STEVES AND SONS
203 Humble Ave.
San Antonio, TX 78225

OPAQUE STEEL DOOR

OUTSWING
"IMPACT"

GENERAL NOTES

1. This product anchoring drawing has been evaluated and is in compliance with the 8th Edition (2023) Florida Building Code (FBC) excluding the "High Velocity Hurricane Zone" (HVHZ).

2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.

3. When used in areas requiring wind borne debris protection, this product complies with FBC Sections 1609.1.2 & R301.2.1.2. and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E1996 and FBC Sections 1609.1.2.2 & R301.2.1.2.1.

4. For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.

5. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.

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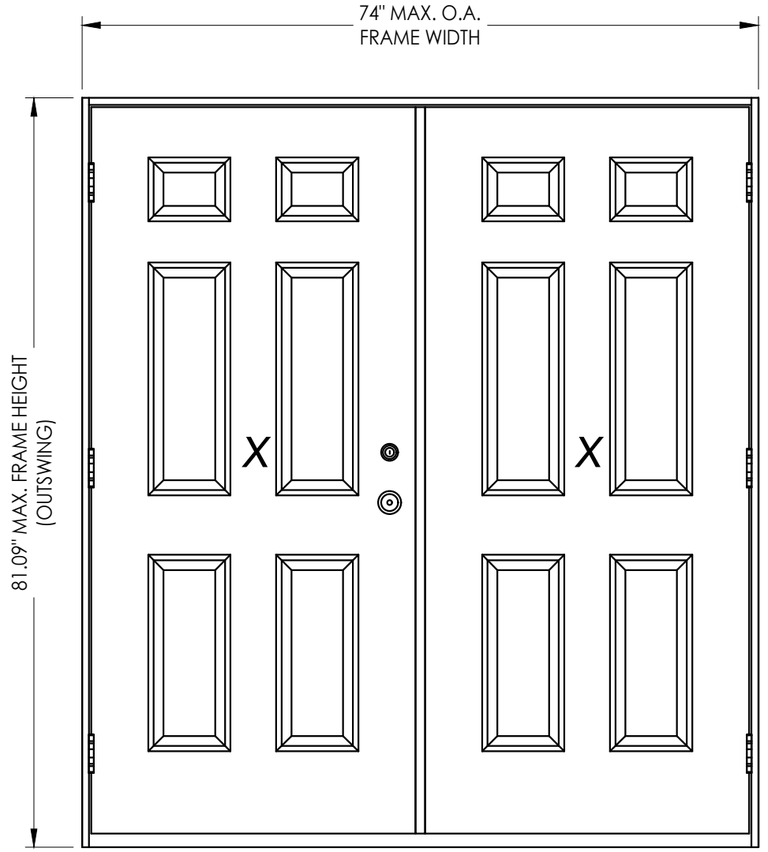
SHEET #	**DESCRIPTION**
1	Typical elevation, design pressures & general notes
2	Door panel construction details
3	Horizontal cross sections
4	Vertical cross sections
5	Buck anchoring
6	Frame anchoring - 2X buck masonry construction
7	Frame anchoring - 1X buck masonry construction
8	Astragal details
9	Bill of materials & components



ASTRAGAL TYPE	SWING	MAX. FRAME DIMENSION	DESIGN PRESSURE PSF)	
			POSITIVE	NEGATIVE
ENDURA	OUTSWING	74.0" x 81.09"	+47.0	-47.0

L F Schmidt

L. F. SCHMIDT LICENSE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER

Digitally signed by Lyndon F Schmidt
Date: 2023.08.07 09:00:11 -04'00'

This item has been digitally signed and sealed by **L. F. Schmidt, P.E.** on the date adjacent to the seal.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

THIS PRODUCT APPROVAL IS VALID ONLY FOR THE STATE OF FLORIDA

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

PRODUCT: STEVES AND SONS

PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

NO.	DATE	REVISIONS	BY
3	8/07/23	UPDATE TO 8TH ED. (2023) FBC	LFS
2	9/16/20	UPDATE TO 7TH ED. (2020) FBC	LFS
1	10/08/17	UPDATE TO 6TH ED. (2017) FBC	JK

DATE: 7/18/15
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-17903.2
SHEET 1 OF 9

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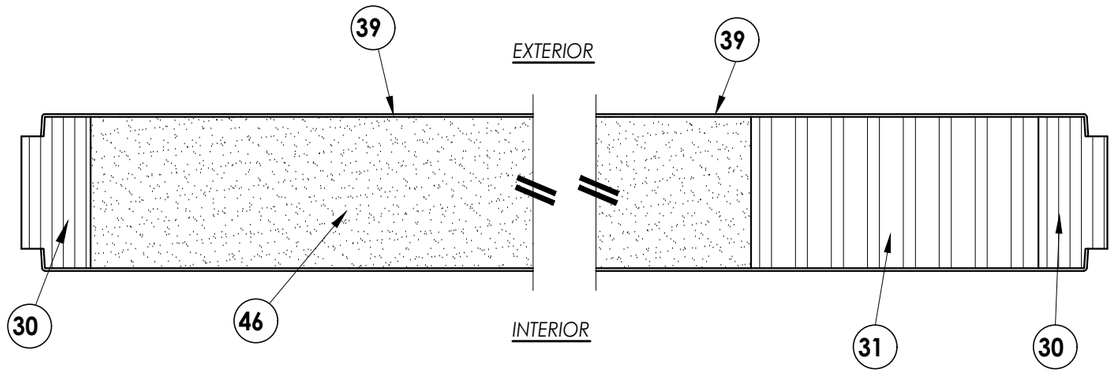

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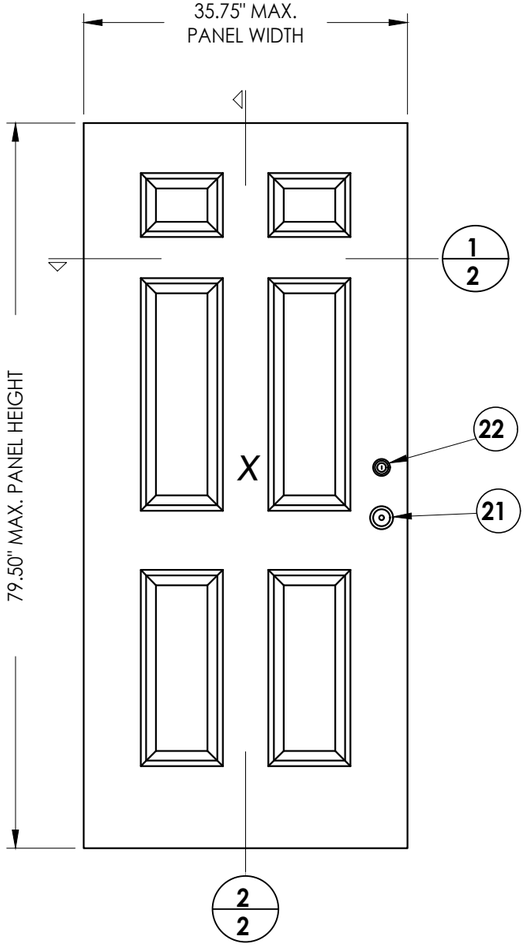

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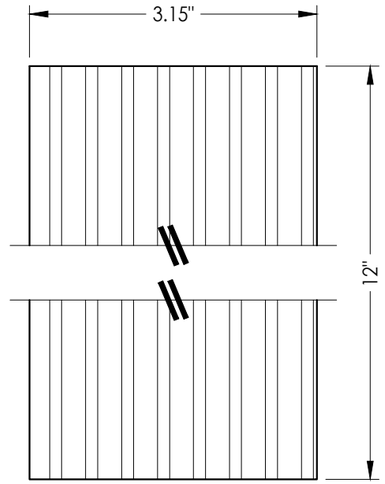
OPAQUE



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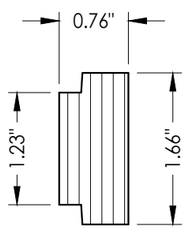
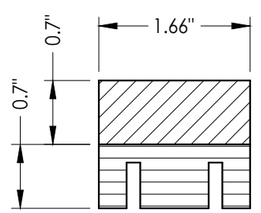
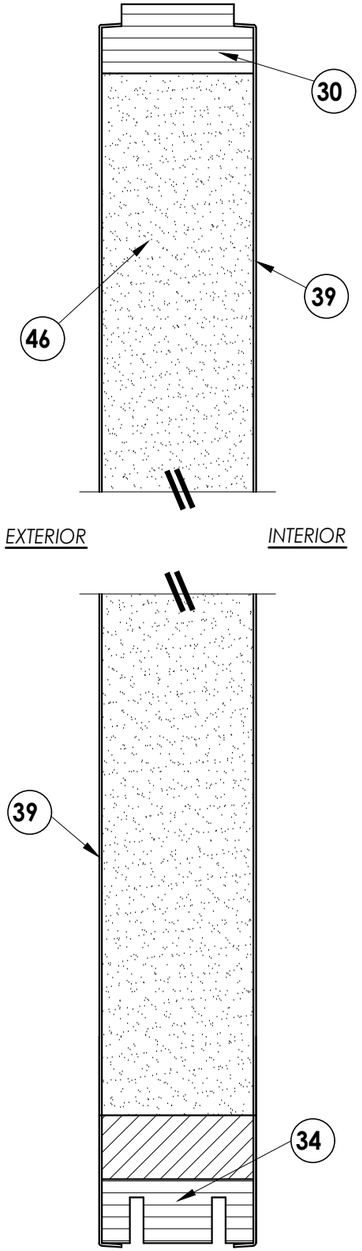


30 **HINGE & LATCH STILE & TOP RAIL**



34 **BOTTOM RAIL**



2/2 **VERTICAL CROSS SECTION**

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PRODUCT: *STEVES AND SONS*

PART OR ASSEMBLY: *DOOR PANEL CONSTRUCTION DETAILS*

NO.	DATE	REVISIONS	BY
3	8/07/23	UPDATE TO 8TH ED. (2023) FBC	LFS
2	9/16/20	UPDATE TO 7TH ED. (2020) FBC	LFS
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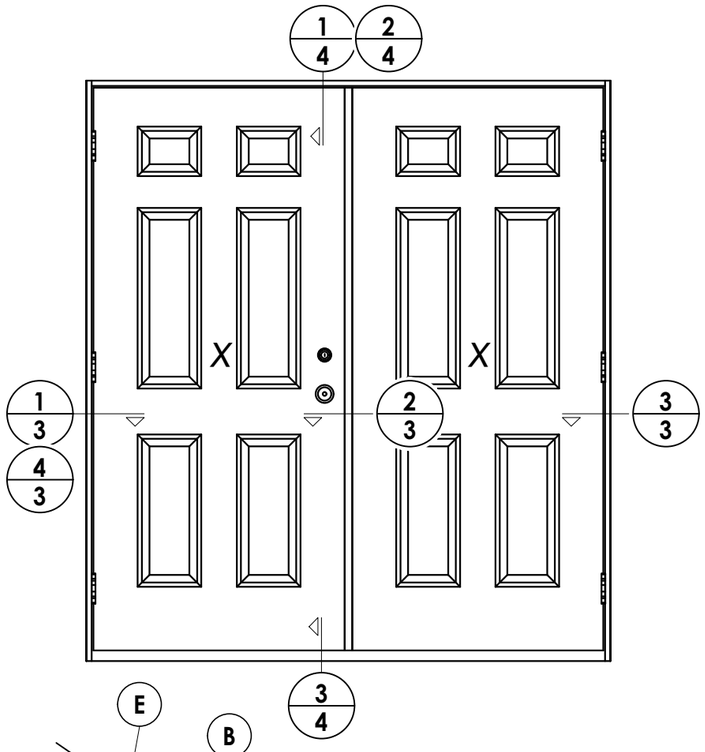
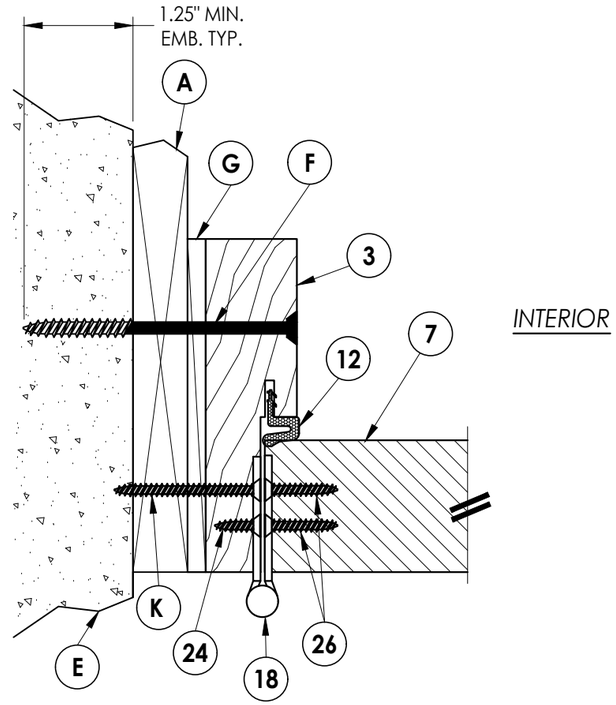
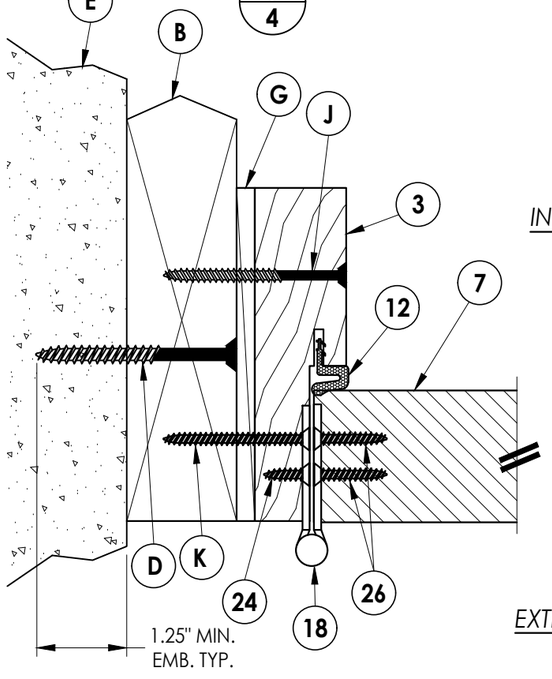




INTERIOR

EXTERIOR

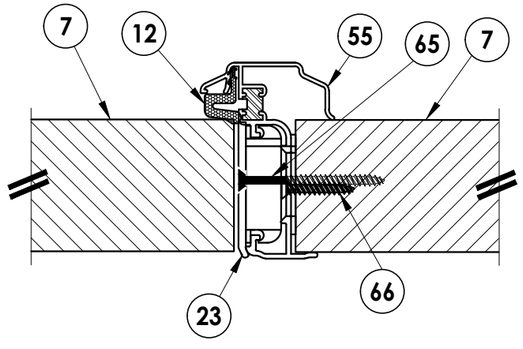
4/3 HORIZONTAL CROSS SECTION
Shown w/1X sub-buck



INTERIOR

EXTERIOR

1/3 HORIZONTAL CROSS SECTION



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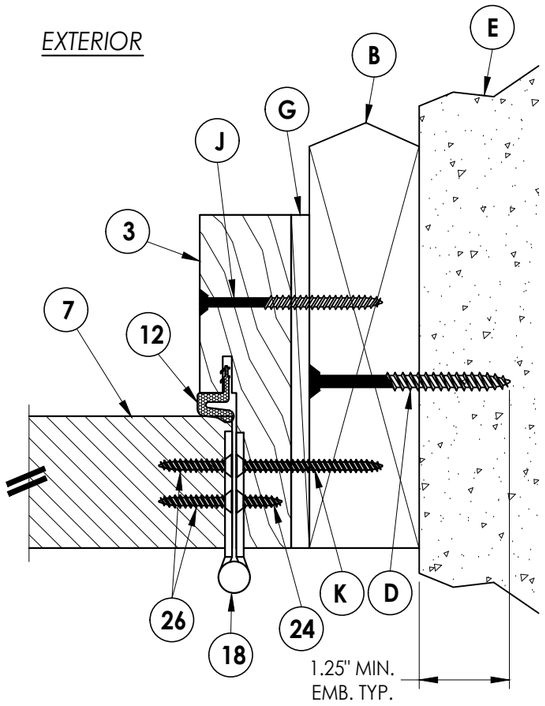

INTERIOR

EXTERIOR

3/3 HORIZONTAL CROSS SECTION

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FBPE Registry No. 9813

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PART OR ASSEMBLY: HORIZONTAL CROSS SECTIONS

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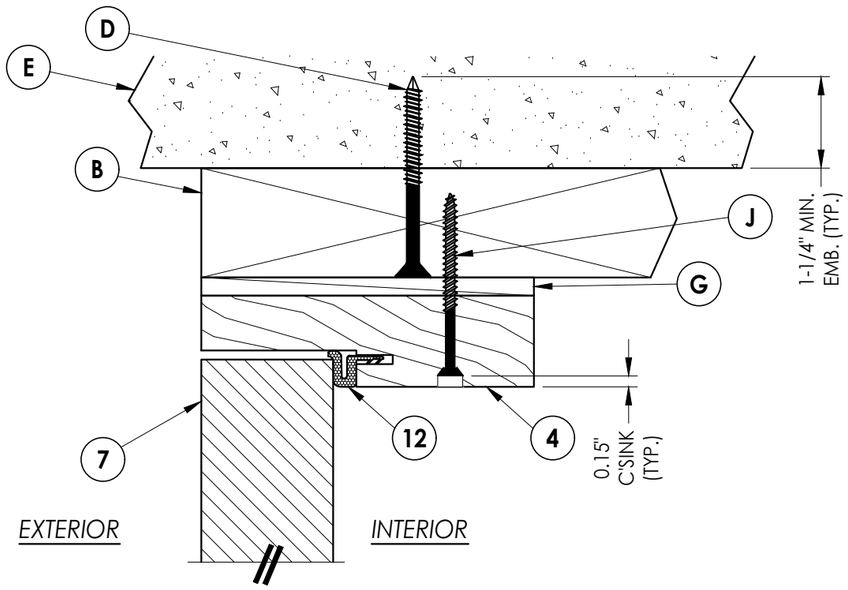

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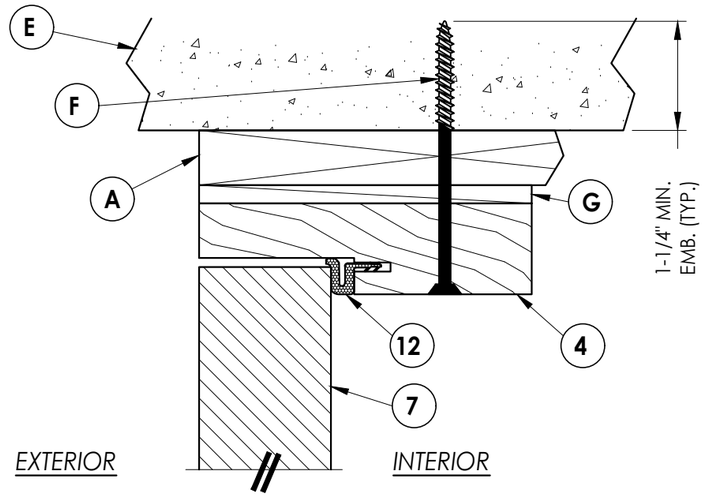

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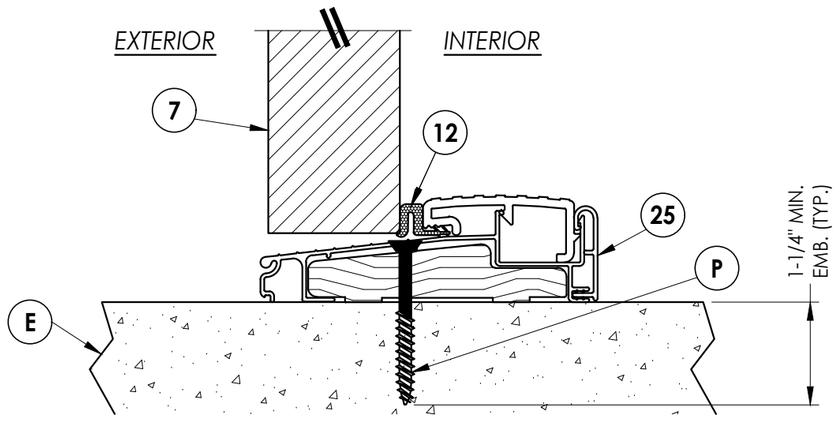
Shown w/1X sub-buck



3/4 **VERTICAL CROSS SECTION**

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P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
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PRODUCT: *STEVES AND SONS*

PART OR ASSEMBLY: *VERTICAL CROSS SECTIONS*

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3	8/07/23	UPDATE TO 8TH ED. (2023) FBC	LFS
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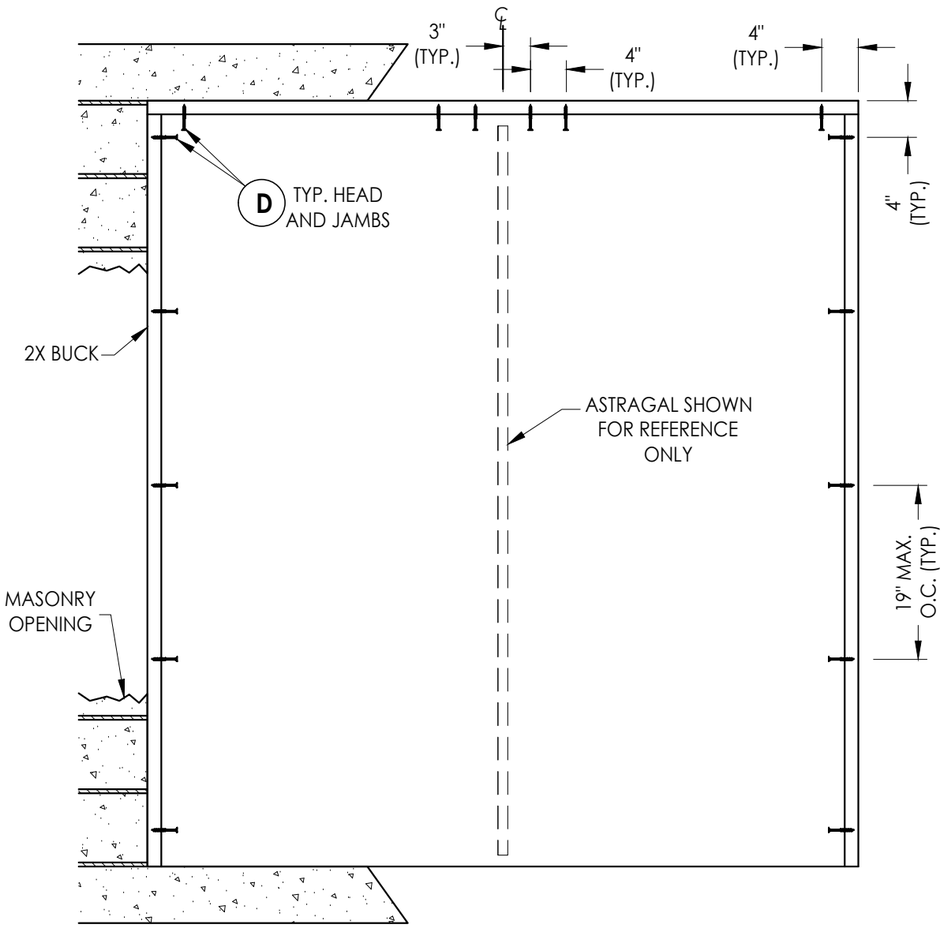

BUCK ANCHORING

Documents Prepared By:
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Phone No.: 813.659.9197
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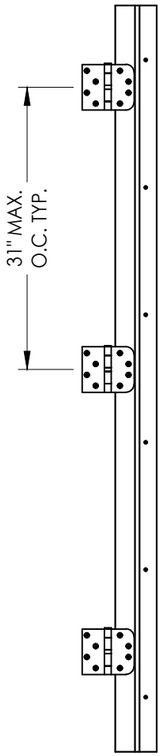

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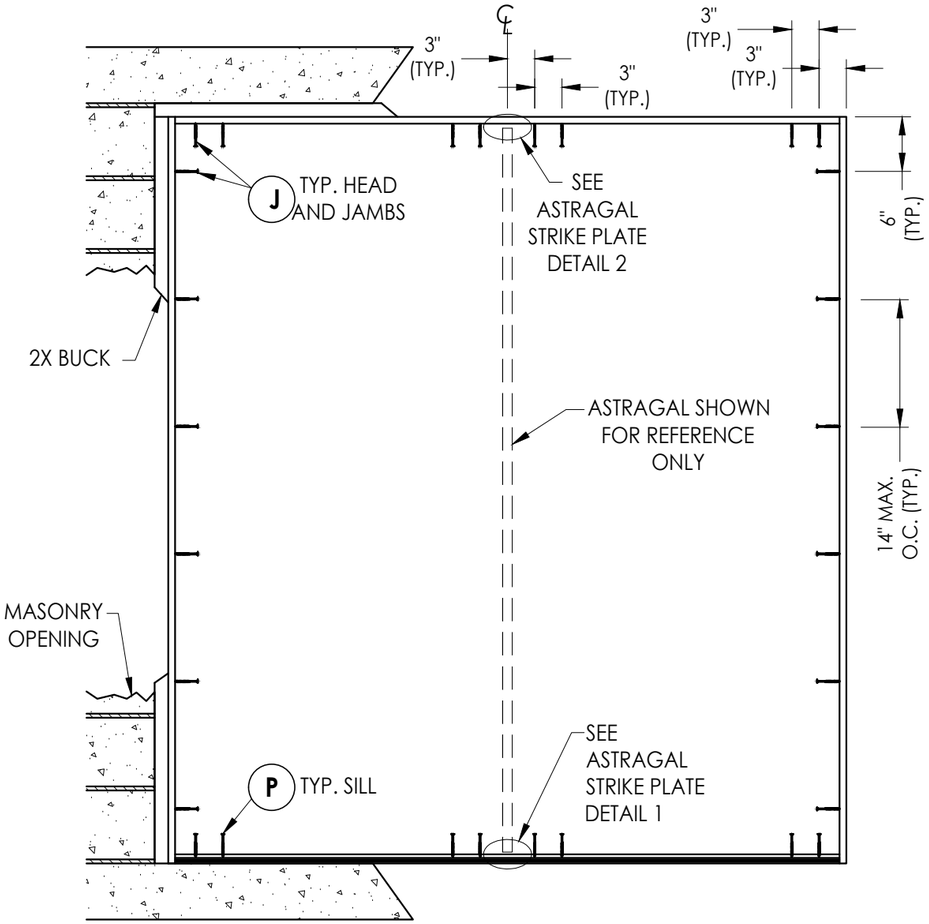

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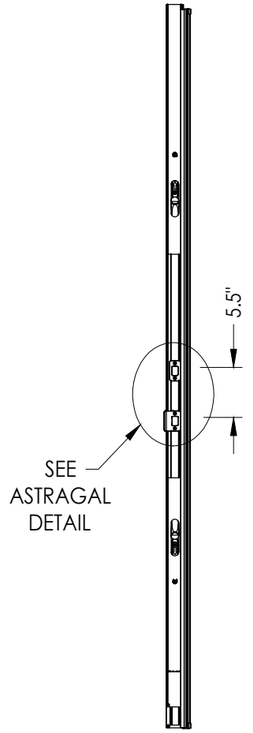

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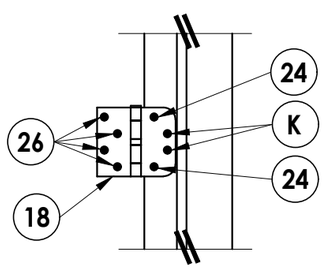

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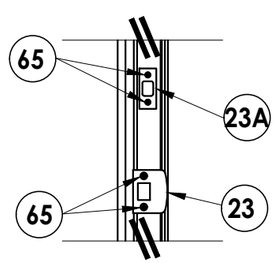

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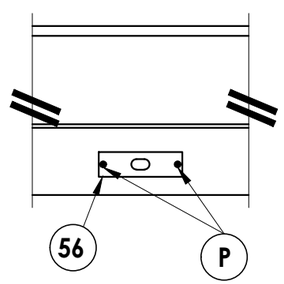
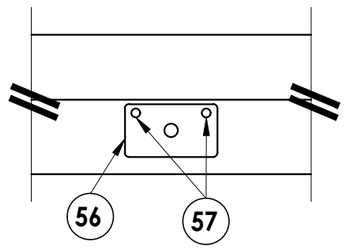


ASTRAGAL STRIKE PLATE
"DETAIL 1"



ASTRAGAL STRIKE PLATE
"DETAIL 2"

Documents Prepared By:
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FBPE Registry No. 9813

PRODUCT:
STEVES AND SONS

PART OR ASSEMBLY:
FRAME ANCHORING
2X BUCK MASONRY CONSTRUCTION

NO.	DATE	REVISIONS	BY
3	8/07/23	UPDATE TO 8TH ED. (2023) FBC	LFS
2	9/16/20	UPDATE TO 7TH ED. (2020) FBC	LFS
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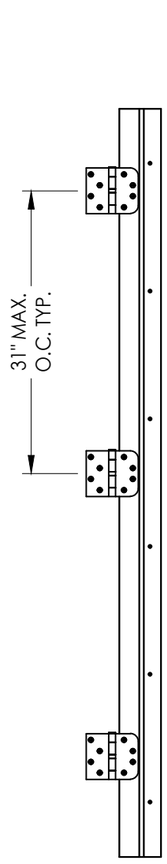

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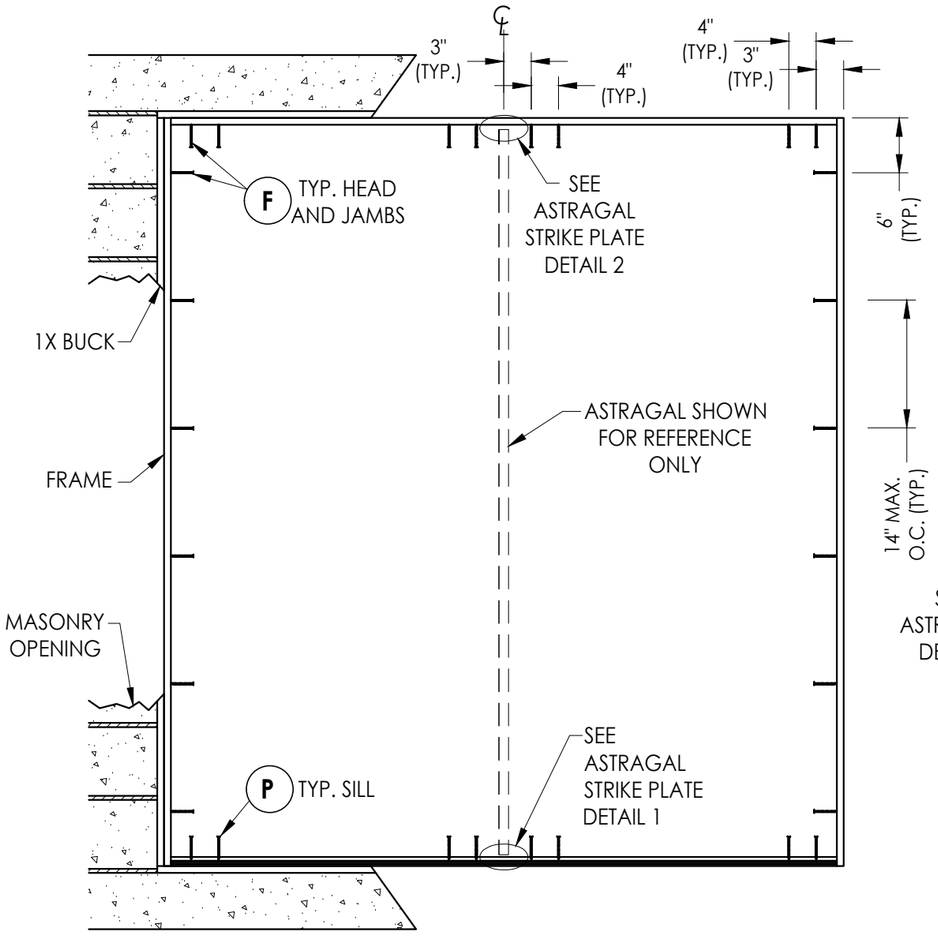
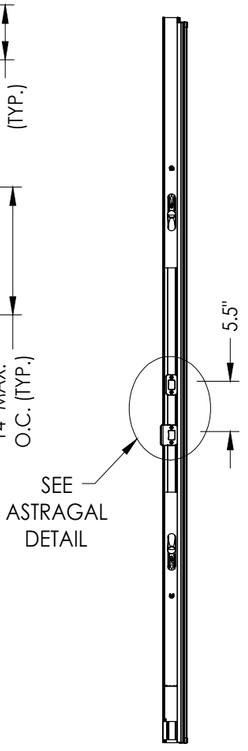
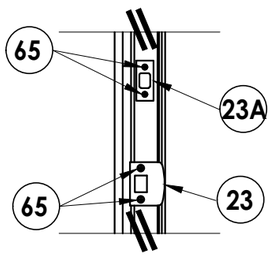


FRAME ANCHORING
Masonry 1X buck construction



ASTRAGAL



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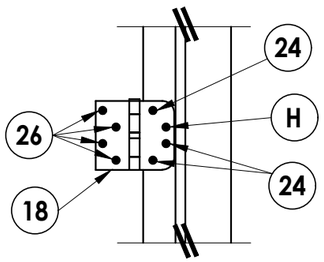

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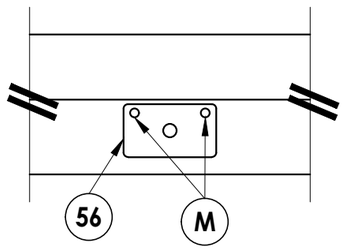
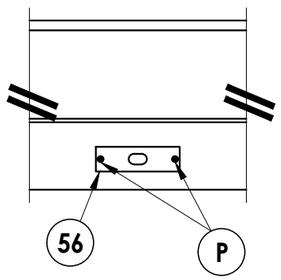


ASTRAGAL STRIKE PLATE
"DETAIL 2"



ASTRAGAL STRIKE PLATE
"DETAIL 1"

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PRODUCT: *STEVES AND SONS*

PART OR ASSEMBLY: *FRAME ANCHORING 1X BUCK MASONRY CONSTRUCTION*

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3	8/07/23	UPDATE TO 8TH ED. (2023) FBC	LFS
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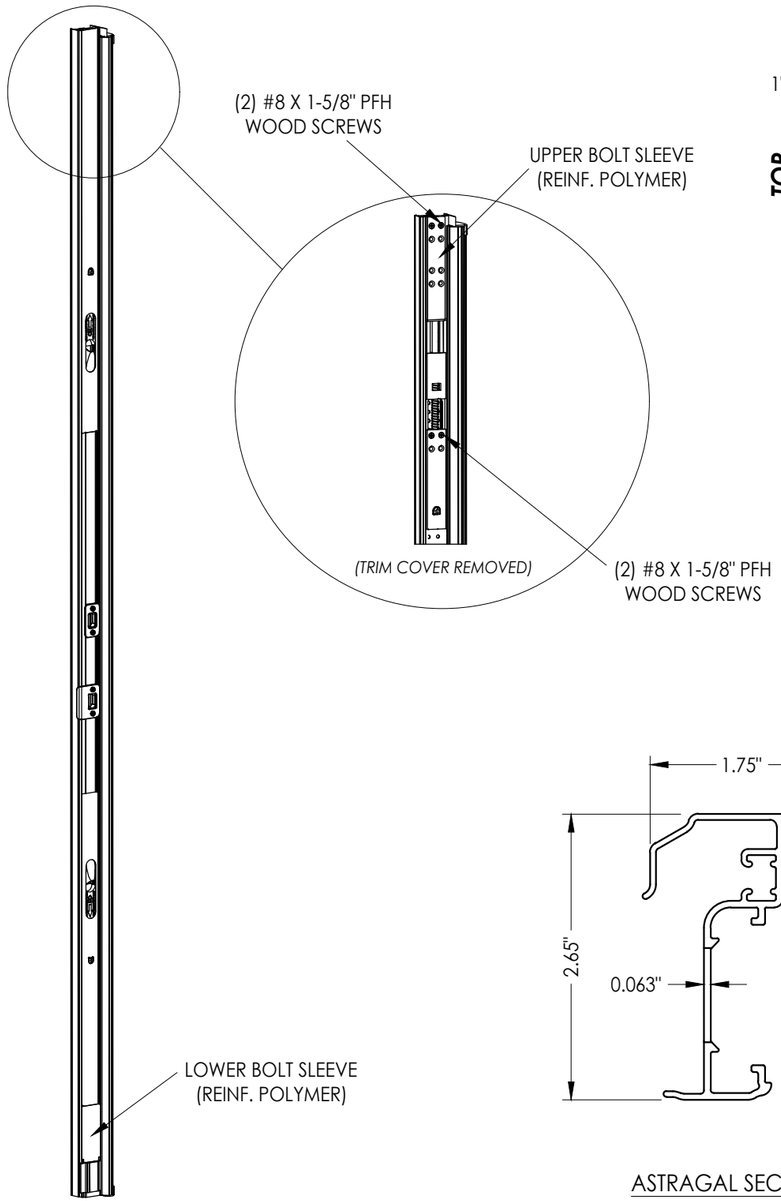
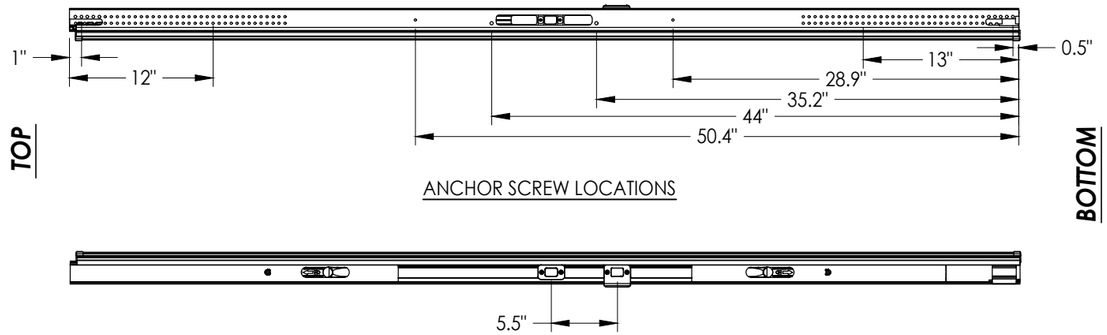
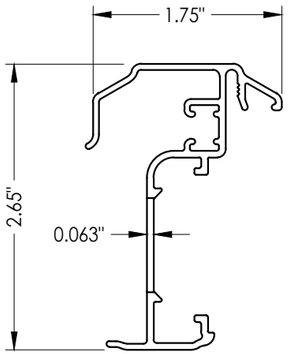




ANCHOR SCREW LOCATIONS

HARDWARE LOCATIONS



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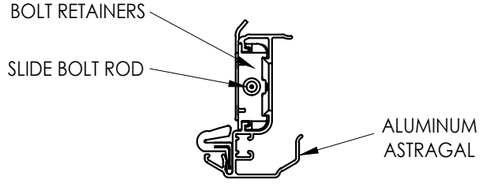
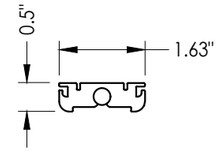
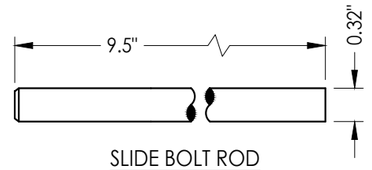


55 ***ALUMINUM ASTRAGAL***
By Endura Products



BOLT RETAINER
(GF NYLON)



SLIDE BOLT ROD
(STEEL)

ULTIMATE HURRICANE ASTRAGAL

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

PRODUCT: *STEVES AND SONS*

PART OR ASSEMBLY: *ENDURA ASTRAGAL DETAILS*

NO.	DATE	REVISIONS	BY
3	8/07/23	UPDATE TO 8TH ED. (2023) FBC	LFS
2	9/16/20	UPDATE TO 7TH ED. (2020) FBC	JK
1	10/08/17	UPDATE TO 6TH ED. (2017) FBC	LFS

DATE: 7/18/15
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-17903.2
SHEET 8 OF 9

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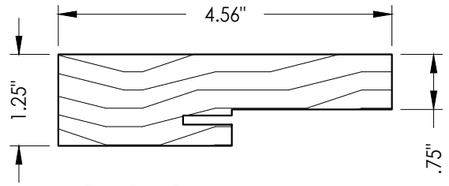
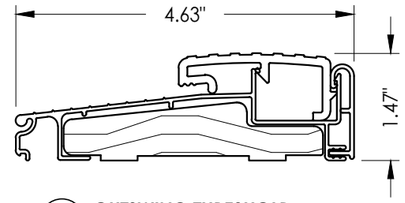
BILL OF MATERIALS

ITEM	DESCRIPTION	MATERIAL
A	1X BUCK SG >= 0.55	WOOD
B	2X BUCK SG >= 0.55	WOOD
D	1/4" X 2-3/4" DeWALT OR ITW PFH CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	1/4" X 3-3/4" ITW PFH CONCRETE SCREW	STEEL
G	MAX. 1/4" SHIM SPACE	-
H	1/4" X 3-1/4" ITW PFH CONCRETE SCREW	STEEL
J	#10 X 2-1/2" PFH WS (1.15" MIN. EMBEDMENT)	STEEL
K	#9 X 2" PFH WS	STEEL
M	3/16" X 3-1/4" ITW PFH CONCRETE SCREW	STEEL
P	1/4" X 2-1/4" ITW PFH CONCRETE SCREW	STEEL
3	HINGE JAMB - FINGER-JOINT PINE - SG >= 0.42	WOOD
4	HEAD - FINGER-JOINT PINE - SG >= 0.42	WOOD
7	DOOR PANEL - SEE DOOR PANEL DETAIL SHEET FOR CONSTRUCTION DETAILS	-
12	WEATHERSTRIP QEBD650 Q-LON	-
18	3.983" X 4.0" HINGE MIN 0.098" THICK	STEEL
21	PASSAGE LOCK - KWIKSET SERIES	-
22	DEADBOLT - KWIKSET SERIES (660)	-
23	STRIKE PLATE	STEEL
23A	DEADBOLT STRIKE	STEEL
24	#9 X 5/8" PFH WS	STEEL
25	OUTSWING THRESHOLD ALUMINUM W/ COMPOSITE SUBSTRATE	ALUM./ COMP.
26	#9 X 1" PFH WS	STEEL
30	LATCH & HINGE STILE & TOP RAIL - SG >= 0.42	POPLAR
31	LVL LOCK BLOCK	POPLAR
34	BOTTOM RAIL - POPLAR LVL	POPLAR
39	FIBERGLASS SKIN 0.030" MIN. THICKNESS	STEEL
46	DOOR PANEL FOAMED CORE	POLYURETHANE
55	ULTIMATE HURRICANE ASTRAGAL (ENDURA)	ALUMINUM
56	ASTRAGAL STRIKE PLATE	STEEL
57	#8 X 2-1/2" PFH WOOD SCREW	STEEL
65	#8 X 2-1/4" PFH WOOD SCREW	STEEL
66	#8 X 1" PFH WOOD SCREW	STEEL



4 3 2 **SIDE & HEAD JAMBS**



25 **OUTSWING THRESHOLD**

CONCRETE ANCHOR NOTES:

1. Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
2. 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.
3. Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
DeWALT ULTRACON+®	1/4"	1-1/4"	1"	4"
ITW TAPCON®	3/16"	1-1/4"	3"	1-1/2"

WOOD SCREW INSTALLATION NOTES:

1. *Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.*

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