CAL-ROYAL PRODUCTS, INC
6605 Flotilla Street
City of Commerce
CA 90040

DKS SERIES 1800
STEEL COMMERCIAL DOUBLE DOOR
OUTSWING
"IMPACT"

EVALUATED FOR USE IN THE STATE OF TEXAS

The Steel Door system described herein complies with the 2021 International Residential Code (IRC), Sections R301 & R609 and the 2021 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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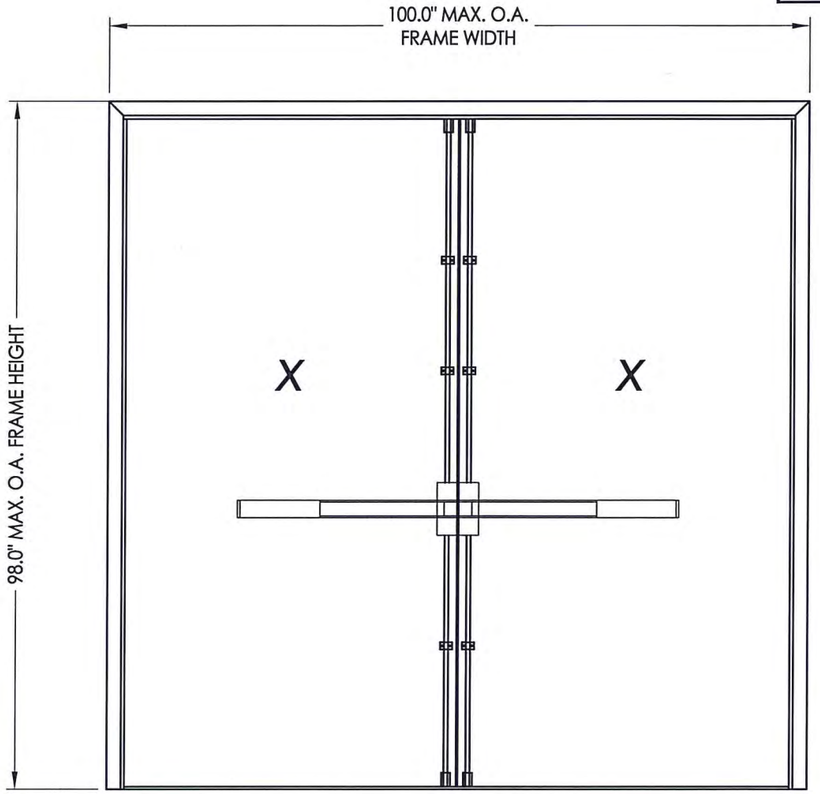
SHEET#	DESCRIPTION
1	Typical elevation, design pressures & general notes
2	Door panel details
3	Horizontal cross sections
4	Vertical cross sections
5	Frame anchoring
6	Frame anchoring
7	Bill of materials and components



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

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

STATE OF TEXAS
LYNDON F. SCHMIDT
104123
LICENSED PROFESSIONAL ENGINEER
7.2.20

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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: CAL-ROYAL STEEL COMMERCIAL DOOR

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

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

DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4486
SHEET 1 OF 7

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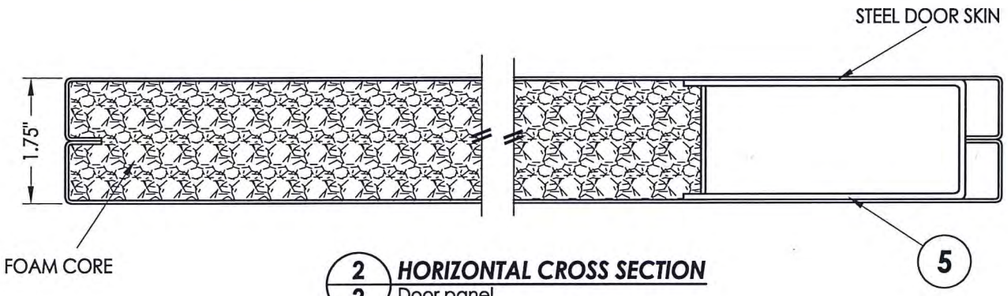
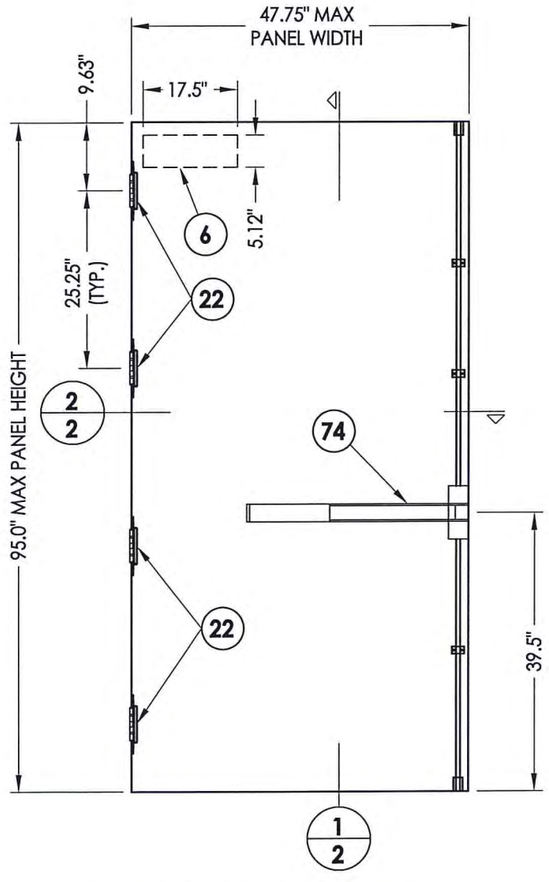
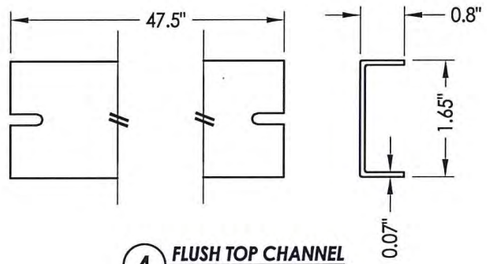


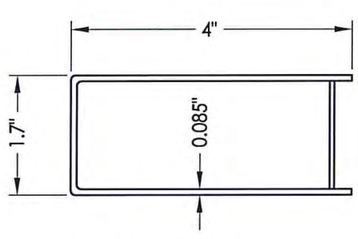
2/2 HORIZONTAL CROSS SECTION
Door panel



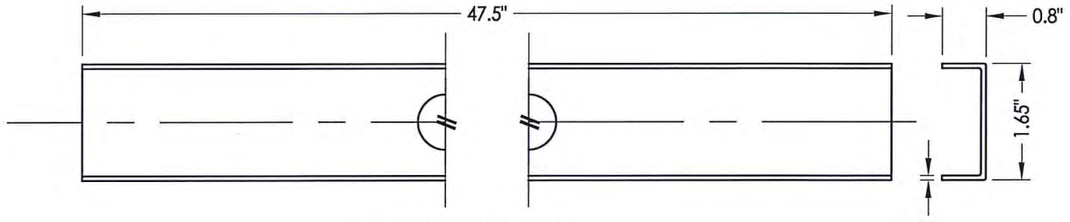
1 CAL-ROYAL STEEL DOOR PANEL



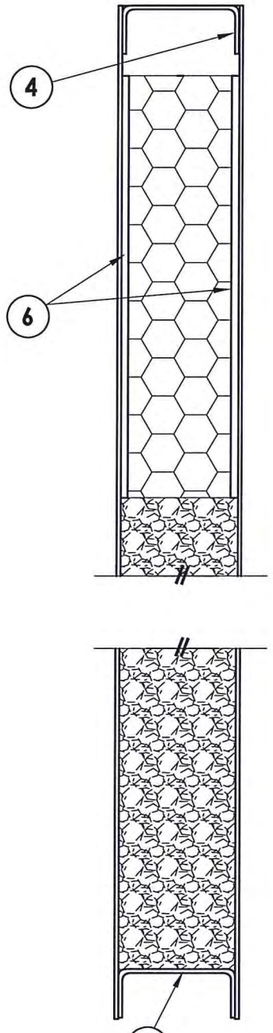
4 FLUSH TOP CHANNEL
Steel



5 STEEL LOCK BOX REINFORCEMENT
Panic Bar Prep (10.5" long)



3 BOTTOM CHANNEL
Steel



1/2 VERTICAL CROSS SECTION
Door panel

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)

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

PRODUCT: CAL-ROYAL STEEL COMMERCIAL DOOR

PART OR ASSEMBLY: DOOR PANEL DETAILS

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

DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4486
SHEET 2 OF 7

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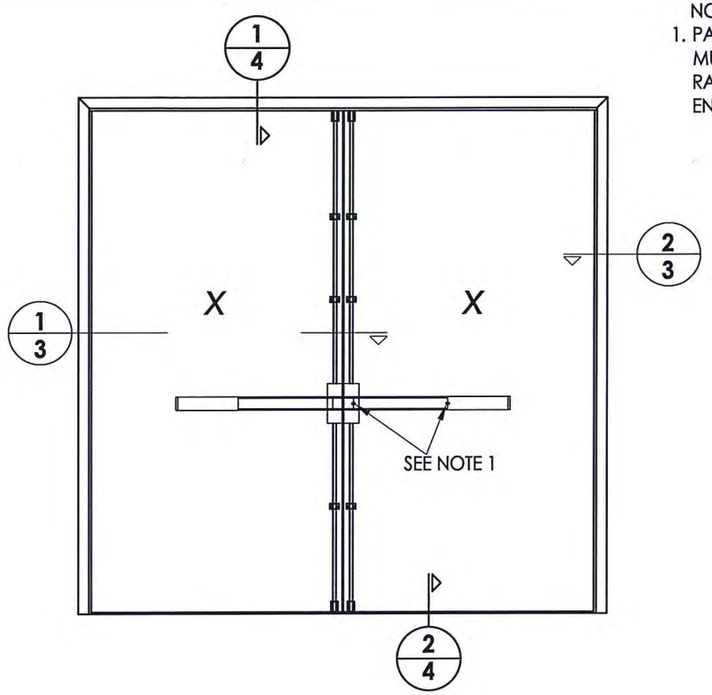
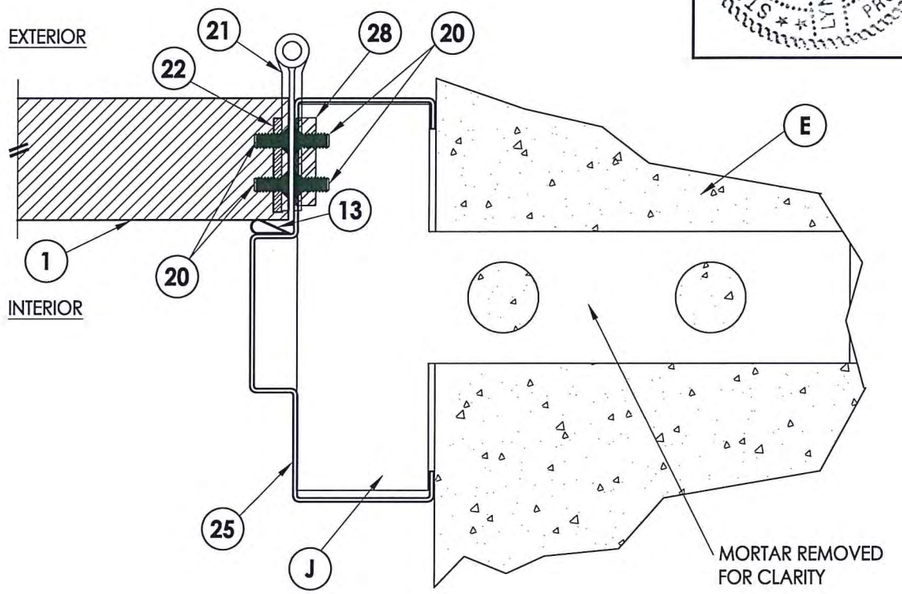
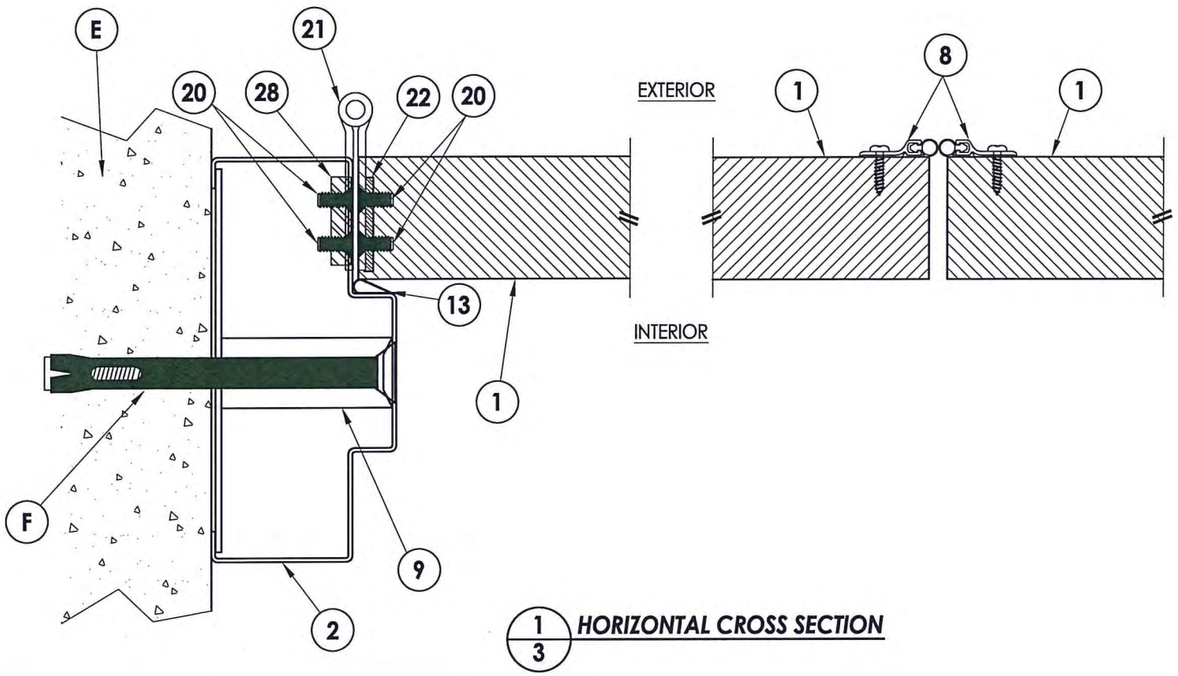
NOTE:
1. PANIC BAR SET SCREWS (#12-24 x 5/16") MUST BE ACTIVATED TO ACHIEVE IMPACT RATING. LOCATE ONE SCREW AT THE END OF EACH PUSH BAR.





2/3 **HORIZONTAL CROSS SECTION**
Masonry Construction
Masonry "Tee" Anchor



1/3 **HORIZONTAL CROSS SECTION**

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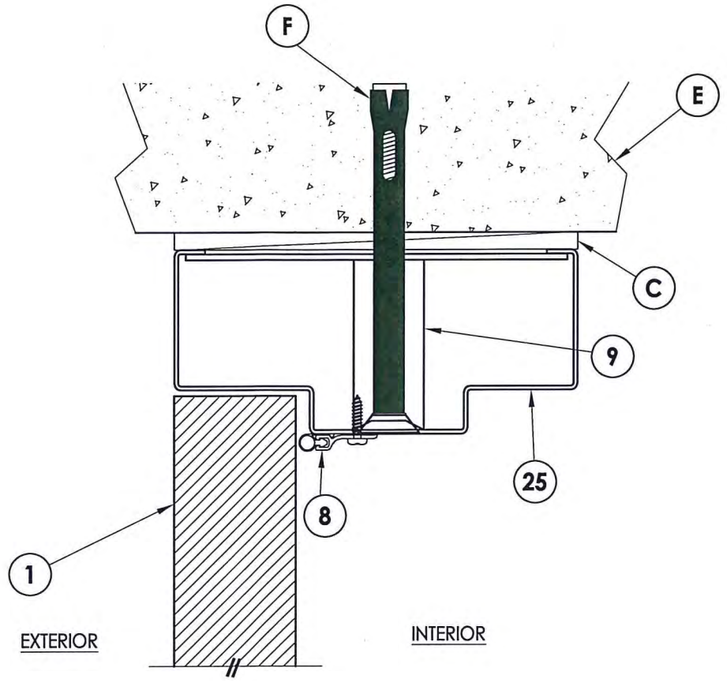
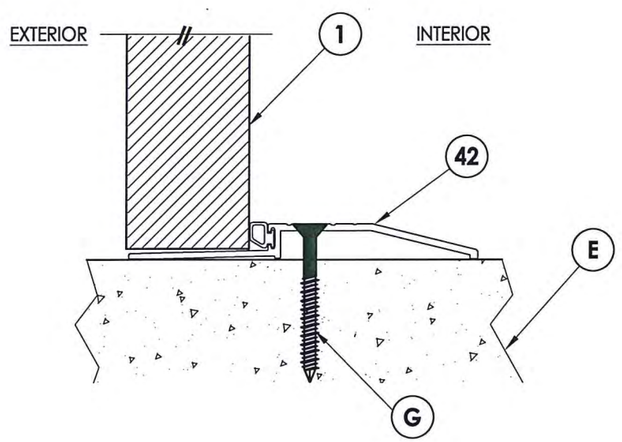


1/4 VERTICAL CROSS SECTION



2/4 VERTICAL CROSS SECTION
Outswing configuration

STATE OF TEXAS
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CAL-ROYAL
STEEL COMMERCIAL DOOR

PART OR ASSEMBLY:
VERTICAL CROSS SECTIONS

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DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4486
SHEET 4 OF 7

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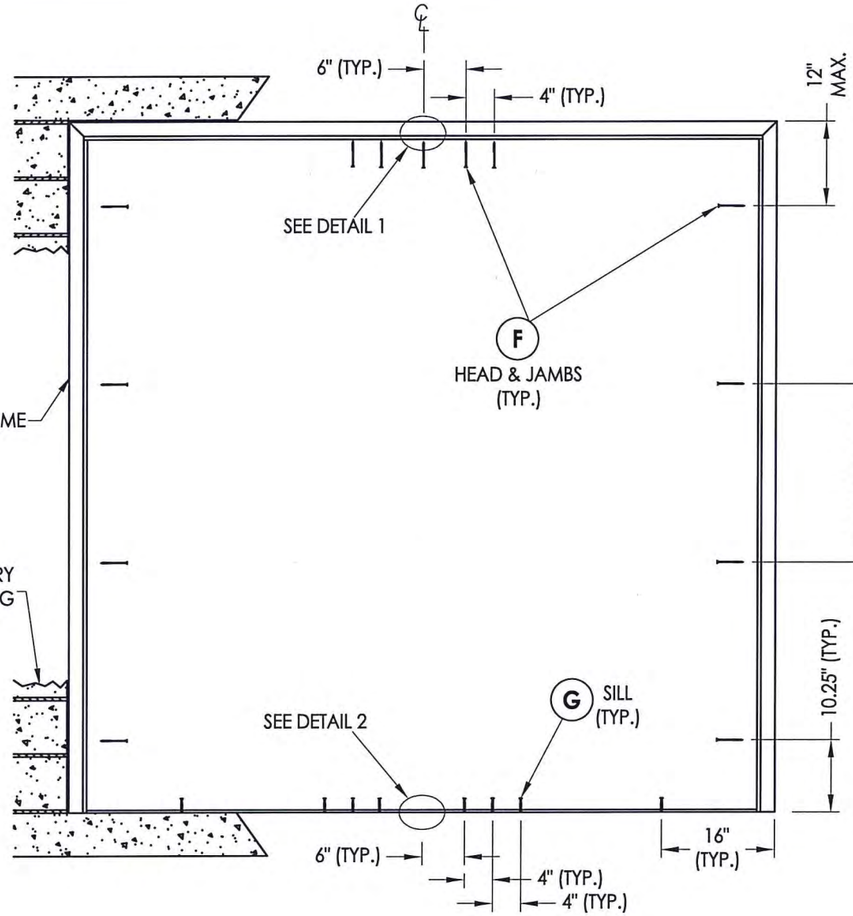
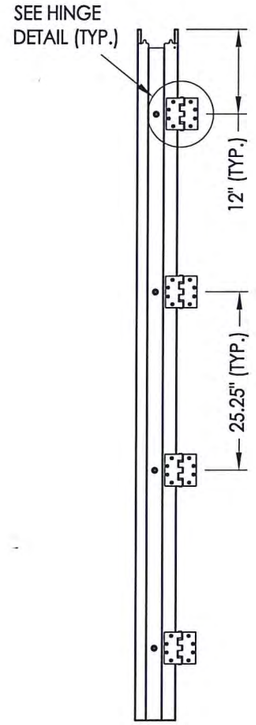
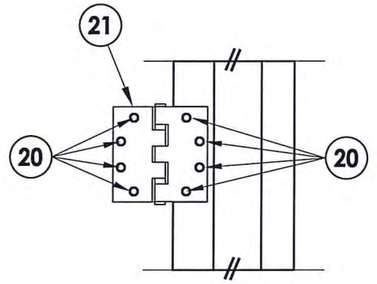


FRAME ANCHORING
Masonry Construction
Concrete Anchors



HINGE JAMB



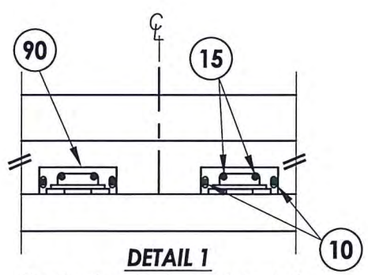
HINGE DETAIL

CONCRETE ANCHOR NOTES:

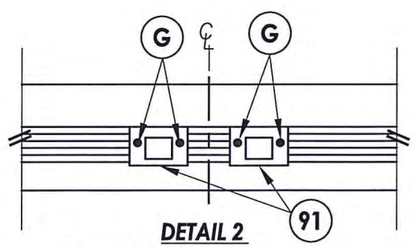
1. *Substitution of equal concrete screws from a different supplier may have different edge distance and center distance requirements.*
2. *Concrete screw locations at the corners may be adjusted to maintain the minimum edge distance to mortar joints. If concrete screw locations noted as "MAX. ON CENTER"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

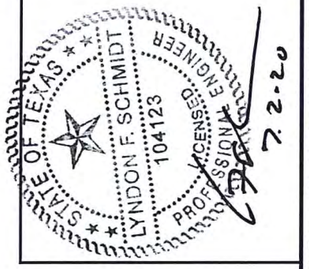
4. *Embedment may be through 1-1/4" face shell of hollow block.*



DETAIL 1
Vertical rod latch strike plate
@ head



DETAIL 2
Vertical rod latch strike plate
@ sill



7-2-20

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TEXAS BOARD OF PROFESSIONAL ENGINEERS
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	LFS

DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4486
SHEET 5 OF 7

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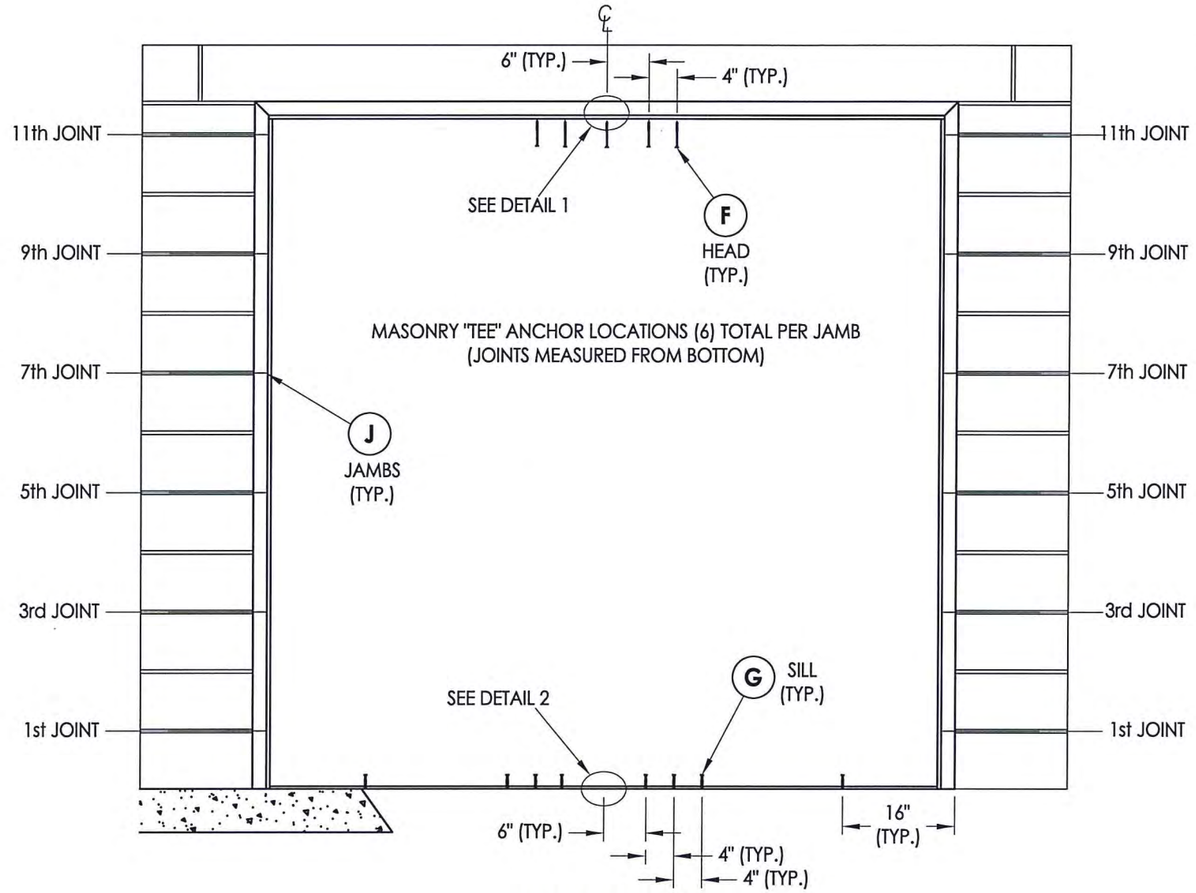
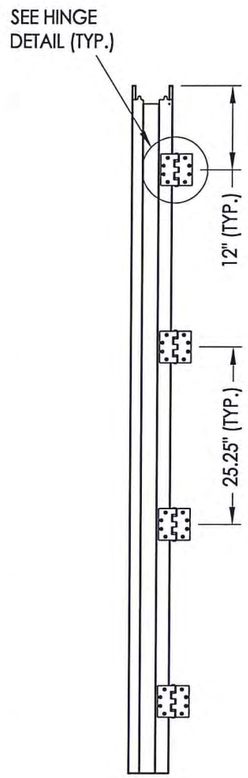
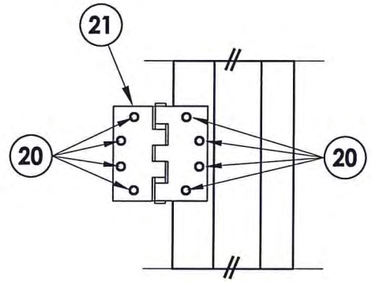


FRAME ANCHORING
Masonry Construction
Masonry "Tee" Anchors



HINGE JAMB



HINGE DETAIL

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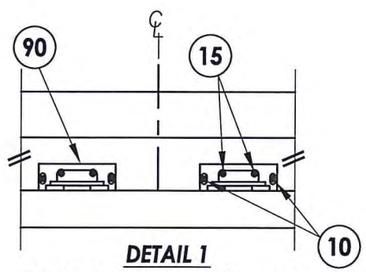
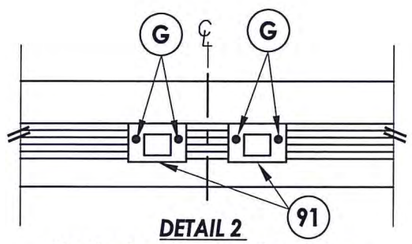
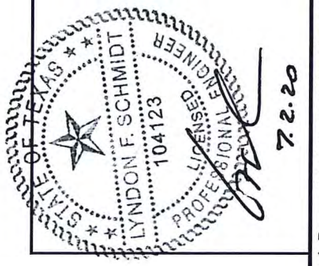


DETAIL 1
Vertical rod latch strike plate
@ head



DETAIL 2
Vertical rod latch strike plate
@ sill



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DATE: 10/1/14
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DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4486
SHEET 6 OF 7

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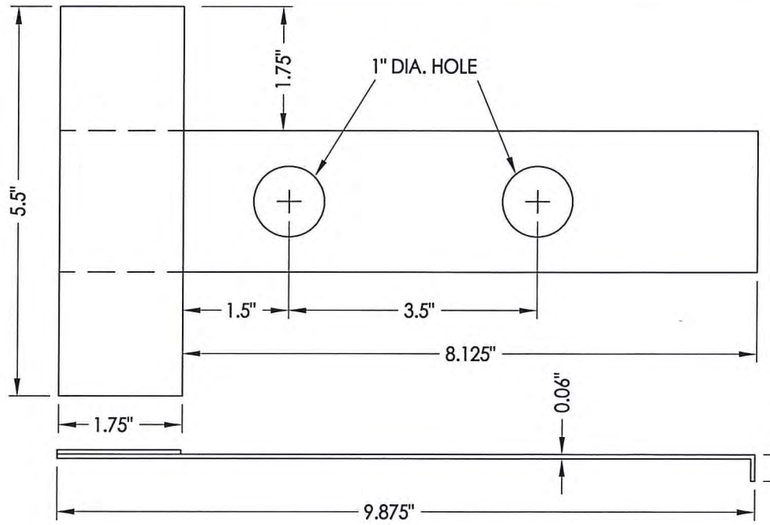
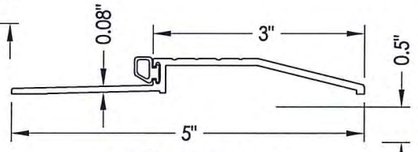
BILL OF MATERIALS

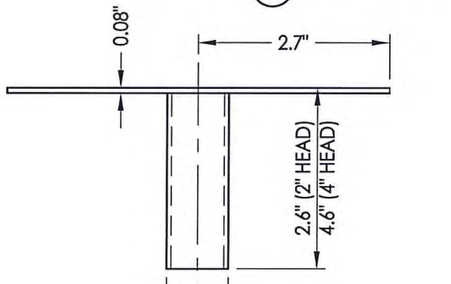
ITEM #	DESCRIPTION	MATERIAL
C	1/4" MAX. SHIM SPACE	-
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	3/8" PFH ITW DYNABOLT SLEEVE ANCHOR	STEEL
G	1/4" X 2-1/4" ITW PFH CONCRETE SCREW	STEEL
H	#8 X 1-1/2" PH WOOD SCREW	STEEL
J	MASONRY "TEE" ANCHOR	STEEL
1	CAL-ROYAL DOOR PANEL	-
3	DOOR BOTTOM CHANNEL	STEEL
4	DOOR TOP CHANNEL	STEEL
5	LOCK BOX REINFORCEMENT	STEEL
6	CLOSER REINFORCEMENT (11 gauge)	STEEL
8	WEATHERSTRIP - PEMKO 303A	NEOPRENE
9	TUBE ANCHOR	STEEL
10	#12-24 X 1" COMBINATION MACHINE / WOOD SCREW	STEEL
11	DOOR SWEEP- PEMKO 3151	PVC
13	WEATHERSTRIP - COMPRESSION BULB 1/4" X 1/2" (PEMKO S88)	NEOPRENE
15	#8-24 X 3/4" COMBINATION MACHINE / WOOD SCREW	STEEL
20	#12-24 X 1/2" PFH MACHINE SCREW	STEEL
21	4-1/2" X 4-1/2" X 0.125" TEMPLATE HINGE	STEEL
22	DOOR HINGE REINFORCEMENT	STEEL
25	HOLLOW FRAME 2"	STEEL
28	FRAME HINGE REINFORCEMENT	STEEL
29	DOOR BOTTOM REINFORCEMENT w/ STRIKE PLATE	STEEL
42	OUTSWING THRESHOLD - PEMKO 2001P	ALUM
74	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

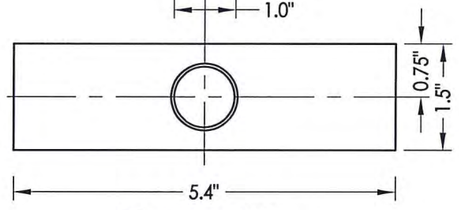


J ***MASONRY 'TEE' ANCHOR***

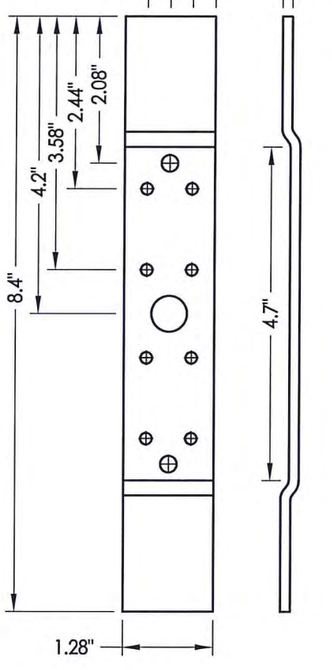


42 ***THRESHOLD*** Pemko 2001P

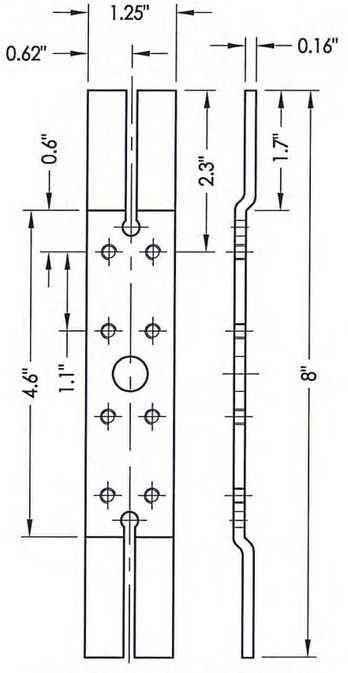




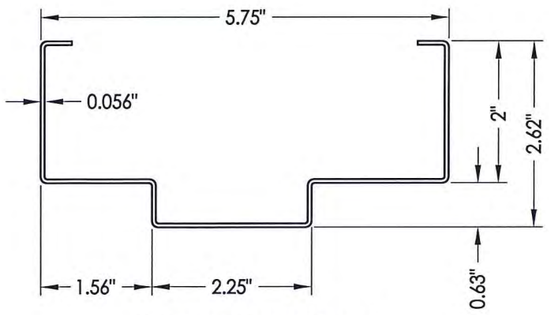
9 ***TUBE ANCHOR***



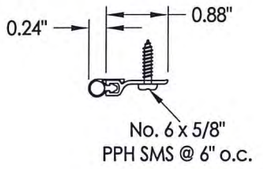
28 ***FRAME HINGE REINFORCEMENT***



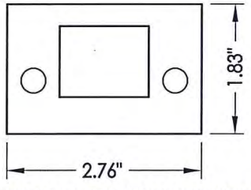
22 ***DOOR HINGE REINFORCEMENT***



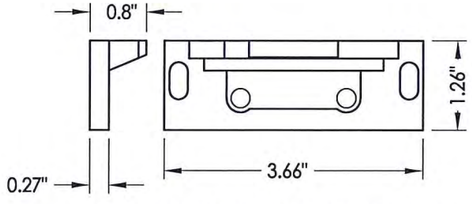
25 ***HOLLOW METAL FRAME***



8 ***WEATHERSTRIP*** Pemko 303A



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



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

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

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

PRODUCT: CAL-ROYAL STEEL COMMERCIAL DOOR

PART OR ASSEMBLY: BILL OF MATERIALS AND COMPONENTS

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

DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4486
SHEET 7 OF 7

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