



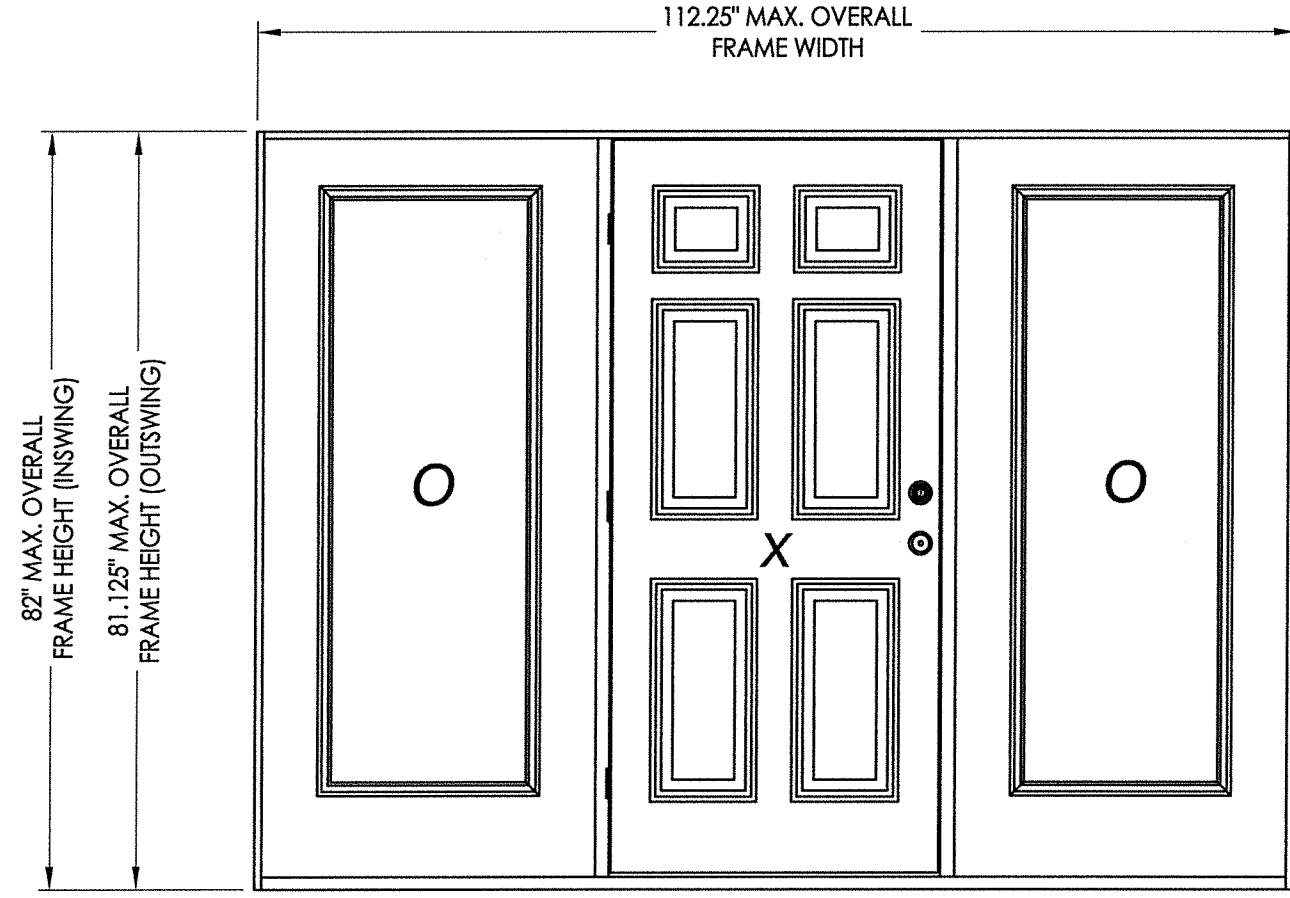
Documents Prepared By: Lyndon F. Schmidt, P.E.  
TEXAS P.E. #104123

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

TEXAS BOARD OF PROFESSIONAL ENGINEERS  
CERTIFICATE OF REGISTRATION # F-11852

# Opaque Steel Door

"NON-IMPACT"  
INSWING / OUTSWING



EVALUATED FOR USE IN THE STATE OF TEXAS  
The Steel Door system described herein complies with the 2018 International Residential Code (IRC), Sections R301 & R609 and the 2018 International Building Code (IBC), Sections 1404.13, 1609, 1709.5, 2403 and 2404 subject to the following conditions:

1. Anchors shall be as listed and spaced as shown in the details. Anchor embedment to base material shall be beyond wall dressing or stucco.
2. When used in areas requiring wind-borne debris protection this product is required to be protected with an impact resistant covering that complies with Section R301.2.1.2 of the IRC and Section 1609.2 of the IBC.
3. Allowable design pressure requirements must be equal to or less than the design pressure rating shown in the design pressure chart, sheet 1 of this drawing.
4. Conditions not covered by this drawing are subject to further engineering analysis.

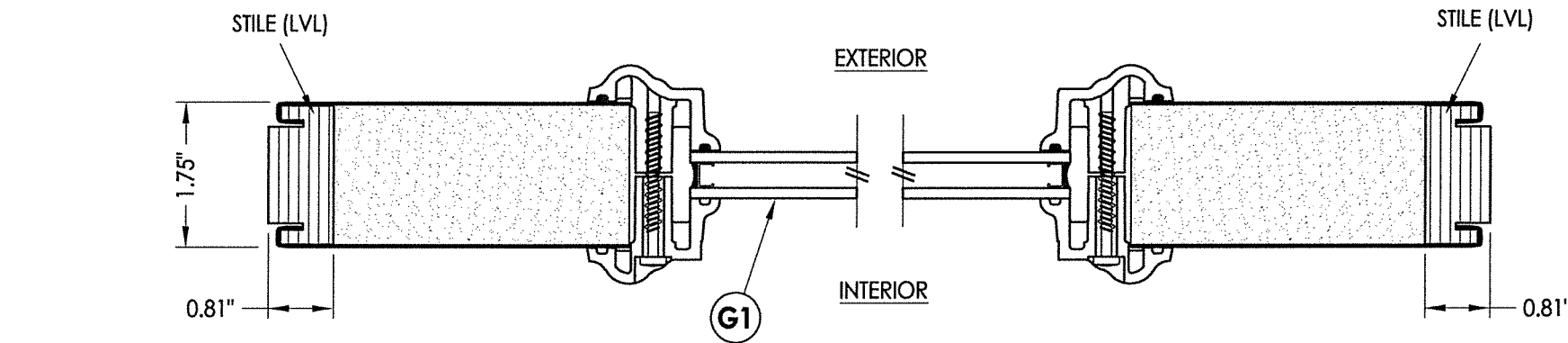
| TABLE OF CONTENTS |  |
|-------------------|--|
| SHEET #           | DESCRIPTION  |
| 1                 | Typical elevations, design pressures & general notes |
| 2                 | Door panel details                                   |
| 3                 | Slidelite panel details (lip lite insert glazing)    |
| 4                 | Horizontal cross sections                            |
| 5                 | Vertical cross sections                              |
| 6                 | Vertical cross sections                              |
| 7                 | Frame anchoring                                      |

| CONFIG. | FRAME TYPE    | DESIGN PRESSURE (PSF) |          |          |          |
|---------|---------------|-----------------------|----------|----------|----------|
|         |               | INSWING               |          | OUTSWING |          |
|         |               | POSITIVE              | NEGATIVE | POSITIVE | NEGATIVE |
| OXO     | PINE          | +50.0                 | -50.0    | +70.0    | -70.0    |
| OXO     | "FusionFrame" | +50.0                 | -50.0    | +60.0    | -65.0    |

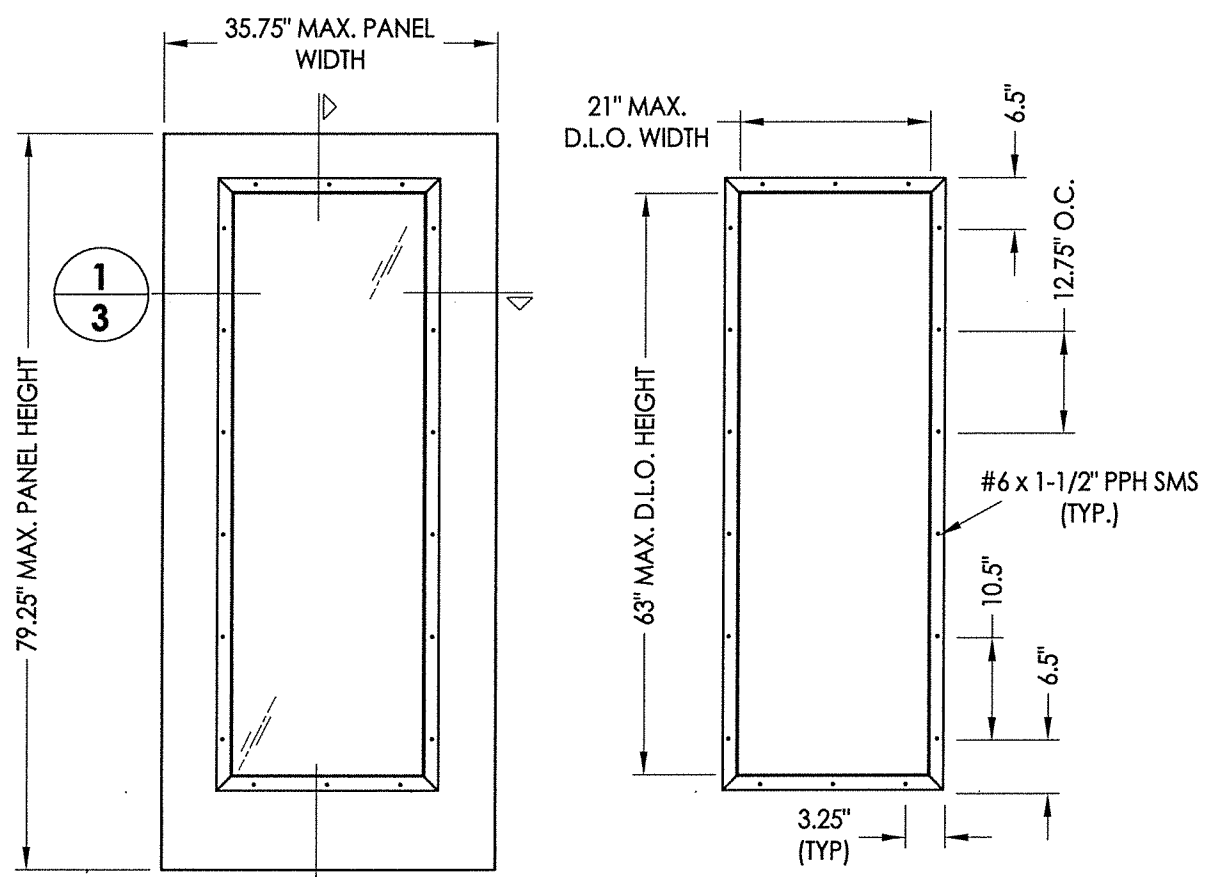
|  |   |     |
|--|---|-----|
| PRODUCT:   | ENDURA  |     |
| PART OR ASSEMBLY:                                      | TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES |     |
| NO.  | DATE  | BY  |
| 1  | 10/28/19  | LFS |
| ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE |   |     |
| REVISIONS  |   |     |
| DATE:  | 11/08/16  |     |
| SCALE:   | N.T.S.  |     |
| DWG. BY:   | JK  |     |
| CHK. BY:   | LFS   |     |
| DRAWING NO.:   | TX-4652   |     |
| SHEET  | 1 OF 7  |     |



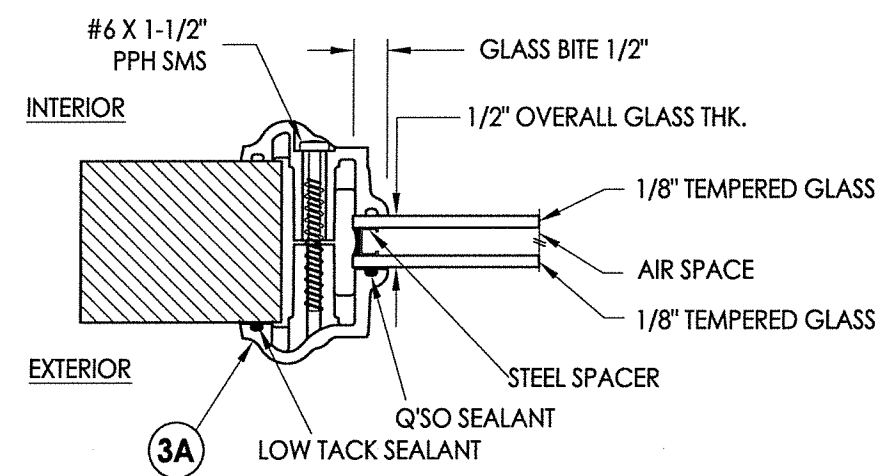
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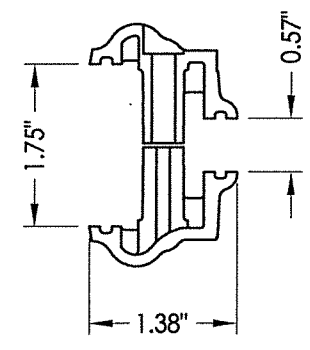
**1**  
**3** HORIZONTAL CROSS SECTION



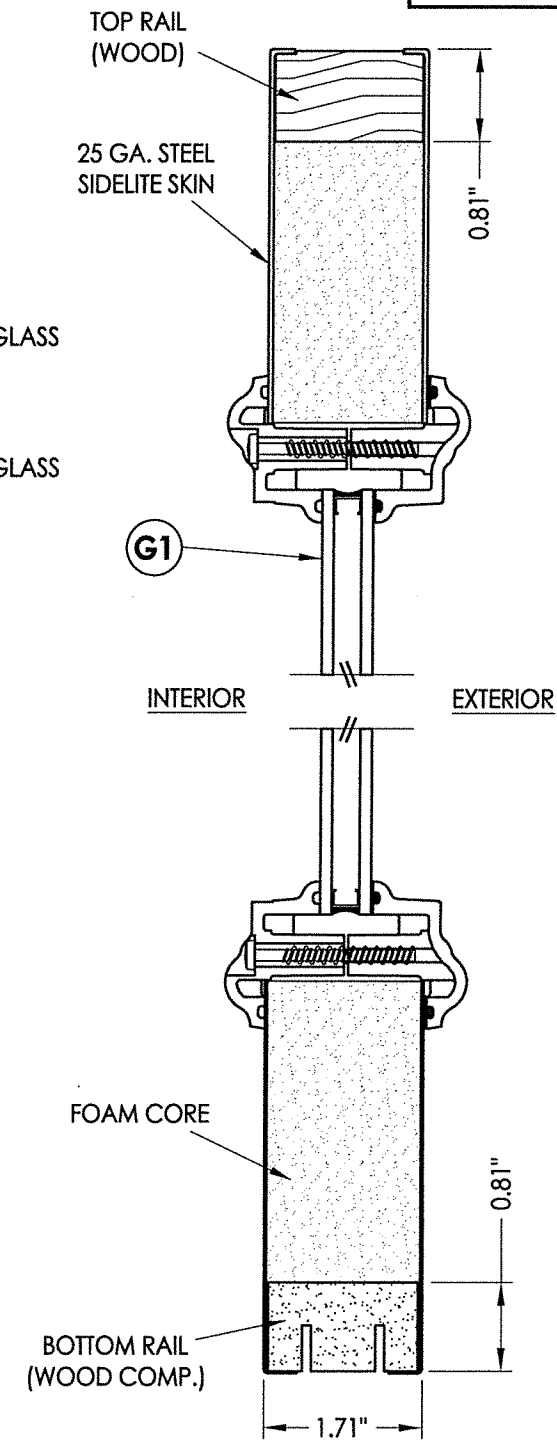
**2**  
**3**  
**50 SIDELITE PANEL**  
Masonite  
Steel (Wood Edge)



**G1** GLAZING DETAIL

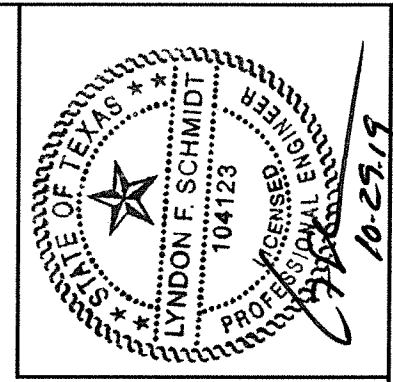


**3A** OD LITE FRAME  
HP Polypropylene



**2**  
**3** VERTICAL CROSS SECTION

SIDELITE SKIN: 25 GA. STEEL (0.020" MIN. THICKNESS)  
CORE MATERIAL: POLYURETHANE FOAM (1.9 PCF MIN.)

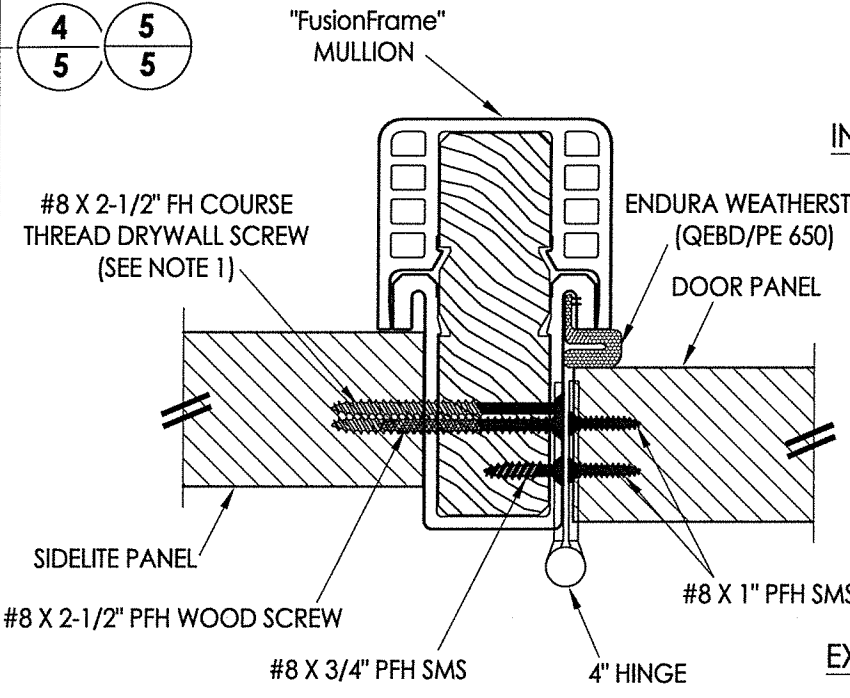
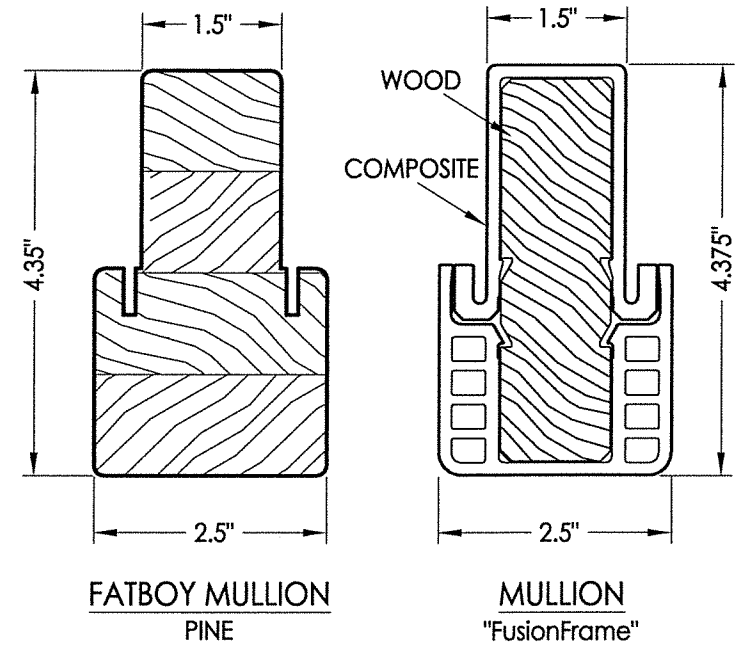
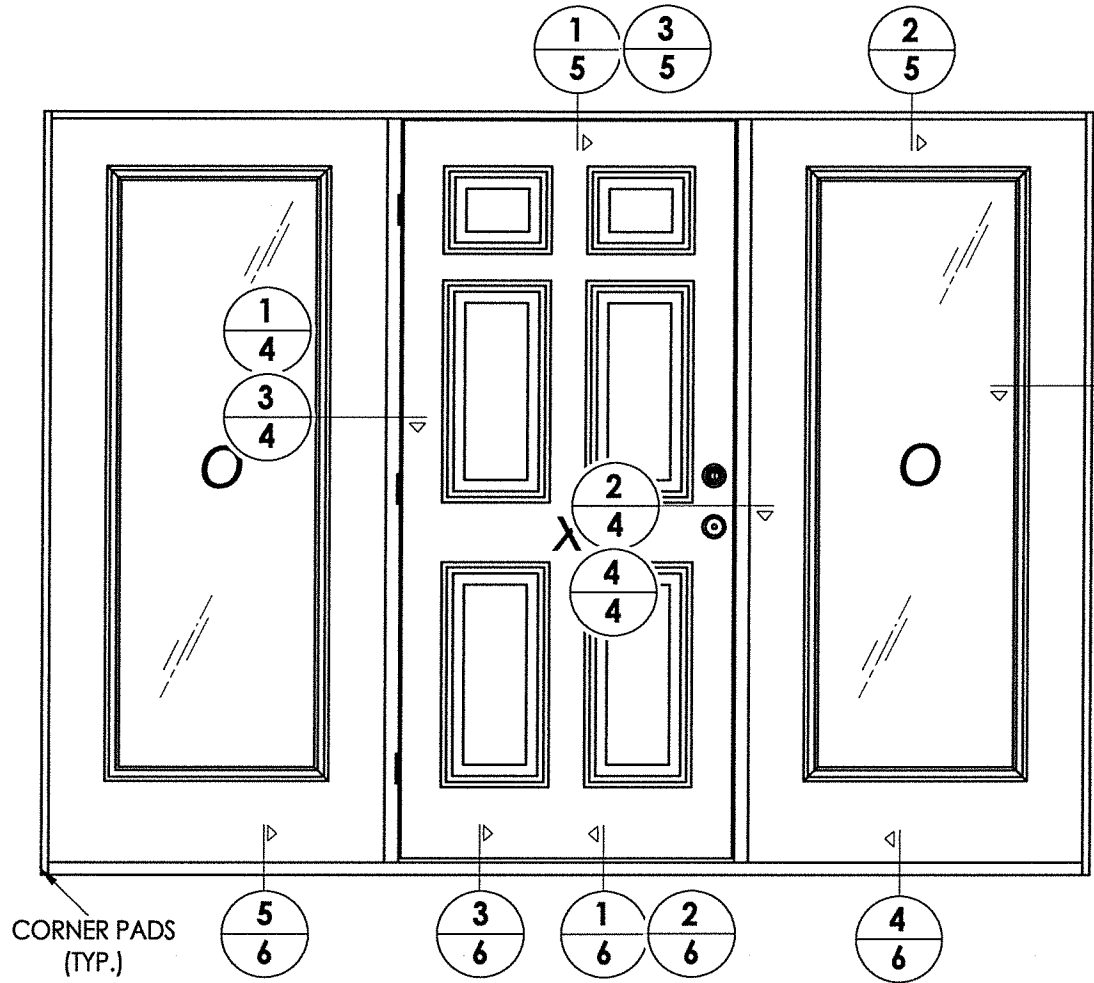


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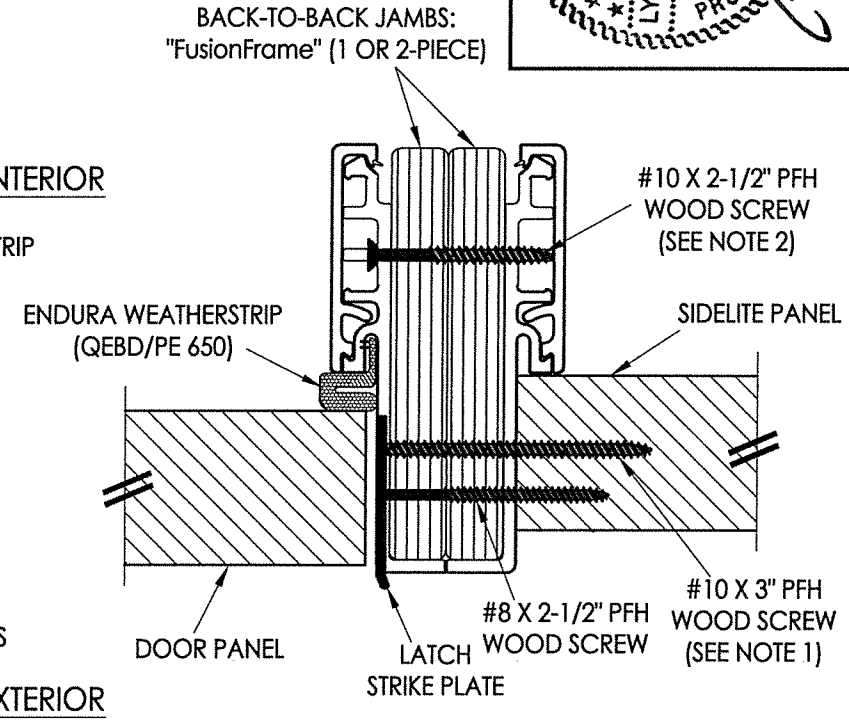
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|                   |  |  |
|-------------------|--|--|
| PRODUCT:          | ENDURA   |  |
| PART OR ASSEMBLY: | SIDELITE PANEL DETAILS (LIP LITE INSERT GLAZING) |  |
| DATE:             | 11/08/16   |  |
| SCALE:            | N.T.S.   |  |
| DWG. BY:          | JK   |  |
| CHK. BY:          | LFS  |  |
| DRAWING NO.:      | TX-4652  |  |
| SHEET             | 3 OF 7   |  |
| NO.               | DATE   | BY   |
| 1                 | 10/28/19   | ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE |
| REVISIONS         |  |  |

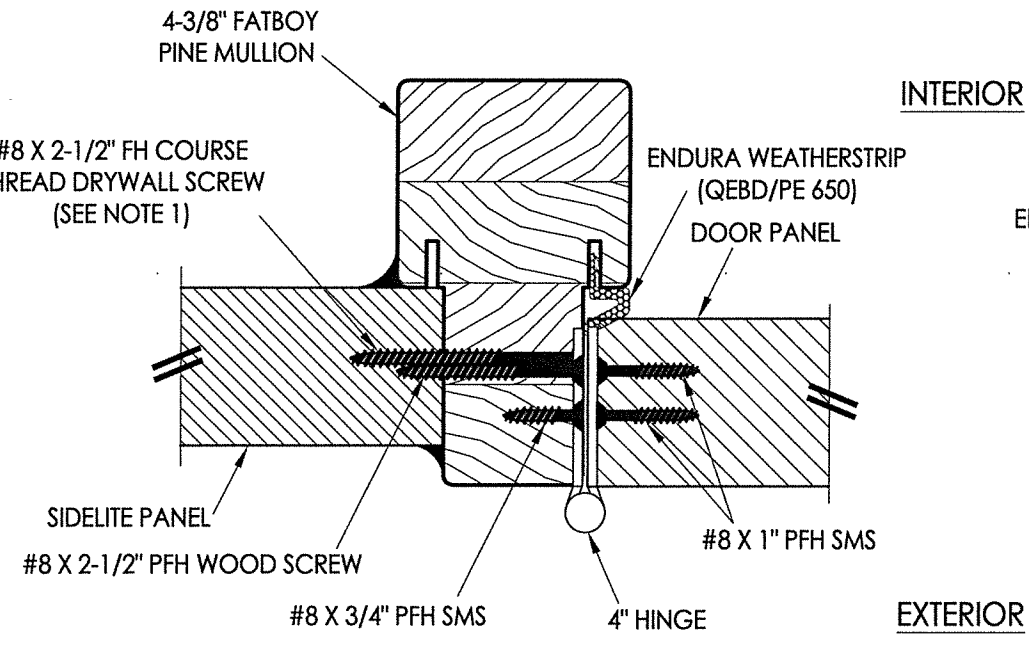
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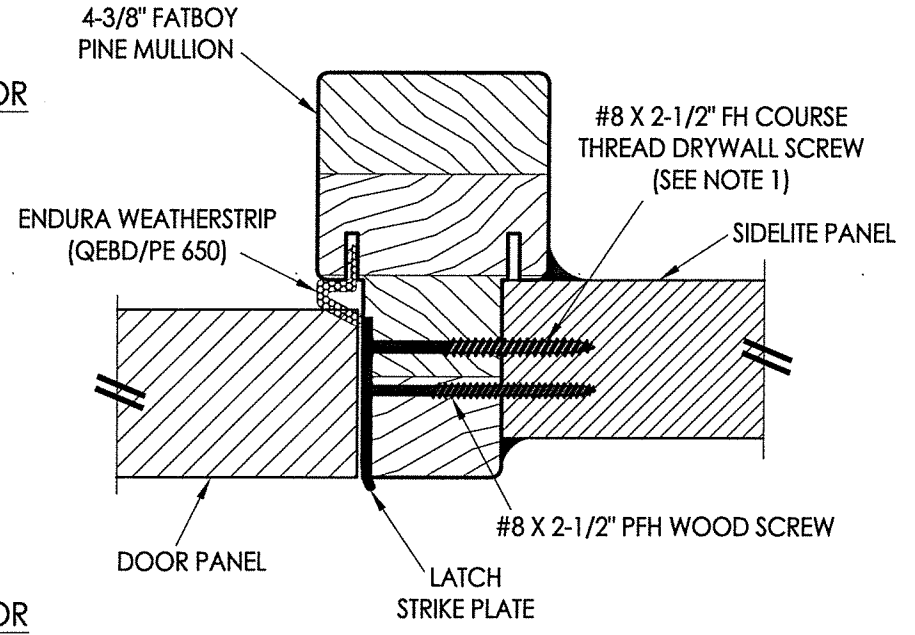
**3 HORIZONTAL CROSS SECTION**  
4 Outswing shown - Inswing also approved



**4 HORIZONTAL CROSS SECTION**  
4 Outswing shown - Inswing also approved

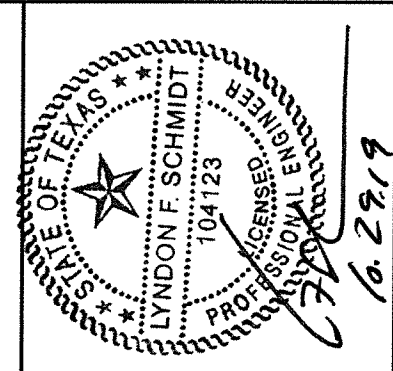


**1 HORIZONTAL CROSS SECTION**  
4 Outswing shown - Inswing also approved



**2 HORIZONTAL CROSS SECTION**  
4 Outswing shown - Inswing also approved

**NOTES:**  
1. Spacing for sidelite screws: 6.5", 38.5" and 69" from head to sill (3 total).  
2. Spacing for mullion screws: 6" from each end plus 3 more equally spaced (5 total).



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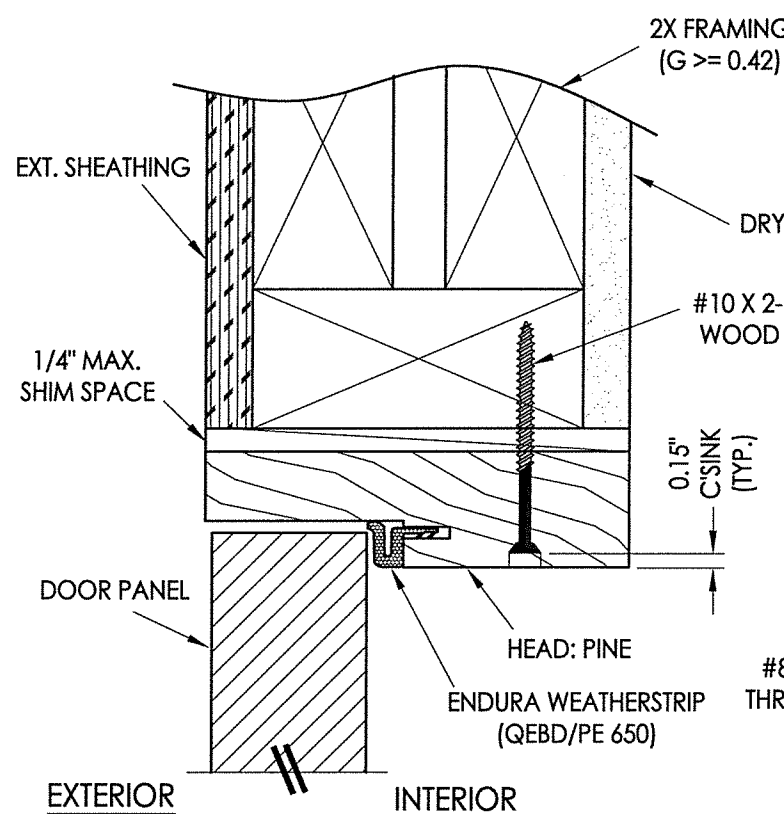
PRODUCT: ENDURA  
FIBERGLASS DOOR  
PART OR ASSEMBLY: HORIZONTAL CROSS SECTIONS

| NO. | DATE     | REVISIONS  | BY  |
|-----|----------|--|-----|
| 1   | 10/28/19 | ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE | LFS |

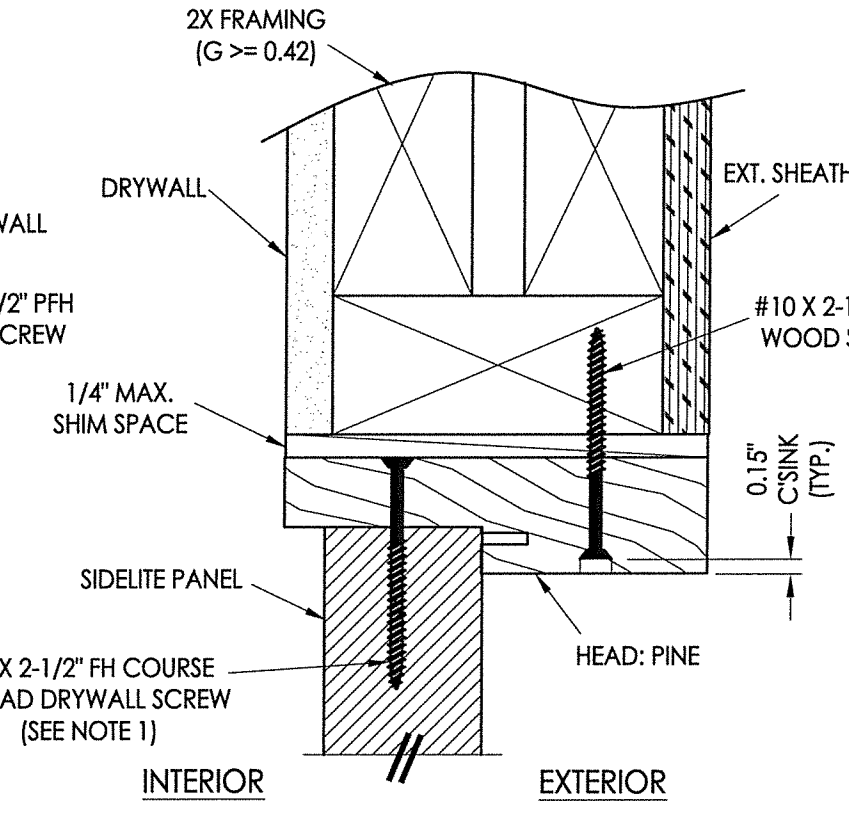
DATE: 11/08/16  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4652  
SHEET 4 OF 7

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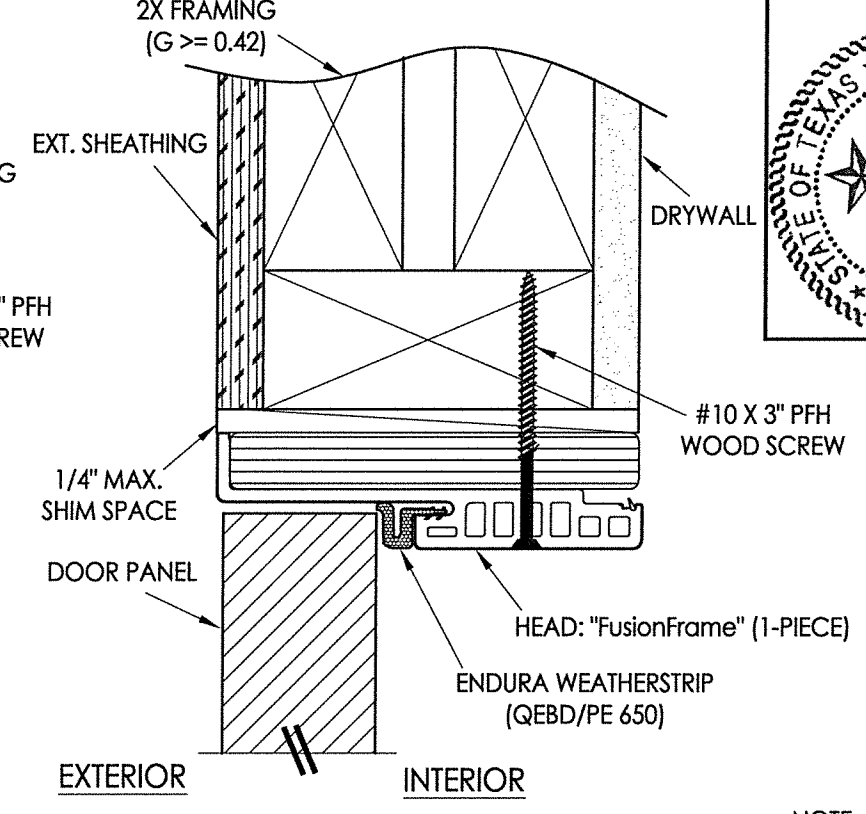
R:\Clients\Endura PERMANENT\B - Texas Dept of Ins\TDI - DR-850 Masonite ST Opaque (LK,DB)\C - Drawings\TX-4652.55.dwg, 5.3



**1** VERTICAL CROSS SECTION  
**5** Outswing shown - inswing also approved

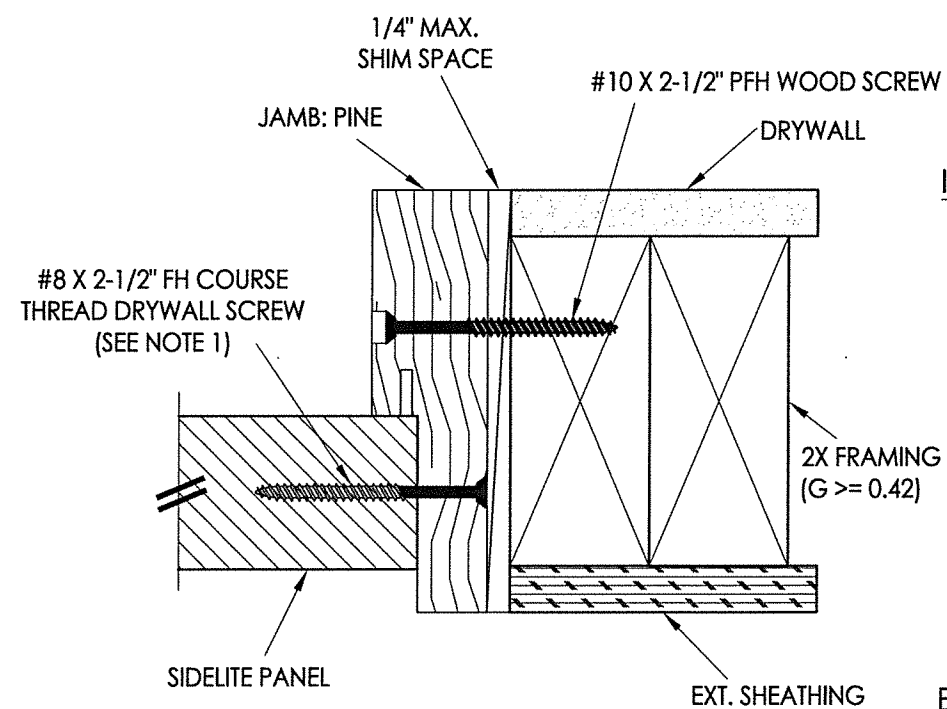
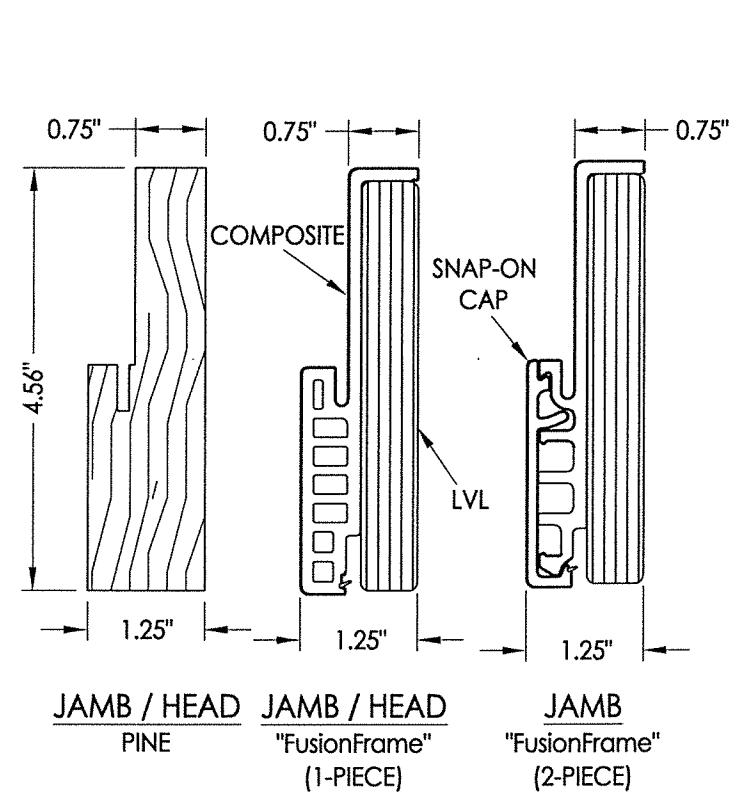


**2** VERTICAL CROSS SECTION  
**5** Inswing shown - Outswing also approved

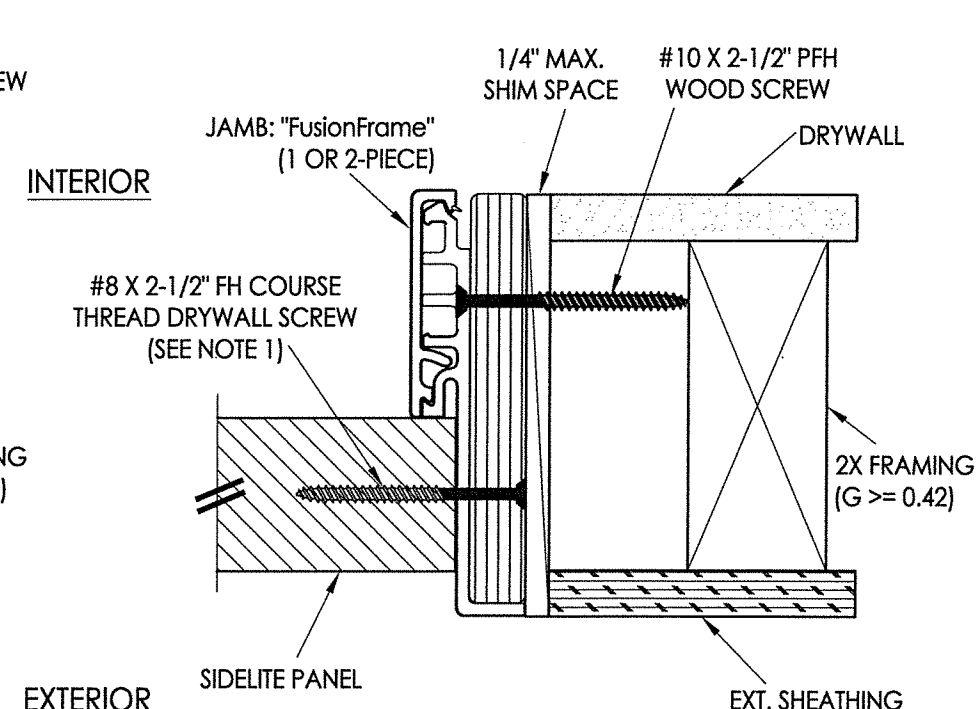


**3** VERTICAL CROSS SECTION  
**5** Outswing shown - inswing also approved

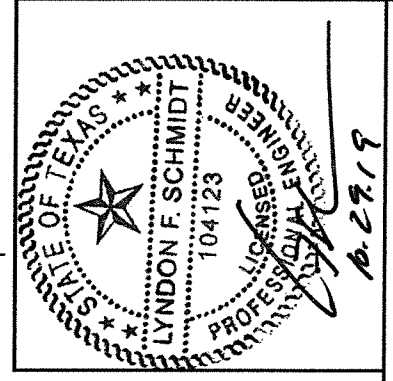
NOTE:  
 1. Spacing for sidelite screws: 6" from each end (2 total).



**4** HORIZONTAL CROSS SECTION  
**5** Outswing shown - Inswing also approved



**5** HORIZONTAL CROSS SECTION  
**5** Outswing shown - inswing also approved

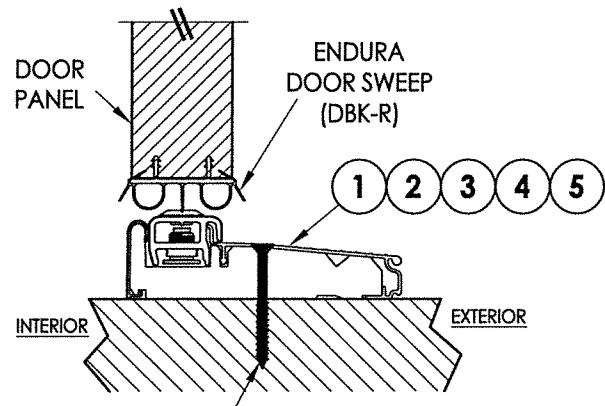


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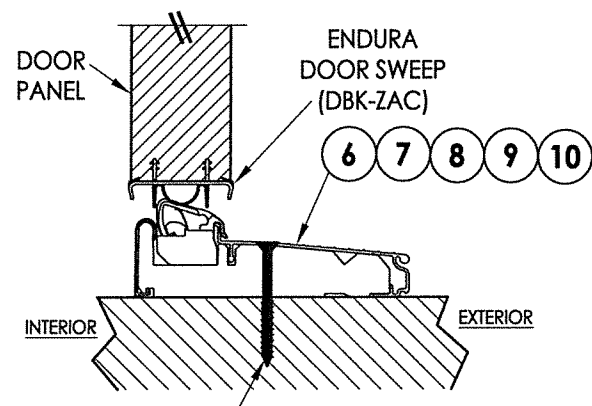
|  |                         |     |
|--|-------------------------|-----|
| PRODUCT:   | ENDURA                  |     |
| PART OR ASSEMBLY:                                      | VERTICAL CROSS SECTIONS |     |
| NO.  | DATE                    | BY  |
| 1  | 10/28/19                | LFS |
| ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE |                         |     |
| REVISIONS  |                         |     |
| DATE:  | 11/08/16                |     |
| SCALE:   | N.T.S.                  |     |
| DWG. BY:   | JK                      |     |
| CHK. BY:   | LFS                     |     |
| DRAWING NO.:   | TX-4652                 |     |
| SHEET  | 5 OF 7                  |     |

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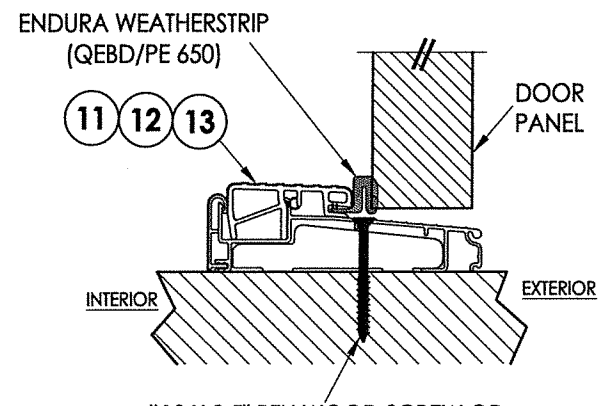
#10 X 2.5" PFH WOOD SCREW OR  
1/4" X 2-3/4" ELCO OR ITW CONCRETE SCREW

**1** VERTICAL CROSS SECTION  
**6** Inswing Adjustable Threshold



#10 X 2.5" PFH WOOD SCREW OR  
1/4" X 2-3/4" ELCO OR ITW CONCRETE SCREW

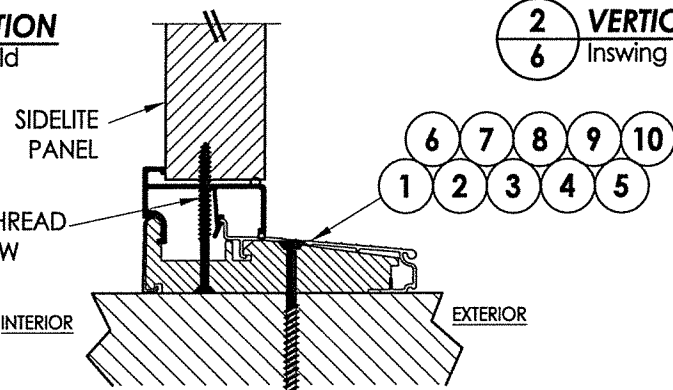
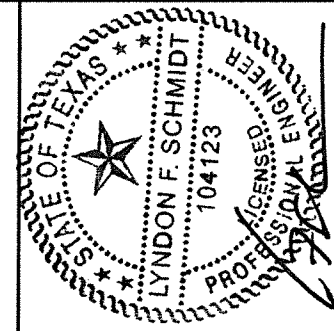
**2** VERTICAL CROSS SECTION  
**6** Inswing Articulating Threshold



#10 X 2.5" PFH WOOD SCREW OR  
1/4" X 2-3/4" ELCO OR ITW CONCRETE SCREW

**3** VERTICAL CROSS SECTION  
**6** Outswing Bump Threshold

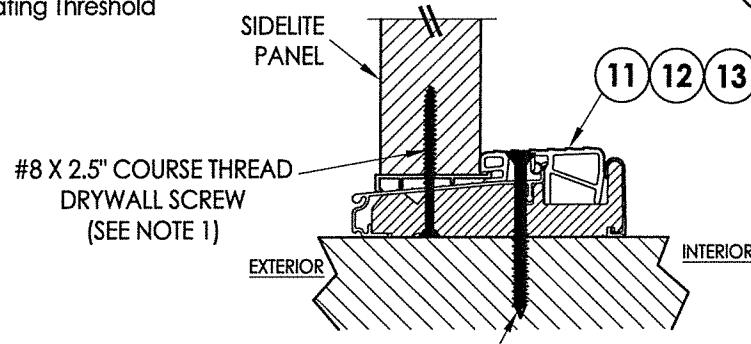
NOTE:  
1. Spacing for sidelite screws:  
6" from each end (2 total).



#8 X 2.5" COURSE THREAD  
DRYWALL SCREW  
(SEE NOTE 1)

#10 X 2.5" PFH WOOD SCREW OR  
1/4" X 2-3/4" ELCO OR ITW CONCRETE SCREW

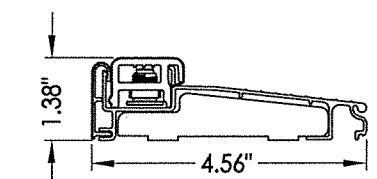
**4** VERTICAL CROSS SECTION  
**6** Inswing configuration



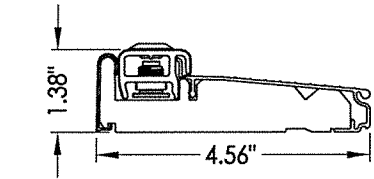
#8 X 2.5" COURSE THREAD  
DRYWALL SCREW  
(SEE NOTE 1)

#10 X 2.5" PFH WOOD SCREW OR  
1/4" X 2-3/4" ELCO OR ITW CONCRETE SCREW

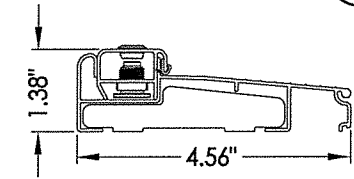
**5** VERTICAL CROSS SECTION  
**6** Outswing configuration



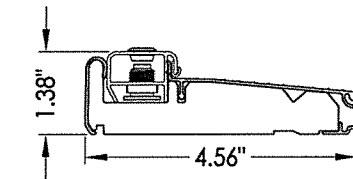
**1** INSWING ADJUSTABLE THRESHOLD  
ZAIL4565



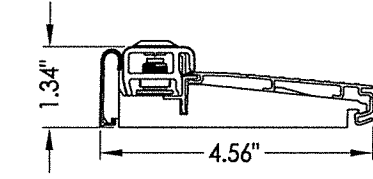
**2** INSWING ADJUSTABLE THRESHOLD  
ZAI4565FN



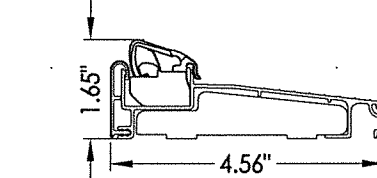
**3** INSWING ADJUSTABLE THRESHOLD  
ZAILAA4565



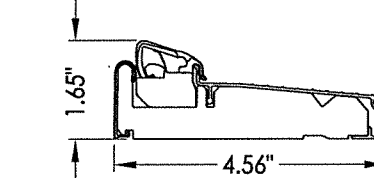
**4** INSWING ADJUSTABLE THRESHOLD  
ZAI4565FN



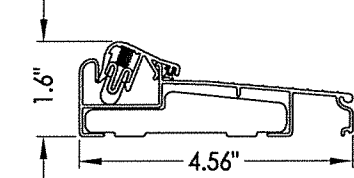
**5** INSWING ADJUSTABLE THRESHOLD  
ZAI4565RDS



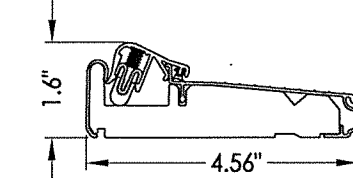
**6** INSWING ARTICULATING THRESHOLD  
ZACL4565



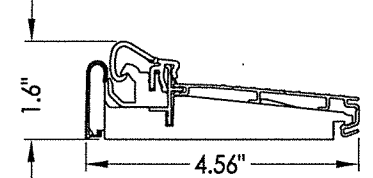
**7** INSWING ARTICULATING THRESHOLD  
ZAC4565FN



**8** INSWING ARTICULATING THRESHOLD  
ZACLA4565

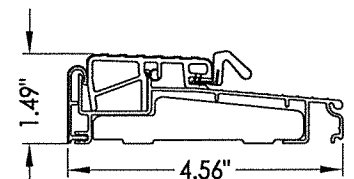


**9** INSWING ARTICULATING THRESHOLD  
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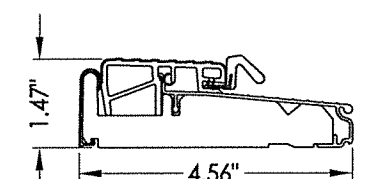


**10** INSWING ARTICULATING THRESHOLD  
ZAC4565RDS

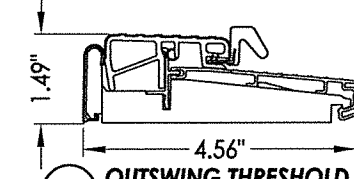
MAX. DESIGN PRESSURE = ±45 PSF



**11** OUTSWING THRESHOLD  
ZOBL4565



**12** OUTSWING THRESHOLD  
ZOB4565FN



**13** OUTSWING THRESHOLD  
ZOB4565RDS

MAX. DESIGN PRESSURE = ±55 PSF

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CERTIFICATE OF REGISTRATION # F-11852

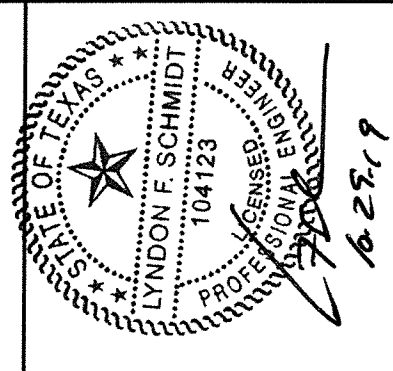
PRODUCT: ENDURA  
FIBERGLASS DOOR  
PART OR ASSEMBLY:  
VERTICAL CROSS SECTIONS

| NO. | DATE     | BY  | REVISIONS  |
|-----|----------|-----|--|
| 1   | 10/28/19 | LFS | ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE |

DATE: 11/08/16  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4652  
SHEET 6 OF 7

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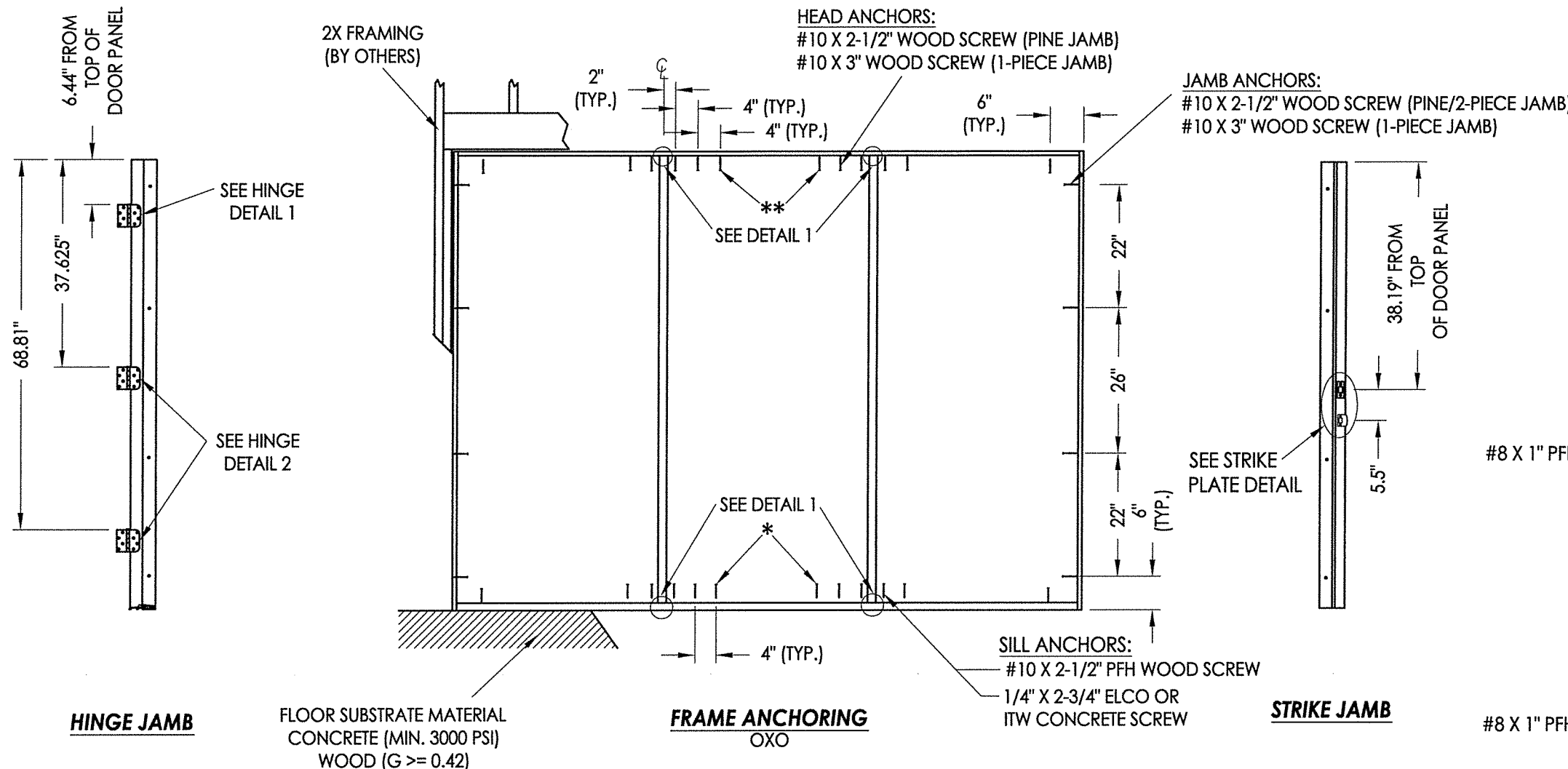




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**HINGE JAMB**

FLOOR SUBSTRATE MATERIAL  
CONCRETE (MIN. 3000 PSI)  
WOOD (G >= 0.42)

**FRAME ANCHORING  
OXO**

**STRIKE JAMB**

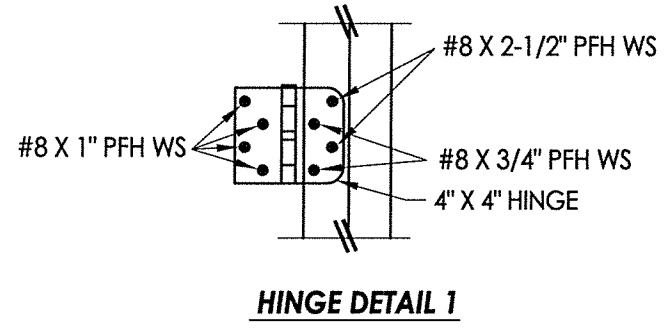
\* NOTE: These additional anchors required for D.P. > 40 PSF.  
\*\* NOTE: These additional anchors required for D.P. > 50 PSF.

**JAMB NOTES:**  
THE PINE OR "FusionFrame" 1-PIECE JAMB MAY BE INSTALLED @ THE HEAD OR SIDE JAMB.  
THE "FusionFrame" 2-PIECE JAMB MAY BE INSTALLED @ THE SIDE JAMBS ONLY.

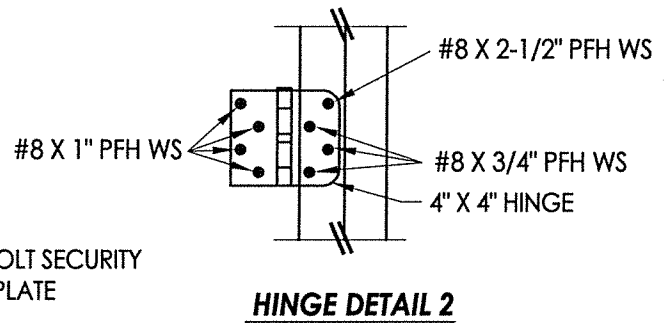
**INTEGRAL MULLION NOTES:**  
THE FATBOY PINE MULLION, "FusionFrame" MULLION, OR THE "FusionFrame" BACK-TO-BACK JAMB (1-PIECE OR 2-PIECE) MAY ALL BE USED AS THE INTEGRAL MULLION.

- CONCRETE ANCHOR NOTES:**
- Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
  - Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
  - Concrete anchor table:

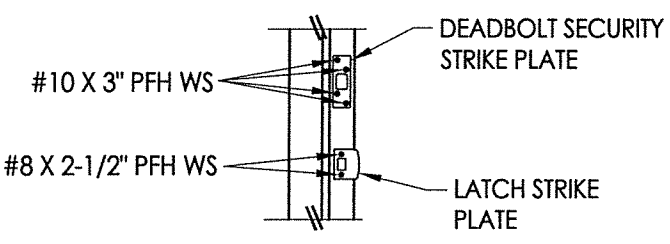
| ANCHOR TYPE    | ANCHOR SIZE | MIN. EMBEDMENT | MIN. CLEARANCE TO MASONRY EDGE | MIN. CLEARANCE TO ADJACENT ANCHOR |
|----------------|-------------|----------------|--------------------------------|-----------------------------------|
| ITW TAPCON®    | 1/4"        | 1-3/4"         | 1-1/2"                         | 4"                                |
| ELCO ULTRACON® | 1/4"        | 1-3/4"         | 1"                             | 4"                                |



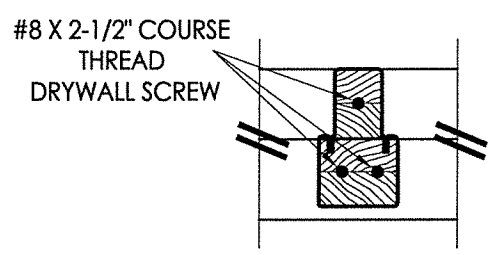
**HINGE DETAIL 1**



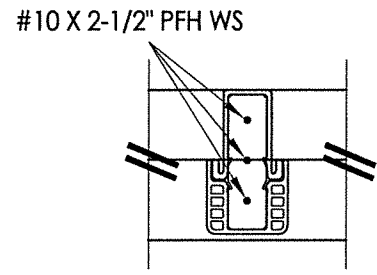
**HINGE DETAIL 2**



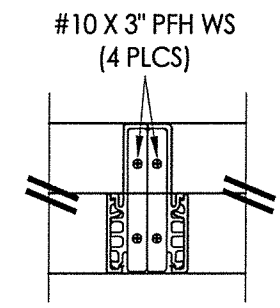
**STRIKE PLATE DETAIL**



**DETAIL 1  
INTEGRAL MULLION ATTACHMENT  
PINE MULLION**



**DETAIL 1  
INTEGRAL MULLION ATTACHMENT  
"FusionFrame" MULLION**



**DETAIL 1  
INTEGRAL MULLION ATTACHMENT  
"FusionFrame" BACK-TO-BACK JAMBS**

|                      |   |
|----------------------|---|
| PRODUCT:             | ENDURA  |
| PART OR ASSEMBLY:    | FRAME ANCHORING   |
| NO.                  | DATE  |
| BY                   | REVISIONS   |
| 1                    | 10/28/19 ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE |
| DATE: 11/08/16       |   |
| SCALE: N.T.S.        |   |
| DWG. BY: JK          |   |
| CHK. BY: LFS         |   |
| DRAWING NO.: TX-4652 |   |
| SHEET 7 OF 7         |   |