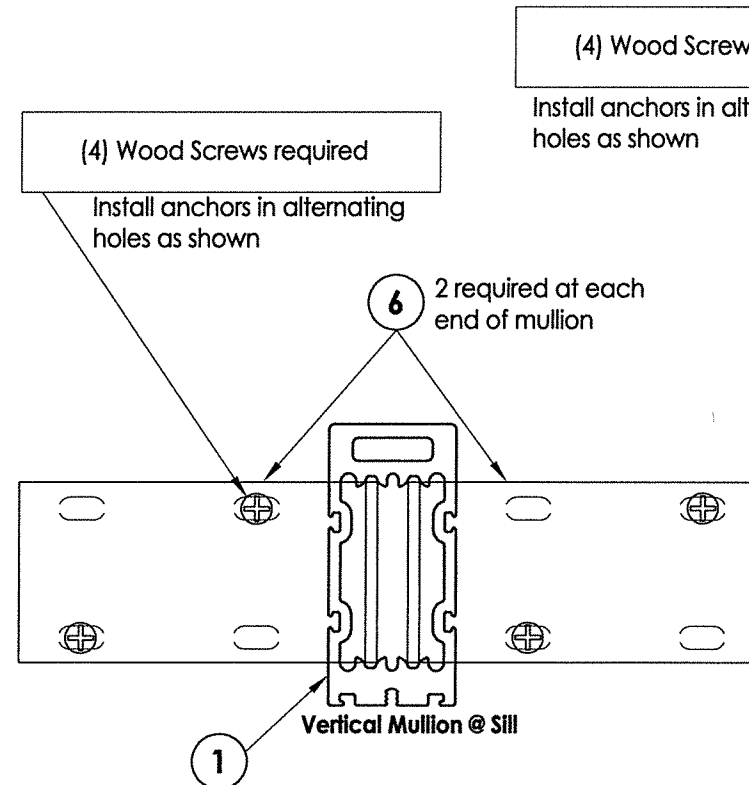
Vertical Mullion @ Sill



Horizontal Mullion @ Jamb

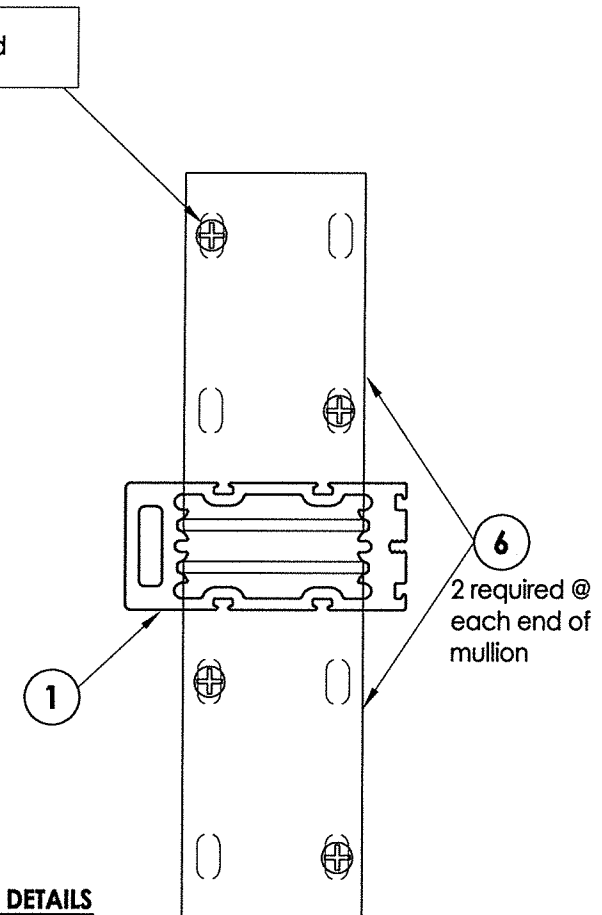
**BRACKET (3419) TO MULLION DETAILS**  
**Wood Anchor Installation**

- Notes:
- Design pressure tables are applicable only for the anchor bracket and anchors specified on this sheet. Refer to Sheets 7 & 8 for cross section details.

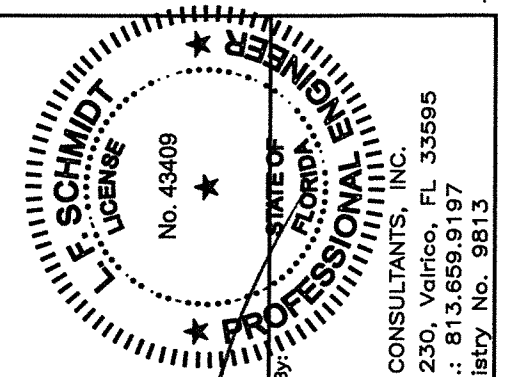


Vertical Mullion @ Sill

**BRACKET (3418) TO MULLION DETAILS**  
**Wood Anchor Installation**



Horizontal Mullion @ Jamb

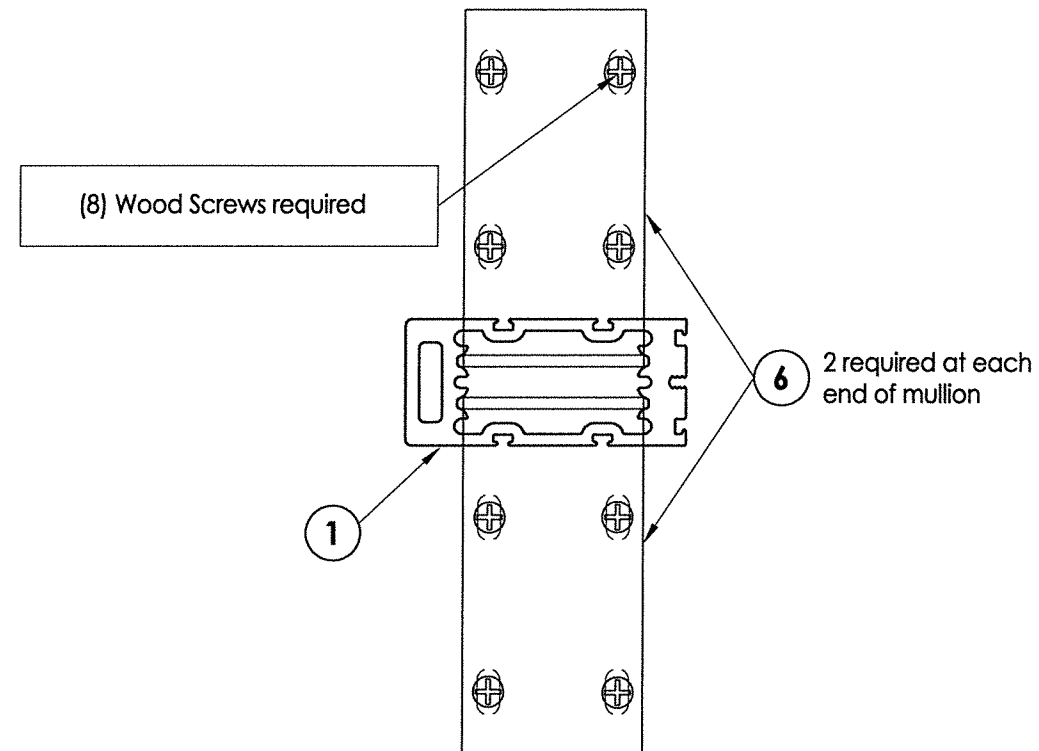
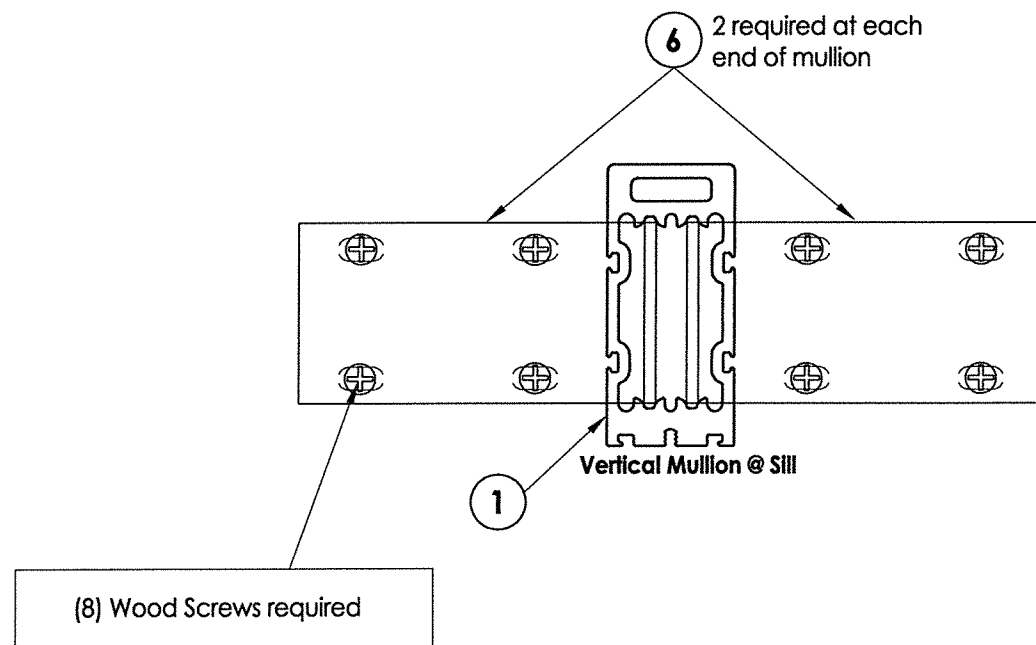


July 29, 2020  
Documents Prepared By:  
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P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.659.9197  
FBPE Registry No. 9813

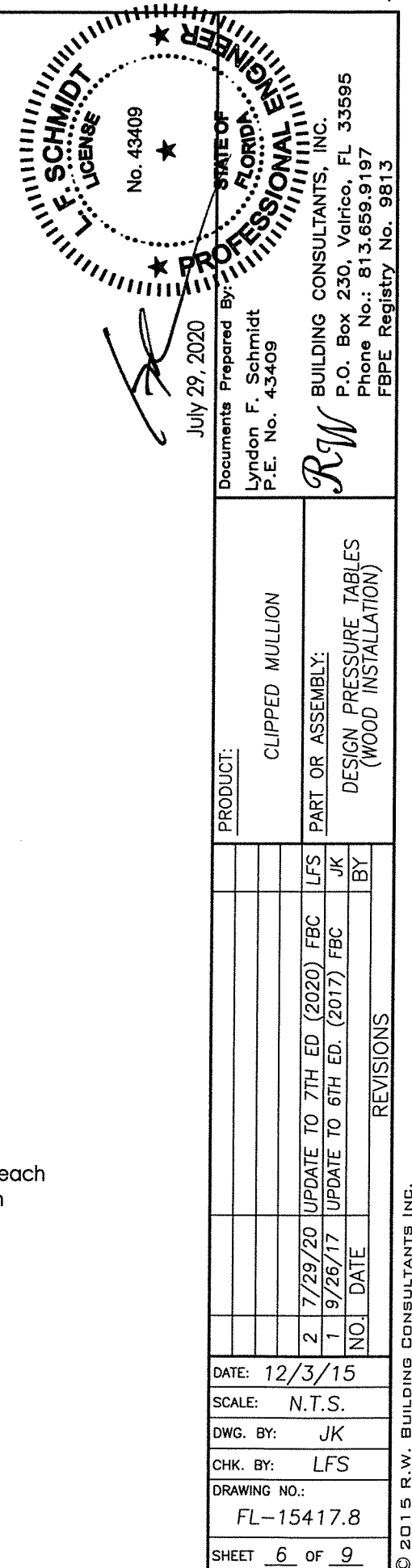
| PRODUCT:                |         | PART OR ASSEMBLY:                             |    |
|-------------------------|---------|-----------------------------------------------|----|
| CLIPPED MULLION         |         | DESIGN PRESSURE TABLES<br>(WOOD INSTALLATION) |    |
|                         |         | LFS                                           | JK |
|                         |         | BY                                            |    |
| REVISIONS               |         |                                               |    |
| 2                       | 7/29/20 | UPDATE TO 7TH ED (2020) FBC                   |    |
| 1                       | 9/26/17 | UPDATE TO 6TH ED. (2017) FBC                  |    |
|                         | NO.     | DATE                                          |    |
| DATE: 12/3/15           |         |                                               |    |
| SCALE: N.T.S.           |         |                                               |    |
| DWG. BY: JK             |         |                                               |    |
| CHK. BY: LFS            |         |                                               |    |
| DRAWING NO.: FL-15417.8 |         |                                               |    |
| SHEET 5 OF 9            |         |                                               |    |

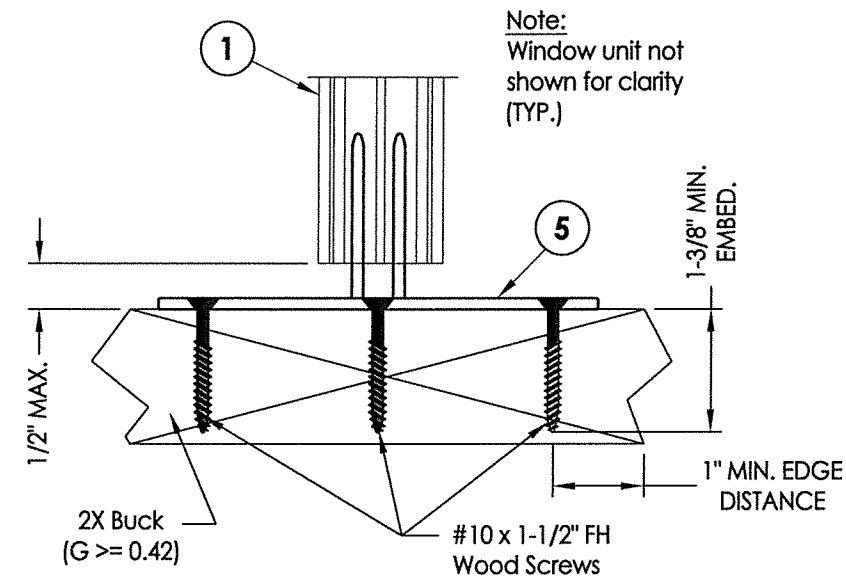
| 4175 MULLION                    |     | DESIGN PRESSURE (PSF)     |     |     |     |     |      |      |          |
|---------------------------------|-----|---------------------------|-----|-----|-----|-----|------|------|----------|
|                                 |     | MAX. OVERALL FRAME HEIGHT |     |     |     |     |      |      |          |
|                                 |     | 48"                       | 62" | 74" | 86" | 98" | 110" | 122" | 127.375' |
| MAX. HORIZONTAL<br>MULLION SPAN | 72" | 80                        | 69  | 58  | 50  | 43  | 38   | 35   | 34       |
|                                 | 69" | 80                        | 79  | 66  | 56  | 49  | 44   | 39   | 39       |
|                                 | 66" | 80                        | 80  | 75  | 64  | 56  | 50   | 45   | 45       |
|                                 | 63" | 80                        | 80  | 80  | 74  | 65  | 58   | 52   | 52       |
|                                 | 60" | 80                        | 80  | 80  | 80  | 75  | 67   | 60   | 60       |
|                                 | 54" | 80                        | 80  | 80  | 80  | 80  | 80   | 80   | 80       |
|                                 | 48" | 80                        | 80  | 80  | 80  | 80  | 80   | 80   | 80       |



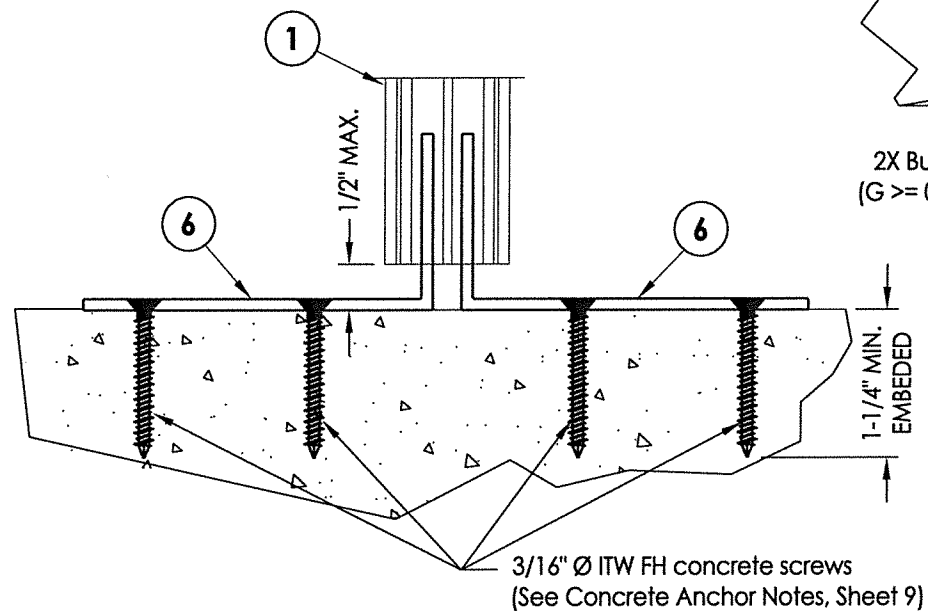
1. Design pressure tables are applicable only for the anchor bracket and anchors specified on this sheet. Refer to Sheets 7 & 8 for cross section details.

### Horizontal Mullion @ Jamb

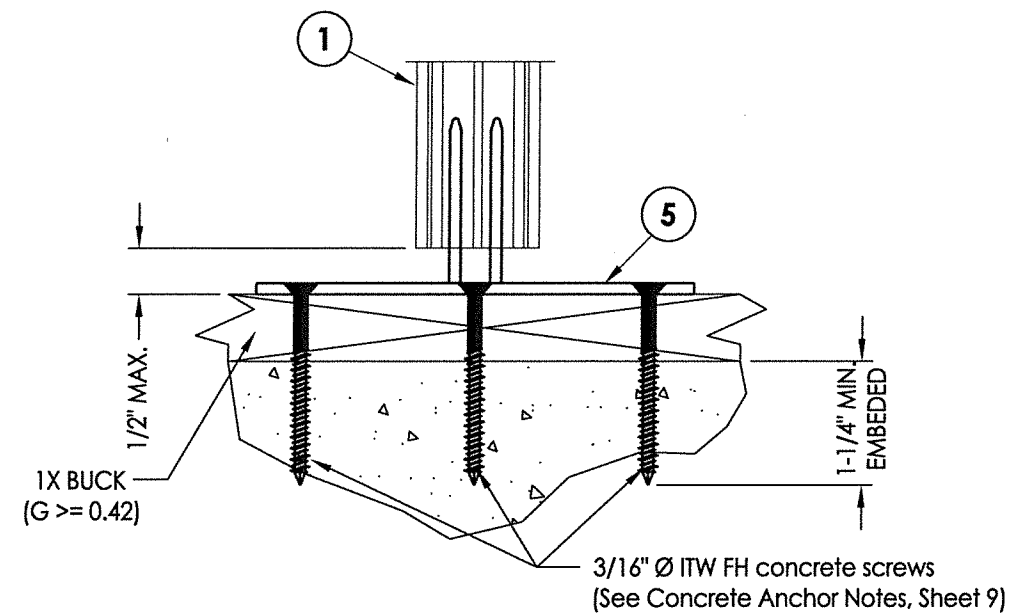




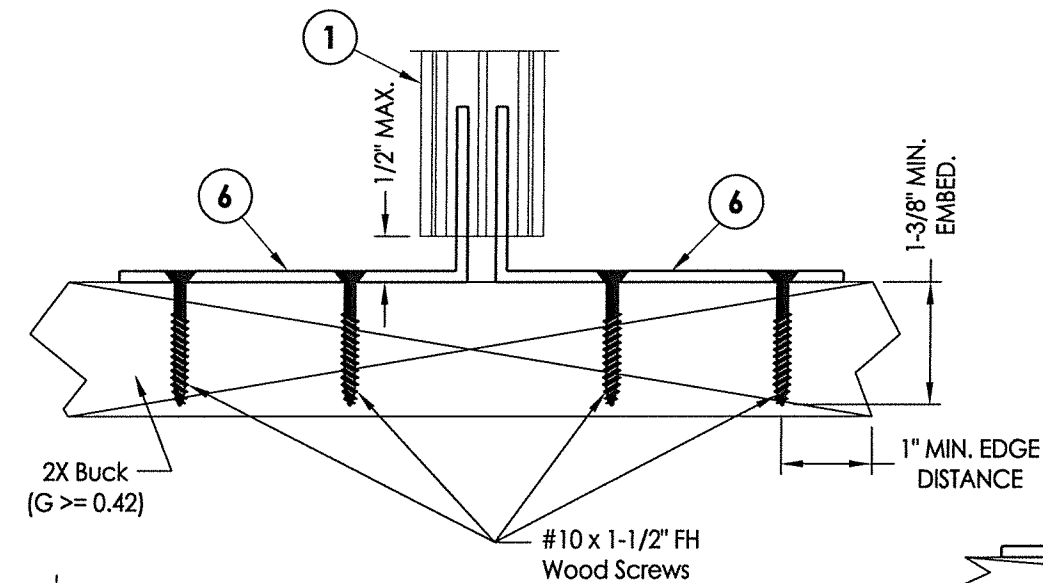
## 1 WOOD ANCHOR BRACKET DETAIL



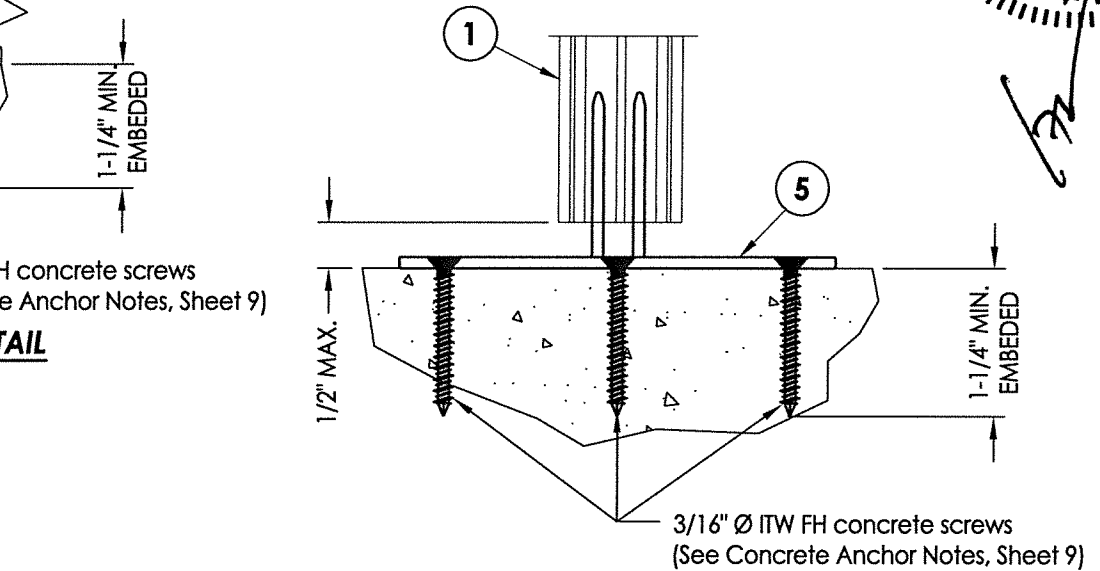
**4** **CONCRETE ANCHOR BRACKET DETAIL**  
**7** Anchor Direct to Masonry



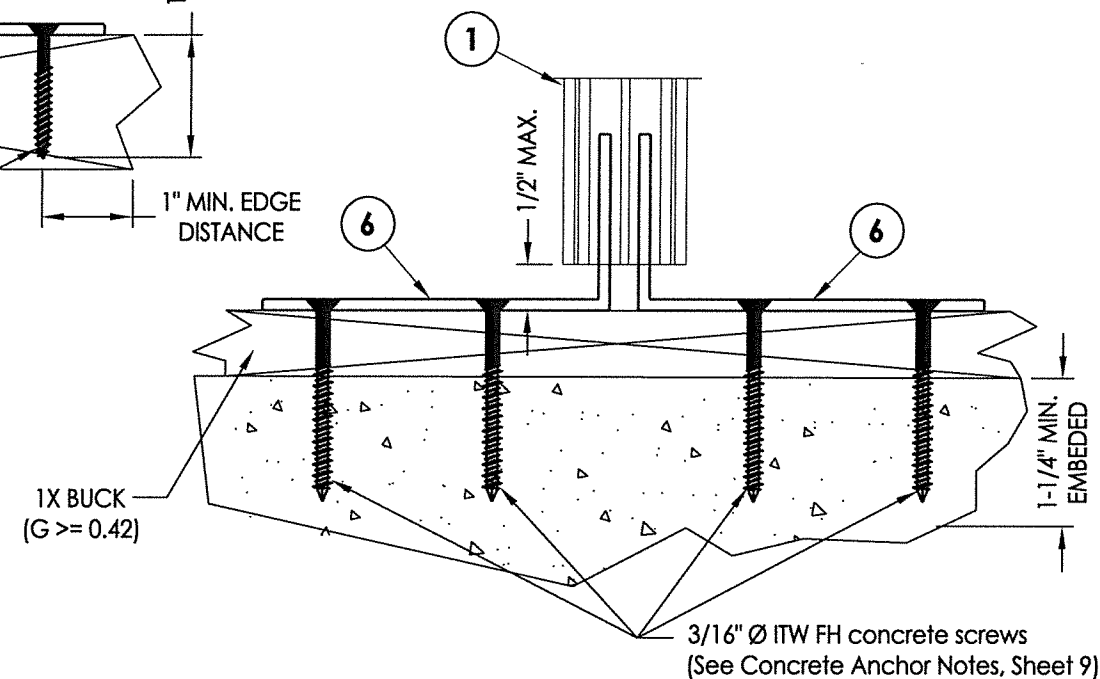
**2** **CONCRETE ANCHOR BRACKET DETAIL**  
**7** Anchor to Masonry thru 1x Buck



**5 WOOD ANCHOR BRACKET DETAIL**  
**7** Anchor to 2x Buck

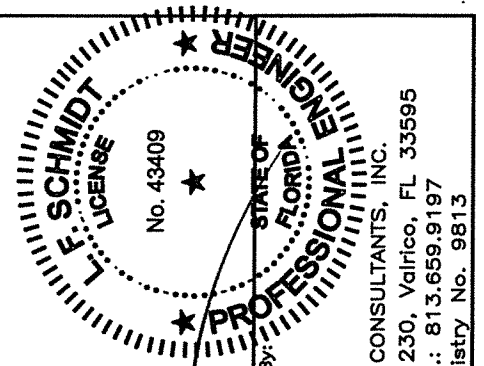


### 3 CONCRETE ANCHOR BRACKET DETAIL



## 6 CONCRETE ANCHOR BRACKET DETAIL

### 7 Anchor to Masonry thru 1x Buck



July 29, 2020

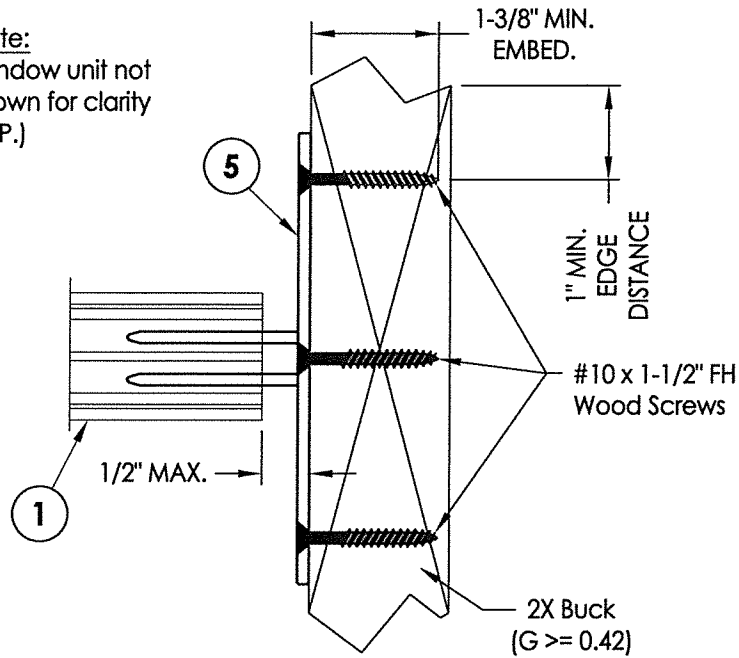
Documents Prepared By  
Lyndon F. Schmidt  
P.E. No. 43409

**BUILDING CONSULTANTS, INC.**  
P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.659.9197  
FBPE Registry No. 9813

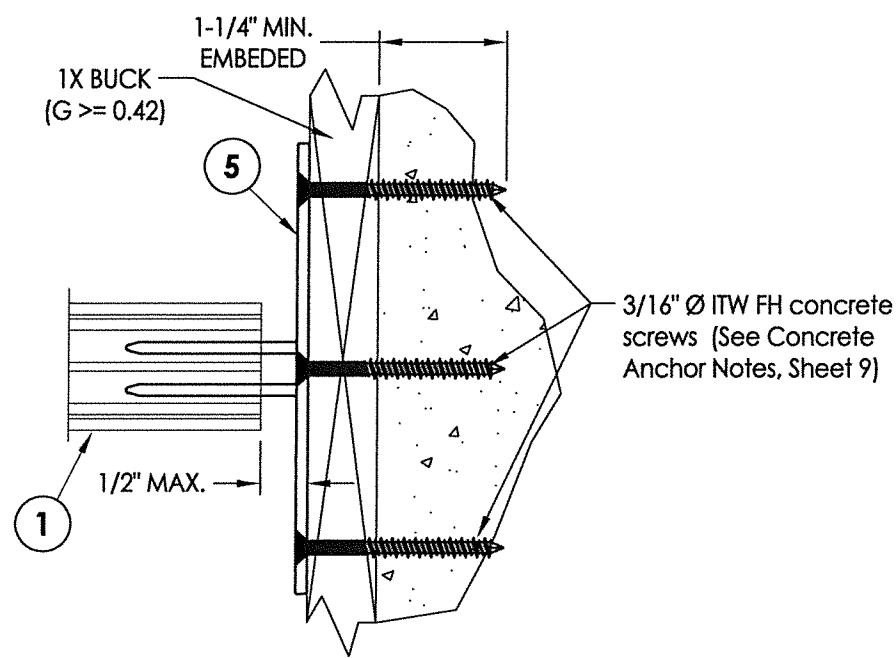
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R:\Clients\Doers PERMANENTVA - Florida Product Approvals\FL-15417 Windows - Mullions\C - Drawings\FL 15417 (2020) R\FL-15417-9.dwg, 8-5

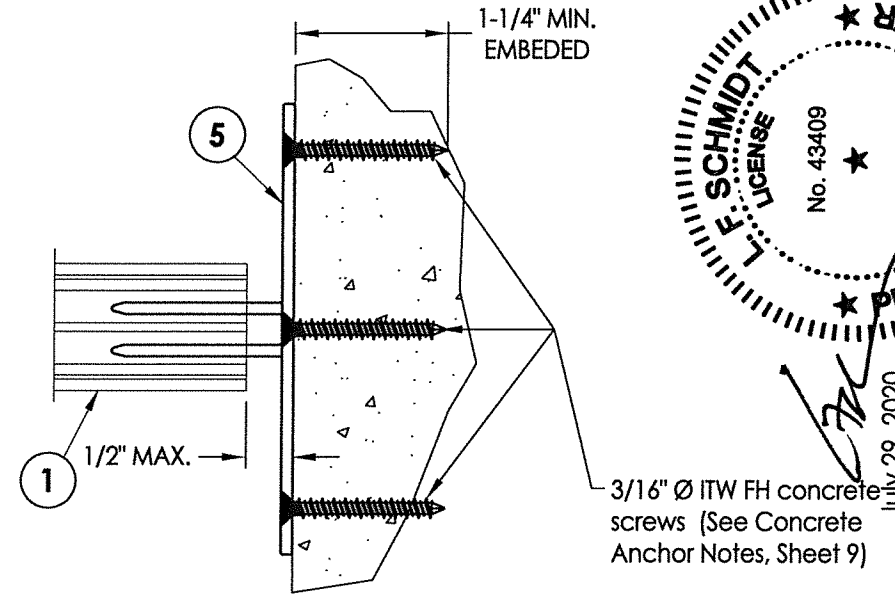
Note:  
Window unit not  
shown for clarity  
(TYP.)



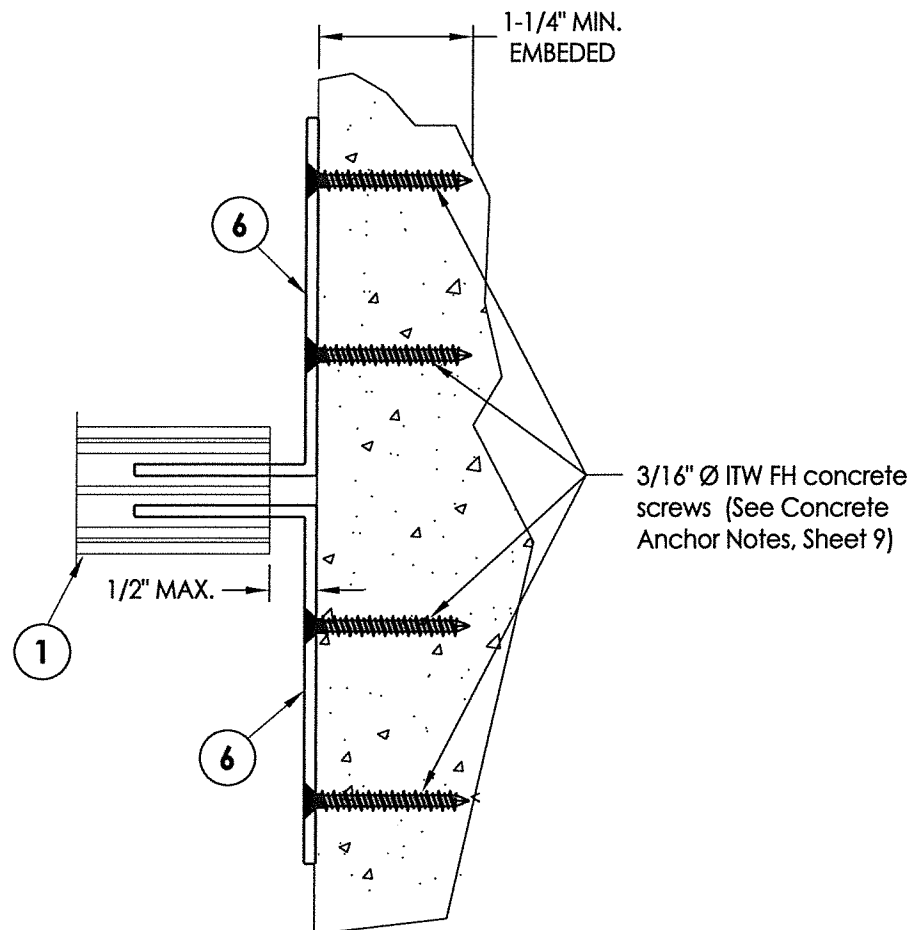
**1**  
**8** **WOOD ANCHOR BRACKET DETAIL**  
Anchor to 2x Buck



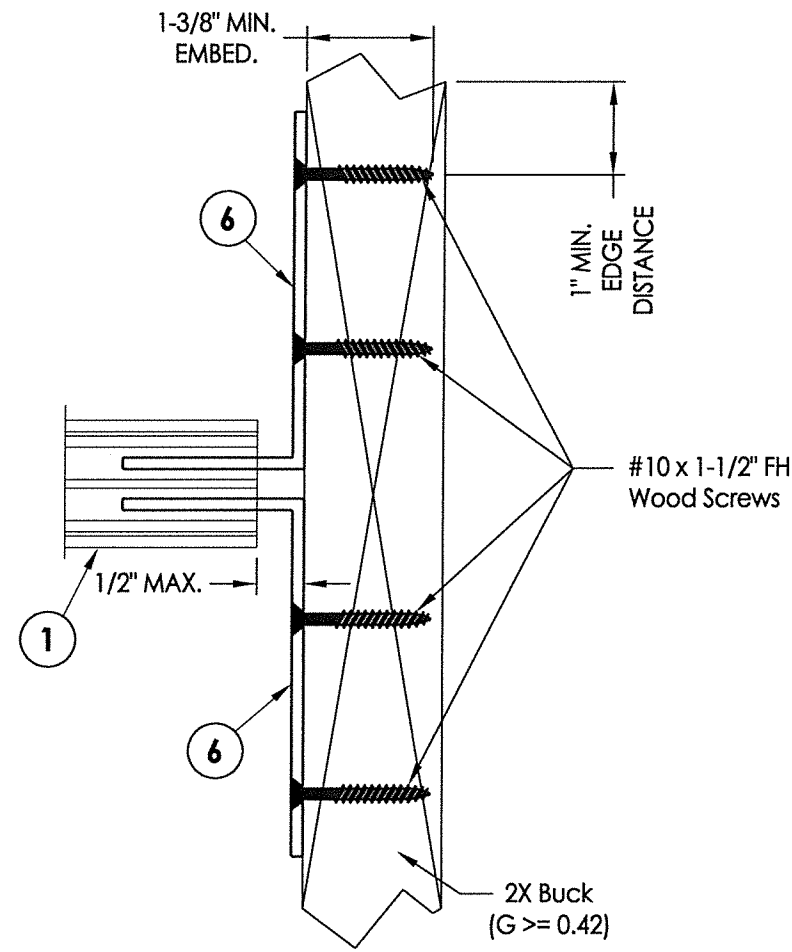
**2**  
**8** **CONCRETE ANCHOR BRACKET DETAIL**  
Anchor to Masonry thru 1x Buck



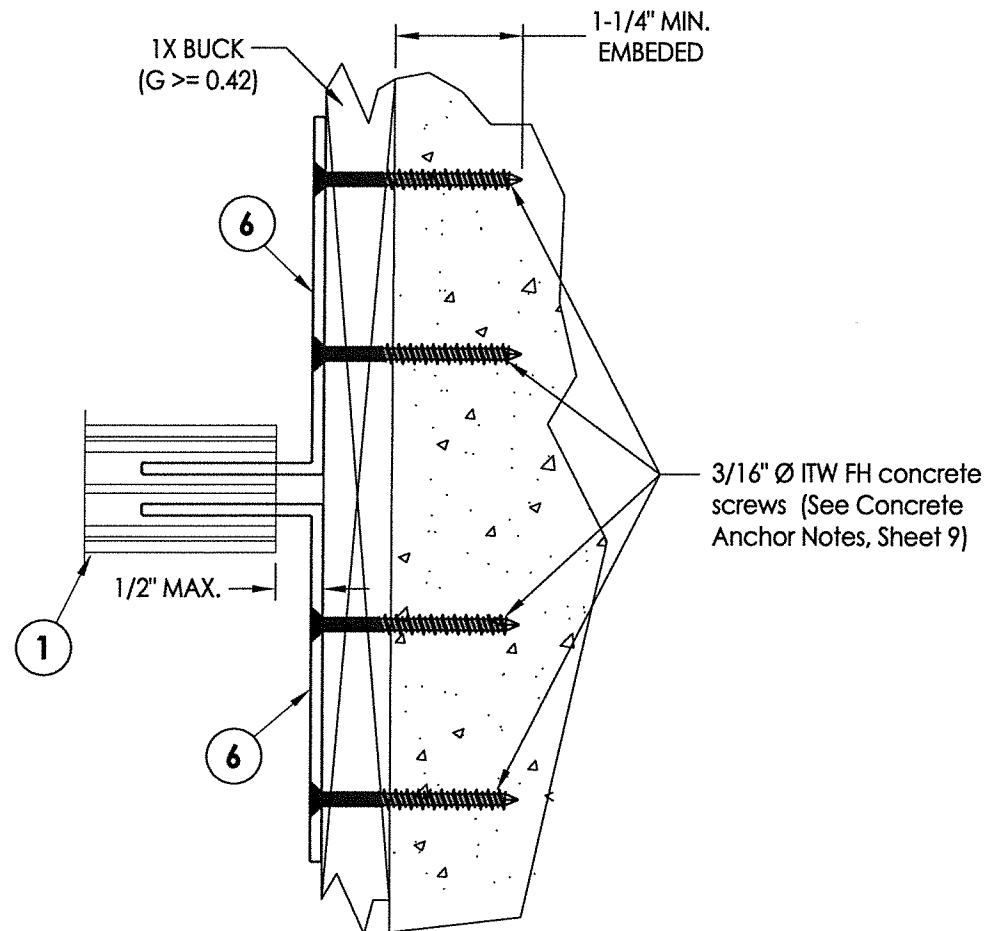
**3**  
**8** **CONCRETE ANCHOR BRACKET DETAIL**  
Anchor Direct to Masonry



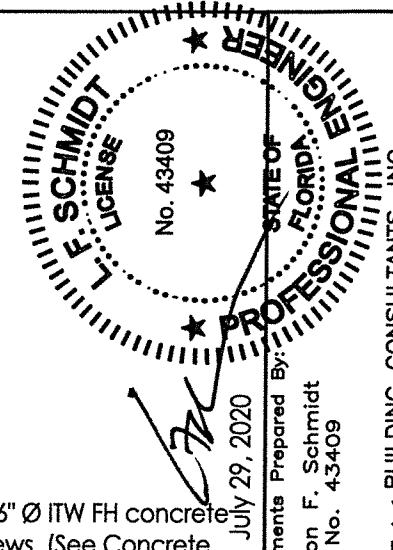
**4**  
**8** **CONCRETE ANCHOR BRACKET DETAIL**  
Anchor Direct to Masonry



**5**  
**8** **WOOD ANCHOR BRACKET DETAIL**  
Anchor to 2x Buck



**6**  
**8** **CONCRETE ANCHOR BRACKET DETAIL**  
Anchor to 2x Buck



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| PRODUCT:                |         | CLIPPED MULLION         |     | PART OR ASSEMBLY: |     | ANCHOR BRACKET DETAILS<br>(HORIZONTAL MULLION) |     |
|-------------------------|---------|-------------------------|-----|-------------------|-----|------------------------------------------------|-----|
| NO.                     | DATE    | REVISIONS               | BY  | DATE              | BY  | DATE                                           | BY  |
| 2                       | 7/29/20 | UPDATE TO 7TH ED (2020) | LFS | 7/29/20           | LFS | 7/29/20                                        | LFS |
| 1                       | 9/26/17 | UPDATE TO 6TH ED (2017) | JK  | 9/26/17           | JK  | 9/26/17                                        | JK  |
| DATE: 12/3/15           |         |                         |     |                   |     |                                                |     |
| SCALE: N.T.S.           |         |                         |     |                   |     |                                                |     |
| DWG. BY: JK             |         |                         |     |                   |     |                                                |     |
| CHK. BY: LFS            |         |                         |     |                   |     |                                                |     |
| DRAWING NO.: FL-15417.8 |         |                         |     |                   |     |                                                |     |
| SHEET 8 OF 9            |         |                         |     |                   |     |                                                |     |

