

STEVES AND SONS

203 Humble Ave.
San Antonio, TX 78225

Glazed Fiberglass Double Door w/ or w/out Sidelites INSWING / OUTSWING "IMPACT"

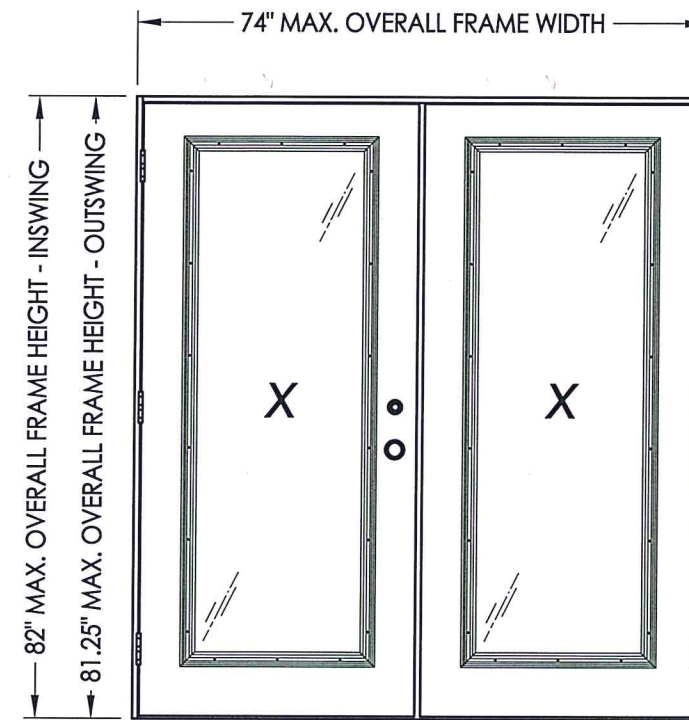
EVALUATED FOR USE IN THE STATE OF TEXAS

The Fiberglass 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. This system has been tested and evaluated as a large missile impact protective system for installation in areas that require wind borne debris protection. This product meets missile level "D" as defined in ASTM E 1996.
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.

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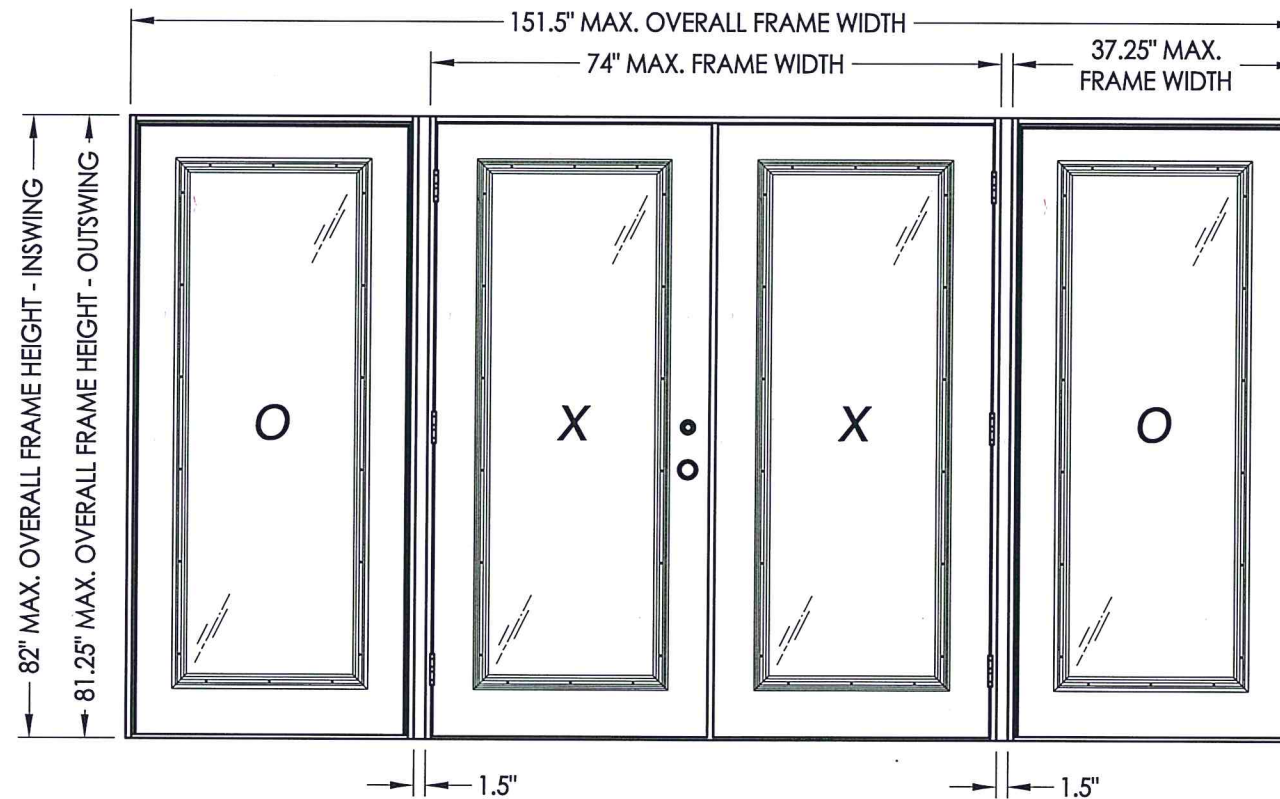
SHEET#	DESCRIPTION
1	Typical elevations, design pressures & general notes
2	Door panel & glazing details
3	Sidelite panel & glazing details
4	Elevations
5	Horizontal cross sections
6	Vertical cross sections
7	Vertical cross sections
8	Frame anchoring
9	Frame anchoring
10	Astragal details
11	Components and bill of materials



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

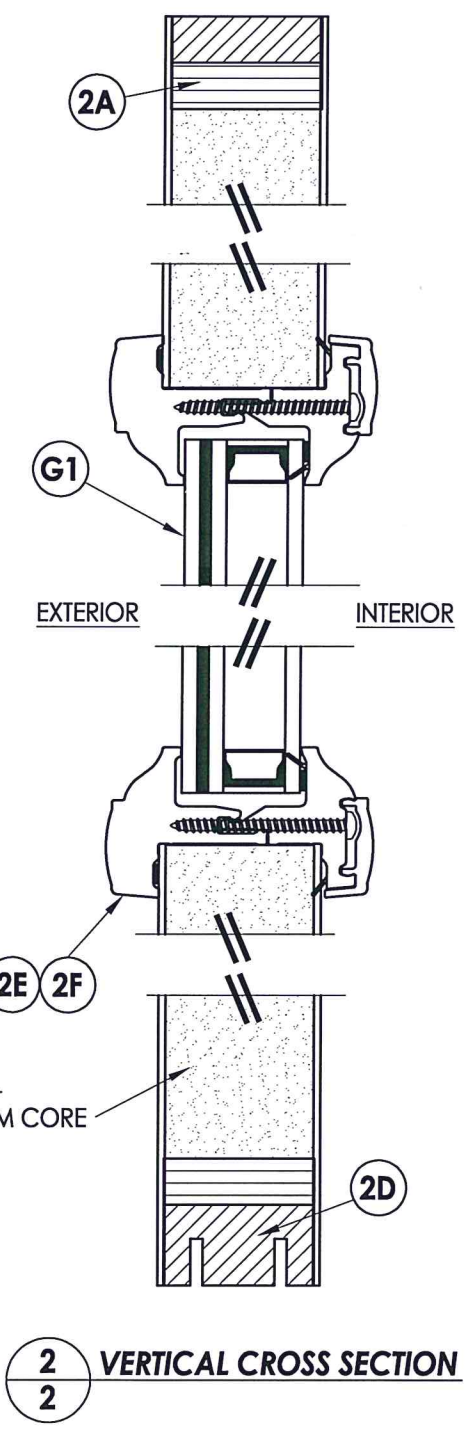
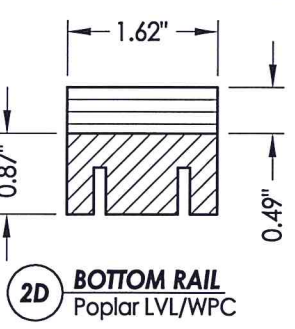
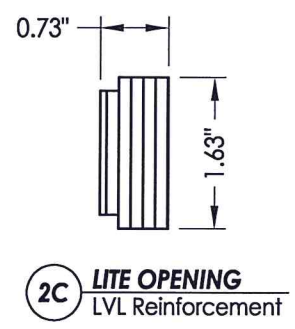
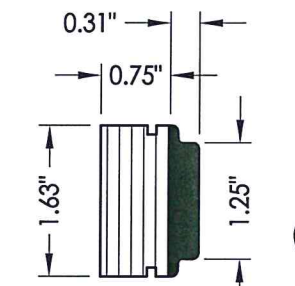
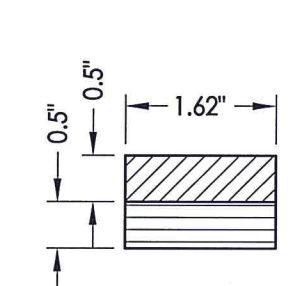
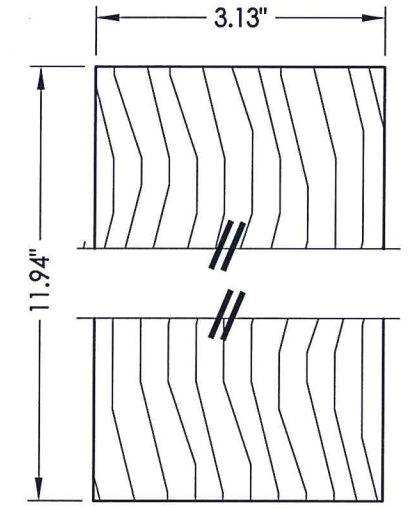
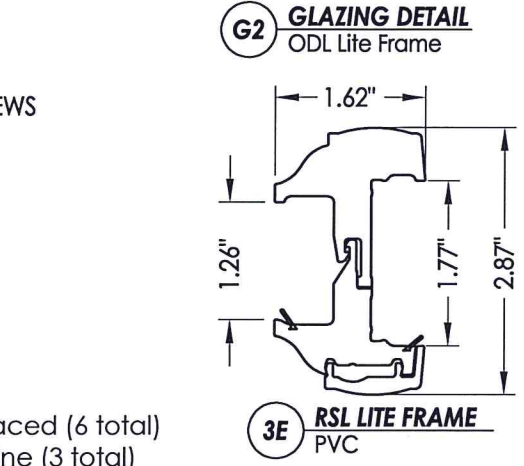
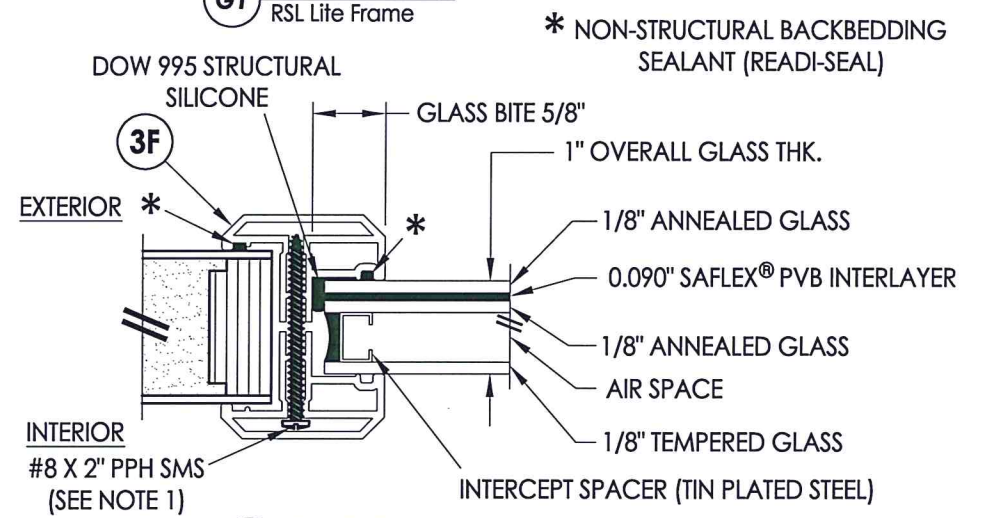
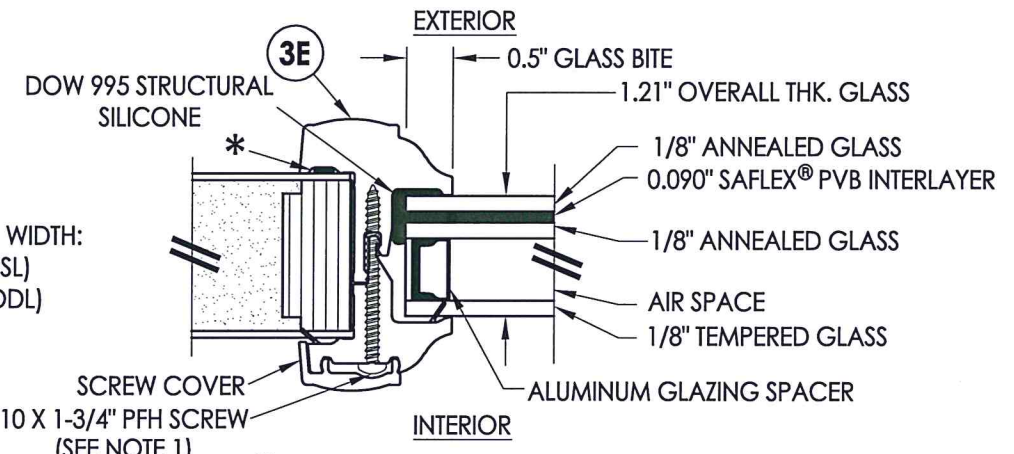
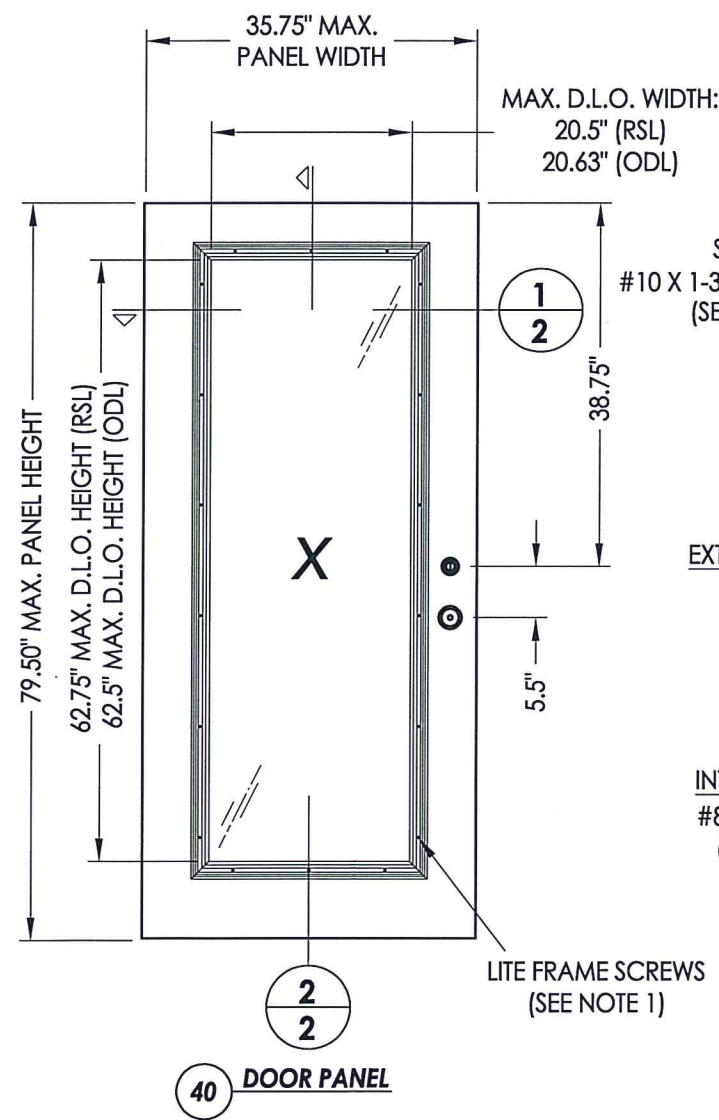
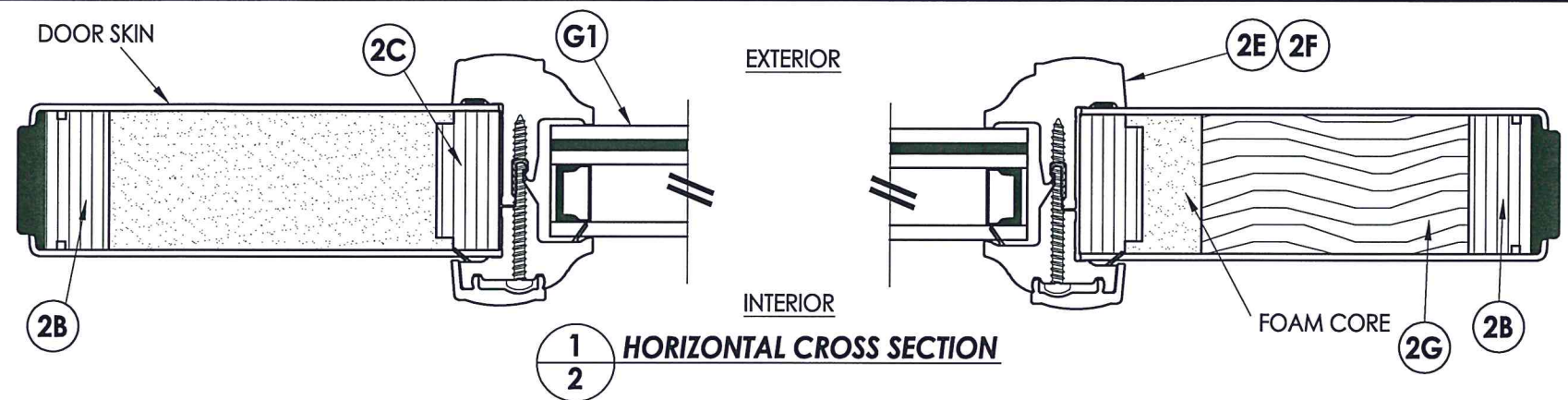
RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Vairico FL, 33595
Phone No.: 813.659.9197

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



CONFIGURATION	MAX. FRAME DIMENSION	MAX. SIDELITE D.L.O. DIMENSION	GLASS TYPE	DESIGN PRESSURE (PSF) INSWING		DESIGN PRESSURE (PSF) OUTSWING	
				POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
XX	74.00" x 82.00"	20.63" x 62.75"	G1,G2	+45.0	-50.0	+50.0	-50.0
OXXO	151.50" x 82.00"	20.63" x 62.75"		+45.0	-50.0	+50.0	-50.0

PRODUCT: STEVES AND SONS FIBERGLASS DOOR	
PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES	
5/28/20	UPDATE TO 2018 IRC/IRC CODE AND REVISE IMPACT LITE FRAME
7/21/15	Manuf./Product Name Change
NO.	DATE
REVISIONS	
DATE: 04/13/10	
SCALE: N.T.S.	
DWG. BY: JK	
CHK. BY: LFS	
DRAWING NO.: TX-4087	
SHEET 1 OF 11	



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

PRODUCT: STEVES AND SONS FIBERGLASS DOOR

PART OR ASSEMBLY: DOOR PANEL & GLAZING DETAILS

NO.	DATE	REVISIONS
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME Manuf./Product Name Change
1	7/21/15	

DATE: 04/13/10

SCALE: N.T.S.

DWG. BY: JK

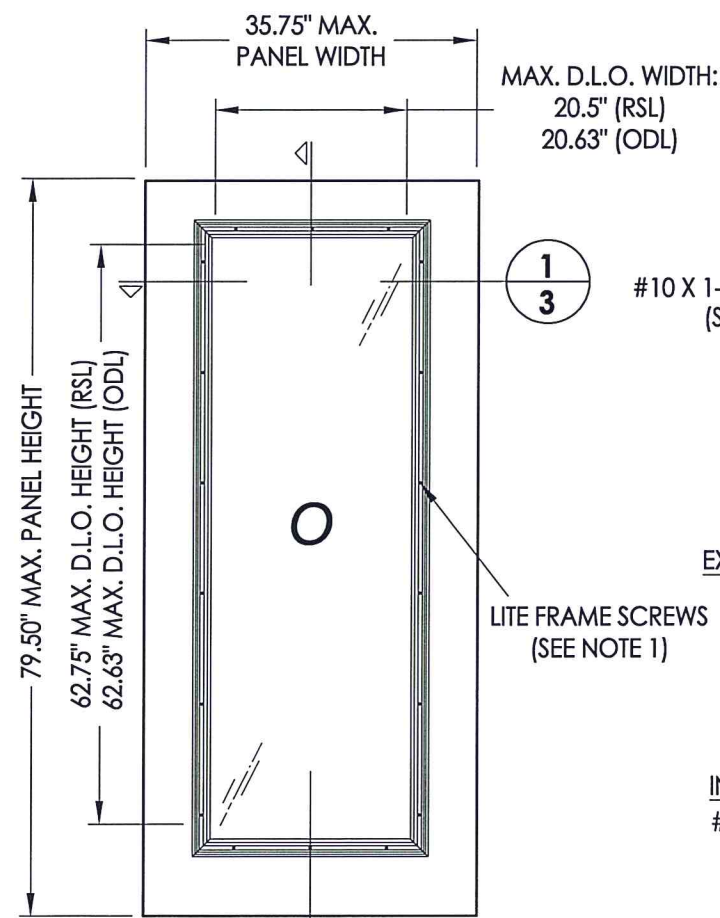
CHK. BY: LFS

DRAWING NO.: TX-4087

SHEET 2 OF 11

NOTE:

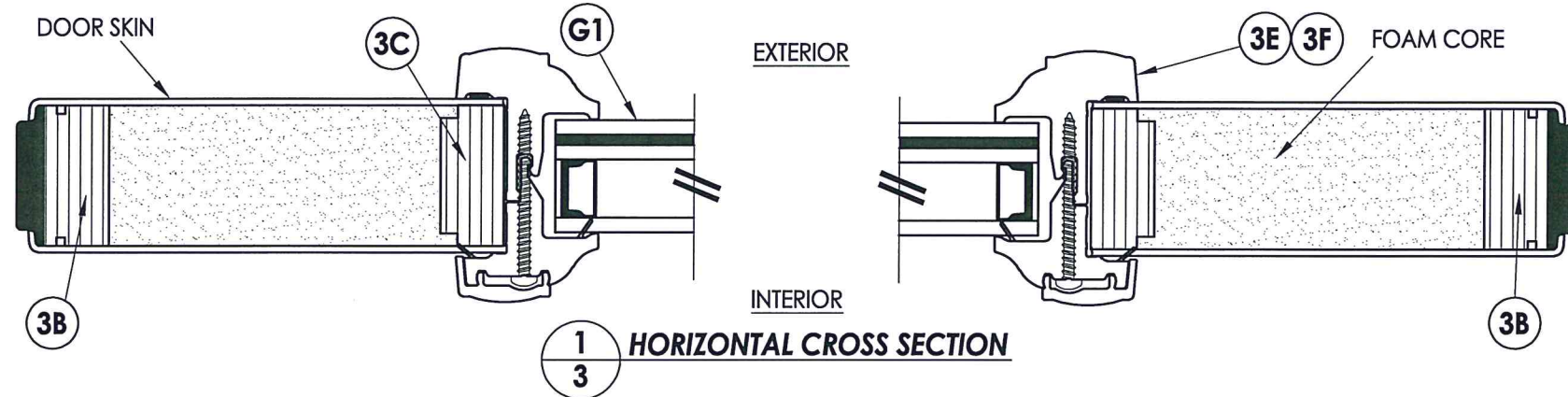
1. Spacing for lite frame screws is as follows:
Sides: 4.5"-5.75" from corners plus 4 more equally spaced (6 total)
Top & Bottom: 4.25"-4.5" from corners and @ centerline (3 total)



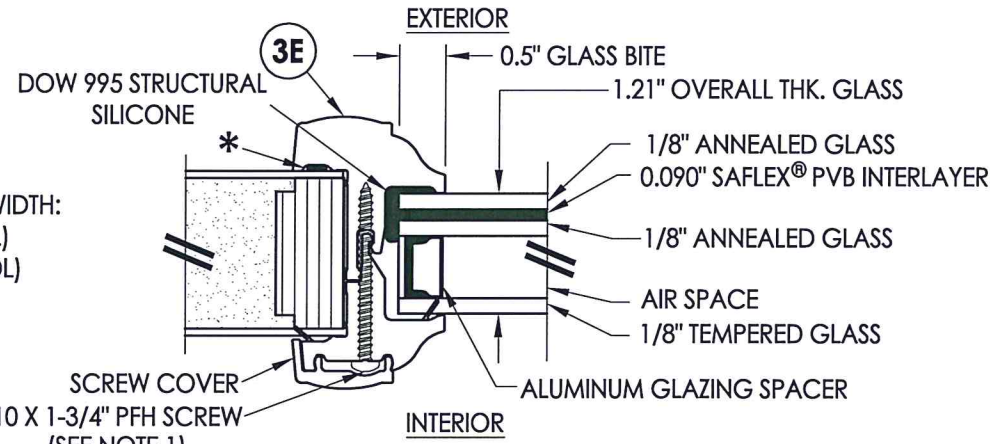
50 SIDELITE PANEL

FIBERGLASS DOOR SKIN: MIN. 0.079\"/>

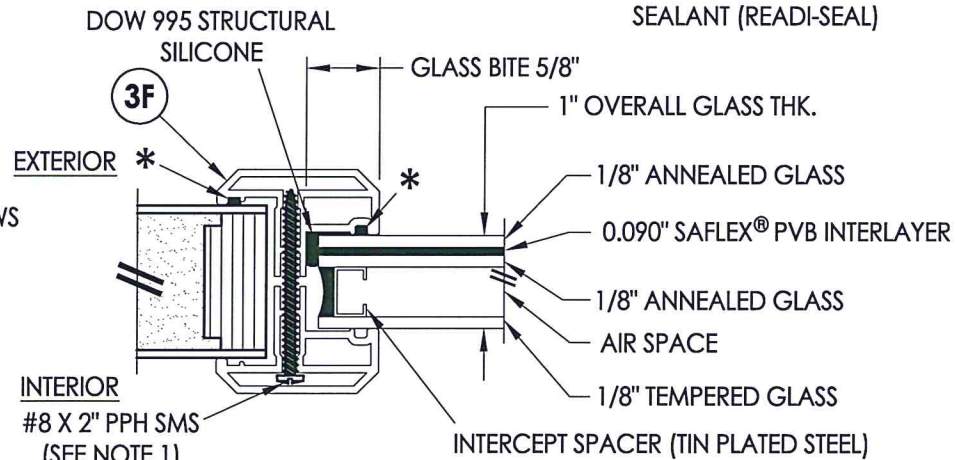
- NOTE:
 1. Spacing for lite frame screws is as follows:
 Sides: 4.5\"/>



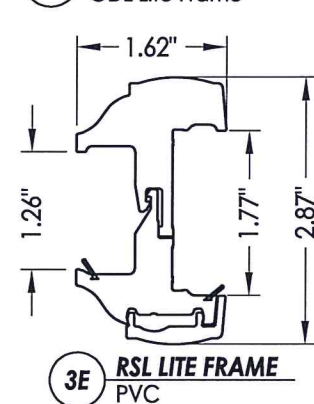
1 HORIZONTAL CROSS SECTION



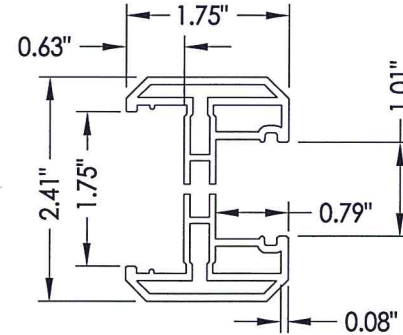
G1 GLAZING DETAIL
RSL Lite Frame



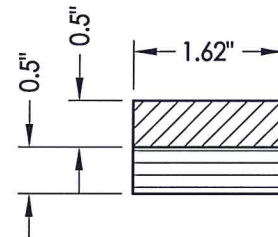
G2 GLAZING DETAIL
ODL Lite Frame



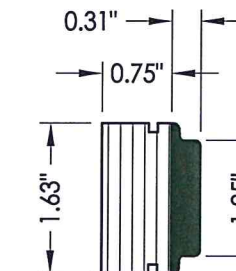
3E RSL LITE FRAME
PVC



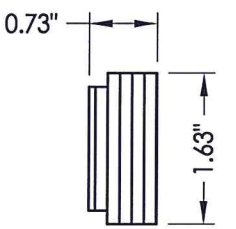
3F ODL LITE FRAME
Aluminum



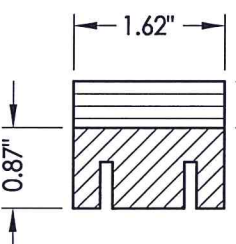
3A TOP RAIL
Poplar LVL/WPC



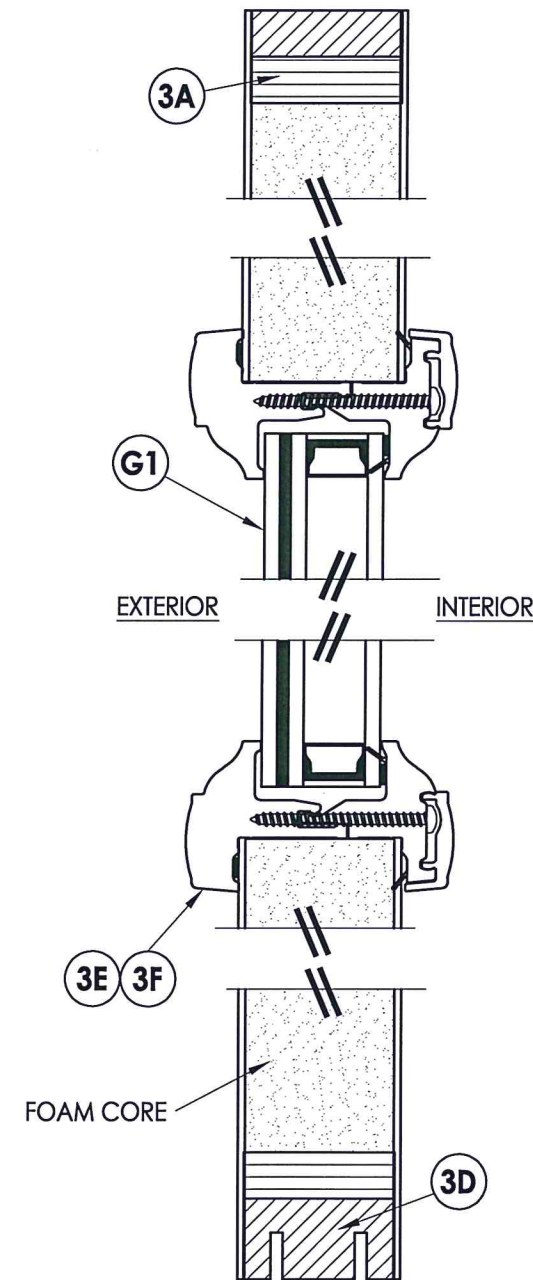
3B HINGE & LATCH STILE
LVL/PVC



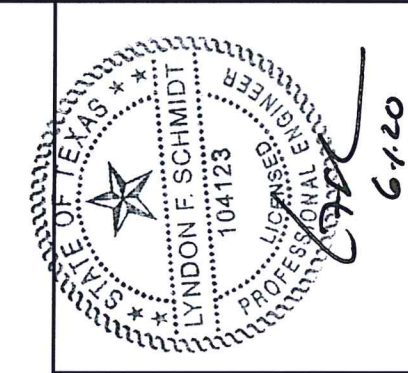
3C LITE OPENING
LVL Reinforcement



3D BOTTOM RAIL
Poplar LVL/WPC



2 VERTICAL CROSS SECTION



Documents Prepared By: Lyndon F. Schmidt, P.E.
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P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197

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PRODUCT: STEVES AND SONS
FIBERGLASS DOOR

PART OR ASSEMBLY:
SIDELITE PANEL &
GLAZING DETAILS

NO.	DATE	REVISIONS
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1	7/21/15	Manuf./Product Name Change

DATE: 04/13/10

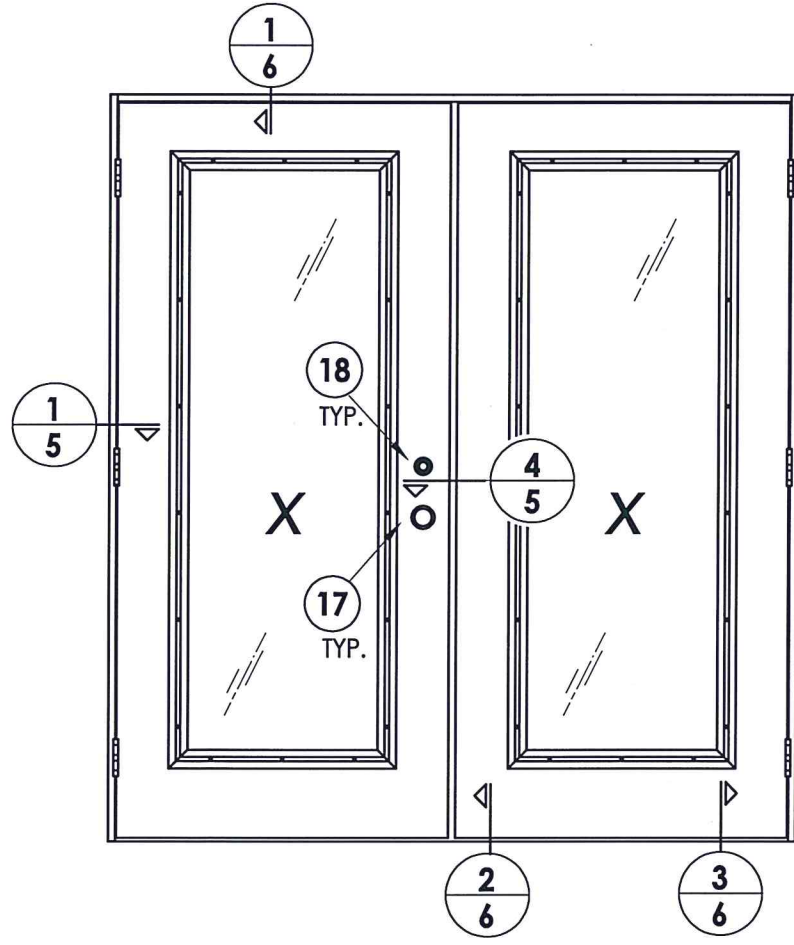
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DWG. BY: JK

CHK. BY: LFS

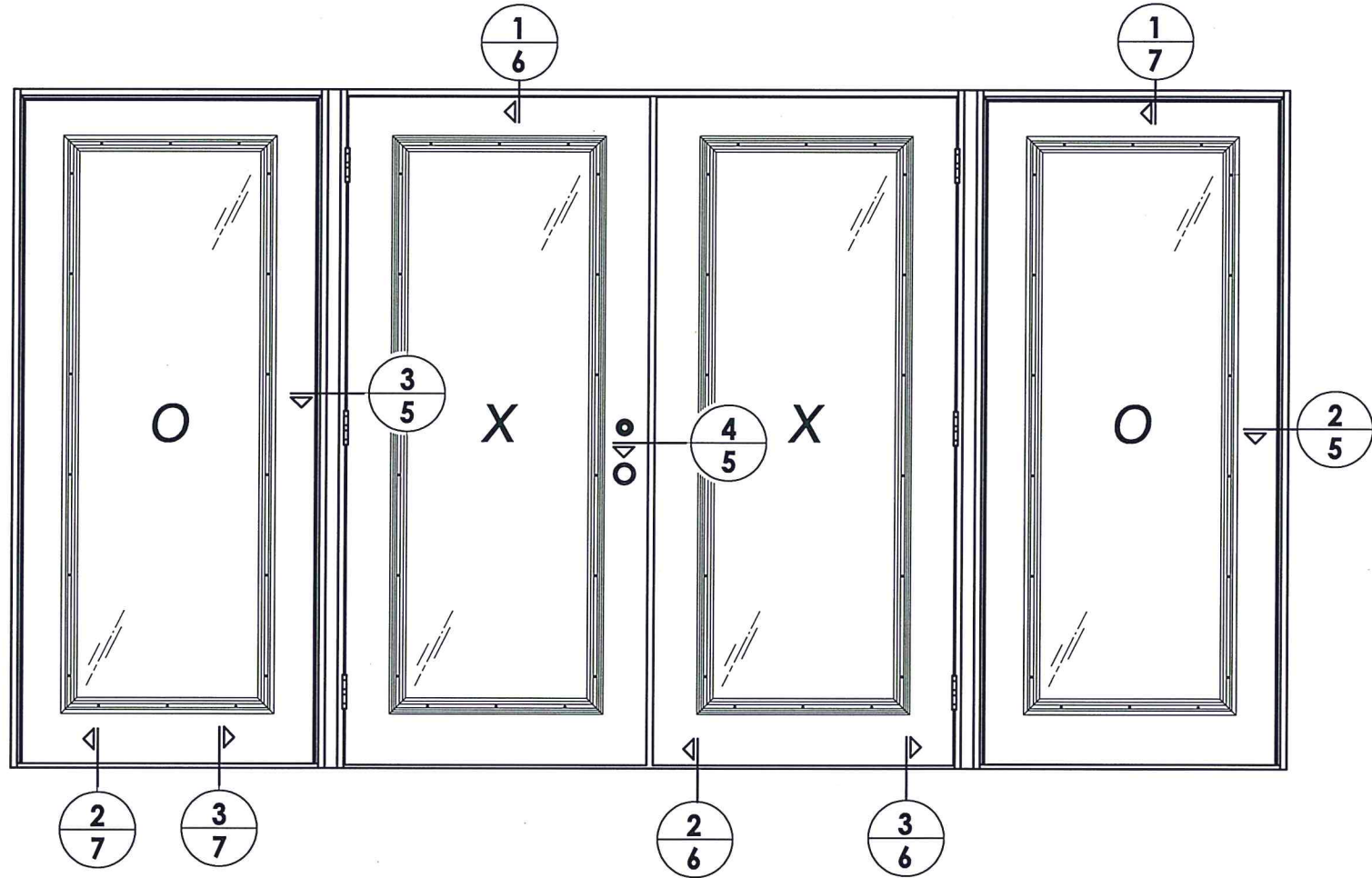
DRAWING NO.: TX-4087

SHEET 3 OF 11

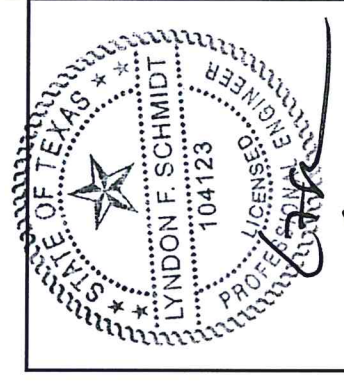


ELEVATION (XX)

HARDWARE CHART		
MANUFACTURER	MODEL	ITEM #
KWIKSET	LOCK: 200	17
	DEADBOLT: 600	18



ELEVATION (OXXO)



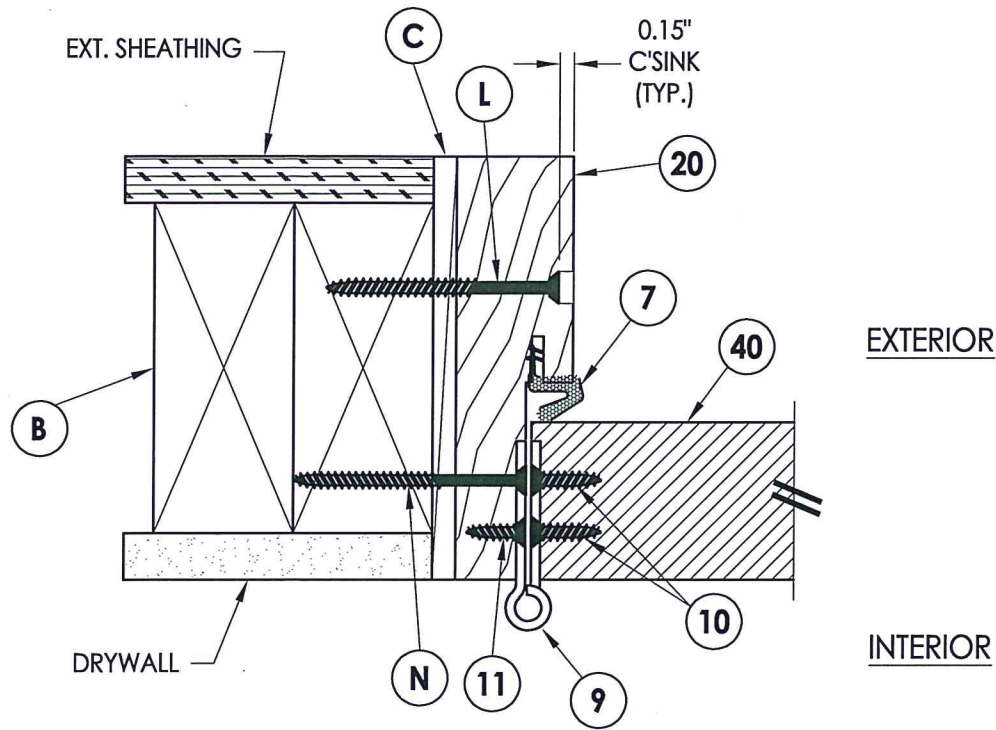
Documents Prepared By: Lyndon F. Schmidt, P.E.
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TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

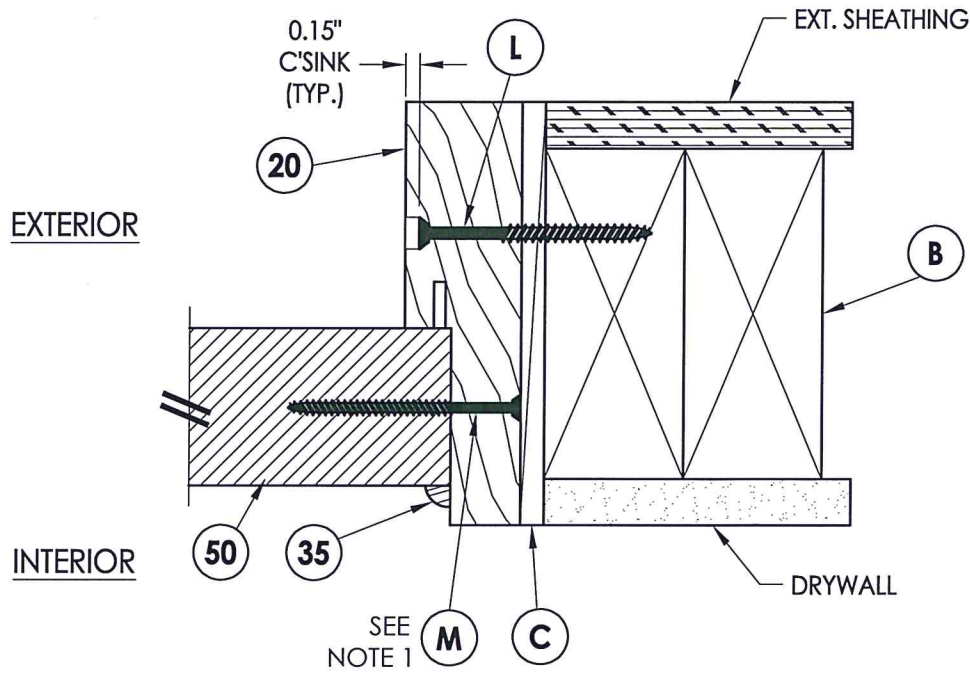
PRODUCT: STEVES AND SONS
FIBERGLASS DOOR
PART OR ASSEMBLY:
ELEVATIONS

NO.	DATE	REVISIONS
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME Manuf./Product Name Change
1	7/21/15	Manuf./Product Name Change
		LFS
		BY

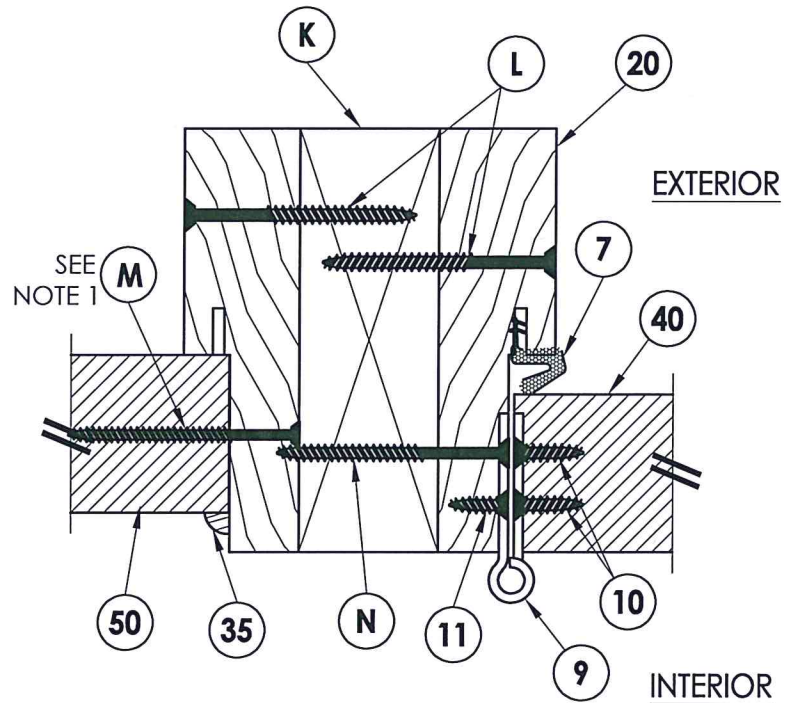
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CHK. BY: LFS
DRAWING NO.: TX-4087
SHEET 4 OF 11



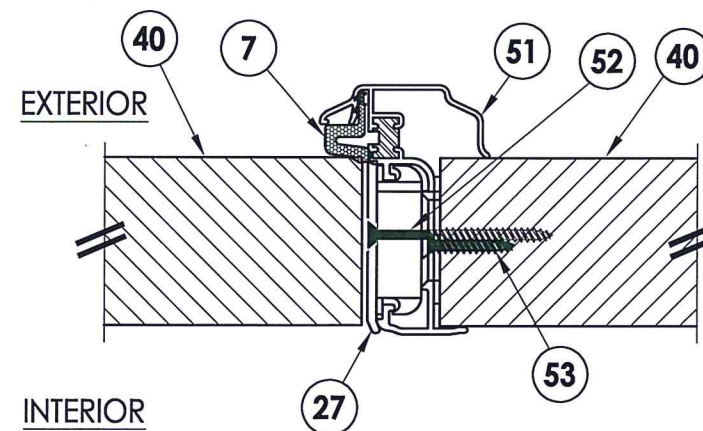
1 HORIZONTAL CROSS SECTION
5 Inswing shown - outswing also approved



2 HORIZONTAL CROSS SECTION
5 Inswing shown - outswing also approved



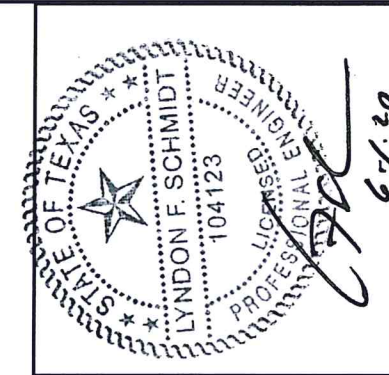
3 HORIZONTAL CROSS SECTION
5 Inswing shown - outswing also approved



4 HORIZONTAL CROSS SECTION
5 Inswing shown - outswing also approved

NOTE:

- Sidelite ass'y fasteners located 6" from each end and 6 more screws equally spaced between (8 screws total per jamb).



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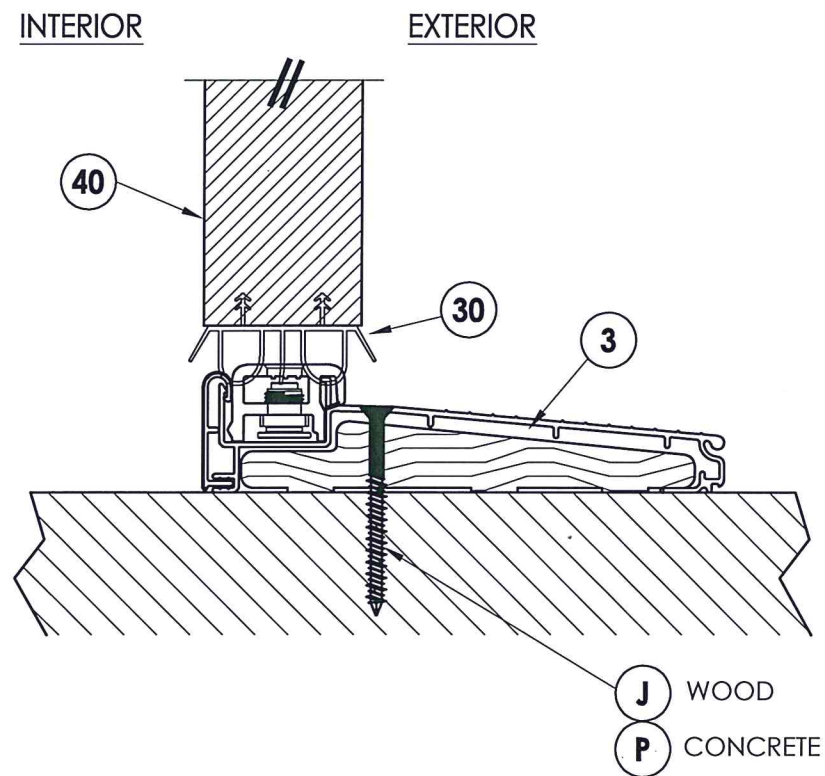
RW BUILDING CONSULTANTS, INC.
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 Phone No.: 813.659.9197

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 CERTIFICATE OF REGISTRATION # F-11852

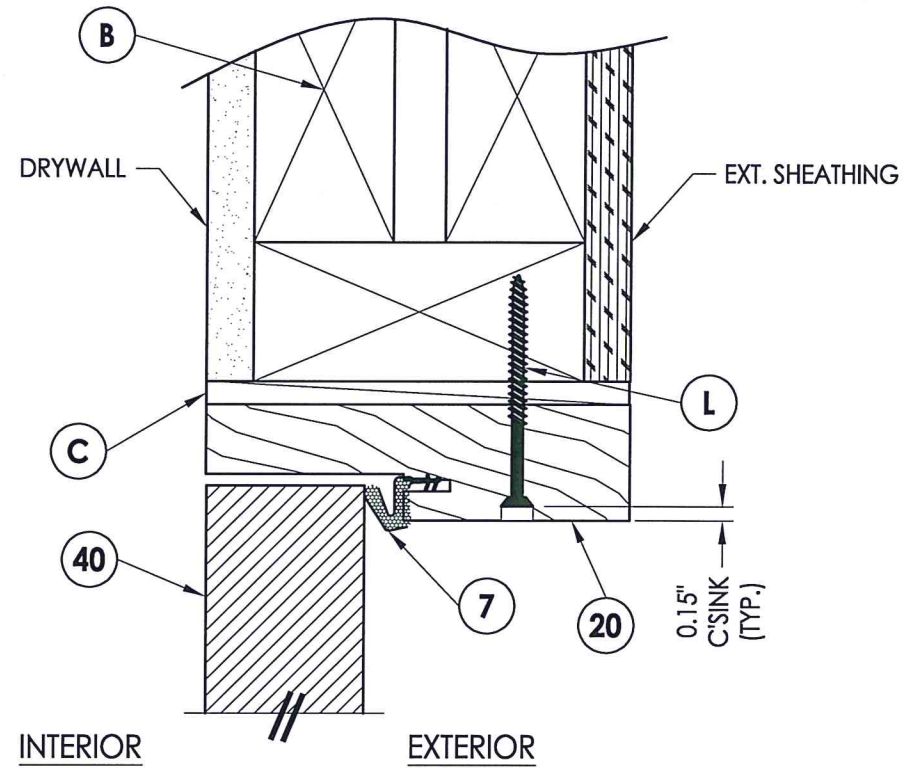
PRODUCT: STEVES AND SONS FIBERGLASS DOOR
 PART OR ASSEMBLY: HORIZONTAL CROSS SECTIONS

NO.	DATE	REVISIONS
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1	7/21/15	Manuf./Product Name Change
		BY

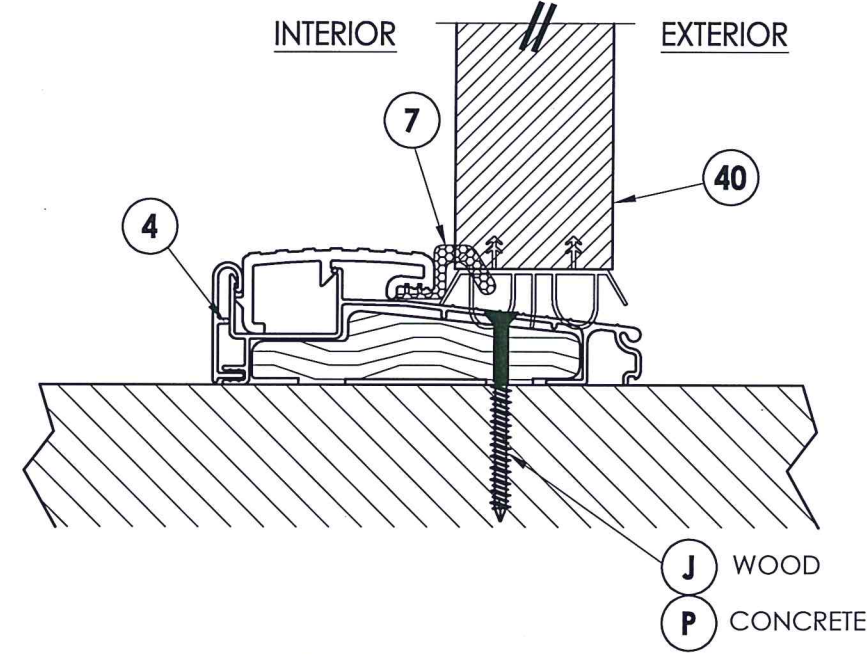
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 DWG. BY: JK
 CHK. BY: LFS
 DRAWING NO.: TX-4087
 SHEET 5 OF 11



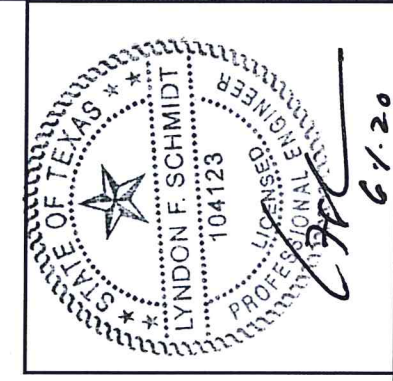
2 VERTICAL CROSS SECTION
6 Inswing configuration



1 VERTICAL CROSS SECTION
6 Inswing shown - outswing also approved



3 VERTICAL CROSS SECTION
6 Outswing configuration



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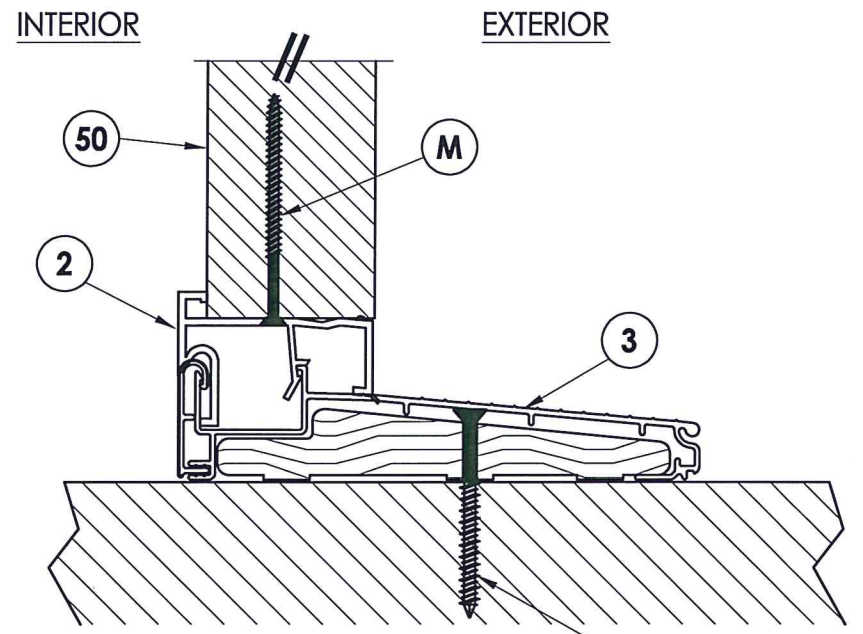
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CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: STEVES AND SONS
FIBERGLASS DOOR

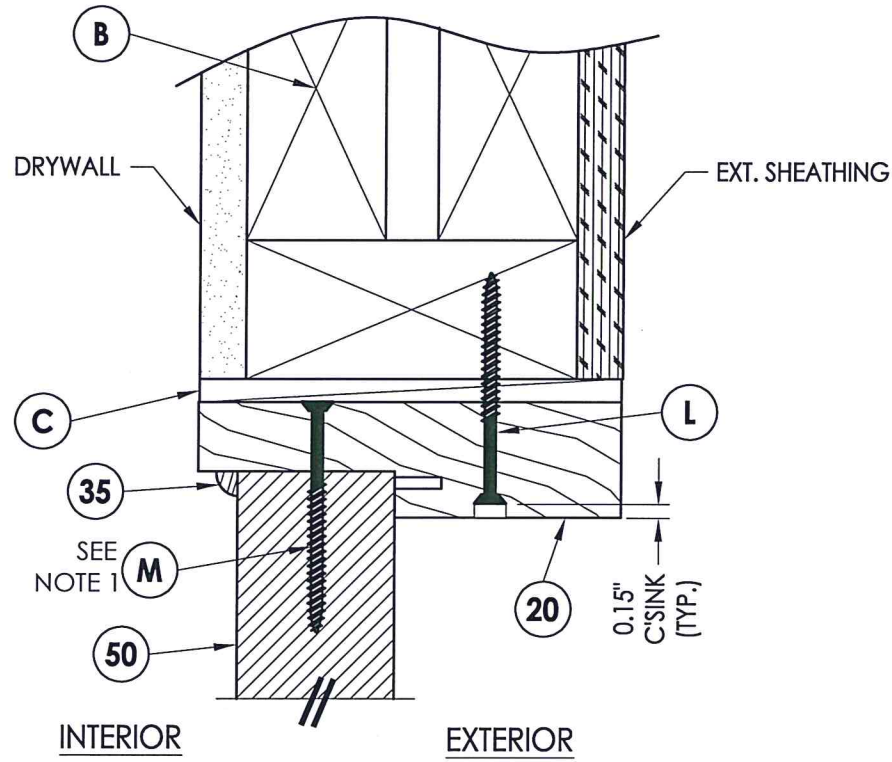
PART OR ASSEMBLY:
VERTICAL CROSS SECTIONS

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1	7/21/15	Manuf./Product Name Change	LFS

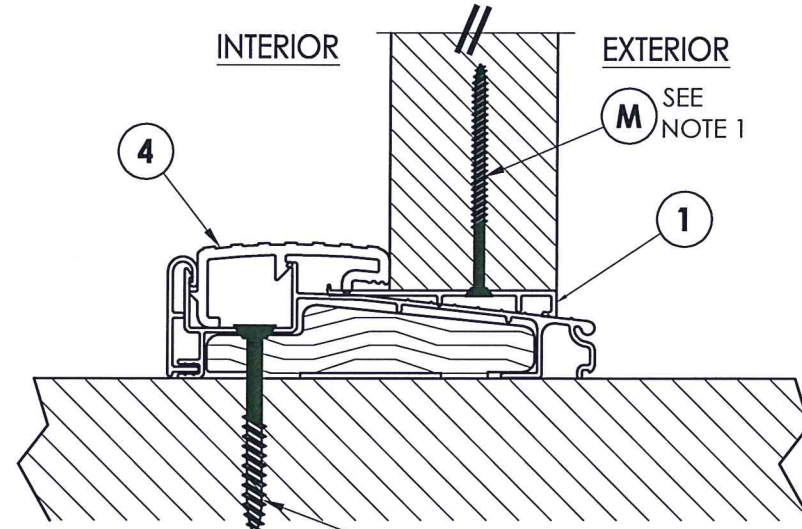
DATE: 04/13/10
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4087
SHEET 6 of 11



2 VERTICAL CROSS SECTION
7 Inswing configuration

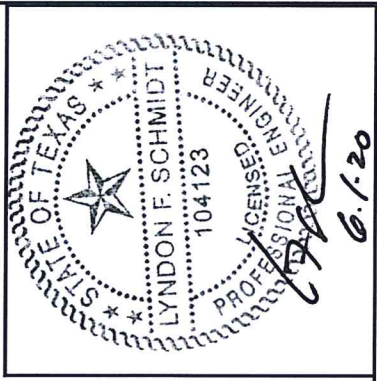


1 VERTICAL CROSS SECTION
7 Inswing shown - outswing also approved



3 VERTICAL CROSS SECTION
7 Outswing configuration

NOTE:
 1. Screws thru head and sill jamb located 3" from each end and on center line.

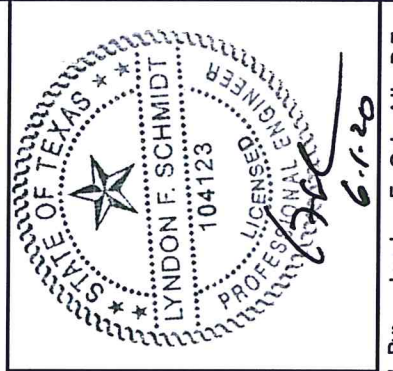
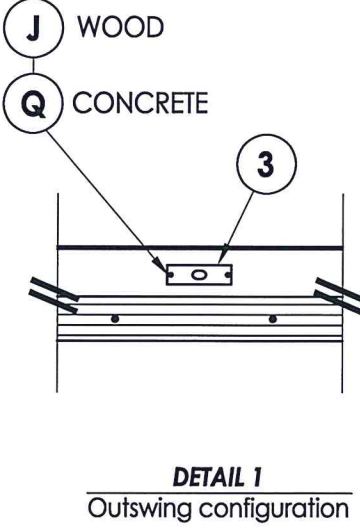
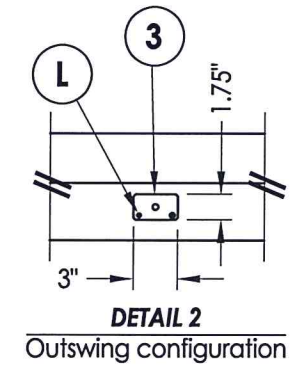
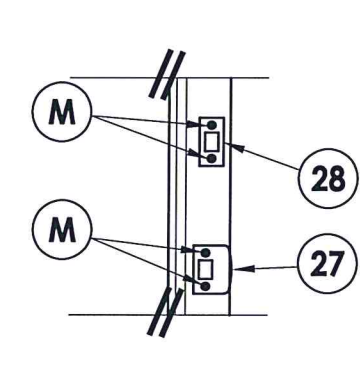
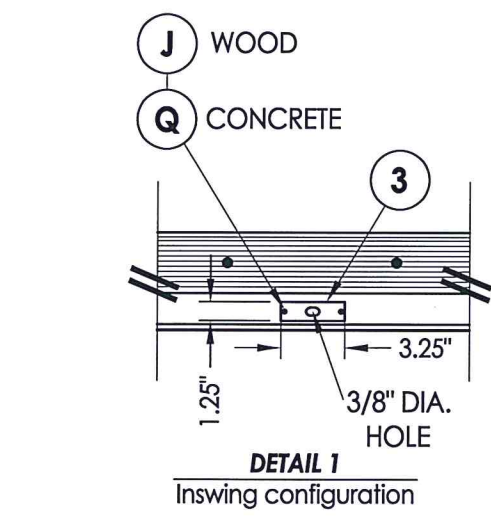
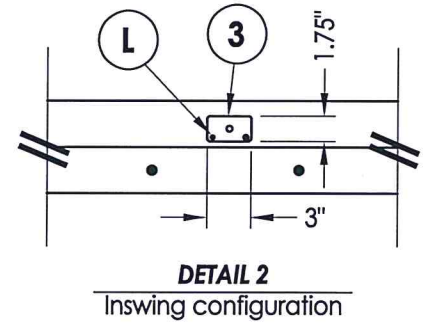
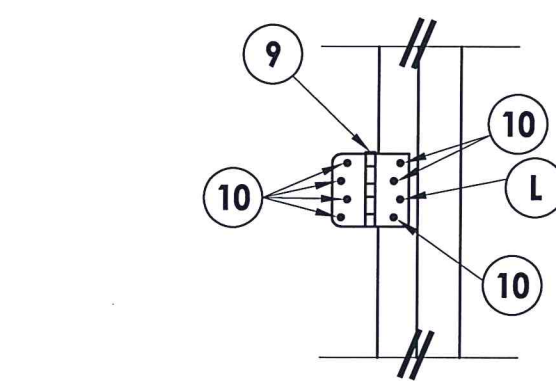
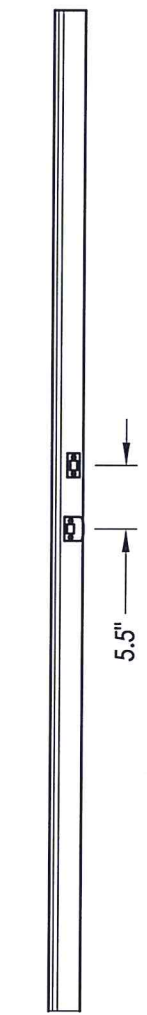
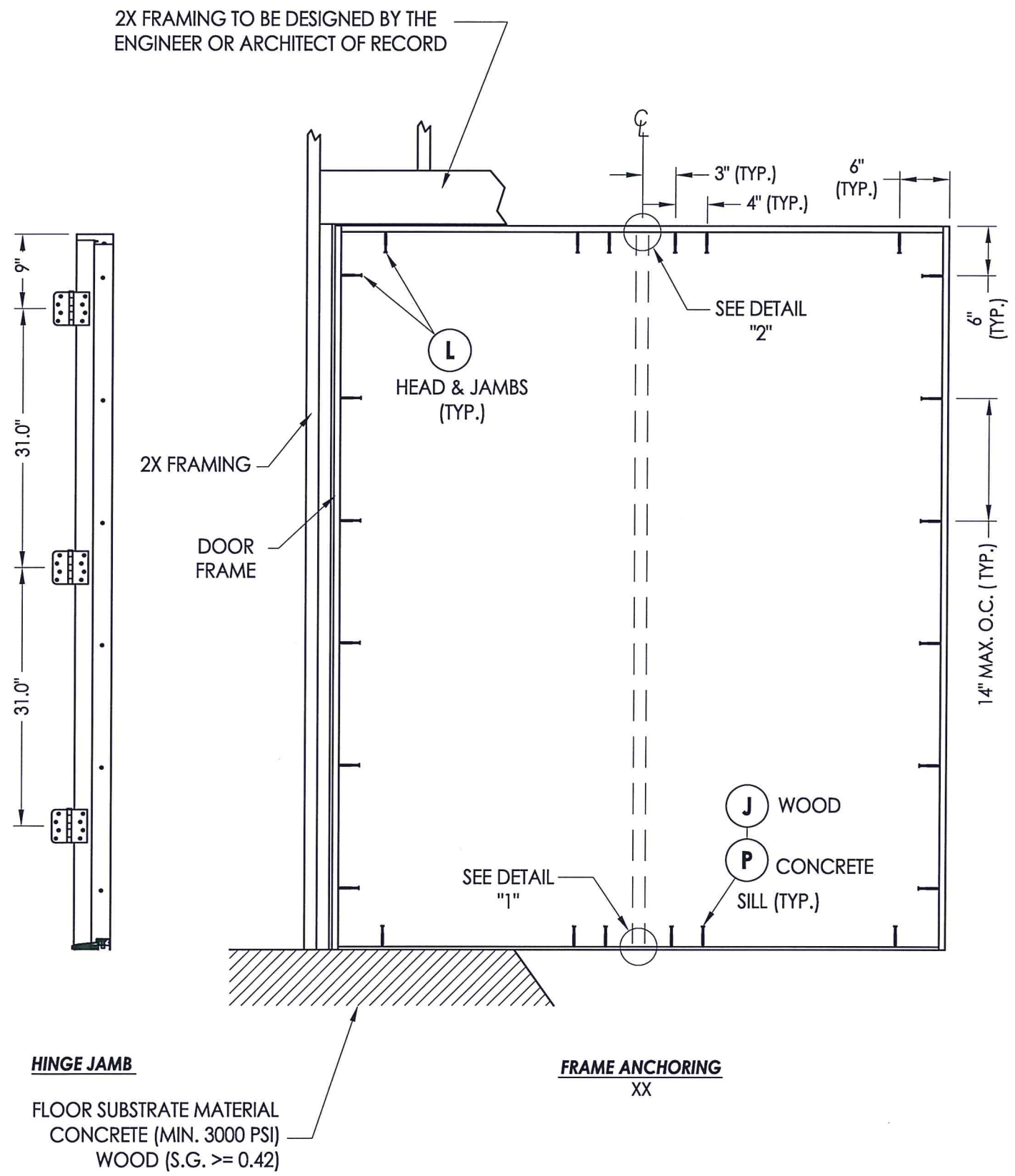


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 TEXAS BOARD OF PROFESSIONAL ENGINEERS
 CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: STEVES AND SONS FIBERGLASS DOOR
 PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

NO.	DATE	REVISIONS
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME Manuf./Product Name Change
1	7/21/15	

DATE: 04/13/10
 SCALE: N.T.S.
 DWG. BY: JK
 CHK. BY: LFS
 DRAWING NO.: TX-4087
 SHEET 7 OF 11



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PRODUCT: STEVES AND SONS FIBERGLASS DOOR

PART OR ASSEMBLY: FRAME ANCHORING

NO.	DATE	REVISIONS
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME Manuf./Product Name Change
1	7/21/15	Manuf./Product Name Change

DATE: 04/13/10

SCALE: N.T.S.

DWG. BY: JK

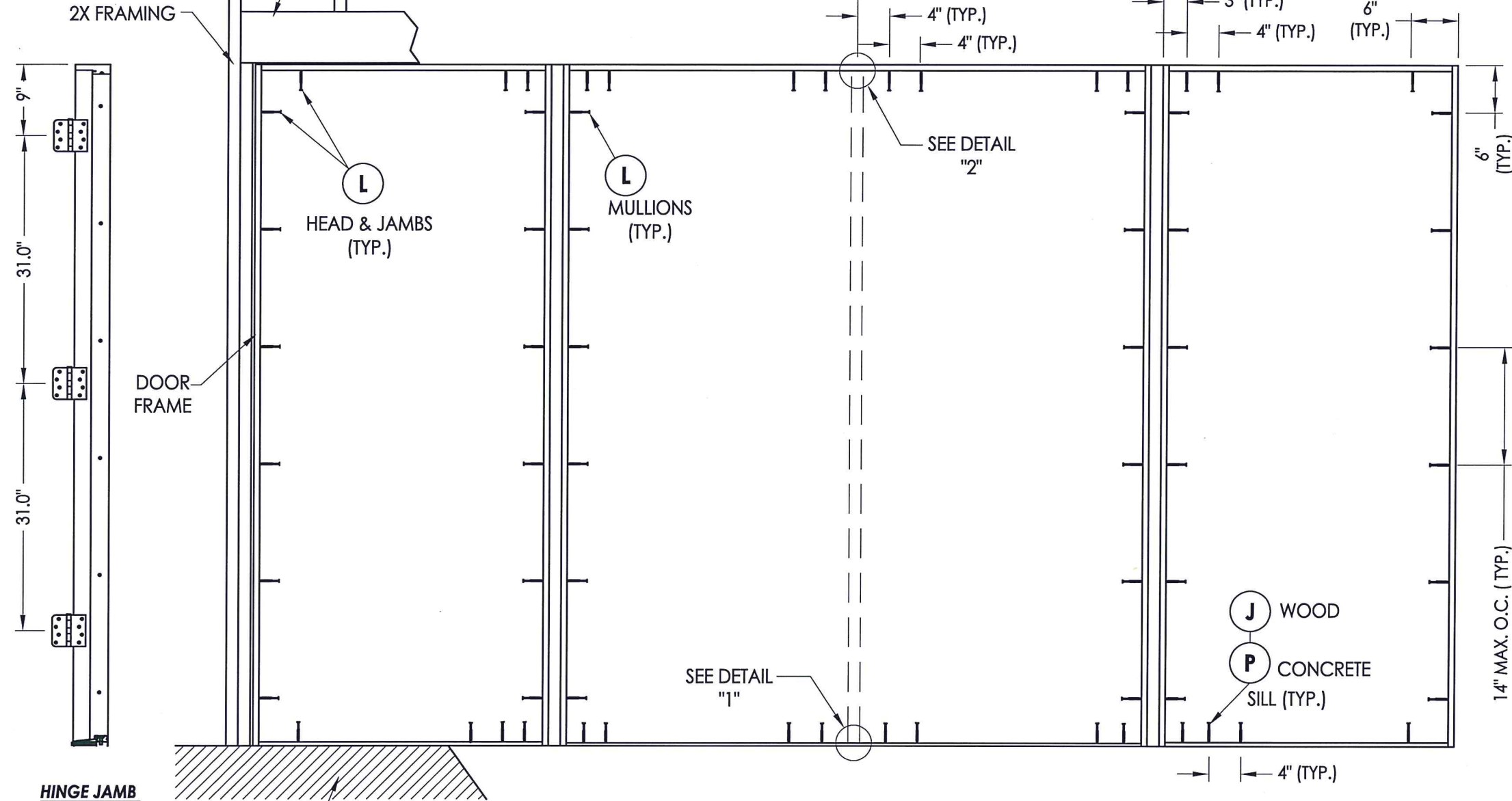
CHK. BY: LFS

DRAWING NO.: TX-4087

SHEET 8 OF 11

R:\Clients\Steves and Sons - Permanent\B - Texas Dept of Ins\Hinged Doors-Fiberglass\DR 425 Glazed Fiberglass Doors\C - Drawings\TX-4086-87.dwg, 4-9

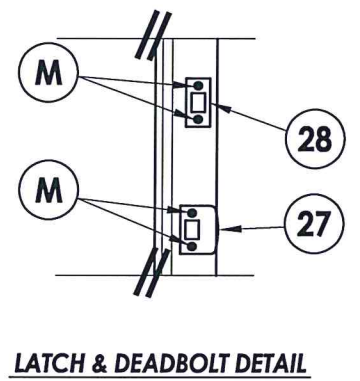
2X FRAMING TO BE DESIGNED BY THE ENGINEER OR ARCHITECT OF RECORD



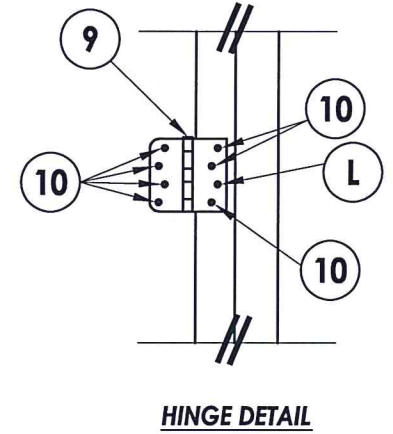
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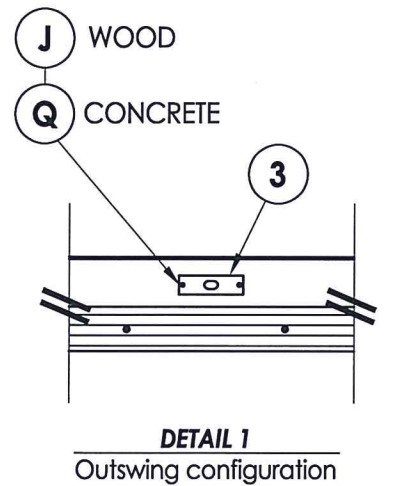
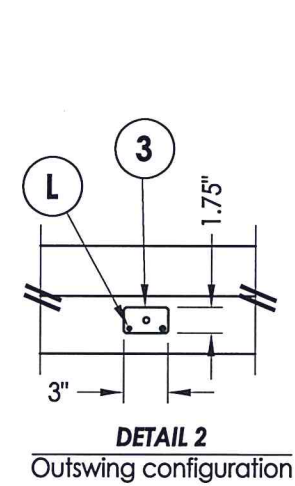
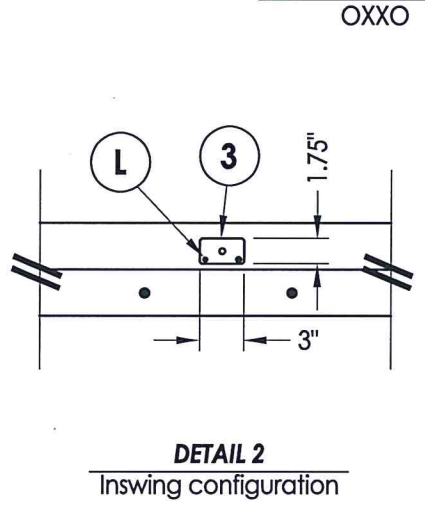
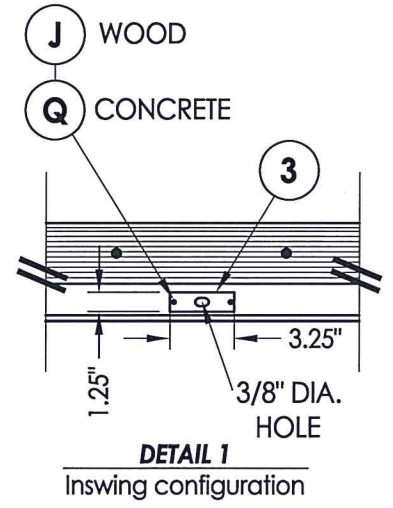
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CERTIFICATE OF REGISTRATION # F-11852



ASTRAGAL



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



FRAME ANCHORING
OXCO

PRODUCT:		STEVES AND SONS FIBERGLASS DOOR	
PART OR ASSEMBLY:		FRAME ANCHORING	
NO.	DATE	BY	REVISIONS
2	5/28/20	LFS	UPDATE TO 2018 IBC/IRC CODE
1	7/21/15	LFS	AND REVISE IMPACT LITE FRAME Manuf./Product Name Change

DATE: 04/13/10

SCALE: N.T.S.

DWG. BY: JK

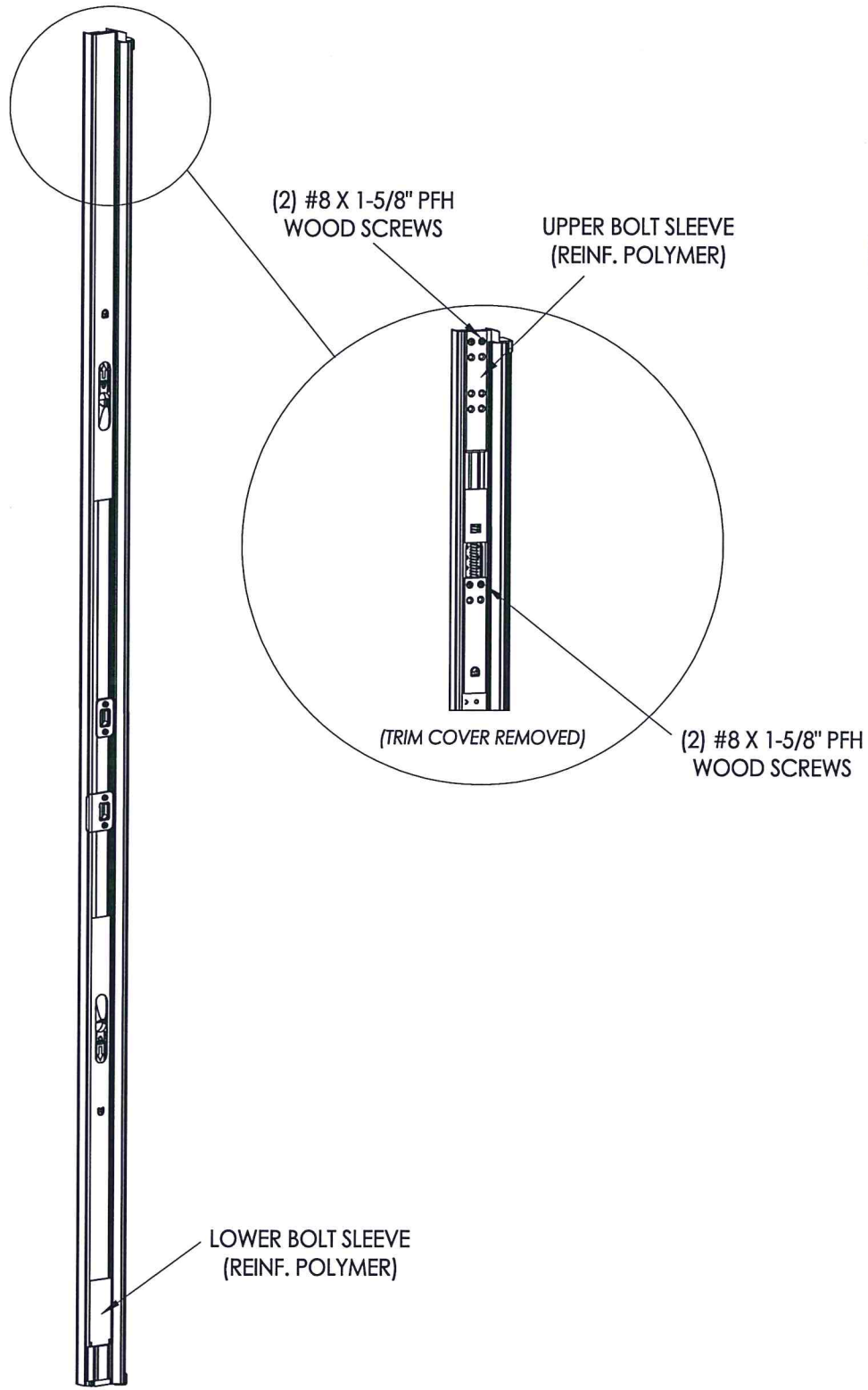
CHK. BY: LFS

DRAWING NO.: TX-4087

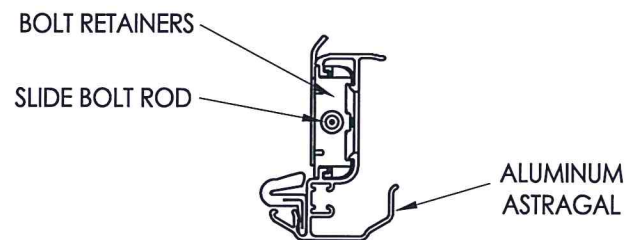
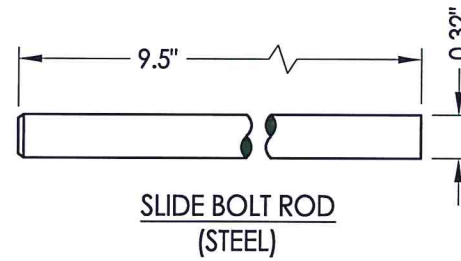
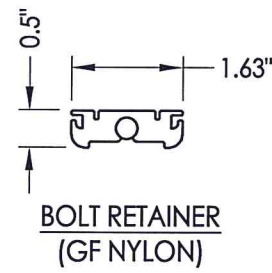
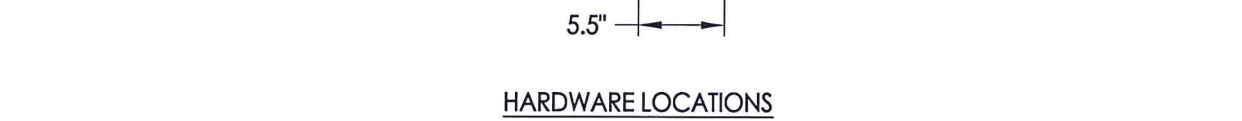
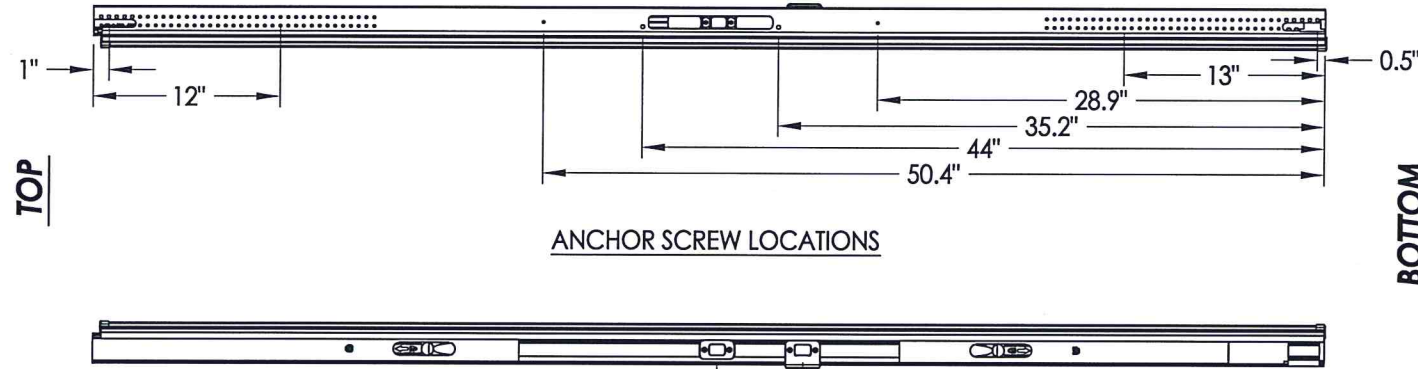
SHEET 9 OF 11

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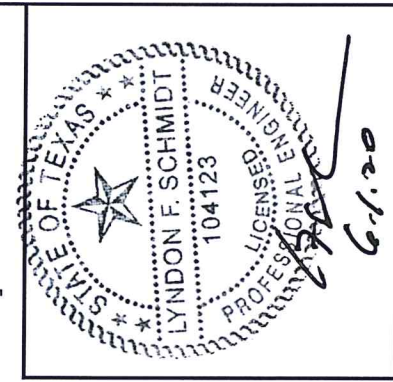
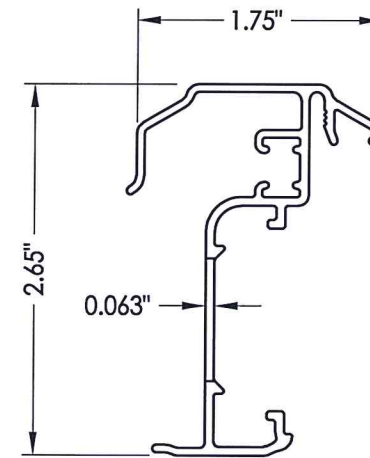
R:\Clients\Steves and Sons - Permanent\B - Texas Dept of Ins\Hinged Doors-Fiberglass\DR 425 Glazed Fiberglass Doors\C - Drawings\TX-4086-87.dwg, 4-10



ULTIMATE HURRICANE ASTRAGAL



ALUMINUM ASTRAGAL ASSEMBLY



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

PRODUCT: STEVES AND SONS STEEL DOOR

PART OR ASSEMBLY: ENDURA ASTRAGAL DETAILS

NO.	DATE	REVISIONS
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME
1	7/21/15	Manuf./Product Name Change
		LFS
		BY

DATE: 04/13/10

SCALE: N.T.S.

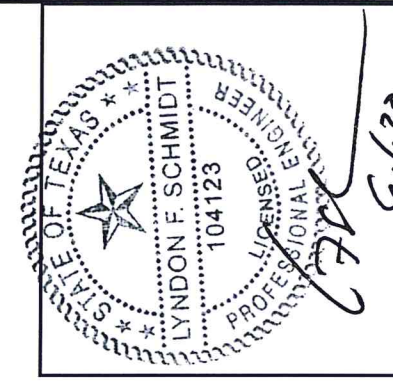
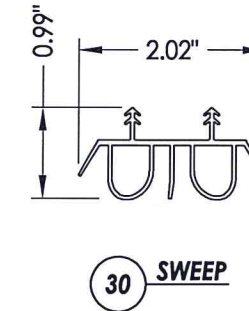
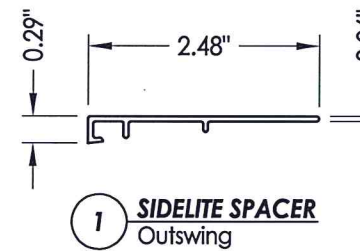
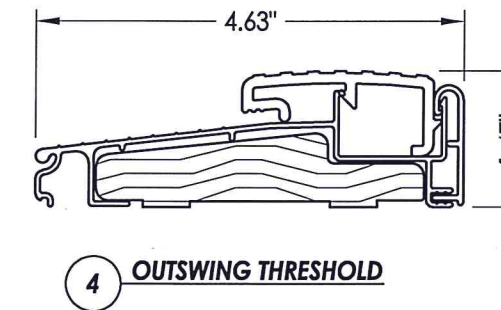
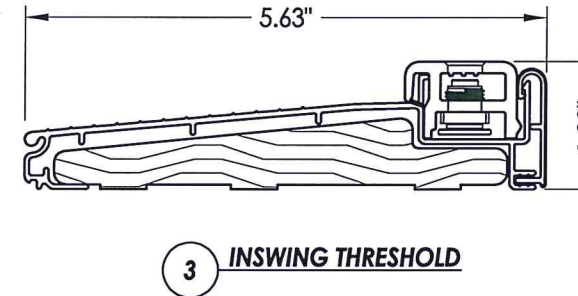
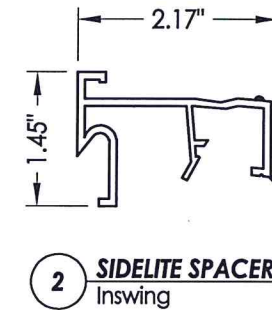
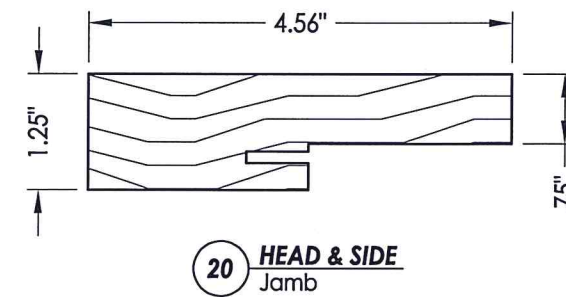
DWG. BY: JK

CHK. BY: LFS

DRAWING NO.: TX-4087

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BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
B	2X FRAMING (SG >= 0.42)	WOOD
C	1/4" MAX. SHIM SPACE	-
J	#10 X 3" PFH WOOD SCREW	STEEL
K	2X REINFORCEMENT (CLEAR PINE SG >= 0.42)	WOOD
L	#10 X 2-1/2" PFH WOOD SCREW (1.15" MIN. EMBEDMENT)	STEEL
M	#8 X 2-1/2" PFH WOOD SCREW	STEEL
N	#9 X 2-1/2" PFH WOOD SCREW	STEEL
P	1/4" PFH ELCO OR ITW CONCRETE SCREW (1-3/4" MIN. EMB.)	STEEL
Q	3/16" PFH ITW CONCRETE SCREW (1-3/4" MIN. EMB.)	STEEL
1	SIDELITE SPACER -OUTSWING	-
2	SIDELITE SPACER -INSWING	-
3	INSWING THRESHOLD ALUMINUM W/ COMPOSITE SUBSTRATE	ALUM/COMP.
4	OUTSWING THRESHOLD ALUMINUM W/ COMPOSITE SUBSTRATE	ALUM/COMP.
5	#10 X 2-1/2" PFH SCREW	STEEL
7	WEATHERSTRIP BY Q-LON	FOAM
9	4" HINGE	STEEL
10	#9 X 1" PFH WOOD SCREW	STEEL
11	#9 X 5/8" PFH WOOD SCREW	STEEL
20	JAMB FINGER - JOINT - PINE (SG >= 0.42)	WOOD
27	LATCH STRIKE PLATE	STEEL
28	DEADBOLT PLATE	STEEL
30	DOOR SWEEP	PVC
35	QUARTER ROUND	WOOD
40	DOOR PANEL - SEE DOOR PANEL DETAIL SHEET FOR CONSTRUCTION DETAILS	-
50	SIDELITE PANEL - SEE SIDELITE PANEL DETAIL SHEET FOR CONSTRUCTION DETAILS	-
51	ASTRAGAL BY ENDURA	ALUM
52	#8 x 2-1/4" PFH WOOD SCREW	STEEL
53	#8 x 1" PFH WOOD SCREW	STEEL
56	ASTRAGAL STRIKE PLATE	STEEL



Documents Prepared By: Lyndon F. Schmidt, P.E.
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TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: STEVES AND SONS FIBERGLASS DOOR

PART OR ASSEMBLY: COMPONENTS AND B.O.M.

NO.	DATE	REVISIONS
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME Manuf./Product Name Change
1	7/21/15	

DATE: 04/13/10

SCALE: N.T.S.

DWG. BY: JK

CHK. BY: LFS

DRAWING NO.: TX-4087

SHEET 11 OF 11

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®	3/16"	1-3/4"	3"	1-1/2"
	1/4"	1-3/4"	1-1/2"	4"
ELCO ULTRACON®	1/4"	1-3/4"	1"	4"