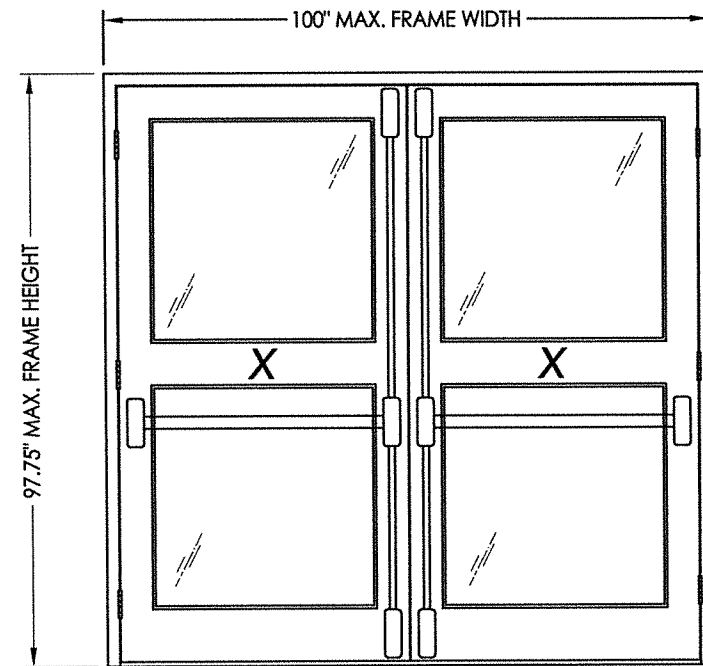
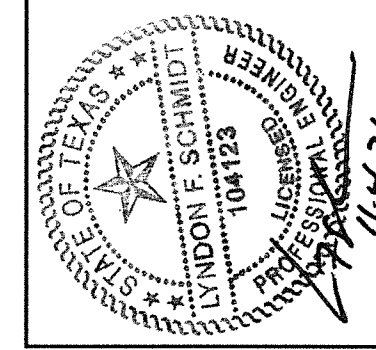


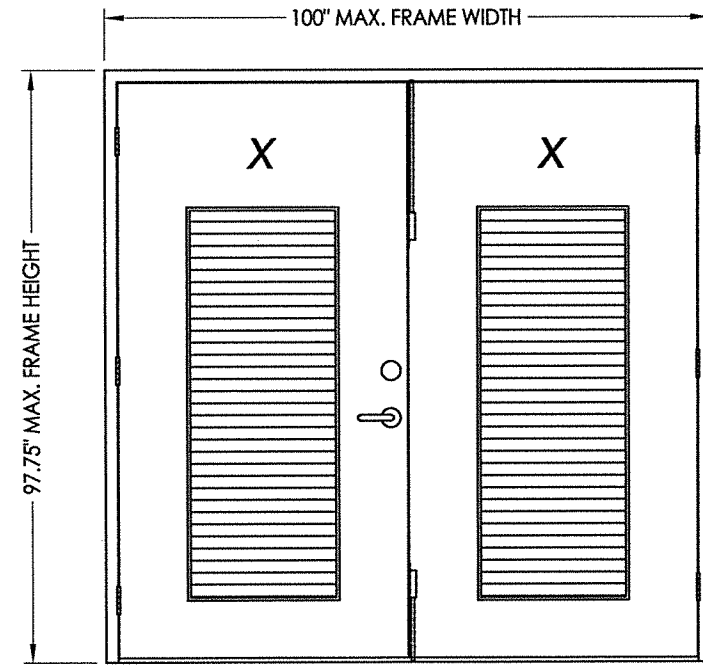
# Vision Hollow Metal Limited

400 Zenway Blvd. Unit #1  
Woodbridge, ON L4H 0S7

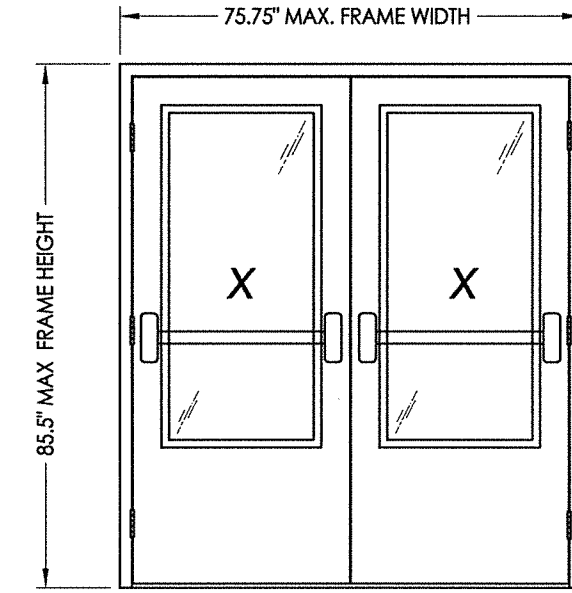
## LS18 STEEL DOUBLE DOOR OUTSWING "IMPACT"



**PANIC BAR EXIT DEVICE w/ VERTICAL RODS**



**CYLINDRICAL LOCK & DEADBOLT**



**PANIC BAR EXIT DEVICE w/ REMOVABLE MULLION**

EVALUATED FOR USE IN THE STATE OF TEXAS

**TDI DR-893**

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. 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.

**TABLE OF CONTENTS**

SHEET #	DESCRIPTION
1	Typical elevation, design pressures & general notes
2	Glazed door panel details
3	Louvered door panel details
4	Elevations
5	Horizontal cross sections
6	Horizontal & vertical cross sections
7	Frame anchoring
8	Frame anchoring
9	Hardware Details
10	Bill of materials and components

MAX FRAME DIMENSION	LOCK TYPE OPTIONS	DESIGN PRESSURE (PSF) OUTSWING	
		POSITIVE	NEGATIVE
100" x 97.75"	CYLINDRICAL LOCK & DEADBOLT PANIC BAR EXIT DEVICE w/ REMOVABLE MULLION	+65.0	-65.0
75.75" x 85.5"	PANIC BAR EXIT DEVICE w/ VERTICAL RODS	+65.0	-65.0

Documents Prepared By: Lyndon F. Schmidt, P.E.  
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**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

PRODUCT: LS18 STEEL DOOR

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

NO.	DATE	BY	REVISIONS
1	11/4/21	LFS	UPDATE TO 2018 IBC/IRC

DATE: 6/06/17

SCALE: N.T.S.

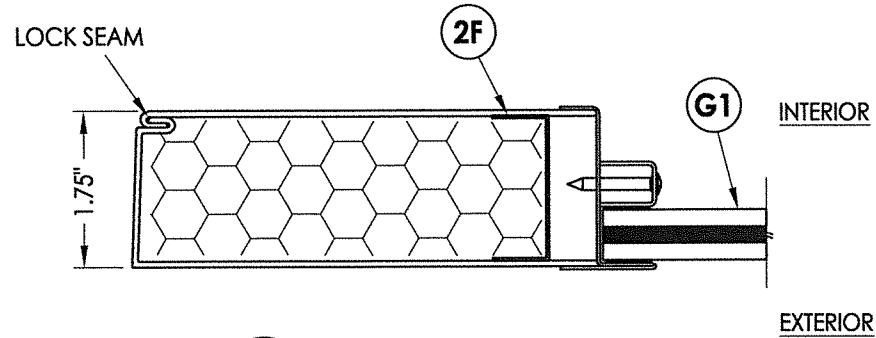
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CHK. BY: LFS

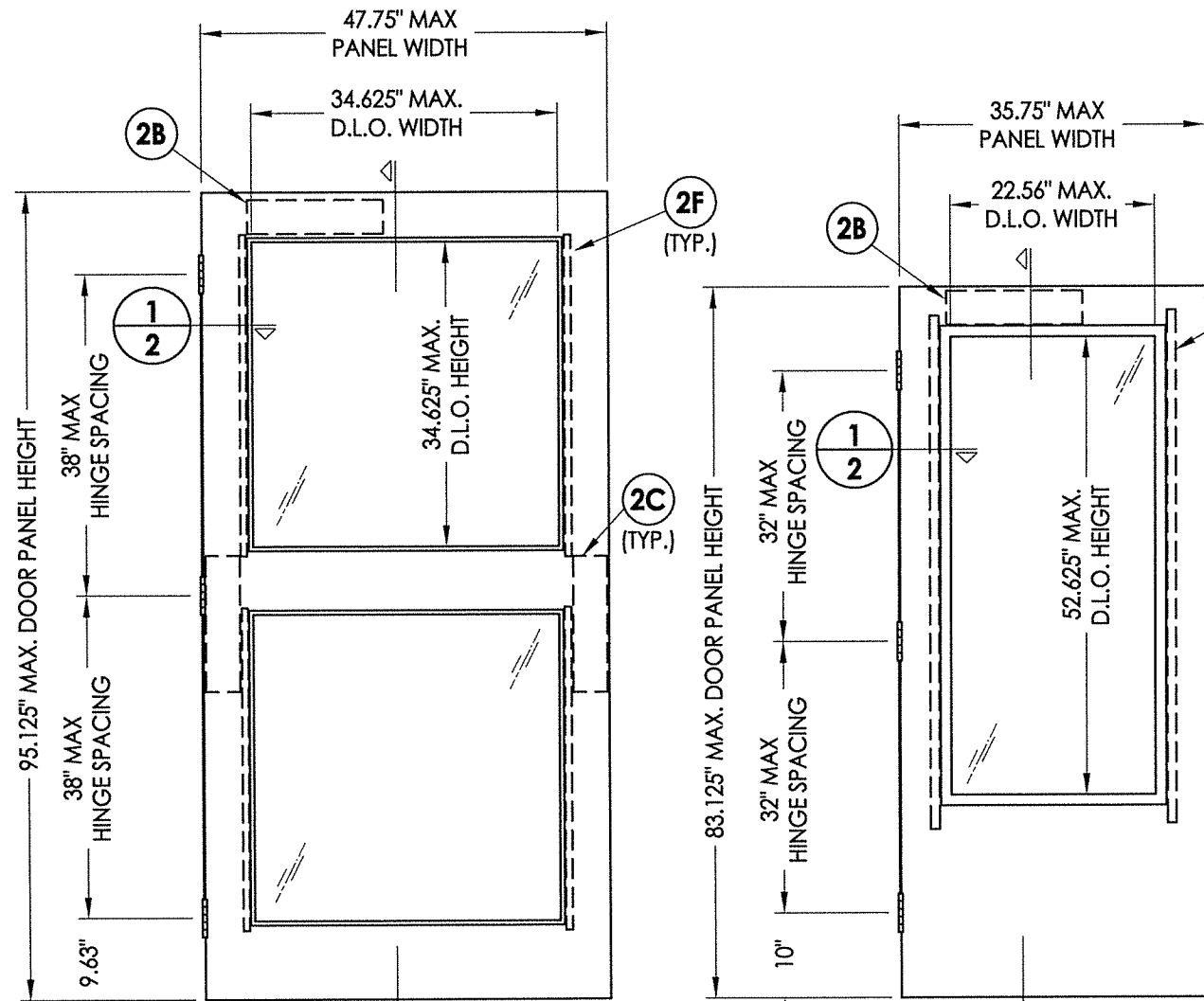
DRAWING NO.: TX-4702

SHEET 1 of 10

Z:\Clients\Vision Hollow Metal Permanent\B - Texas Dept of Ins\TDI - DR-893 7'0" & 8'0" Glazed or Louvered Comm. Steel Doors\C - Drawings\TX-4701-02.dwg



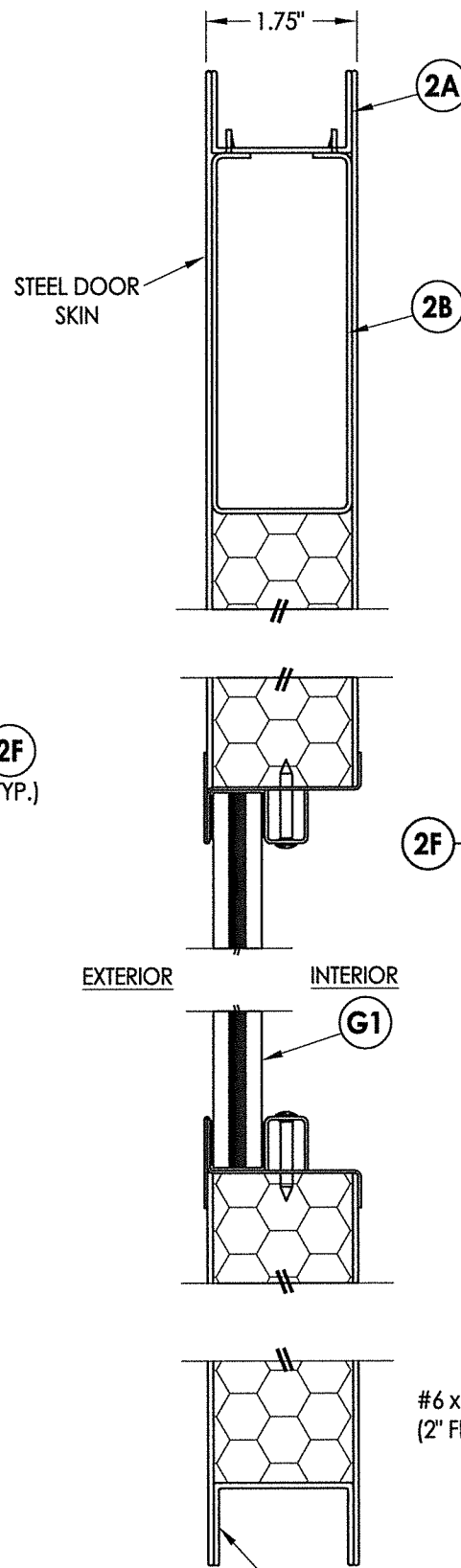
**1**  
**2** **HORIZONTAL CROSS SECTION**



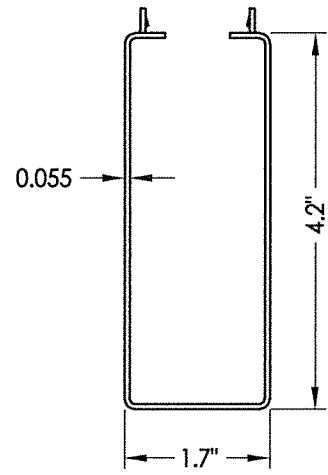
**40** **GLAZED DOOR PANEL**  
8'-0" Door

**41** **GLAZED DOOR PANEL**  
7'-0" Door

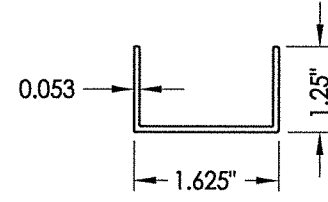
STEEL DOOR SKIN: 18 GA. (MIN. 0.043" THK.) GALV. STEEL (Fy = 54,000 PSI MIN.)  
CORE MATERIAL: EPS FOAM (POLYSTYRENE - 1.0 PCF MIN. DENSITY)



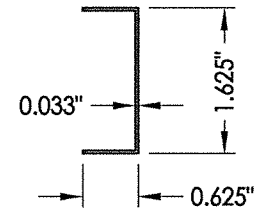
**2**  
**2** **VERTICAL CROSS SECTION**



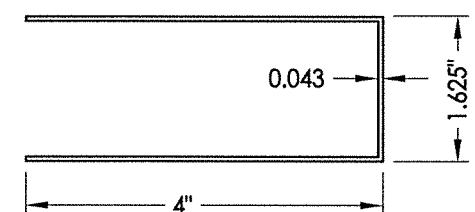
**2B** **CLOSER BOX**  
16 GA. GALV. STEEL



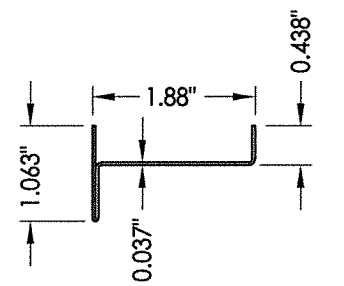
**2A** **END CHANNEL**  
16 GA. GALV. STEEL



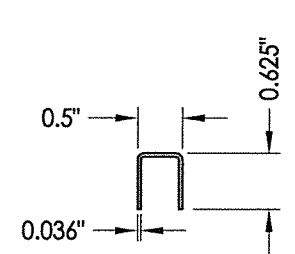
**2F** **PERIMETER CHANNEL REINFORCEMENT**  
20 GA. GALV. STEEL



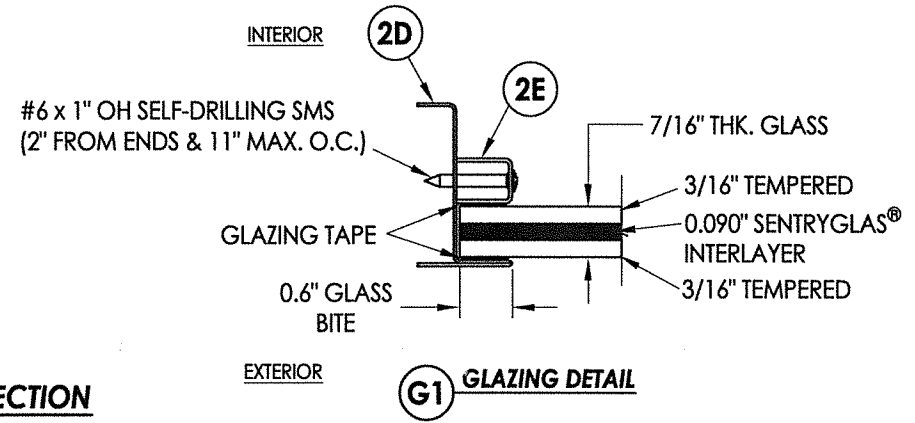
**2C** **RIM PANIC BOX**  
18 GA. GALV. STEEL



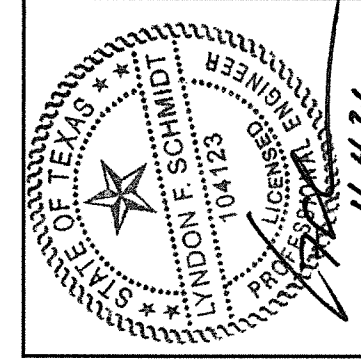
**2D** **THERMAL GLAZING TRACK**  
20 GA. GALV. STEEL



**2E** **GLAZING STOP**  
20 GA. GALV. STEEL



**G1** **GLAZING DETAIL**

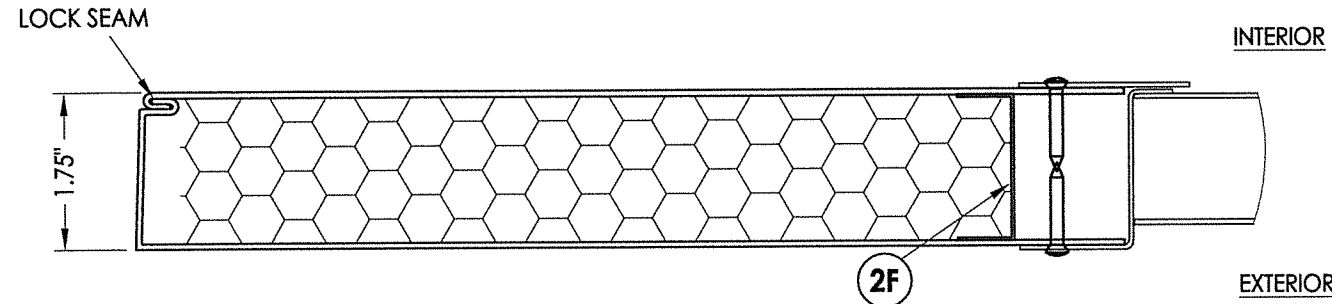


Documents Prepared By: Lyndon F. Schmidt, P.E.  
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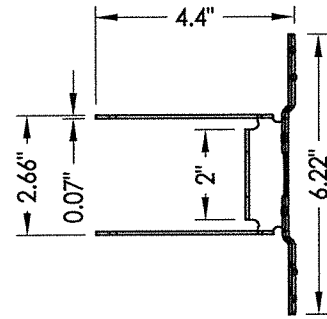
**RW** BUILDING CONSULTANTS, INC.  
P.O. Box 230 Valrico FL 33595  
Phone No.: 813.659.9197  
TEXAS BOARD OF PROFESSIONAL ENGINEERS  
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT:		LS18 STEEL DOOR	
PART OR ASSEMBLY:		GLAZED DOOR PANEL DETAILS	
NO.	DATE	BY	REVISIONS
1	11/4/21	LFS	UPDATE TO 2018 IBC/IRC
DATE: 6/06/17			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: TX-4702			
SHEET 2 OF 10			

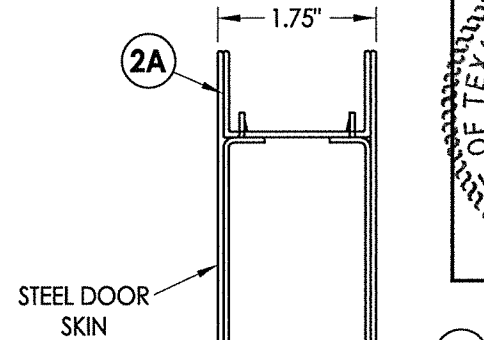
Z:\Clients\Vision Hollow Metal Permanent\B - Texas Dept of Ins\TDI - DR-893 7'0" & 8'0" Glazed or Louvered Comm. Steel Doors\C - Drawings\TX-4701-02.dwg



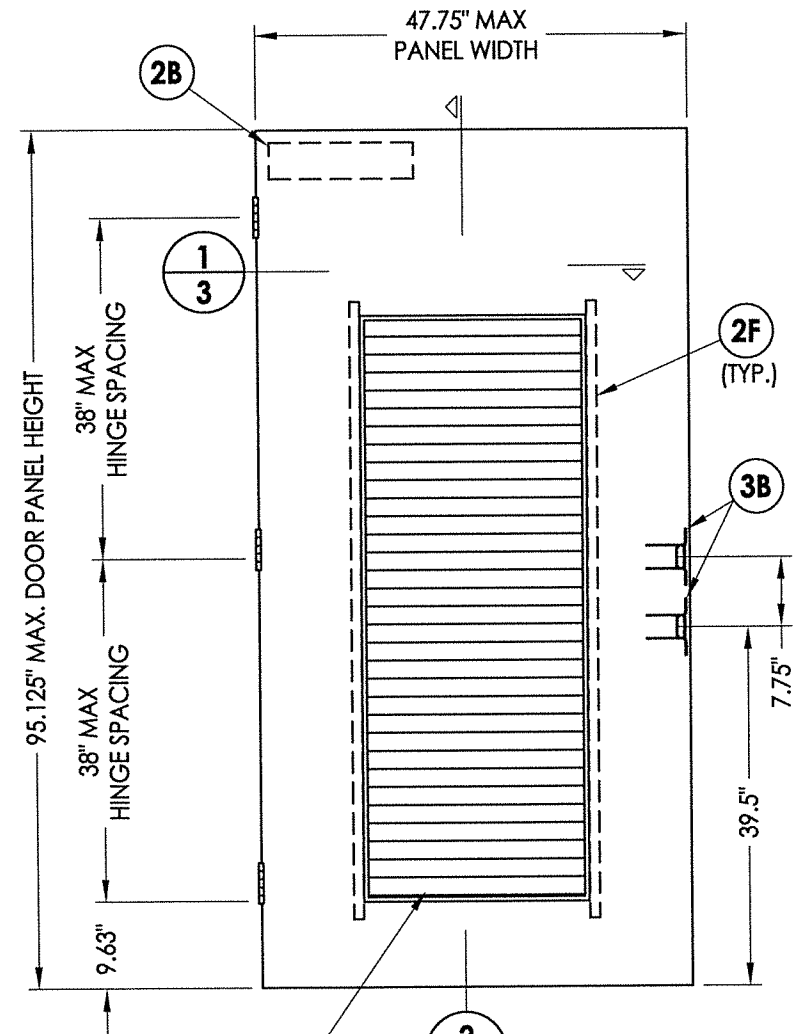
**1**  
**3** HORIZONTAL CROSS SECTION



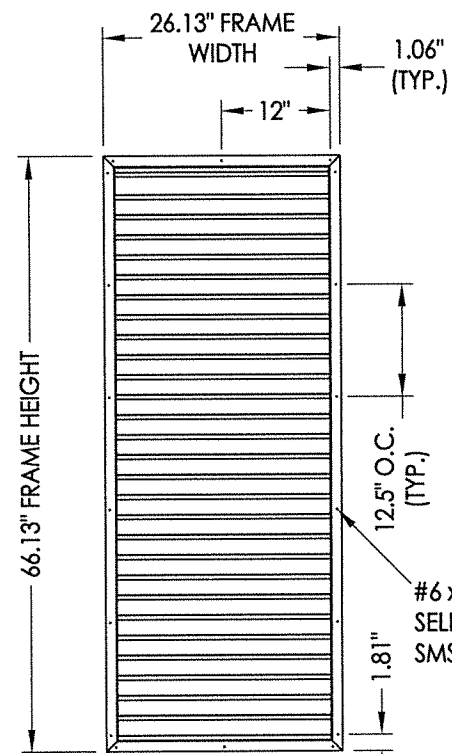
**3B** CYLINDRICAL LOCK REINFORCEMENT  
18 GA. GALV. STEEL



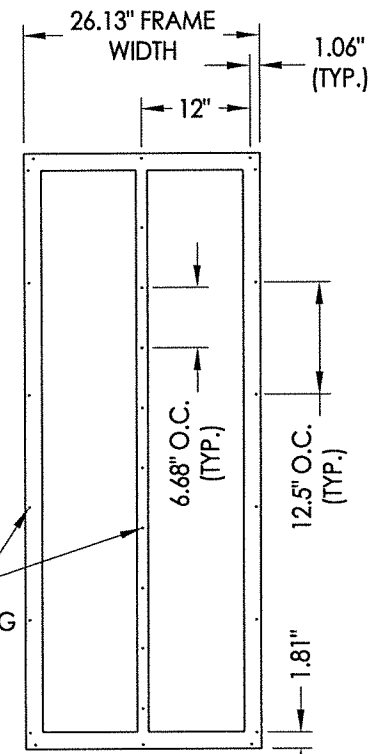
STEEL DOOR SKIN  
**2A**



**42** LOUVERED DOOR PANEL  
8'-0" Door

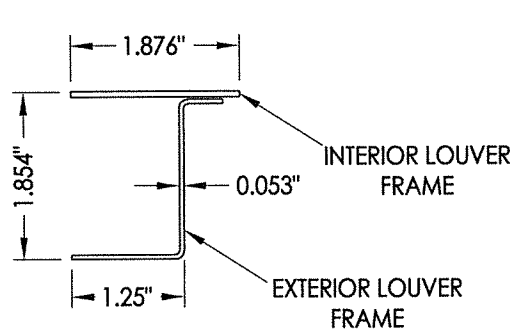


EXTERIOR LOUVER FRAME

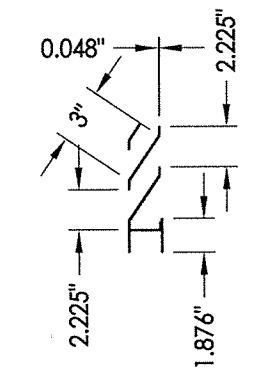


INTERIOR LOUVER FRAME

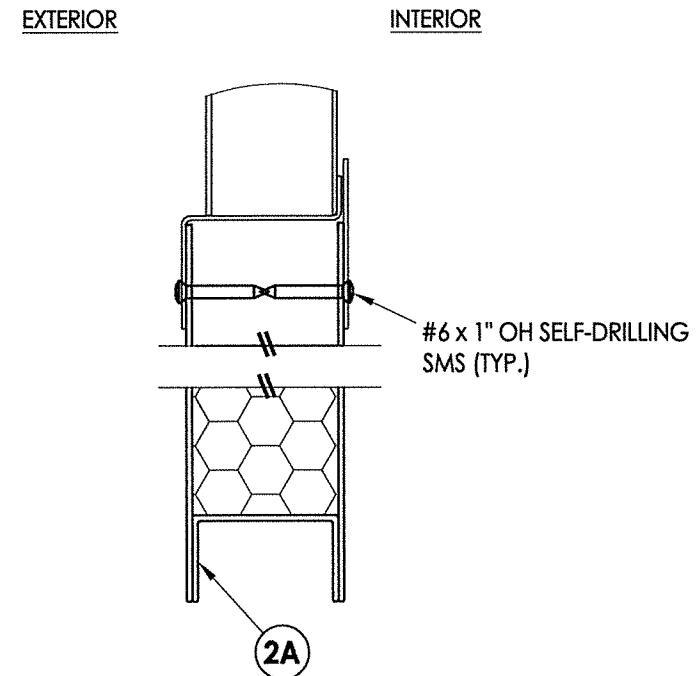
#6 x 1" OH SELF-DRILLING SMS (TYP.)



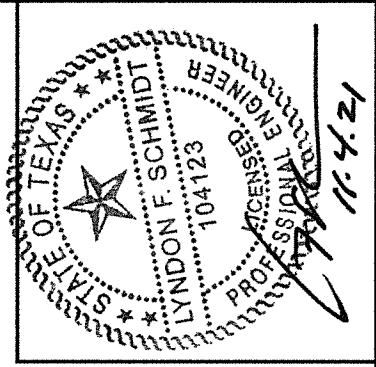
**3A** HURRICANE LOUVER  
18 GA. GALV. STEEL



LOUVER BLADE SECTION



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



Documents Prepared By: Lyndon F. Schmidt, P.E.  
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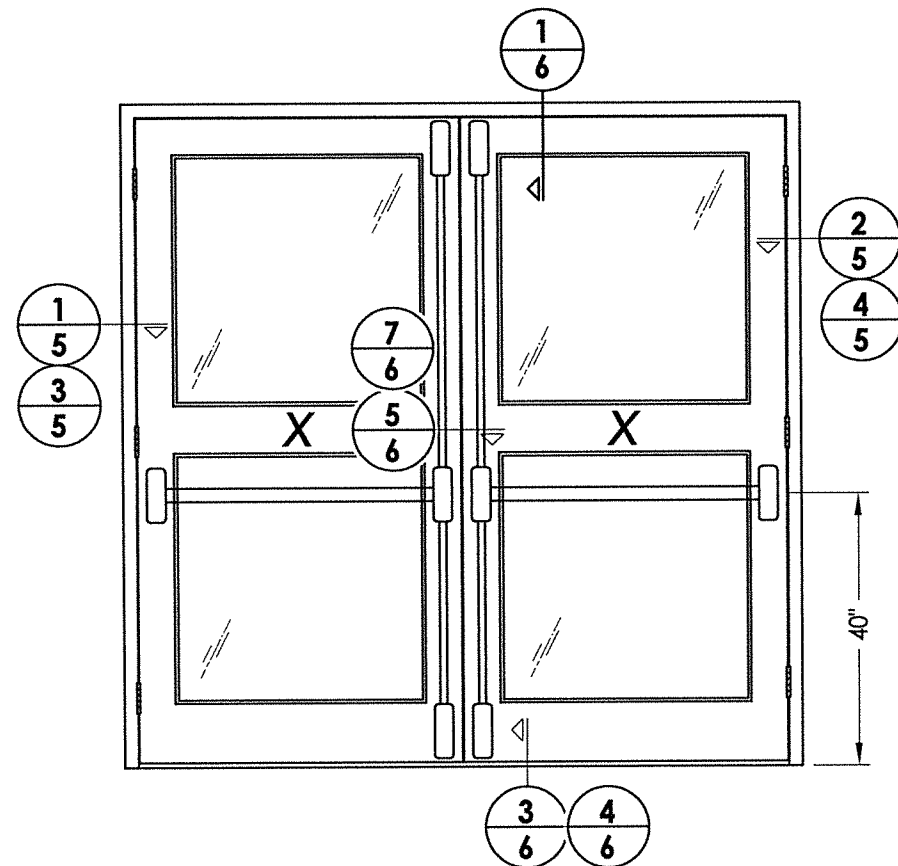
PRODUCT:	LS18 STEEL DOOR
PART OR ASSEMBLY:	LOUVERED DOOR PANEL DETAILS

NO.	DATE	REVISIONS
1	11/4/21	UPDATE TO 2018 IBC/IRC
		LFS
		BY

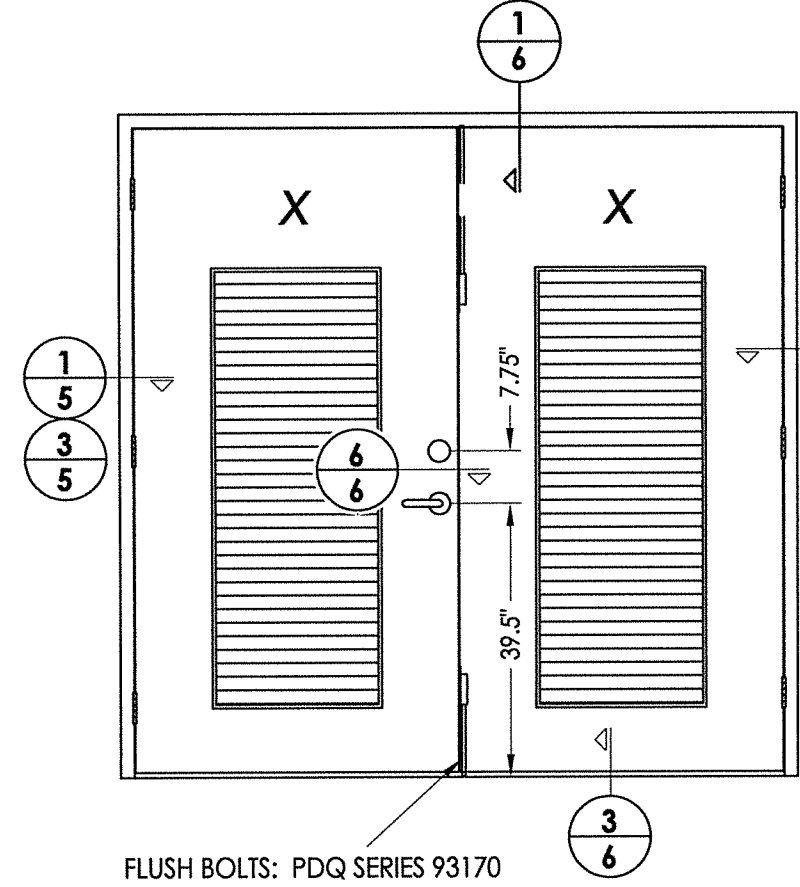
DATE:	6/06/17
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4702
SHEET	3 OF 10

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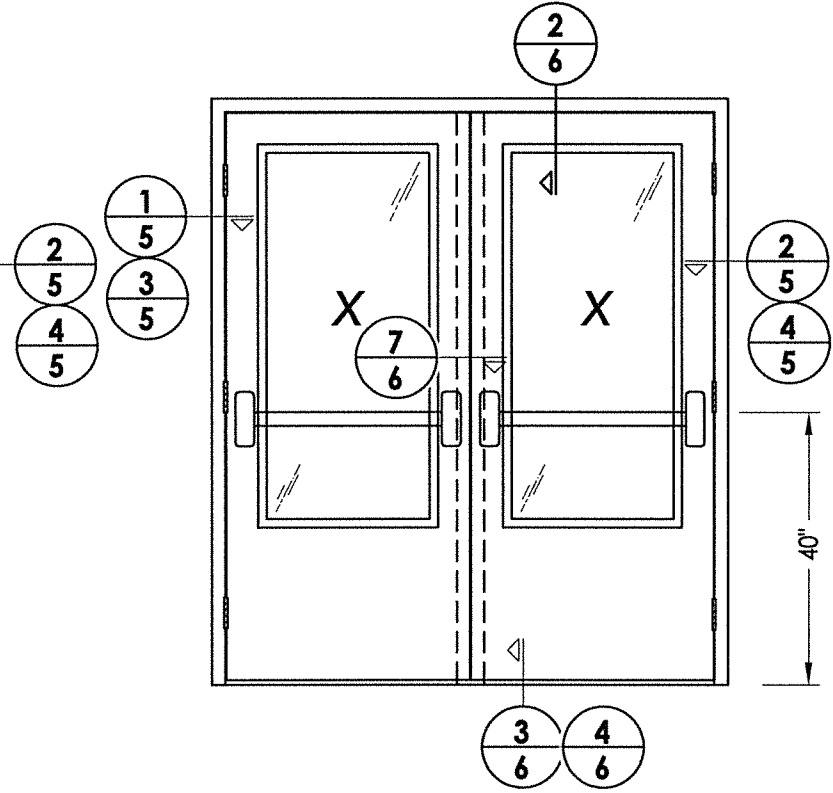
STEEL DOOR SKIN: 18 GA. (MIN. 0.043" THK.) GALV. STEEL (Fy = 54,000 PSI MIN.)  
CORE MATERIAL: EPS FOAM (POLYSTYRENE - 1.0 PCF MIN. DENSITY)



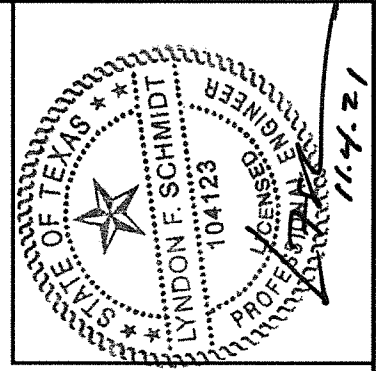
LOCK HARDWARE  
 RIM EXIT DEVICE w/ VERTICAL RODS: PDQ 6200VA SERIES (SHOWN)  
 OR  
 RIM EXIT DEVICE: PDQ 6200R SERIES  
 REMOVABLE MULLION: PDQ 9200M-11 SERIES



FLUSH BOLTS: PDQ SERIES 93170  
LOCK HARDWARE  
 CYLINDRICAL LOCK: PDQ: GP SERIES  
 CYLINDRICAL LOCK: SCHLAGE: AL53PD  
 DEADBOLT: SCHLAGE: B660P



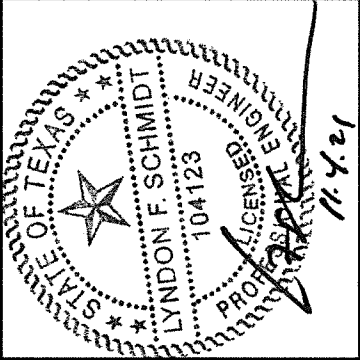
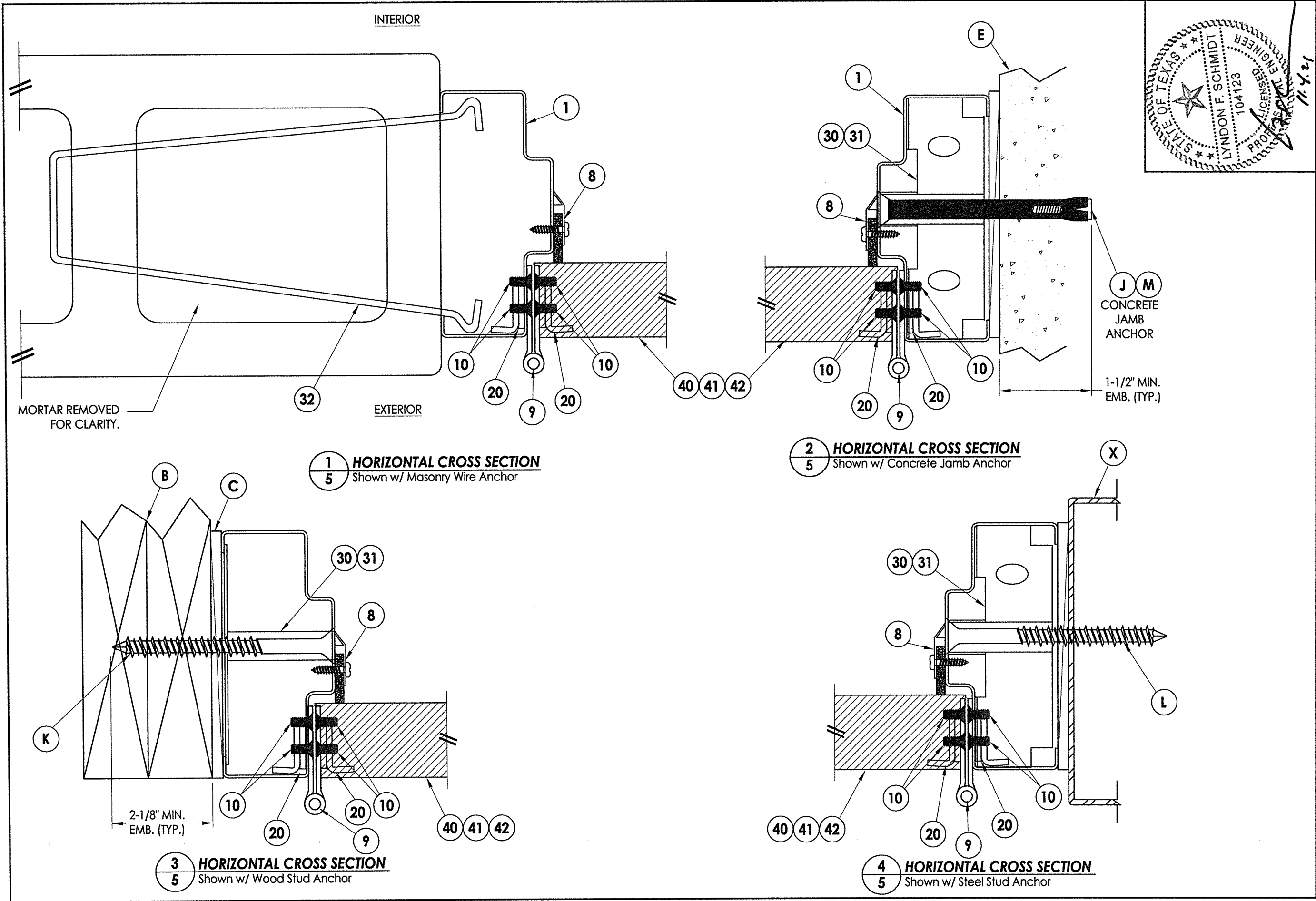
LOCK HARDWARE  
 RIM EXIT DEVICE: PDQ 6200R SERIES  
 REMOVABLE MULLION: PDQ 9200M-11 SERIES



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

<u>PRODUCT:</u>		LS18 STEEL DOOR	
<u>PART OR ASSEMBLY:</u>		ELEVATIONS	
<u>NO.</u>	<u>DATE</u>	<u>BY</u>	<u>REVISIONS</u>
1	11/4/21	LFS	UPDATE TO 2018 IBC/IRC
DATE: 6/06/17			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: TX-4702			
SHEET 4 OF 10			

Z:\Clients\Vision Hollow Metal Permanent\B - Texas Dept of Ins\TDI - DR-893 7'0" & 8'0" Glazed or Louvered Comm. Steel Doors\C - Drawings\TX-4701-02.dwg



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

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 P.O. Box 230 Valrico FL 33595  
 Phone No.: 813.659.9197

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

PRODUCT: LS18 STEEL DOOR

PART OR ASSEMBLY: HORIZONTAL CROSS SECTIONS

NO.	DATE	BY
1	11/4/21	LFS
UPDATE TO 2018 IBC/IRC		
REVISIONS		

DATE: 6/06/17

SCALE: N.T.S.

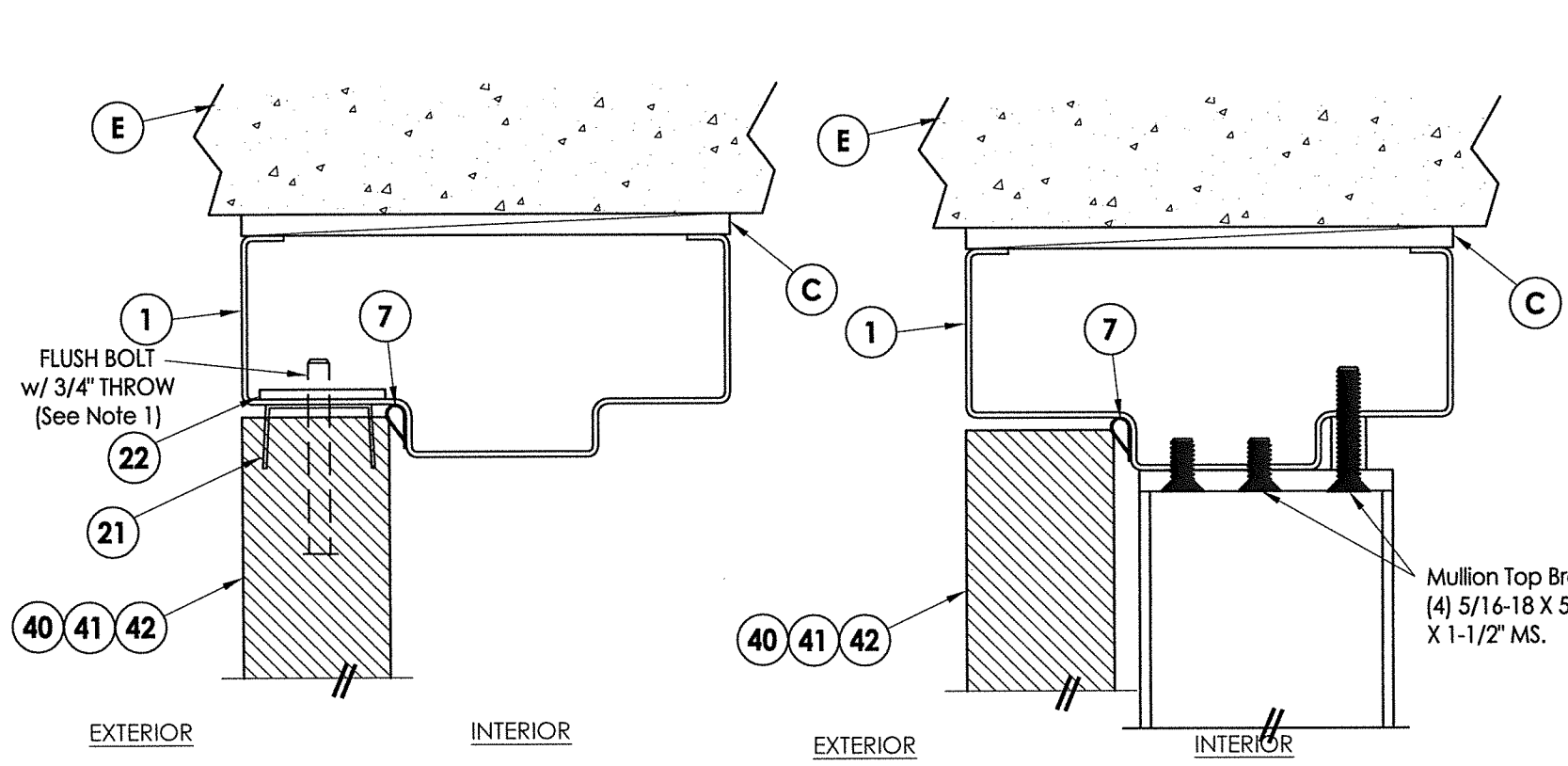
DWG. BY: JK

CHK. BY: LFS

DRAWING NO.: TX-4702

SHEET 5 OF 10

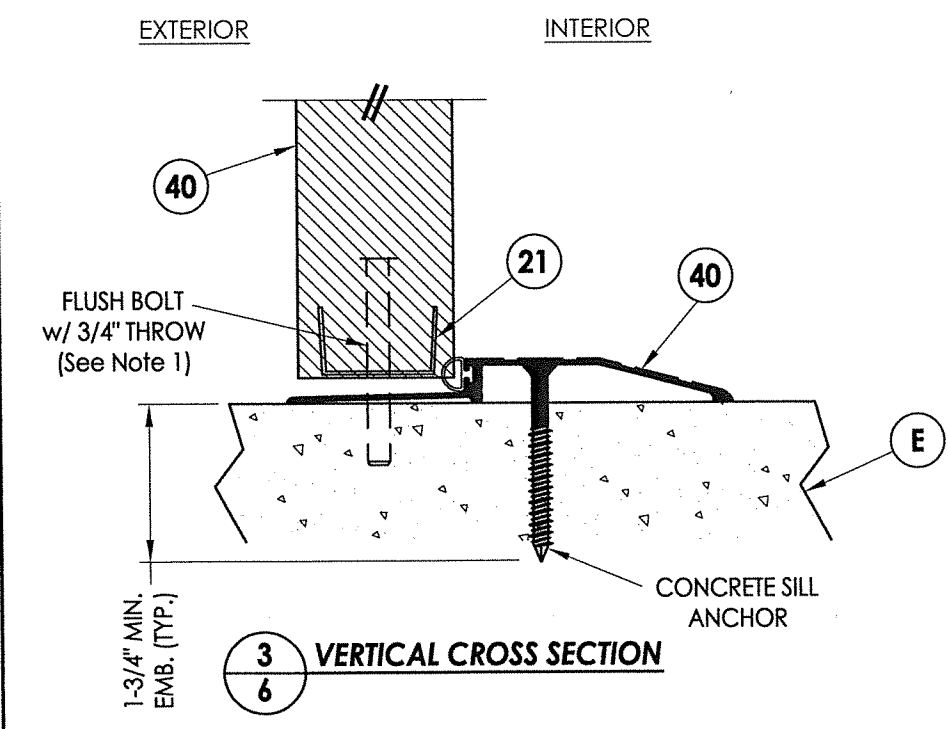
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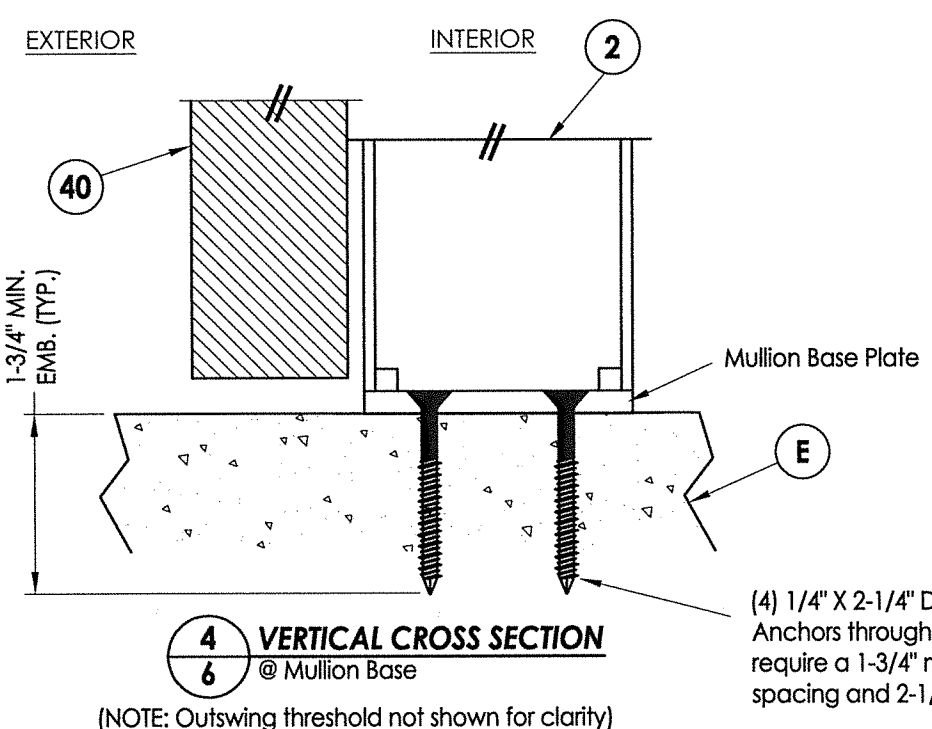
**1**  
**6** VERTICAL CROSS SECTION

**2**  
**6** VERTICAL CROSS SECTION

Note 1:  
Flush Bolt required w/ Cylindrical Lock & Deadbolt only.

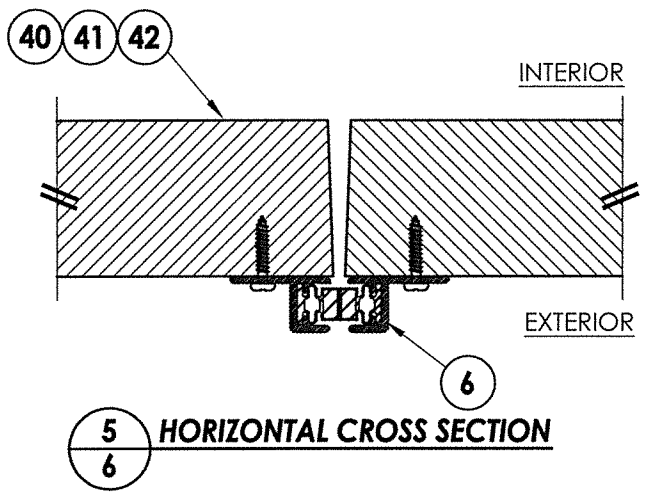


**3**  
**6** VERTICAL CROSS SECTION

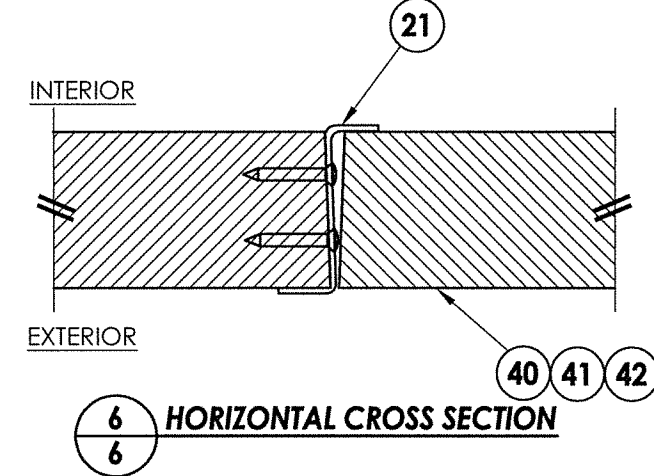


**4**  
**6** VERTICAL CROSS SECTION  
@ Mullion Base

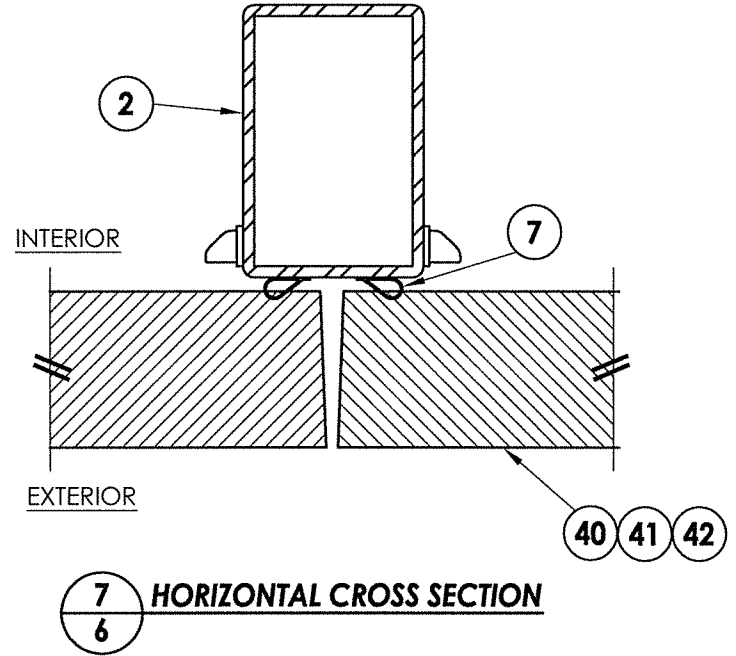
(NOTE: Outswing threshold not shown for clarity)



**5**  
**6** HORIZONTAL CROSS SECTION

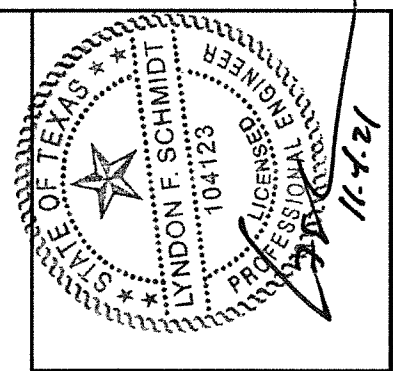


**6**  
**6** HORIZONTAL CROSS SECTION



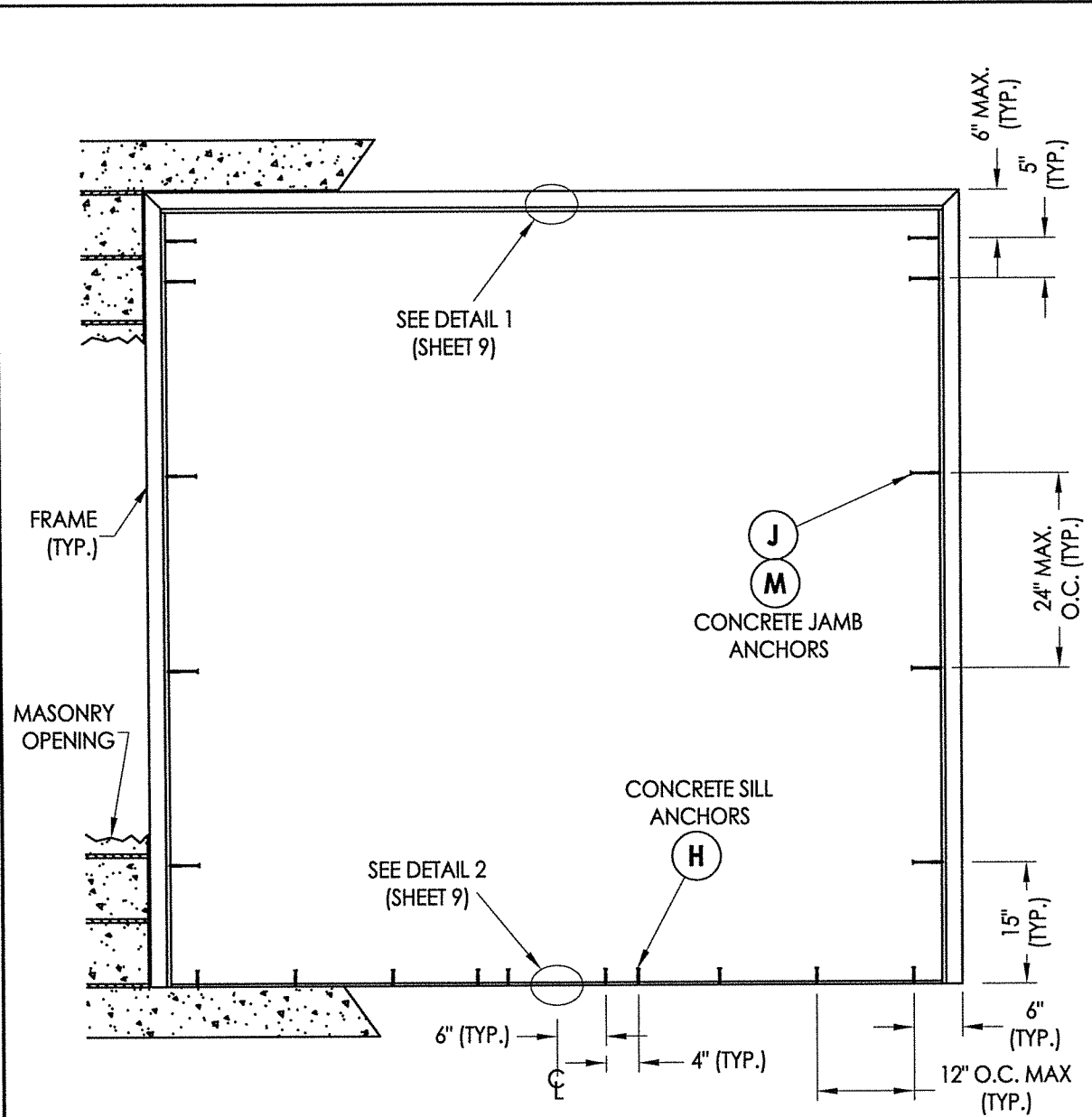
**7**  
**6** HORIZONTAL CROSS SECTION

(4) 1/4" X 2-1/4" DeWALT ULTRACON+ Concrete Anchors through mullion base plate. Anchors require a 1-3/4" min. embedment, 1-1/2" min. o.c. spacing and 2-1/2" min. edge distance.

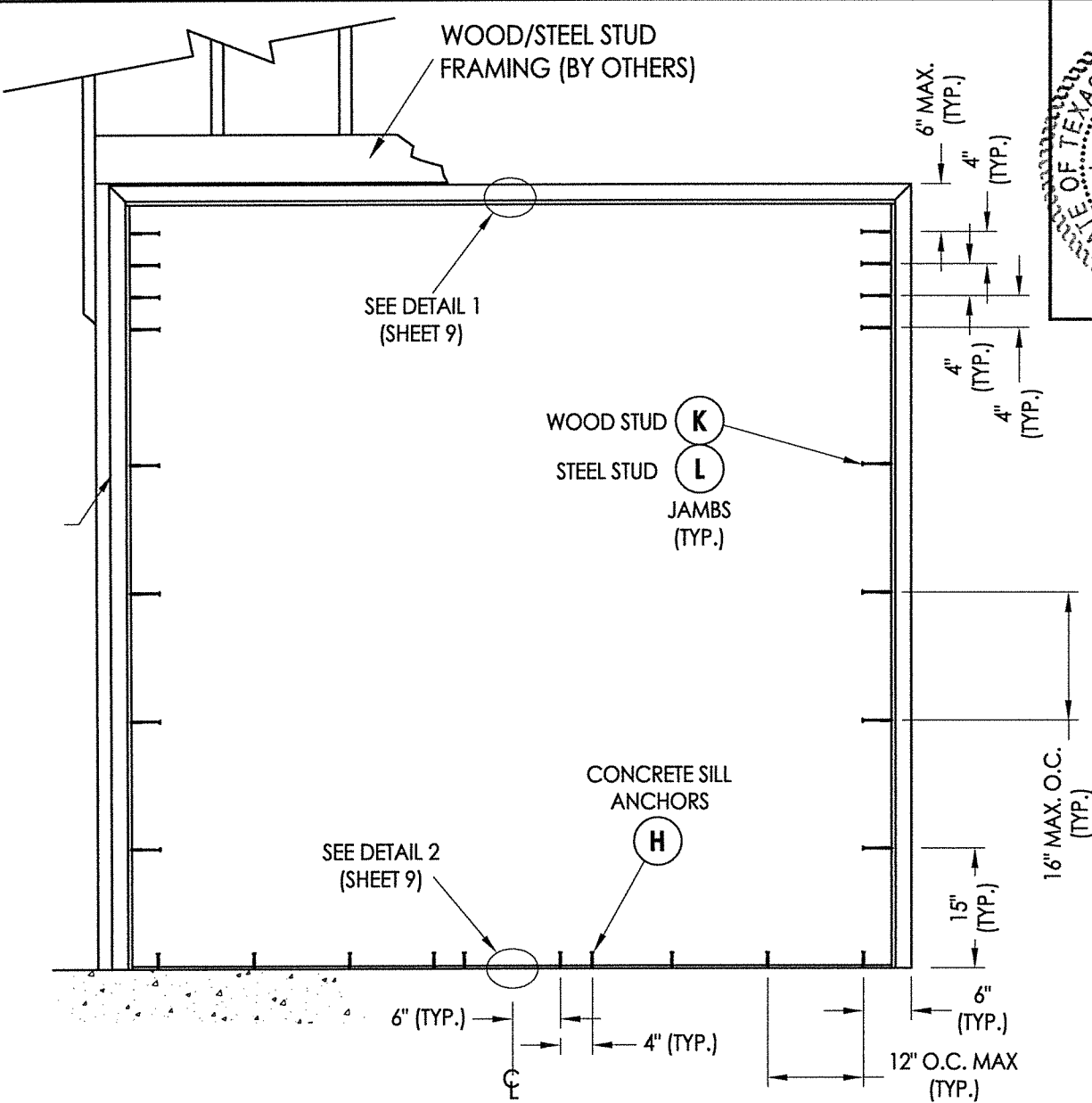


Documents Prepared By: Lyndon F. Schmidt, P.E.  
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P.O. Box 230 Valrico FL 33595  
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TEXAS BOARD OF PROFESSIONAL ENGINEERS  
CERTIFICATE OF REGISTRATION # F-11852

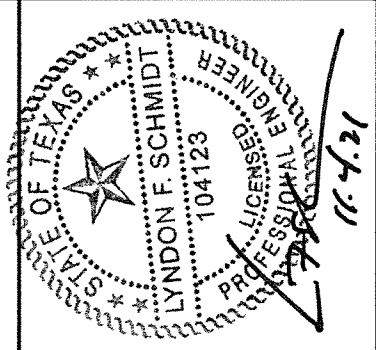
PRODUCT:	LS18 STEEL DOOR
PART OR ASSEMBLY:	HORIZONTAL & VERTICAL CROSS SECTIONS
NO.	1
DATE	11/4/21
BY	LFS
REVISIONS	
DATE:	6/06/17
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4702
SHEET	6 OF 10



**FRAME ANCHORING**  
Masonry Construction  
Concrete Anchors



**FRAME ANCHORING**  
Wood/Steel Stud



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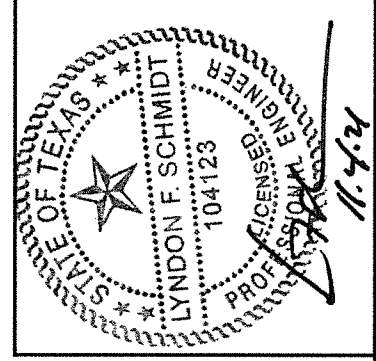
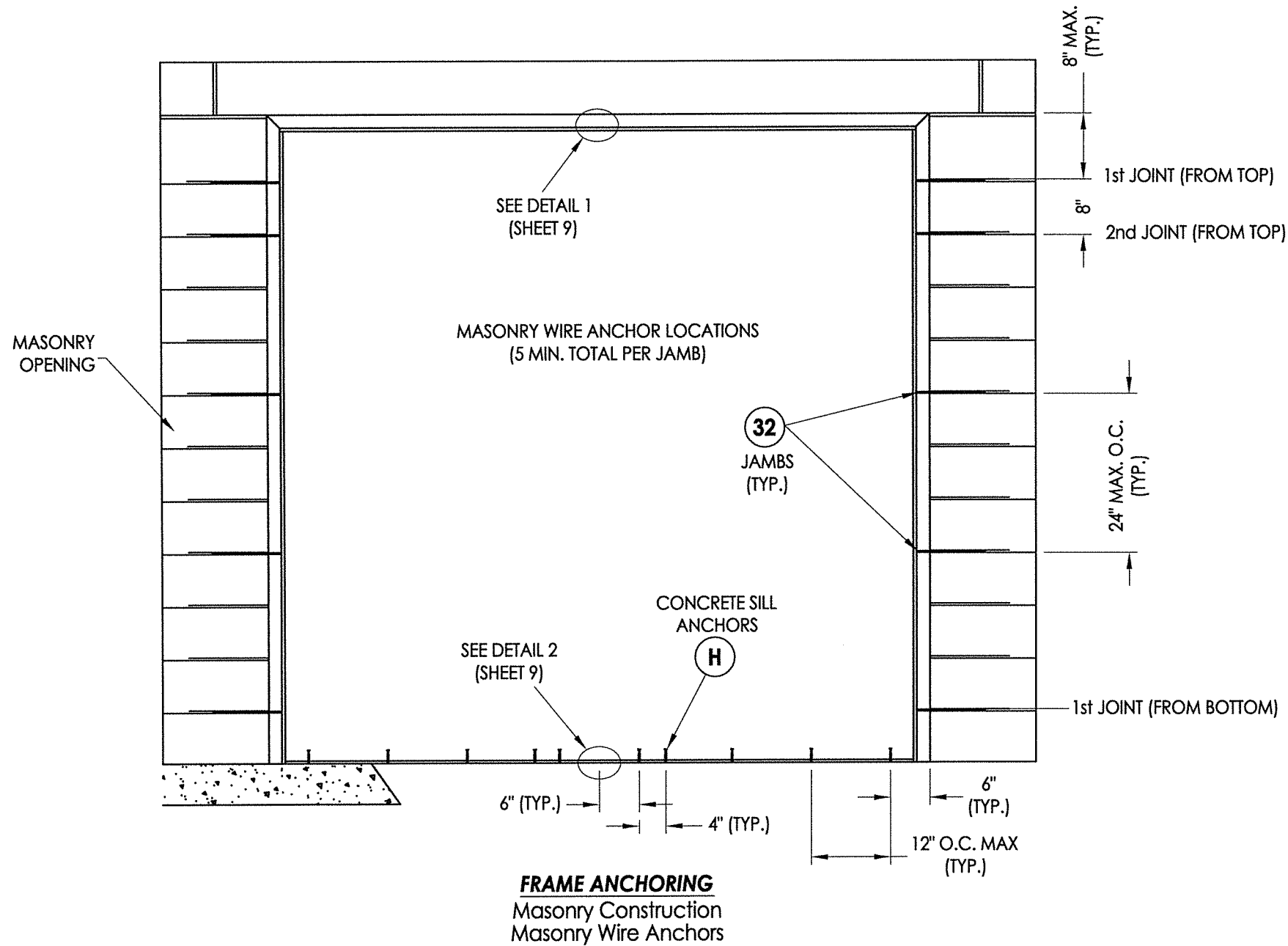
TEXAS BOARD OF PROFESSIONAL ENGINEERS  
CERTIFICATE OF REGISTRATION # F-11852

- CONCRETE ANCHOR NOTES:**
- Concrete screw locations at the corners may be adjusted to maintain a minimum 1" edge distance to mortar joints. If concrete screw locations noted as "MAX. O.C." must be adjusted to maintain the minimum edge distance to mortar joints, additional concrete screws may be required to ensure the maximum on center dimension is not exceeded.
  - Concrete anchor table:

ANCHOR TYPE	ANCHOR LOCATION	ANCHOR SIZE	MANUFACTURER	MIN. EDGE DISTANCE	MIN. EMBEDMENT
CONCRETE ANCHOR SCREW	JAMBS	3/8"	LDT TAPCON® (ITW BUILDEX)	3"	1-1/2"
	SILL	1/4"	TAPCON® (ITW BUILDEX) ULTRACON+® (DeWALT)	2-1/2"	1-3/4"
CONCRETE SLEEVE ANCHOR	JAMBS	3/8"	DYNABOLT SLEEVE ANCHOR® (ITW REDHEAD)	2-1/4"	1-1/2"

PRODUCT:	LS18 STEEL DOOR
PART OR ASSEMBLY:	FRAME ANCHORING
NO.	1
DATE	11/4/21
UPDATE TO	2018 IBC/IRC
BY	LFS
REVISIONS	
DATE:	6/06/17
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4702
SHEET	7 of 10





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

PRODUCT: LS18 STEEL DOOR

PART OR ASSEMBLY: FRAME ANCHORING

NO.	DATE	DESCRIPTION
1	11/4/21	UPDATE TO 2018 IBC/IRC
		LFS
		BY

DATE: 6/06/17

SCALE: N.T.S.

DWG. BY: JK

CHK. BY: LFS

DRAWING NO.: TX-4702

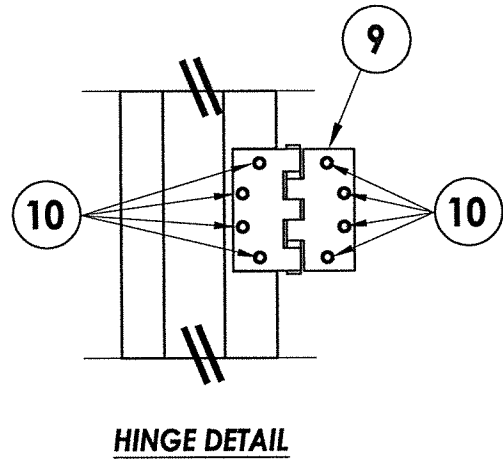
SHEET 8 OF 10

**CONCRETE ANCHOR NOTES:**

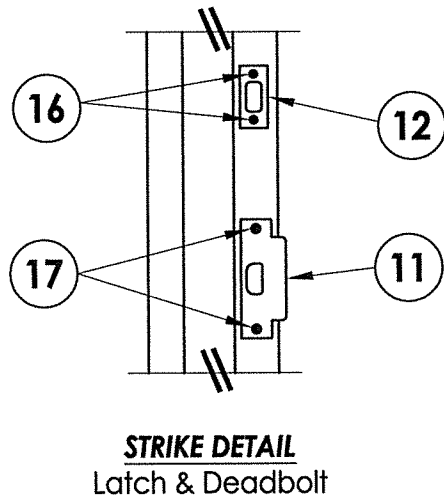
- Concrete screw locations at the corners may be adjusted to maintain a minimum 1" edge distance to mortar joints. If concrete screw locations noted as "MAX. O.C." must be adjusted to maintain the minimum edge distance to mortar joints, additional concrete screws may be required to ensure the maximum on center dimension is not exceeded.
- Concrete anchor table:

ANCHOR TYPE	ANCHOR LOCATION	ANCHOR SIZE	MANUFACTURER	MIN. EDGE DISTANCE	MIN. EMBEDMENT
CONCRETE ANCHOR SCREW	SILL	1/4"	TAPCON® (ITW BUILDEX) ULTRACON+® (DeWALT)	2-1/2"	1-3/4"

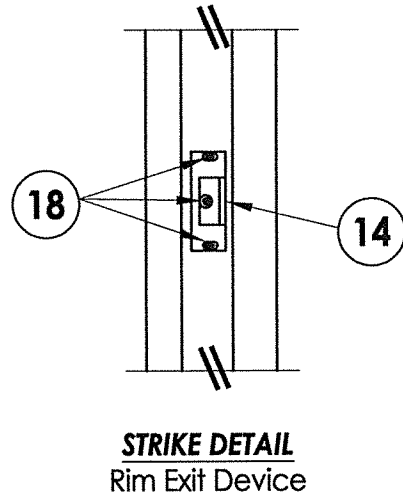




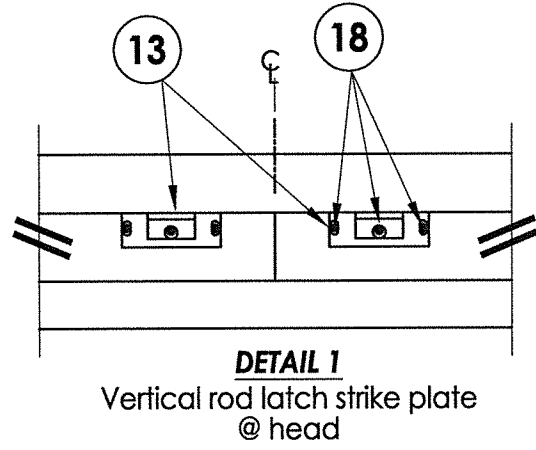
**HINGE DETAIL**



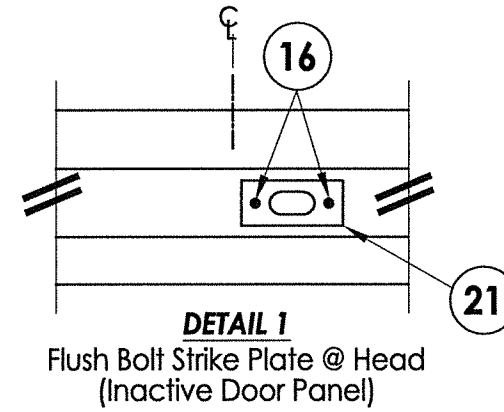
**STRIKE DETAIL**  
Latch & Deadbolt



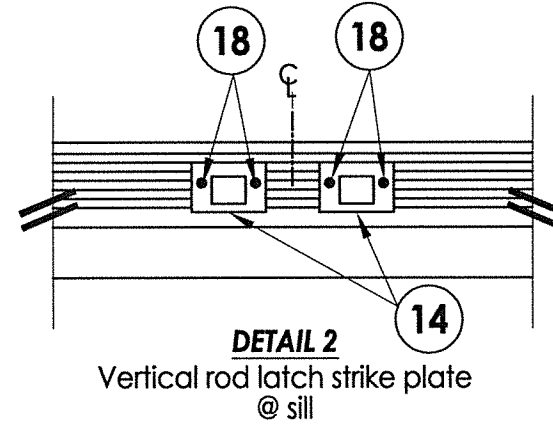
**STRIKE DETAIL**  
Rim Exit Device



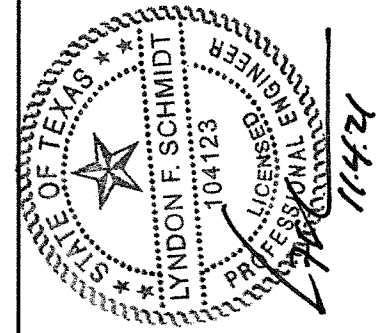
**DETAIL 1**  
Vertical rod latch strike plate  
@ head



**DETAIL 1**  
Flush Bolt Strike Plate @ Head  
(Inactive Door Panel)



**DETAIL 2**  
Vertical rod latch strike plate  
@ sill

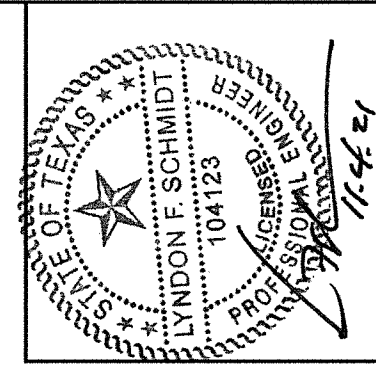
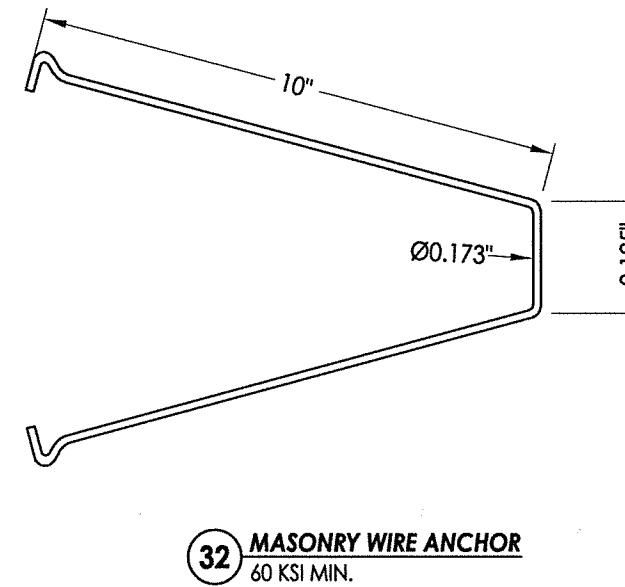
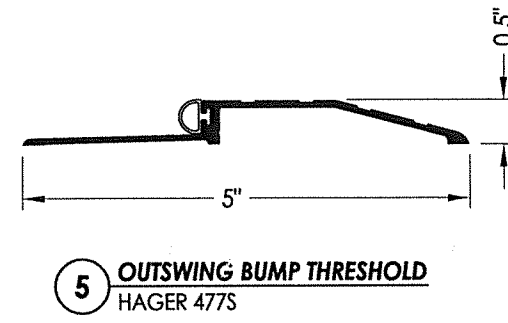
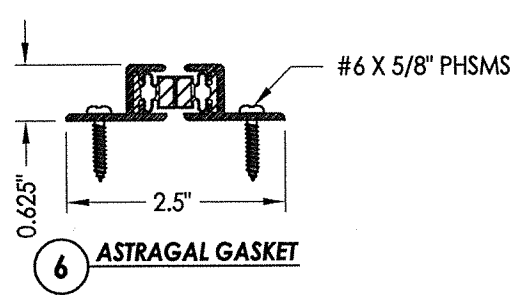
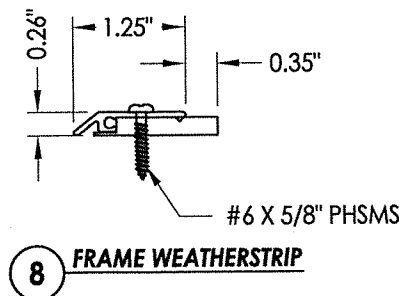
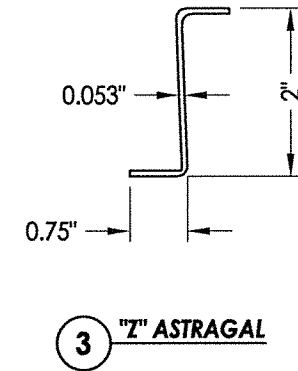
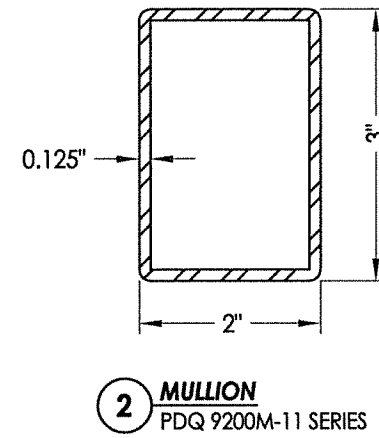
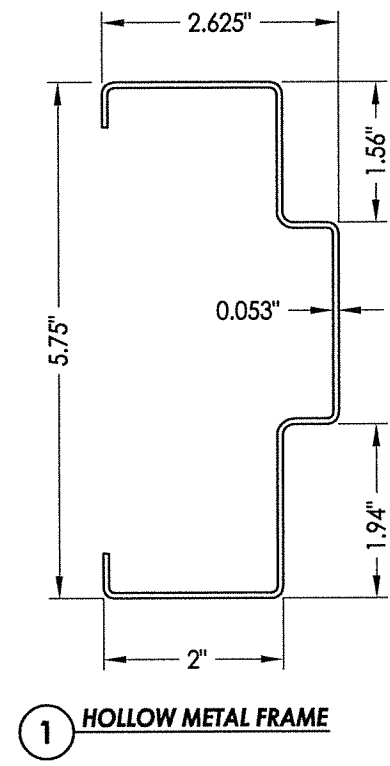


Documents Prepared By: Lyndon F. Schmidt, P.E.  
TEXAS P.E. #104123

**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:		LS18 STEEL DOOR	
PART OR ASSEMBLY:		HARDWARE DETAILS	
NO.	DATE	BY	REVISIONS
1	11/4/21	LFS	UPDATE TO 2018 IBC/IRC
DATE: 6/06/17			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: TX-4702			
SHEET 9 OF 10			

BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
B	2X STUD FRAMING (G>= 0.55)	WOOD
C	1/4" MAX. SHIM SPACE	-
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK (GROUT FILLED) CONFORMING TO ASTM C90	CONCRETE
H	1/4" X 1-3/4" PFH CONCRETE SCREW (SEE CONCRETE ANCHOR TABLE)	STEEL
J	3/8" X 5" PFH DYNABOLT SLEEVE ANCHOR (SEE CONCRETE ANCHOR TABLE)	STEEL
K	3/8" X 5" FH LAG SCREW (2-1/8" MIN. EMBEDMENT)	STEEL
L	3/8" Ø SMS (MUST PENETRATE MIN. 3 THREADS THROUGH STEEL STUD)	STEEL
M	3/8" X 5" LDT TAPCON CONCRETE SCREW (SEE CONCRETE ANCHOR TABLE)	STEEL
X	STEEL STUD (0.125" MIN. THK, Fu = 50 ksi, Fy = 33 ksi)	STEEL
1	HOLLOW METAL FRAME	-
2	REMOVABLE MULLION (PDQ 9200M-11 SERIES)	STEEL
3	"Z" ASTRAGAL	STEEL
4	ASTRAGAL (INTERIOR PEMKO #352CR)	STEEL
5	OUTSWING BUMP THRESHOLD	ALUM
6	ASTRAGAL GASKET (HAGER 849S)	-
7	WEATHERSTRIP (HAGER 736 PRESS-ON)	-
8	FRAME WEATHERSTRIP (HAGER 875S)	-
9	HINGE 4.5" X 4.5"	STEEL
10	#12-24 x 1/2" FH MACHINE SCREW	STEEL
11	LATCH STRIKE PLATE	STEEL
12	DEADBOLT STRIKE PLATE	STEEL
13	VERTICAL ROD STRIKE PLATE	STEEL
14	RIM EXIT DEVICE STRIKE	STEEL
16	#8 x 3/4" FH SCREWS	STEEL
17	#12 x 13/16" FH SCREWS	STEEL
18	#12 x 1-1/8" PH SMS	STEEL
20	HINGE REINFORCEMENT (10 GA.)	STEEL
21	FLUSH BOLT GUIDE (0.050" THK.)	STEEL
22	FLUSH BOLT FRAME REINFORCEMENT (16 GA)	STEEL
30	EMA PIPE ANCHOR (18 GA)	STEEL
31	EMA BUTTERFLY ANCHOR (18 GA)	STEEL
32	MASONRY WIRE ANCHOR	STEEL
40	GLAZED STEEL DOOR PANEL (8'-0" DOOR)	STEEL
41	GLAZED STEEL DOOR PANEL (7'-0" DOOR)	STEEL
42	LOUVERED STEEL DOOR PANEL (8'-0" DOOR)	STEEL



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PRODUCT: LS18 STEEL DOOR  
PART OR ASSEMBLY: BILL OF MATERIALS & COMPONENTS

NO.	DATE	DESCRIPTION	BY
1	11/4/21	UPDATE TO 2018 IBC/IRC	LFS
REVISIONS			

DATE: 6/06/17  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4702  
SHEET 10 OF 10