



6605 Flotilla Street  
City of Commerce  
CA 90040

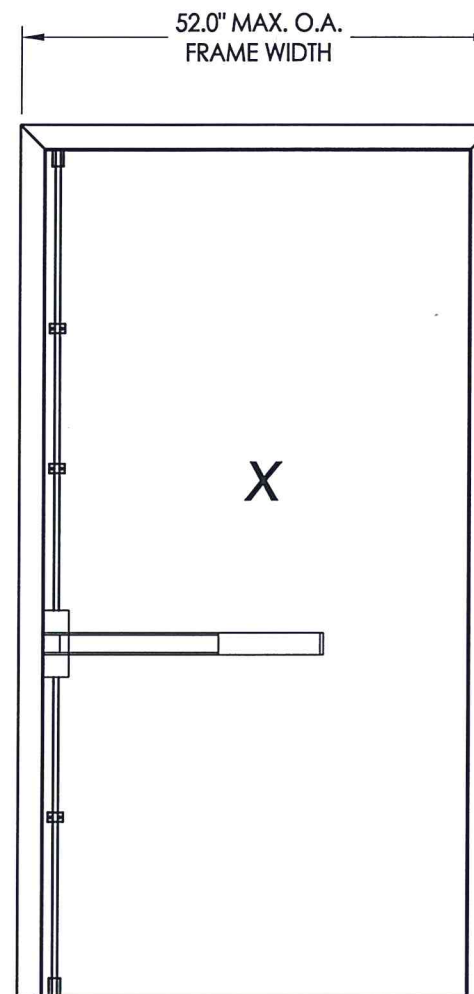
## DKS SERIES 1800 STEEL COMMERCIAL DOOR OUTSWING "IMPACT"

### 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, the opaque door does not require impact protection while the sidelites are 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.

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SHEET#	DESCRIPTION
1	Typical elevation, design pressures & general notes
2	Door panel details
3	Horizontal and vertical cross sections
4	Frame anchoring
5	Frame anchoring
6	Components
7	Bill of materials and components



Panic Bar Exit Device  
w/ Vertical Rods  
"7700-V Series"

OVERALL FRAME DIMENSION	LOCK TYPE	DESIGN PRESSURE (PSF) OUTSWING	
		POSITIVE	NEGATIVE
40.0" x 98.0"	PANIC BAR EXIT DEVICE w/ VERTICAL RODS "7700-V Series"	+70.0	-70.0
52.0" x 98.0"	PANIC BAR EXIT DEVICE w/ VERTICAL RODS "7700-V Series"	+50.0	-50.0

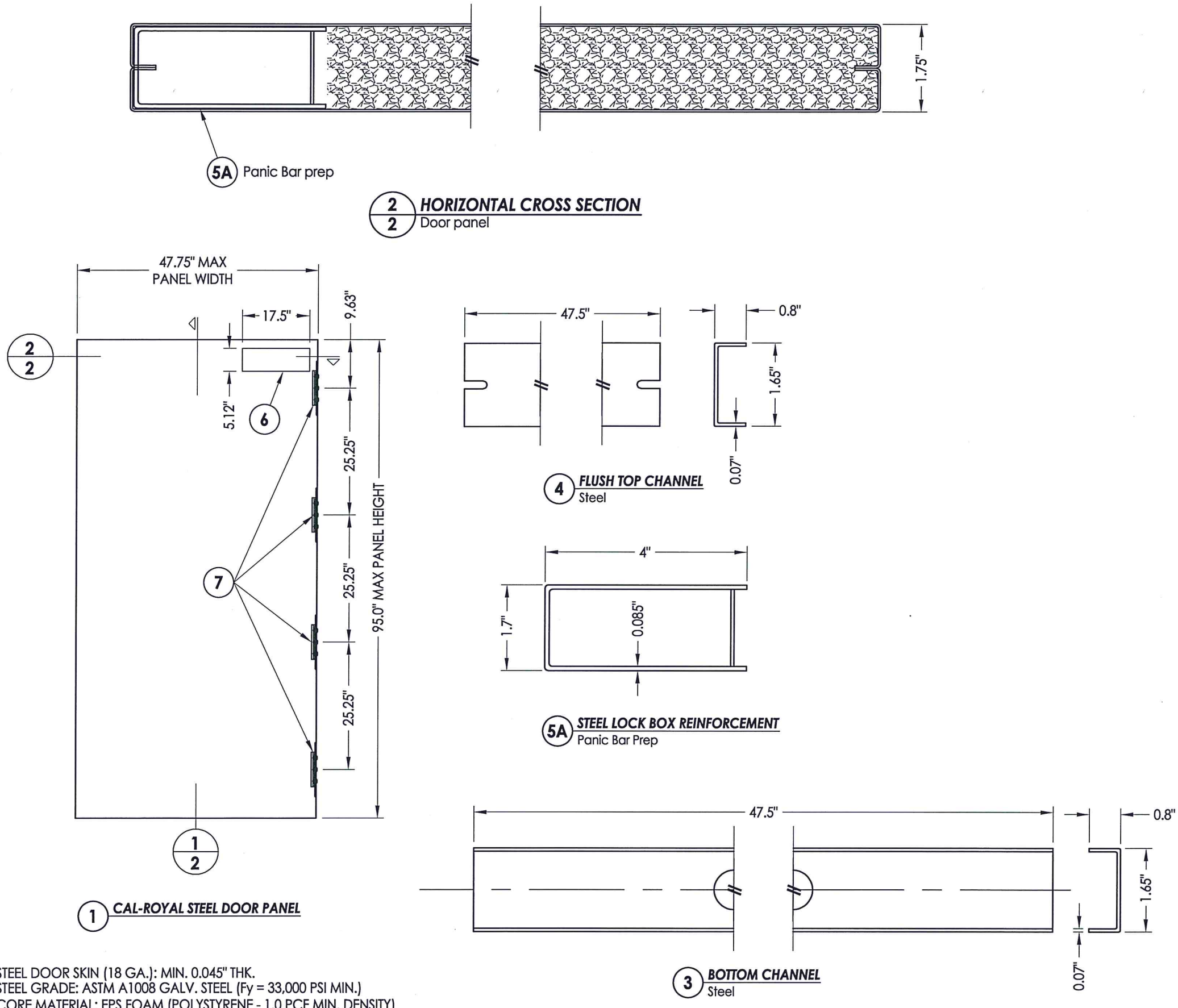


Documents Prepared By: Lyndon F. Schmidt, P.E.  
TEXAS P.E. #104123

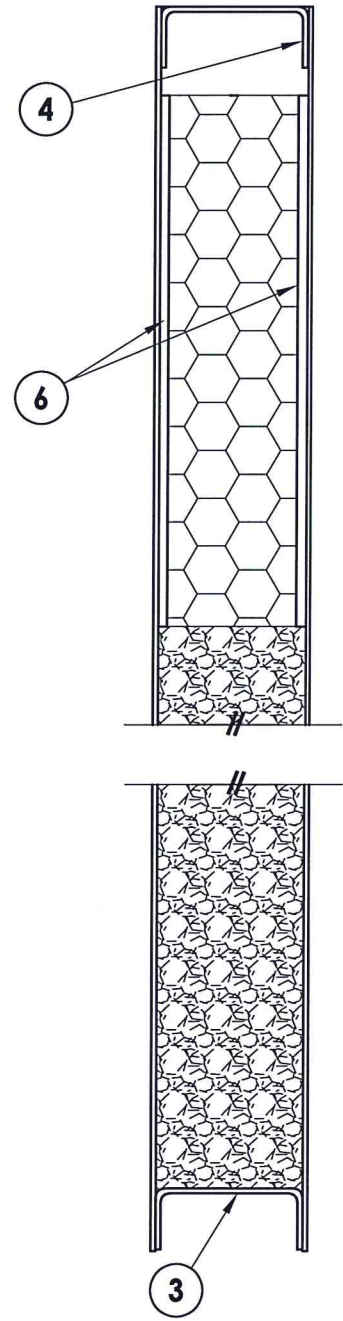
**RW** BUILDING CONSULTANTS, INC.  
P.O. Box 230 Vairico FL 33595  
Phone No.: 813.659.9197

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

PRODUCT:	CAL-ROYAL STEEL COMMERCIAL DOOR
PART OR ASSEMBLY:	TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES
DATE:	10/1/14
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4483
SHEET	1 OF 6



STEEL DOOR SKIN (18 GA.): MIN. 0.045" THK.  
 STEEL GRADE: ASTM A1008 GALV. STEEL (Fy = 33,000 PSI MIN.)  
 CORE MATERIAL: EPS FOAM (POLYSTYRENE - 1.0 PCF MIN. DENSITY)



**1** **VERTICAL CROSS SECTION**  
**2** Door panel

**2** **HORIZONTAL CROSS SECTION**  
**2** Door panel

**4** **FLUSH TOP CHANNEL**  
 Steel

**5A** **STEEL LOCK BOX REINFORCEMENT**  
 Panic Bar Prep

**3** **BOTTOM CHANNEL**  
 Steel

**5A** Panic Bar prep



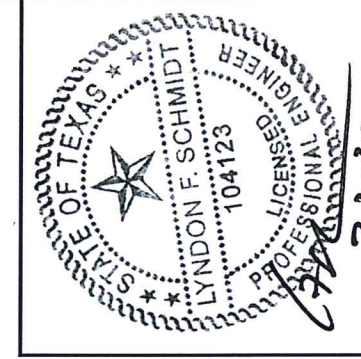
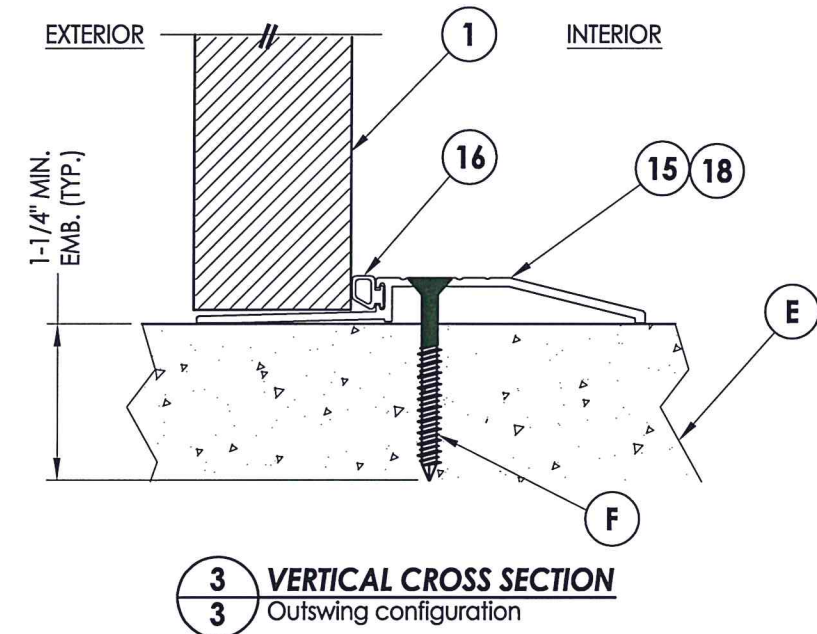
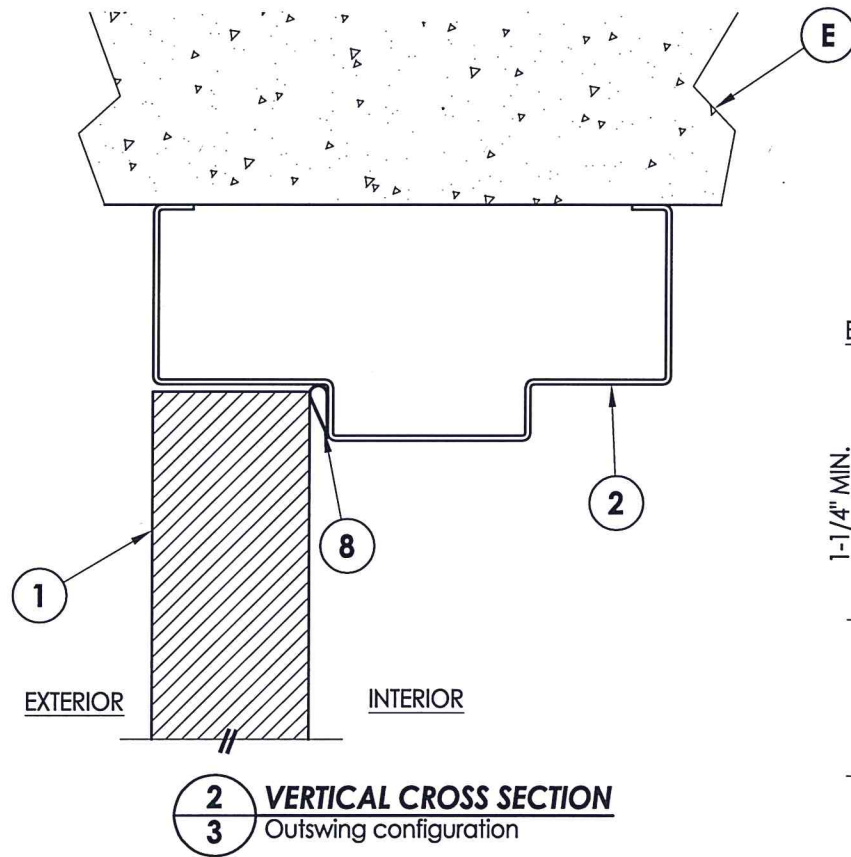
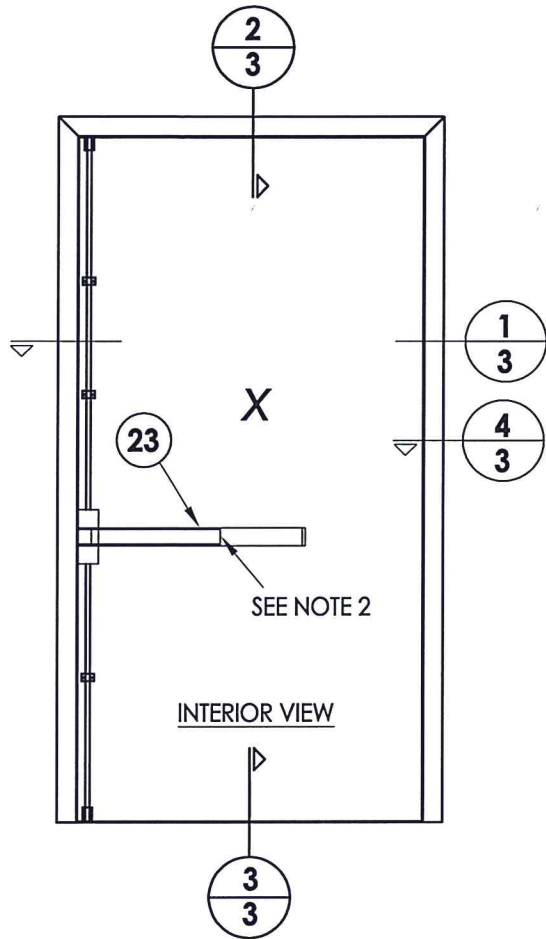
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PRODUCT:		CAL-ROYAL	
		STEEL COMMERCIAL DOOR	
PART OR ASSEMBLY:		DOOR PANEL DETAILS	
NO.	DATE	BY	REVISIONS
1	7/02/20	LFS	UPDATE TO 2018 IBC/IRC CODE & REMOVE LATCH & DEADBOLT

DATE: 10/1/14  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: TX-4483  
 SHEET 2 OF 6



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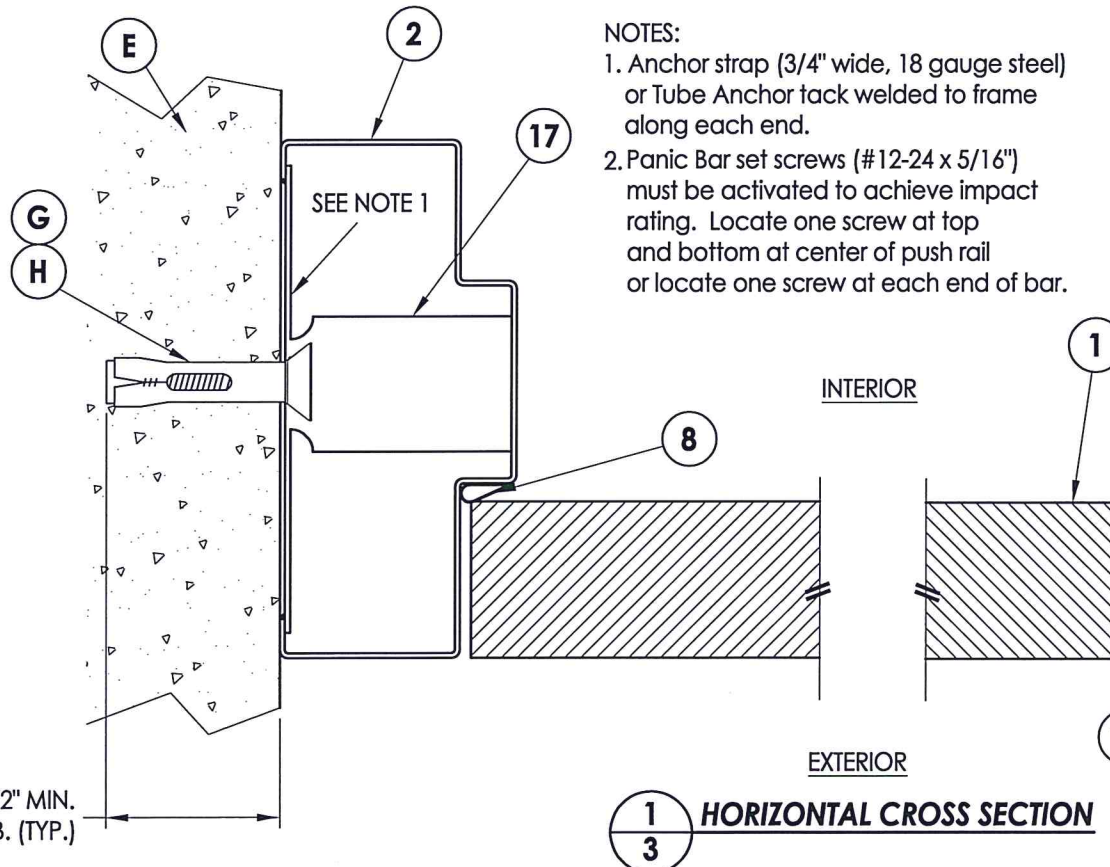
TEXAS BOARD OF PROFESSIONAL ENGINEERS  
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PRODUCT: CAL-ROYAL  
STEEL COMMERCIAL DOOR

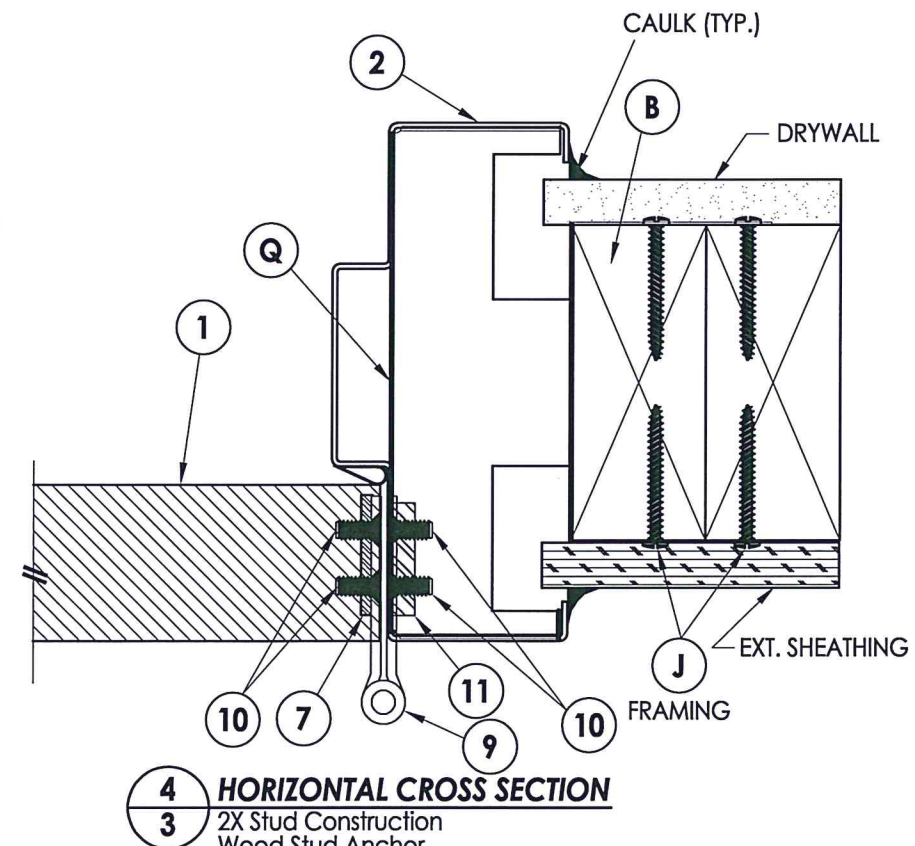
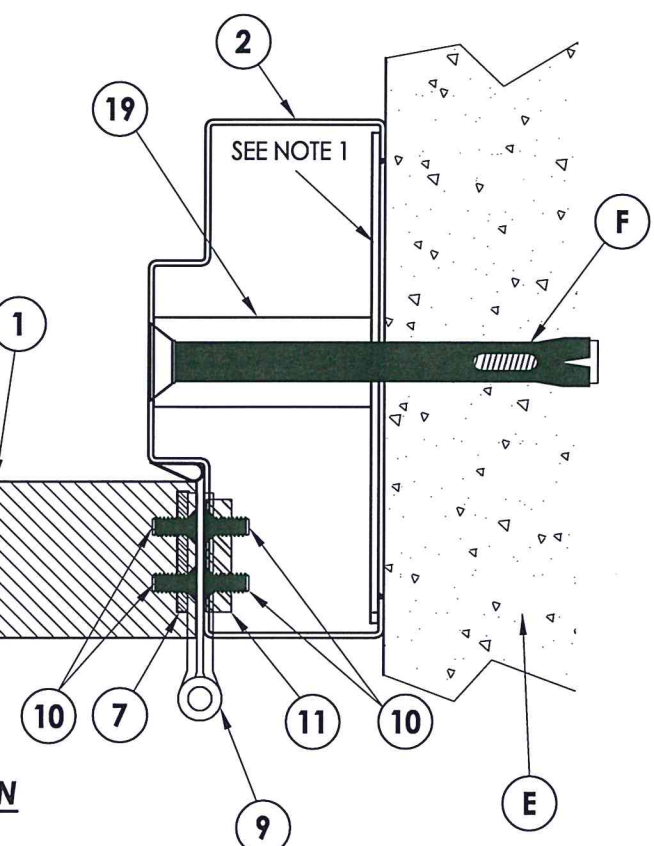
PART OR ASSEMBLY:  
HORIZONTAL AND VERTICAL  
CROSS SECTIONS

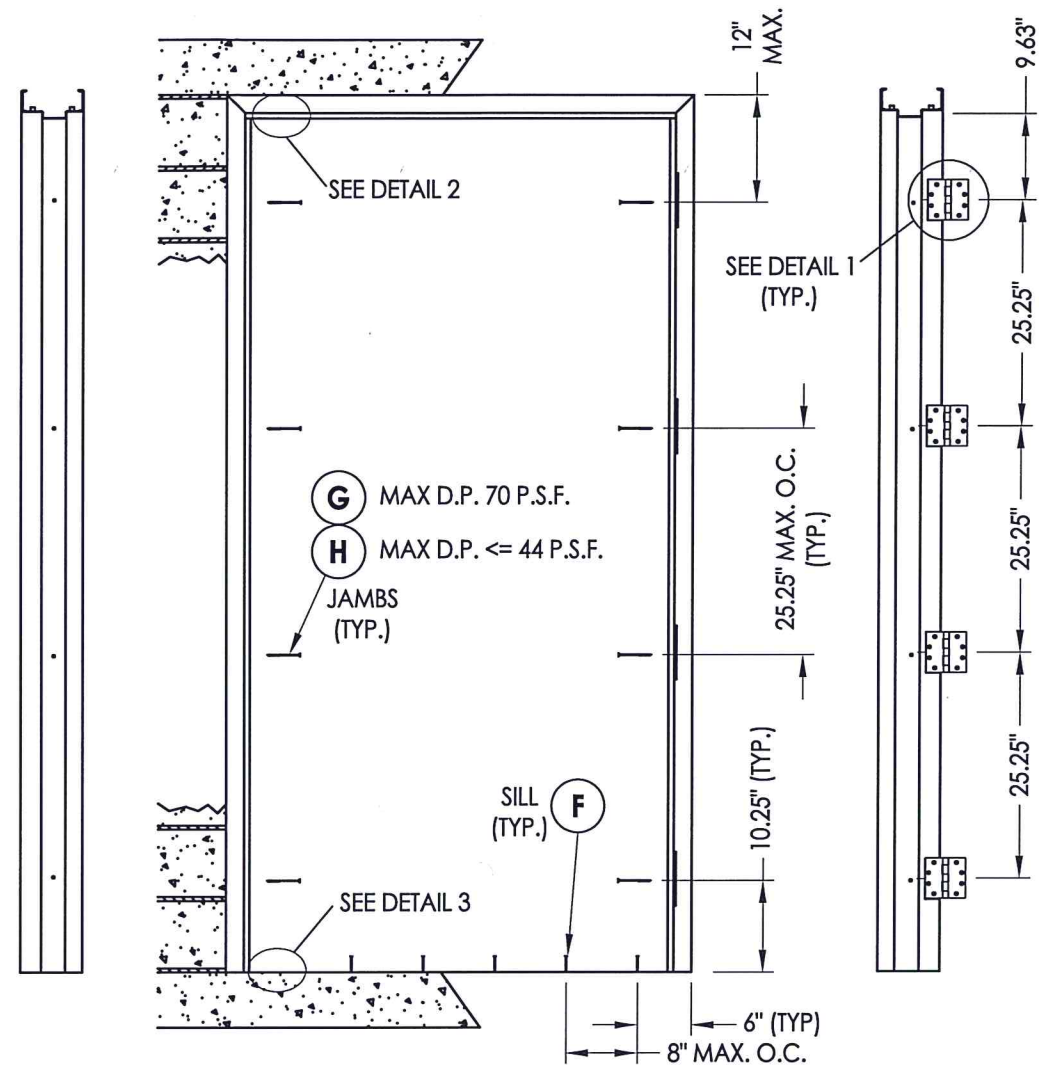
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DATE: 10/1/14  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4483  
SHEET 3 OF 6



- NOTES:
1. Anchor strap (3/4" wide, 18 gauge steel) or Tube Anchor tack welded to frame along each end.
  2. Panic Bar set screws (#12-24 x 5/16") must be activated to achieve impact rating. Locate one screw at top and bottom at center of push rail or locate one screw at each end of bar.

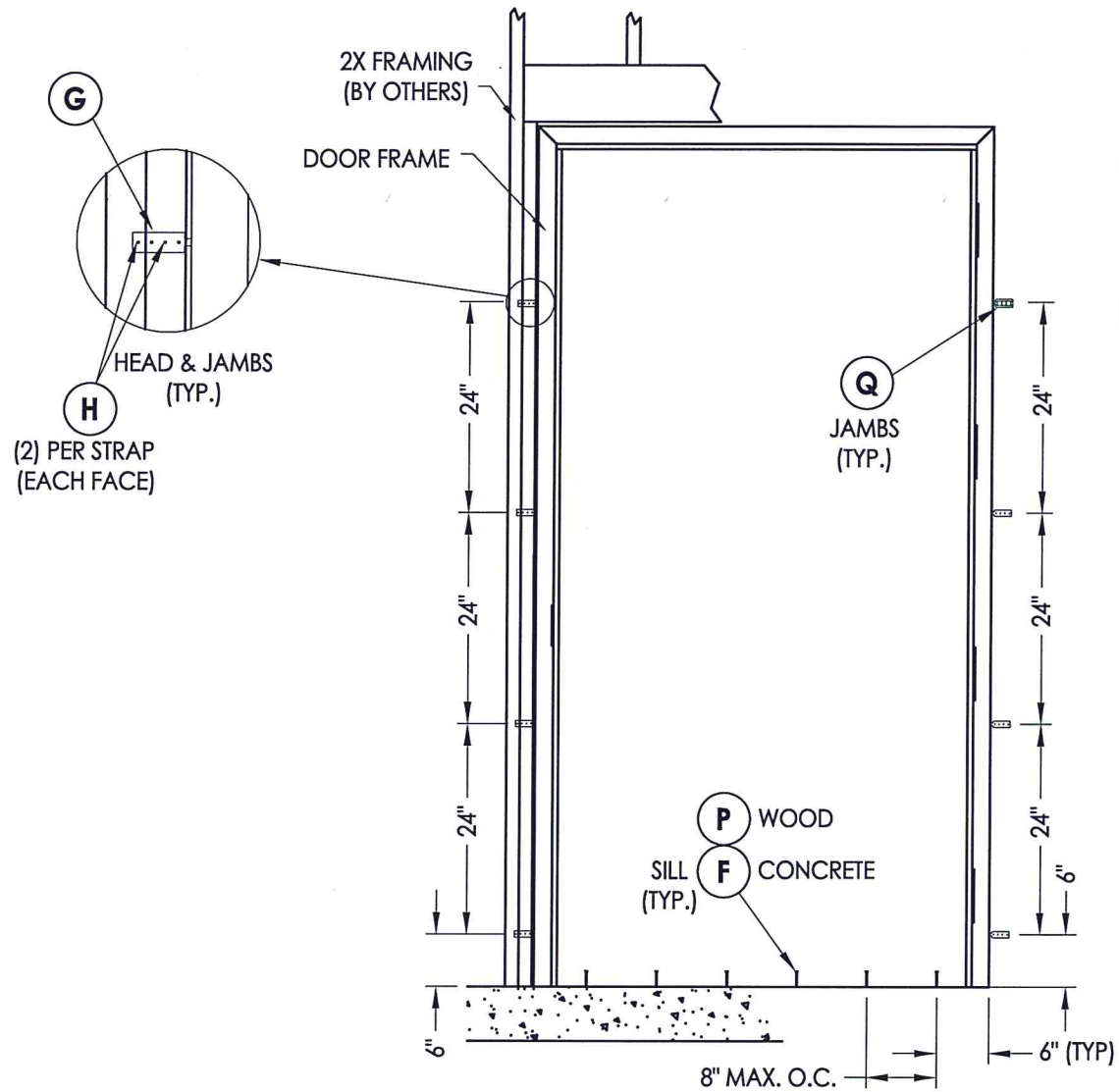




**STRIKE JAM**

**FRAME ANCHORING**  
Masonry Construction

**HINGE JAM**



**FRAME ANCHORING**  
2X Stud Construction  
Strap Anchors



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CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: CAL-ROYAL  
STEEL COMMERCIAL DOOR

PART OR ASSEMBLY:  
FRAME ANCHORING

NO.	DATE	REVISIONS	BY
1	7/02/20	UPDATE TO 2018 IBC/IRC CODE & REMOVE LATCH & DEADBOLT	LFS

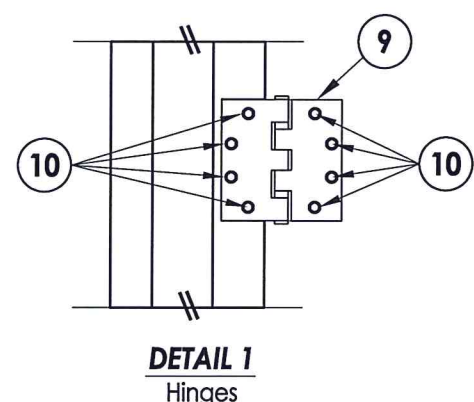
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SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4483  
SHEET 4 OF 6

**CONCRETE ANCHOR NOTES:**

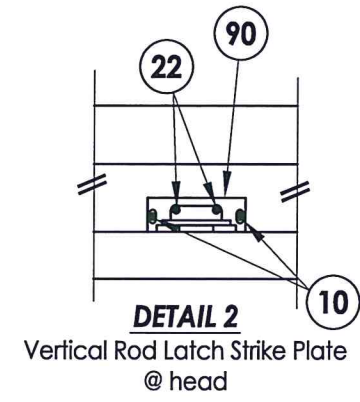
1. Substitution of equal concrete screws from a different supplier may have different edge distance and center distance requirements.
2. Concrete screw locations at the corners may be adjusted to maintain the minimum edge distance to mortar joints. If concrete screw locations noted as "MAX. ON CENTER" 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.
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"	4"	2"
TAPPER	3/8"	1-1/2"	4-1/4"	3-3/4"
DYNABOLT SLEEVE ANCHOR	3/8"	1-1/2"	2-1/4"	4-1/2"

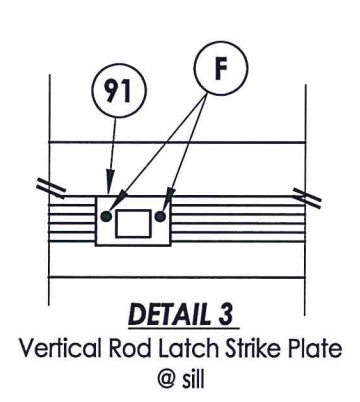
4. Embedment may be through 1-1/4" face shell of hollow block.



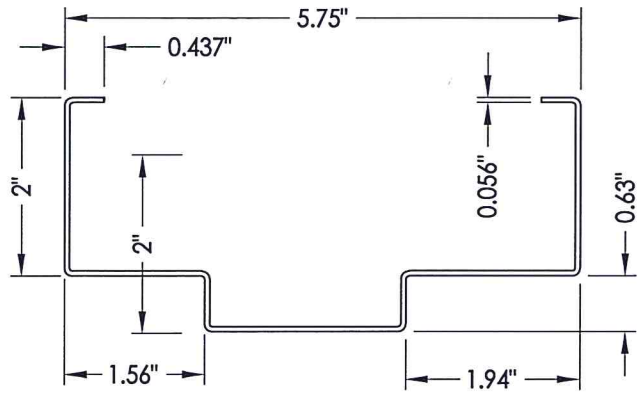
**DETAIL 1**  
Hinges



**DETAIL 2**  
Vertical Rod Latch Strike Plate  
@ head

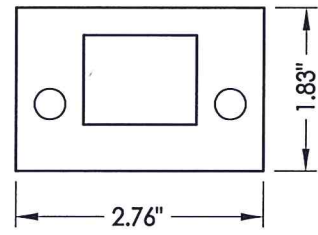


**DETAIL 3**  
Vertical Rod Latch Strike Plate  
@ sill

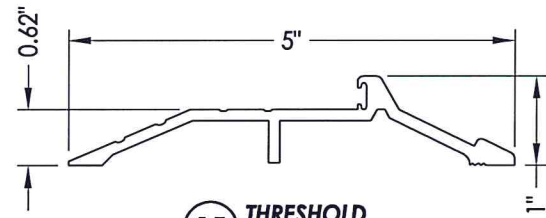
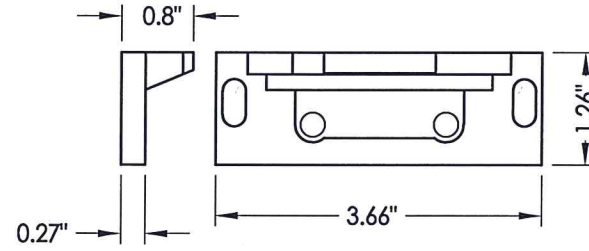


**2** FRAME  
16 Ga. Steel

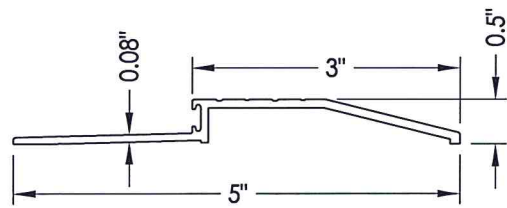
**91** VERTICAL ROD LATCH STRIKE PLATE  
@ Sill



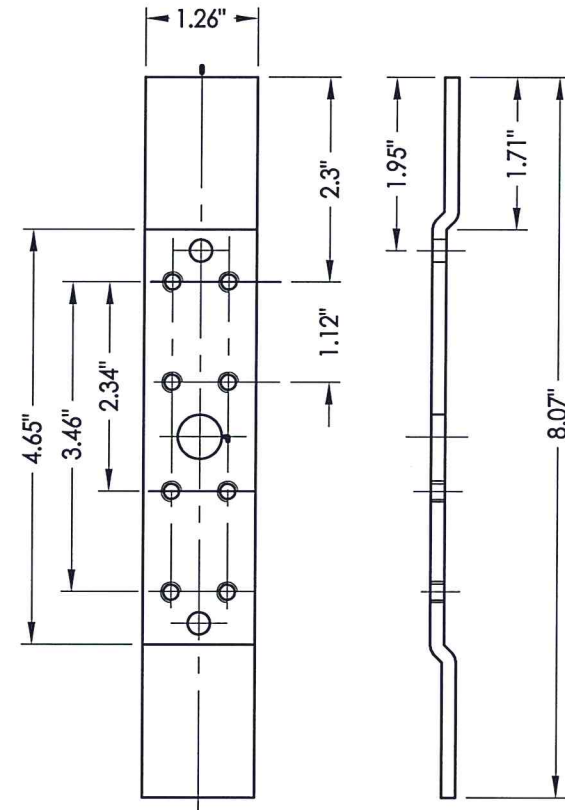
**90** VERTICAL ROD LATCH STRIKE PLATE  
@ Head



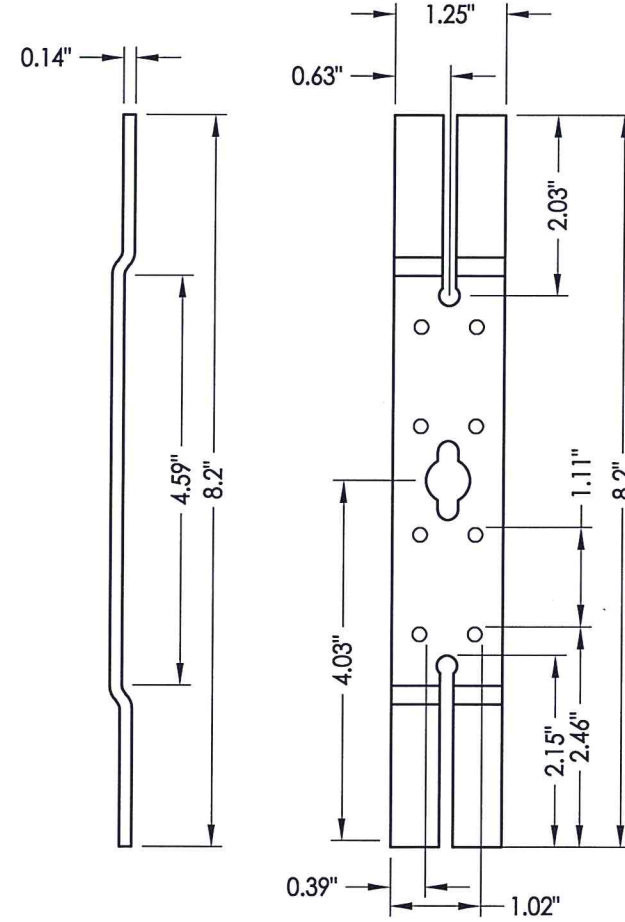
**15** THRESHOLD



**18** THRESHOLD



**11** FRAME HINGE REINFORCEMENT  
8 Ga. Steel



**7** DOOR HINGE REINFORCEMENT  
8 Ga. Steel



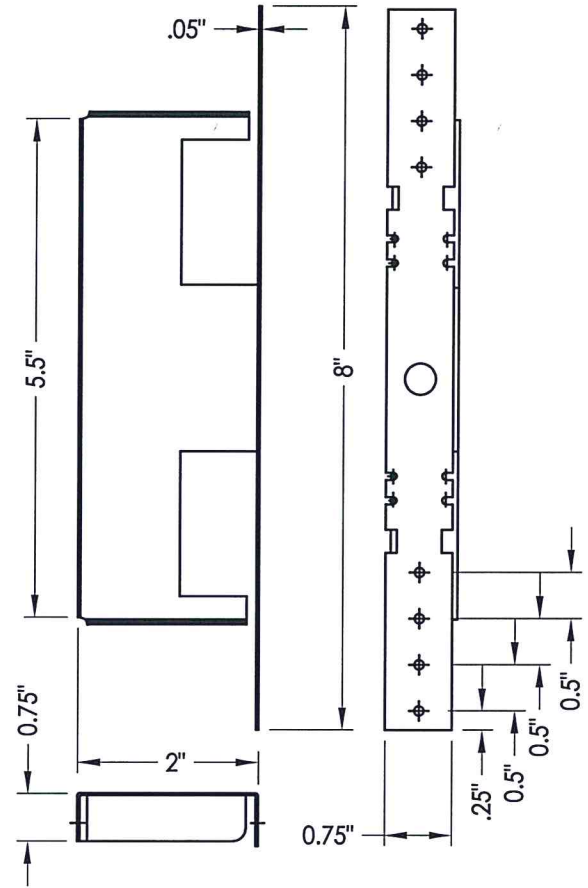
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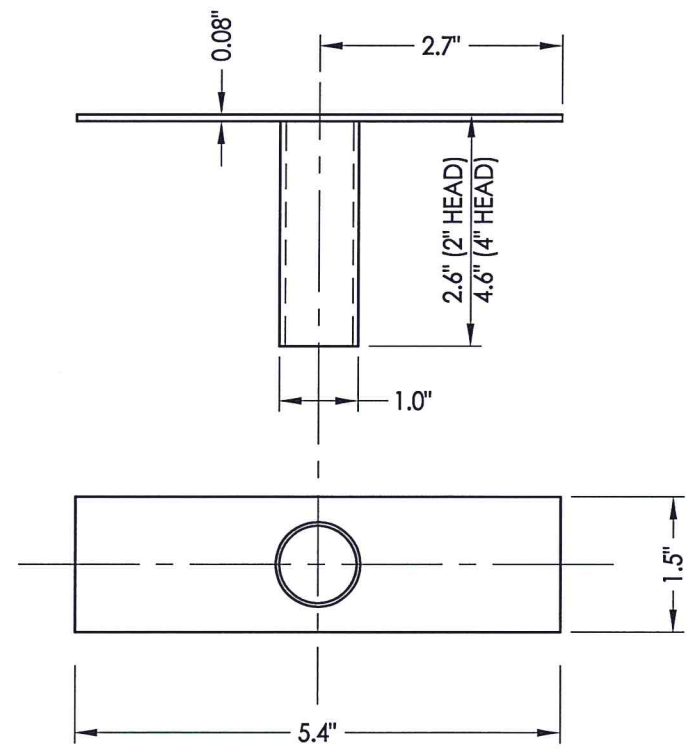
PRODUCT:		CAL-ROYAL DOOR	
		STEEL COMMERCIAL DOOR	
PART OR ASSEMBLY:		BILL OF MATERIALS AND COMPONENTS	
NO.	DATE	BY	REVISIONS
1	7/02/20	LFS	UPDATE TO 2018 IBC/IRC CODE & REMOVE LATCH & DEADBOLT
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DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: TX-4483			
SHEET 5 OF 6			

**BILL OF MATERIALS**

ITEM #	DESCRIPTION	MATERIAL
B	2 X 4 FRAMING (SG >= 0.42)	WOOD
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	1/4" X 2-1/4" ITW PFH CONCRETE SCREW	STEEL
G	3/8" X 2" PFH ITW DYNABOLT SLEEVE ANCHOR	STEEL
H	3/8" X 2" PFH TAPPER CONCRETE SCREW BY POWERS FASTENERS	STEEL
P	#12 X 2-1/2" PFH WOOD SCREW	STEEL
Q	WOOD STRAP ANCHOR	STEEL
1	DOOR PANEL	STEEL
2	HOLLOW FRAME 2"	STEEL
3	BOTTOM CHANNEL	STEEL
4	FLUSH TOP CHANNEL	STEEL
5A	LOCK BOX REINFORCEMENT	STEEL
6	DOOR CLOSER REINFORCEMENT (11 GA.)	STEEL
7	DOOR HINGE REINFORCEMENT	STEEL
8	WEATHERSTRIP - COMPRESSION BULB 1/4" X 1/2" (PEMKO S88)	NEOPRENE
9	4-1/2" X 4-1/2" X 0.125" TEMPLATE HINGE	STEEL
10	#12-24 X 1/2" PFH MACHINE SCREW	STEEL
11	FRAME HINGE REINFORCEMENT	STEEL
15	THRESHOLD (PEMKO #181_T)	ALUM
16	WEATHERSTRIP (THERMOSEAL™)	NEOPRENE
17	UNIVERSAL WALL ANCHOR REINFORCEMENT	STEEL
18	THRESHOLD (PEMKO 2001P)	ALUM
19	TUBE ANCHOR REINFORCEMENT	STEEL
22	#8-24 X 3/4" COMB. MACHINE / WOOD SCREW	STEEL
23	CAL-ROYAL 7700-V SERIES VERTICAL ROD EXIT DEVICE	-
90	VERTICAL ROD LATCH STRIKE PLATE @ HEAD	STEEL
91	VERTICAL ROD LATCH STRIKE PLATE @ SILL	STEEL



**Q WOOD STRAP ANCHOR**



**19 TUBE ANCHOR**



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PRODUCT: CAL-ROYAL COMMERCIAL DOOR  
STEEL

PART OR ASSEMBLY: BILL OF MATERIALS AND COMPONENTS

NO.	DATE	REVISIONS
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DATE: 10/1/14  
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CHK. BY: LFS  
DRAWING NO.: TX-4483  
SHEET 6 OF 6