



6605 Flotilla Street  
City of Commerce  
CA 90040

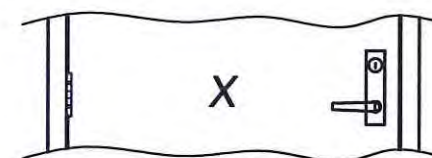
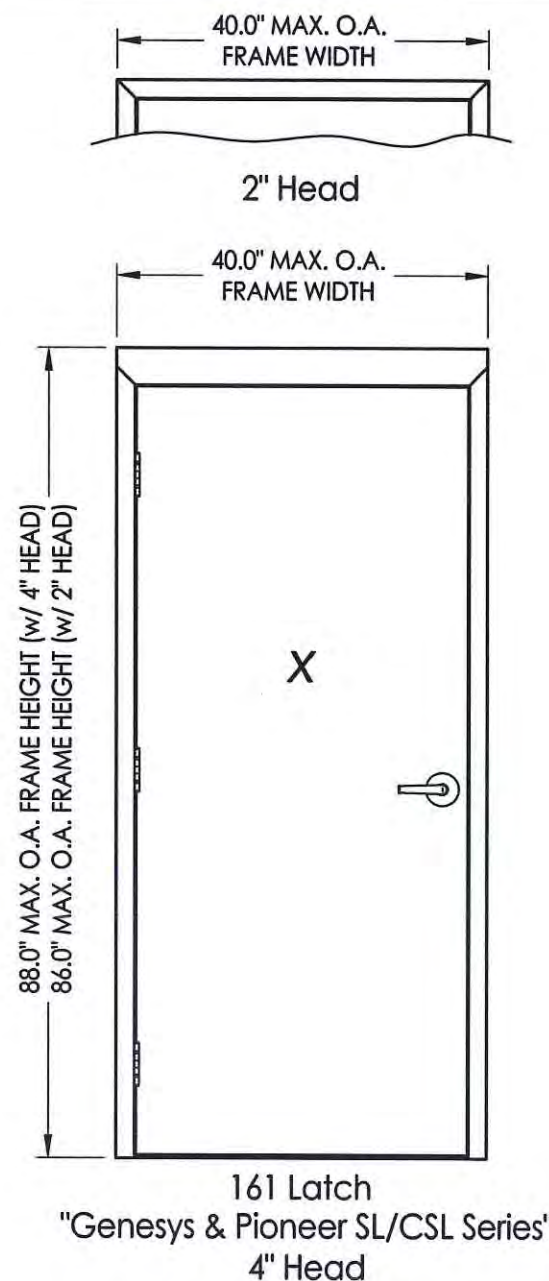
## DKS SERIES 1800 STEEL COMMERCIAL SINGLE DOOR IN SWING / OUT SWING "IMPACT"

### EVALUATED FOR USE IN THE STATE OF TEXAS

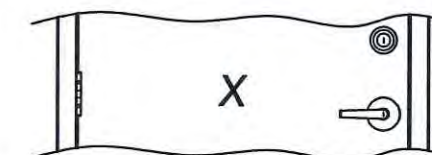
The Cal-Royal Door described herein complies with the 2006 International Residential Code (IRC), Sections R301 and the 2006 International Building Code (IBC), Sections 1405.12, 1609 & 1714.5 (including Texas revisions) subject to the following conditions:

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 the Seaward, Inland I and Inland II areas. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E1996.
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.

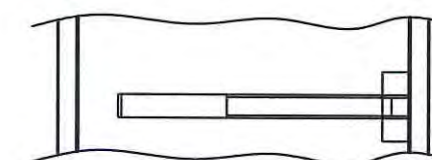
TABLE OF CONTENTS	
SHEET#	DESCRIPTION
1	Typical elevation, design pressures & general notes
2	Door panel details
3	Horizontal cross sections
4	Vertical cross sections
5	Frame anchoring
6	Frame anchoring details
7	Components
8	Bill of materials and components



86E Mortise Lock  
"M Series"

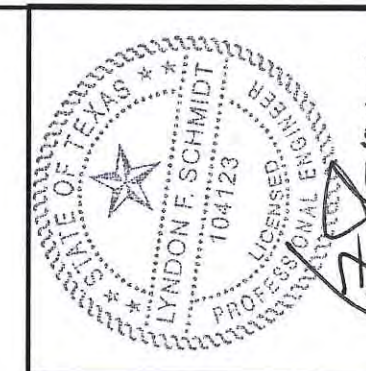


161 Latch & Deadbolt  
"Pioneer SL/CSL Series" Latch  
"T300 Series" Deadbolt



"5500 & 7700 Series"  
Panic Bar Exit Device

MAX FRAME DIMENSION	LOCK TYPE	DESIGN PRESSURE (PSF) INSWING		DESIGN PRESSURE (PSF) OUTSWING	
		POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
40.0" x 88.0"	161 LATCH "Pioneer SL/CSL Series"	+55.0	-55.0	+55.0	-55.0
40.0" x 88.0"	161 LATCH & DEADBOLT "Pioneer SL/CSL & T300 Series"	+55.0	-55.0	+55.0	-55.0
40.0" x 88.0"	161 LATCH "Genesys Series"	+70.0	-70.0	+70.0	-70.0
40.0" x 88.0"	PANIC BAR EXIT DEVICE "5500 Series"	N/A	N/A	+50.0	-50.0
40.0" x 88.0"	PANIC BAR EXIT DEVICE "7700 Series"	N/A	N/A	+70.0	-70.0
40.0" x 88.0"	86E Mortise Lock "M Series"	+80.0	-80.0	+80.0	-80.0



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

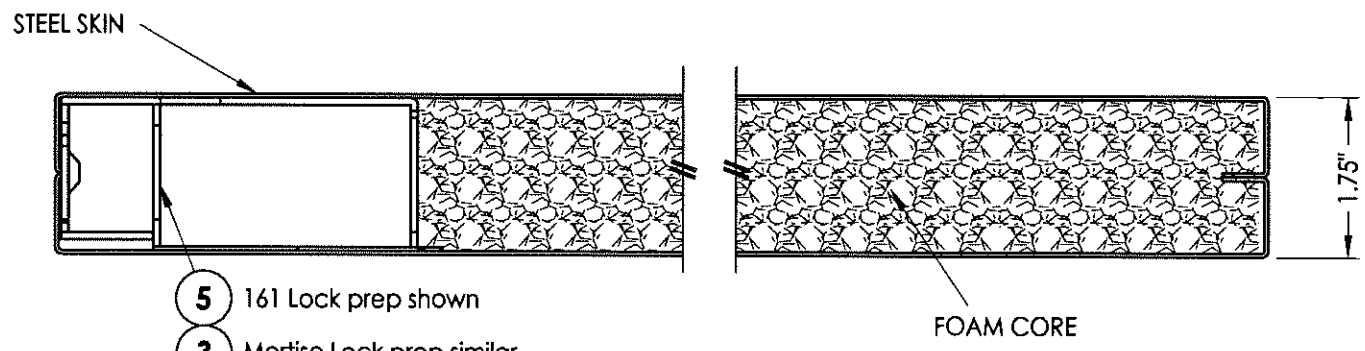
TEXAS BOARD OF PROFESSIONAL ENGINEERS  
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: CAL-ROYAL STEEL COMMERCIAL DOOR  
PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

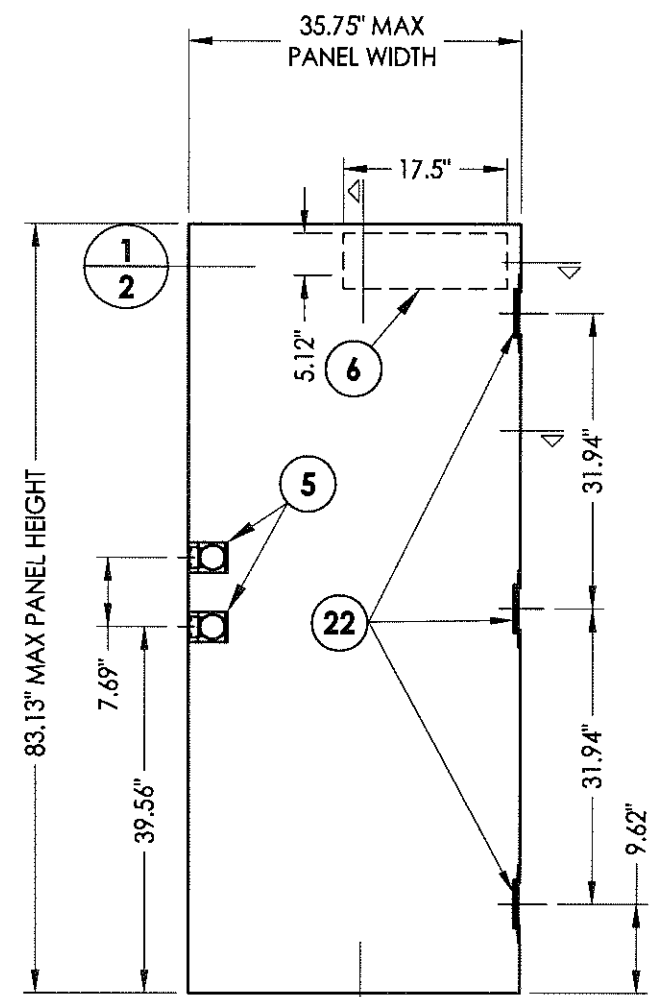
NO.	DATE	BY	REVISIONS

DATE: 10/1/14  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4484  
SHEET 1 OF 8

\\2012ess\RWBC\Clients\Cal-Royal NEW\Texas Dept of Ins\TDI - 472 Renewal\Drawings\Current\TEXAS 2014.dwg, 4.2

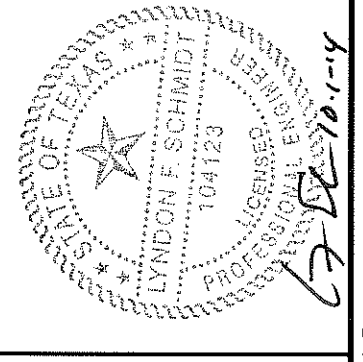
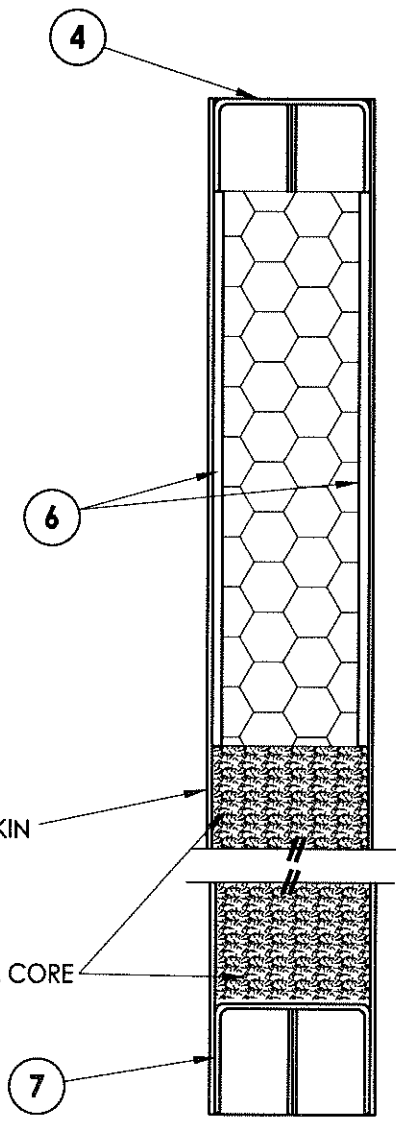
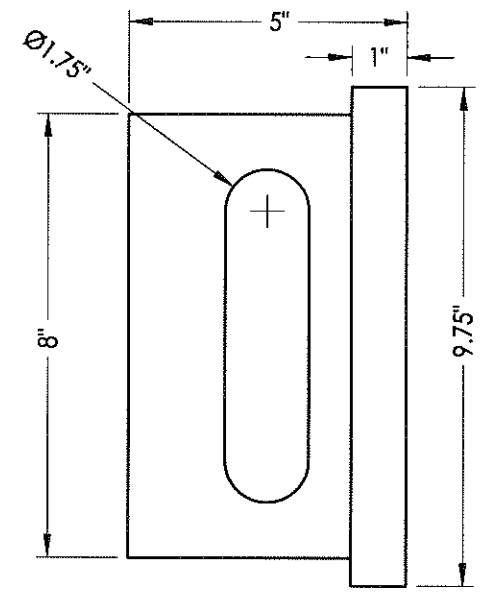
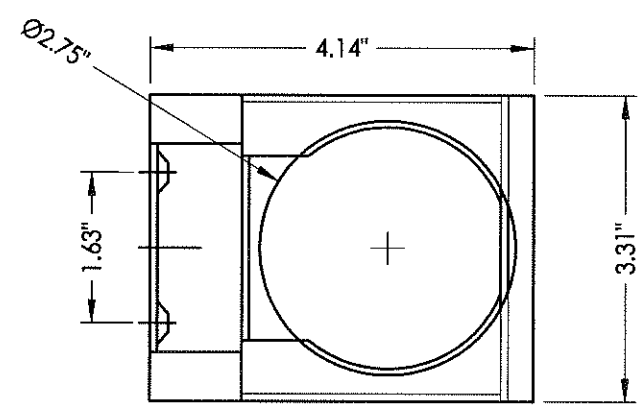
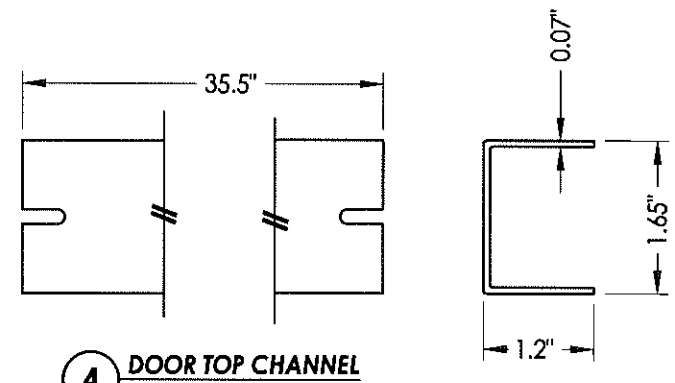


1 HORIZONTAL CROSS SECTION



1 CAL-ROYAL DOOR PANEL

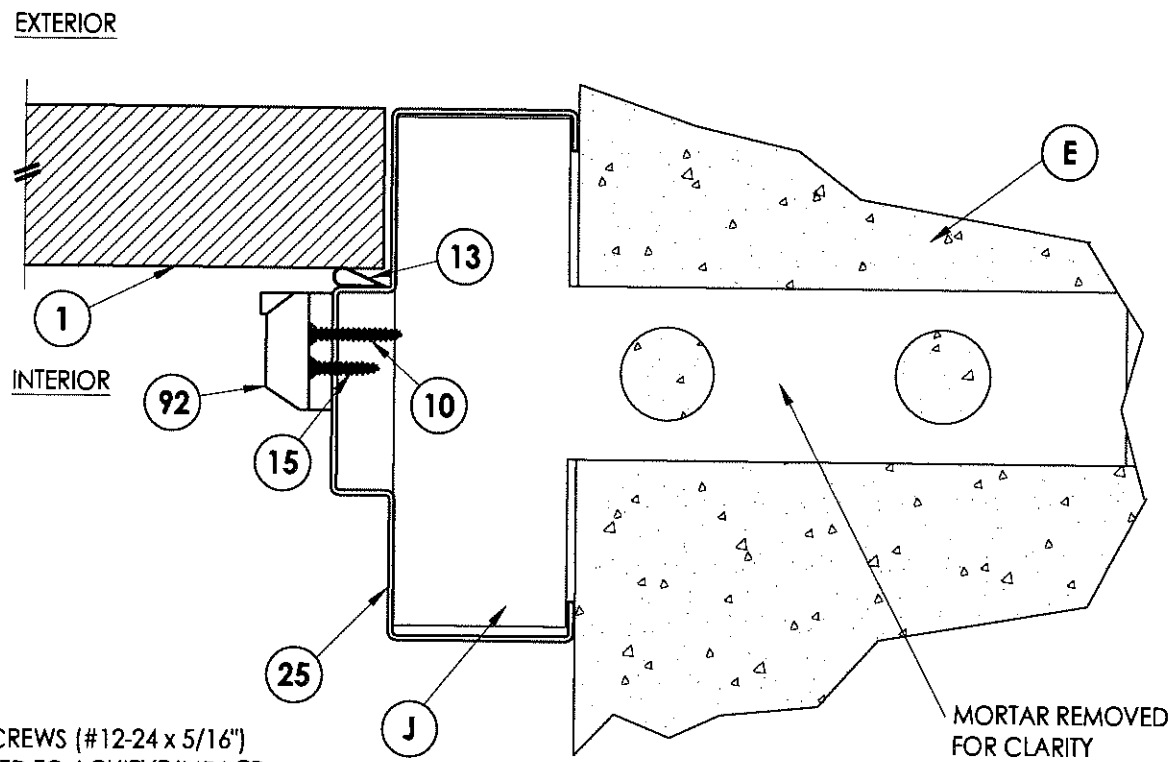
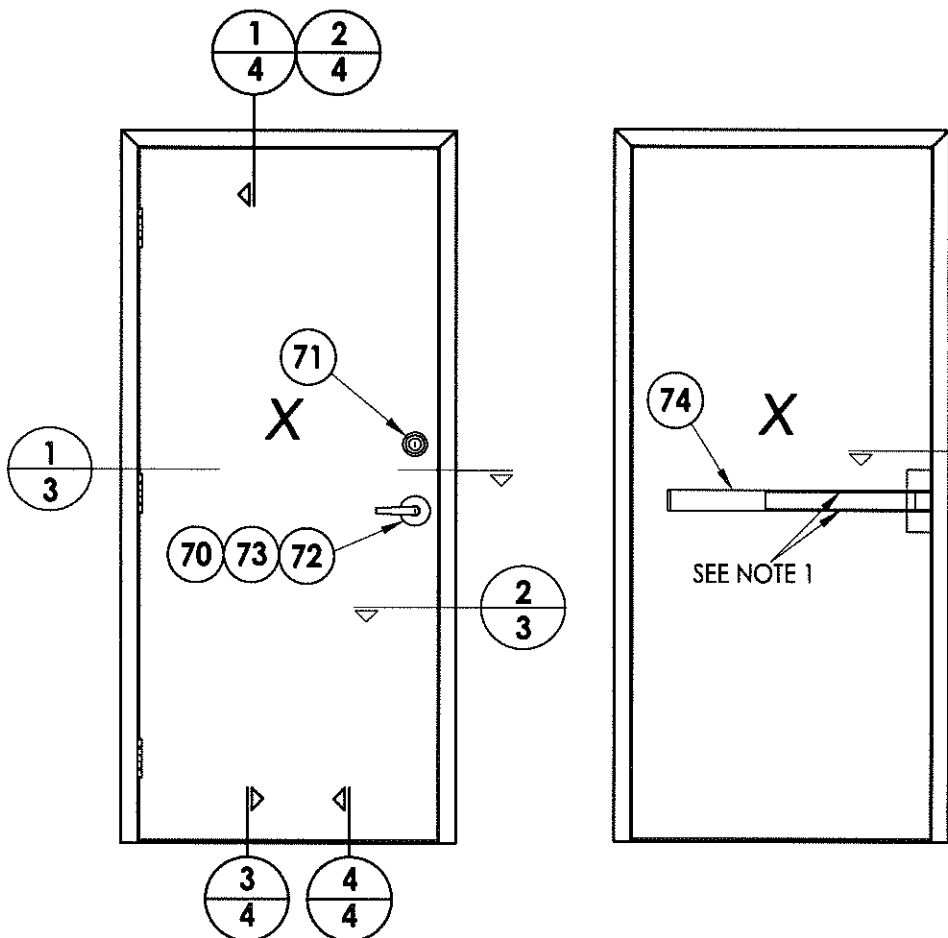
STEEL DOOR SKIN (18 GA.): MIN. 0.045" THK.  
 STEEL GRADE: ASTM A1008 GALV. STEEL (Fy = 33,000 PSI MIN.)  
 CORE MATERIAL: EPS FOAM (POLYSTYRENE - 1.0 PCF MIN. DENSITY)



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

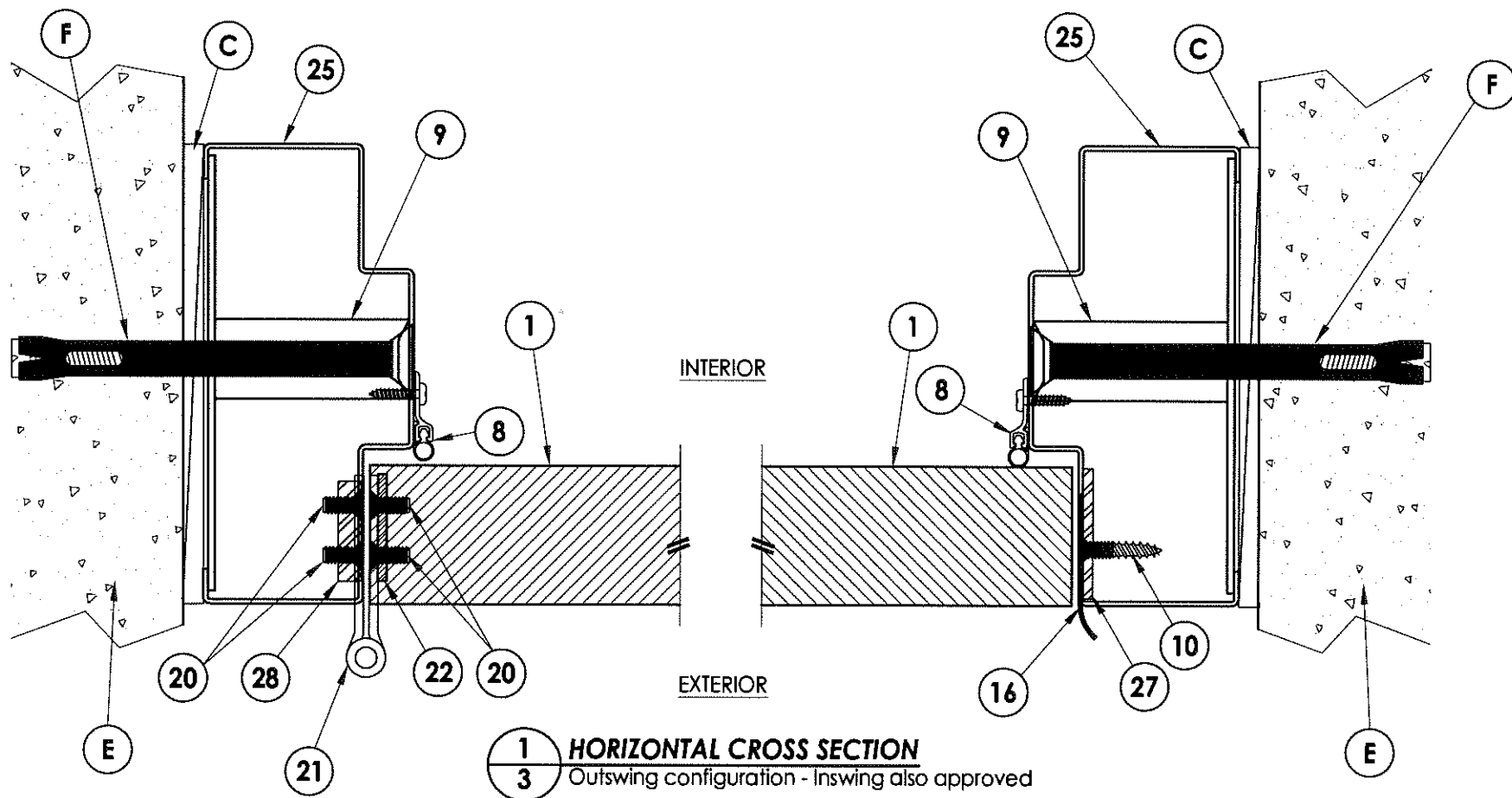
RW BUILDING CONSULTANTS, INC.  
 P.O. Box 250 Valrico FL 33595  
 Phone No.: 813.658.9197  
 TEXAS BOARD OF PROFESSIONAL ENGINEERS  
 CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: CAL-ROYAL STEEL COMMERCIAL DOOR	
PART OR ASSEMBLY: DOOR PANEL DETAILS	
NO.	DATE
BY	REVISIONS
DATE: 10/1/14	
SCALE: N.T.S.	
DWG. BY: JK	
CHK. BY: LFS	
DRAWING NO.: TX-4484	
SHEET 2 OF 8	

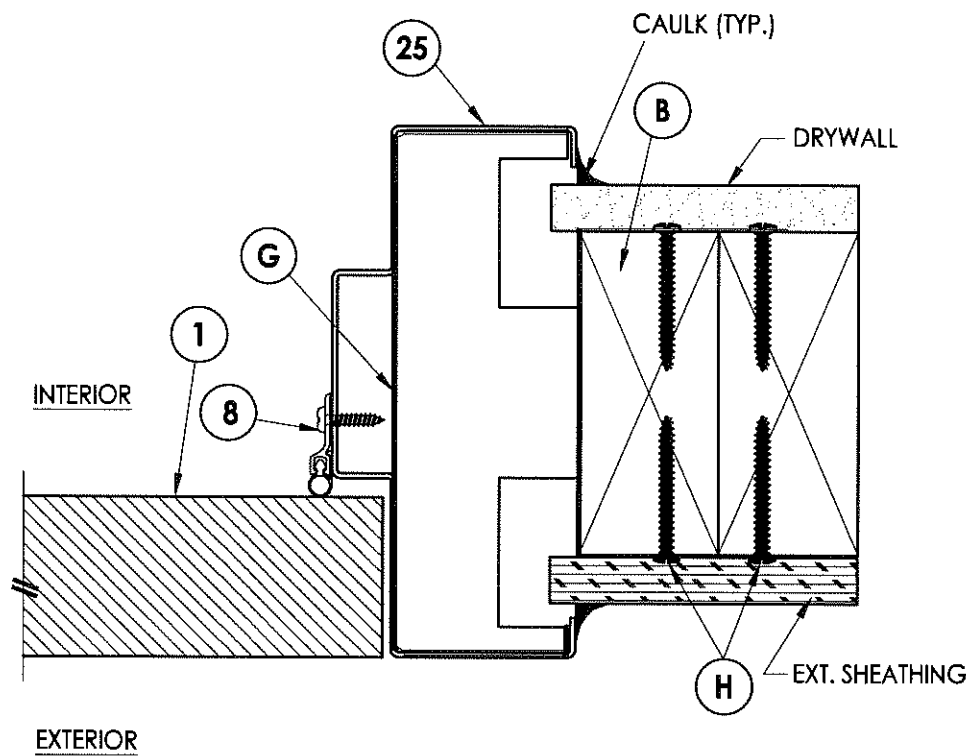


3 HORIZONTAL CROSS SECTION  
Masonry Construction  
Masonry "Tee" Anchor

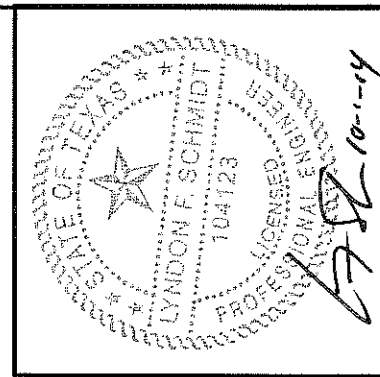
NOTE:  
1. PANIC BAR SET SCREWS (#12-24 x 5/16")  
MUST BE ACTIVATED TO ACHIEVE IMPACT  
RATING. LOCATE ONE SCREW AT TOP  
AND BOTTOM AT CENTER OF PUSH RAIL  
OR LOCATE ONE SCREW AT EACH END OF BAR.



1 HORIZONTAL CROSS SECTION  
Outswing configuration - Inswing also approved



2 HORIZONTAL CROSS SECTION  
2X Stud Construction  
Wood Stud Anchor



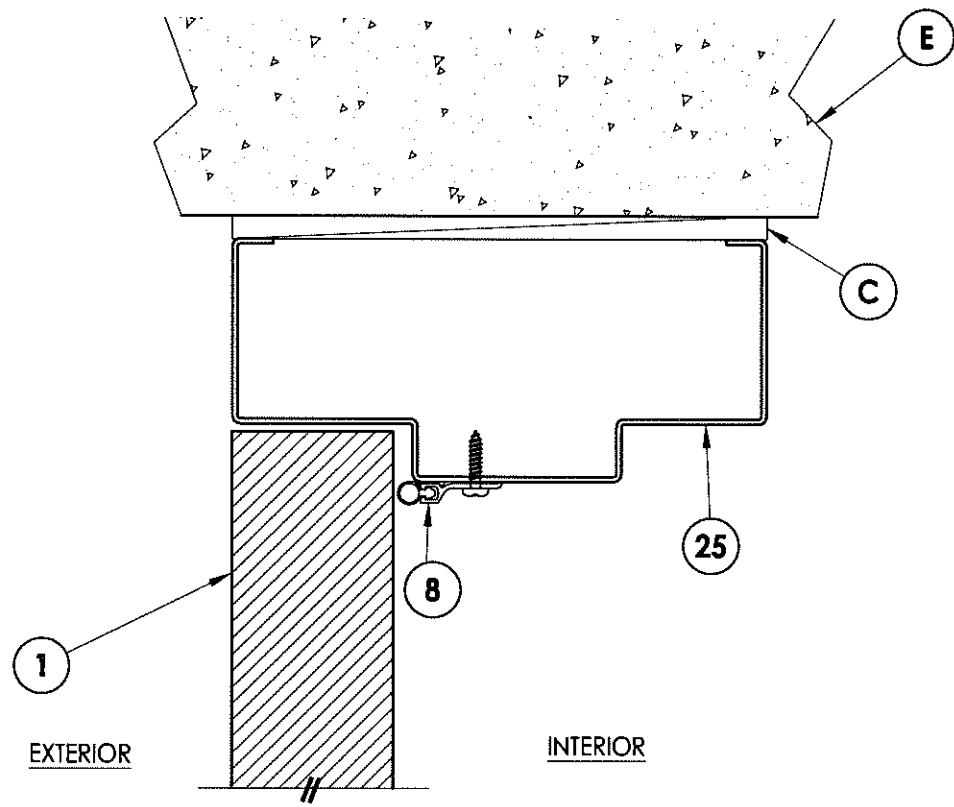
Documents Prepared By: Lyndon F. Schmidt, P.E.  
TEXAS P.E. #104123

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

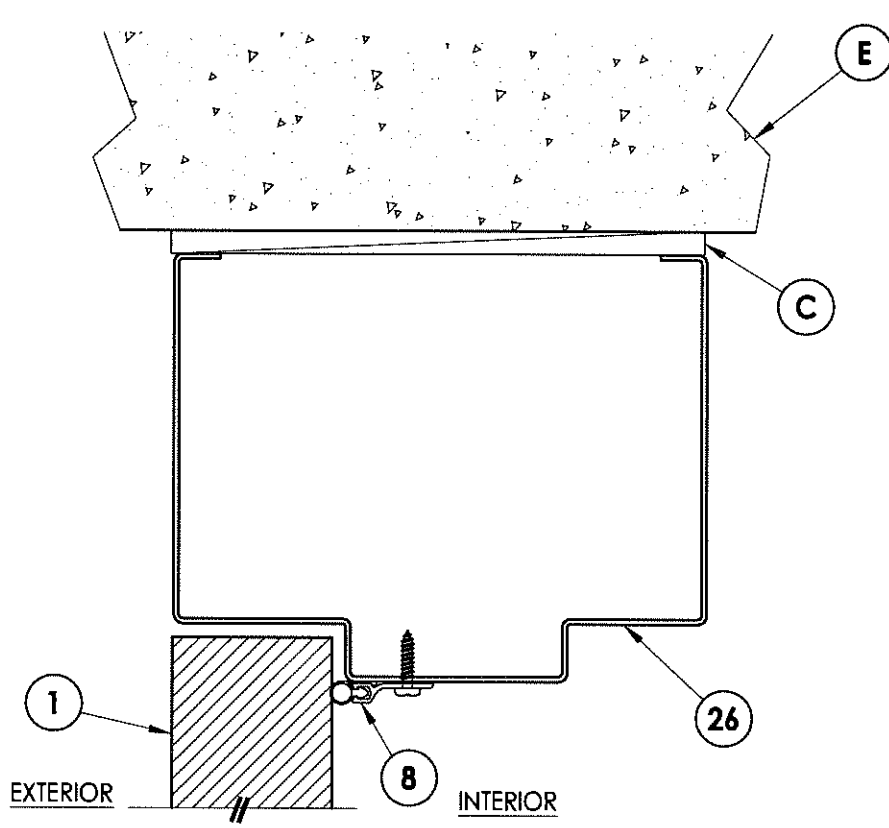
PRODUCT: CAL-ROYAL STEEL COMMERCIAL DOOR  
PART OR ASSEMBLY: HORIZONTAL CROSS SECTIONS

NO.	DATE	BY	REVISIONS

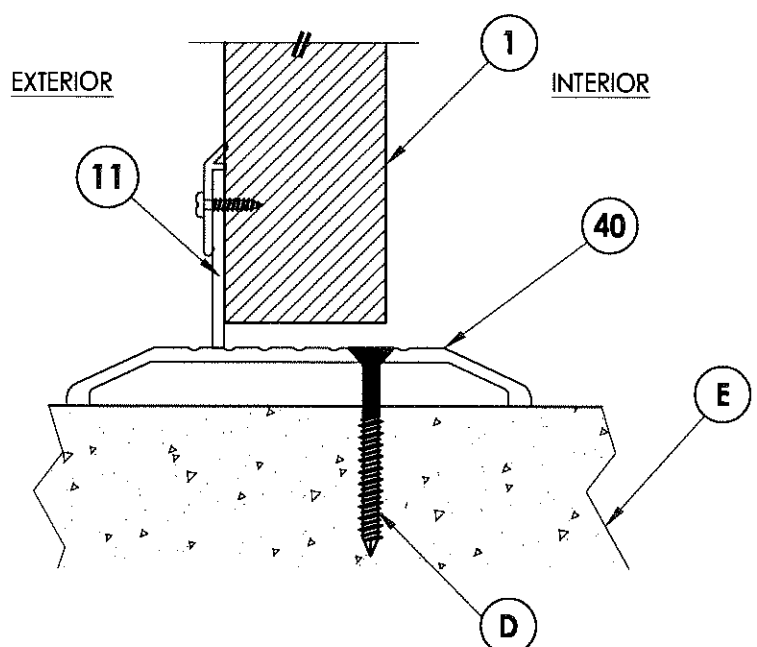
DATE: 10/1/14  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4484  
SHEET 3 OF 8



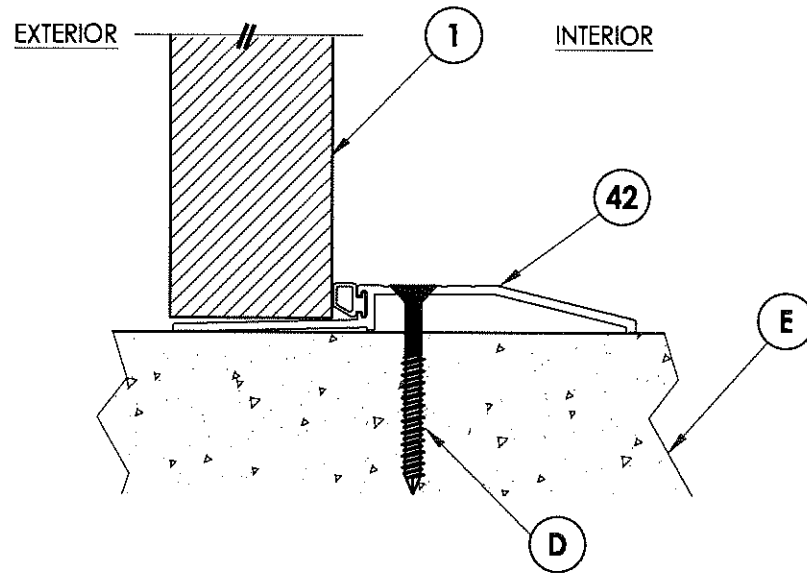
**1** VERTICAL CROSS SECTION  
**4** Outswing configuration - Inswing also approved



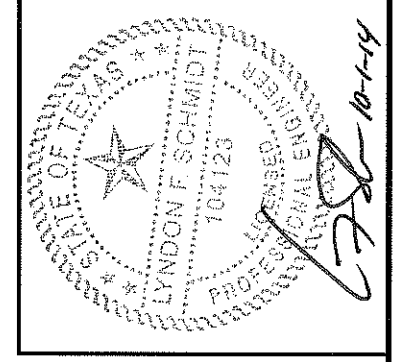
**2** VERTICAL CROSS SECTION  
**4** Inswing configuration - Outswing also approved



**3** VERTICAL CROSS SECTION  
**4** Inswing configuration



**4** VERTICAL CROSS SECTION  
**4** Outswing configuration



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

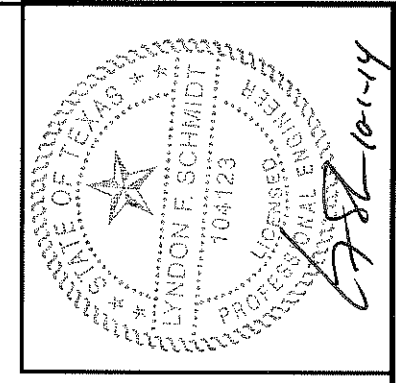
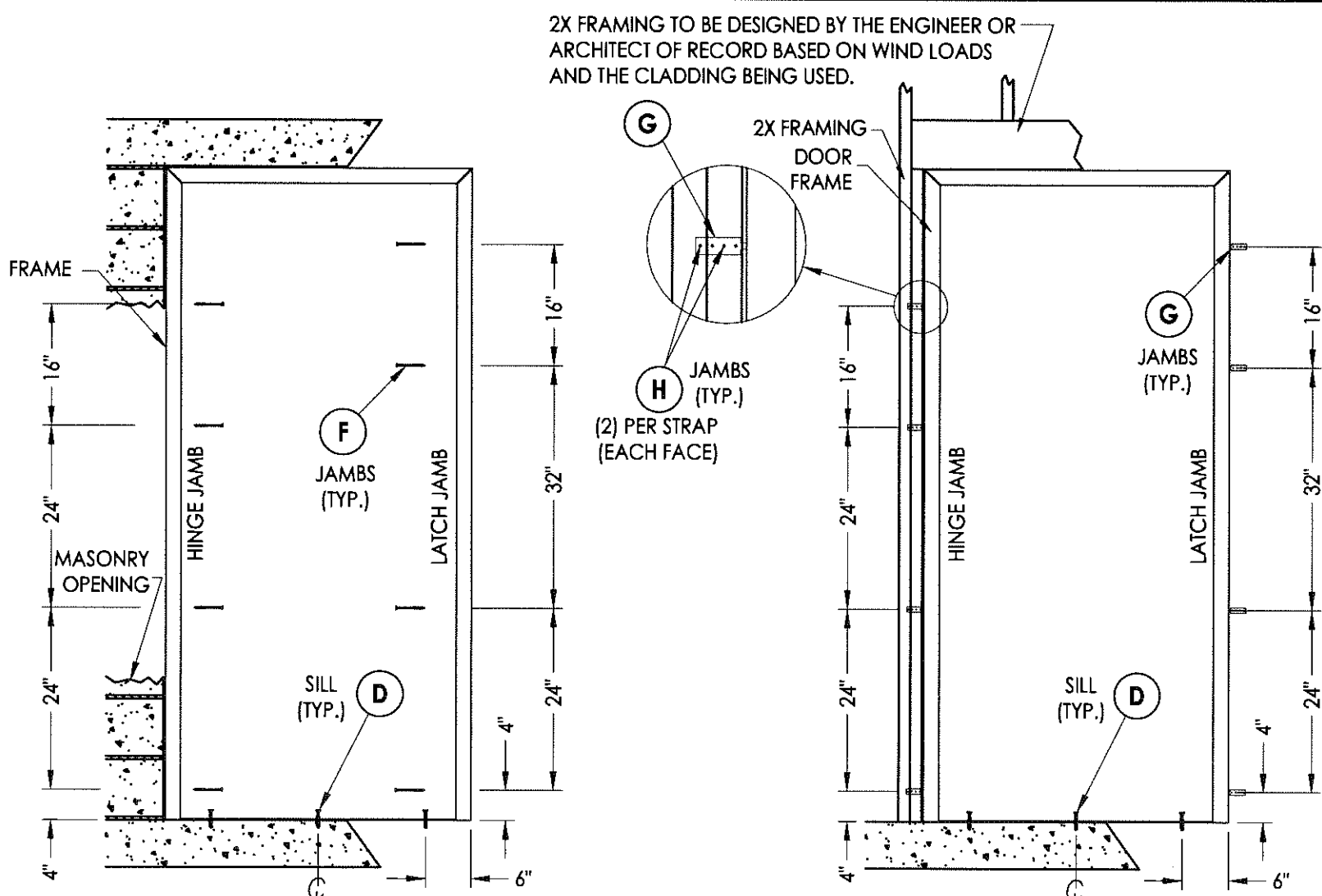
TEXAS BOARD OF PROFESSIONAL ENGINEERS  
 CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: CAL-ROYAL  
 STEEL COMMERCIAL DOOR

PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

NO.	DATE	BY

DATE: 10/1/14  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: TX-4484  
 SHEET 4 OF 8



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

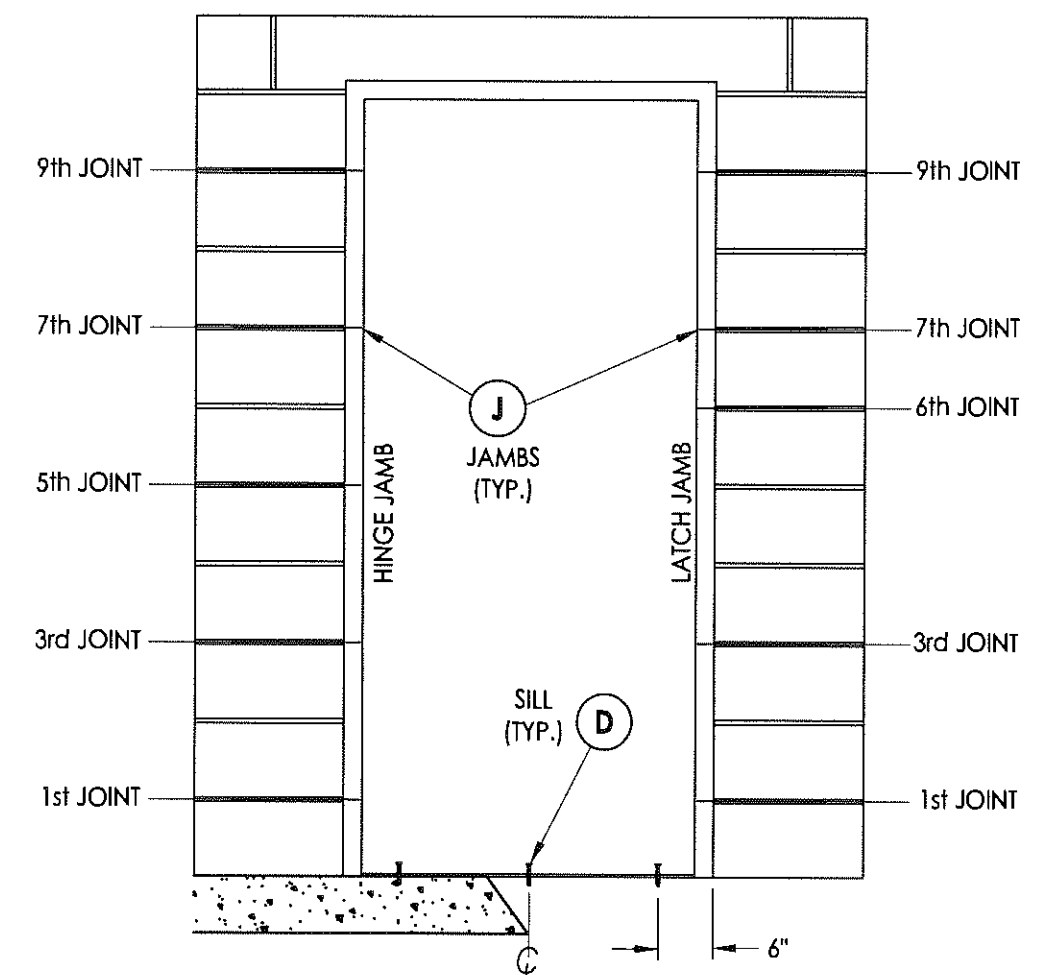
**R.W.** BUILDING CONSULTANTS, INC.  
P.O. Box 230 Valrico FL 33595  
Phone No.: 813.658.9197

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

**FRAME ANCHORING**  
Masonry Construction  
Concrete Anchors

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

MASONRY "TEE" ANCHOR LOCATIONS (5) TOTAL PER JAMB  
(JOINTS MEASURED FROM BOTTOM)



**FRAME ANCHORING**  
Masonry Construction  
Masonry "Tee" Anchors

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 comers 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"	4"
ELCO ULTRACON®	1/4"	1-3/4"	1"	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.

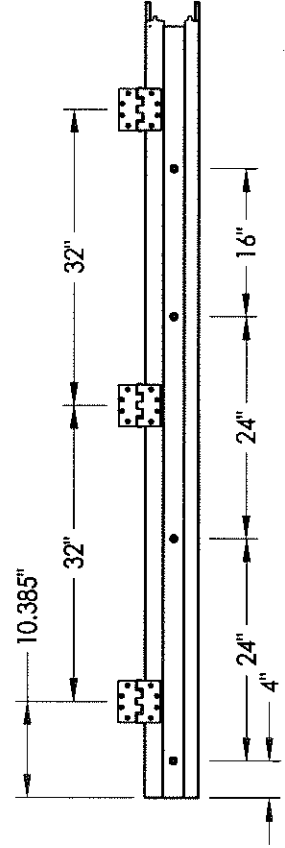
PRODUCT: CAL-ROYAL  
STEEL COMMERCIAL DOOR

PART OR ASSEMBLY: FRAME ANCHORING

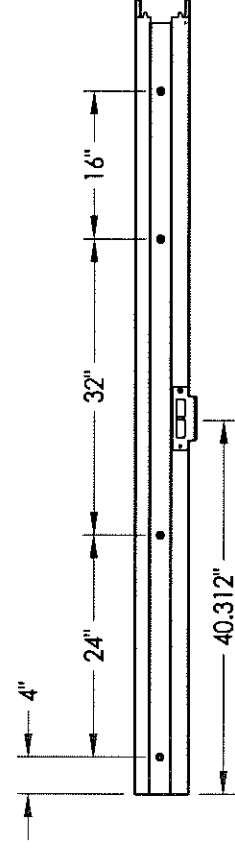
NO.	DATE	BY	REVISIONS

DATE: 10/1/14  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4484  
SHEET 5 OF 8

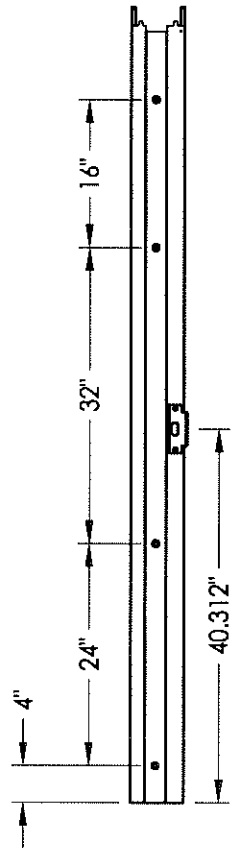
\\2012ess\RWBC\Clients\Cal-Royal NEW\Texas Dept of Ins\TDI - 472 Renewal\Drawings\Current\TEXAS 2014.dwg, 4.6



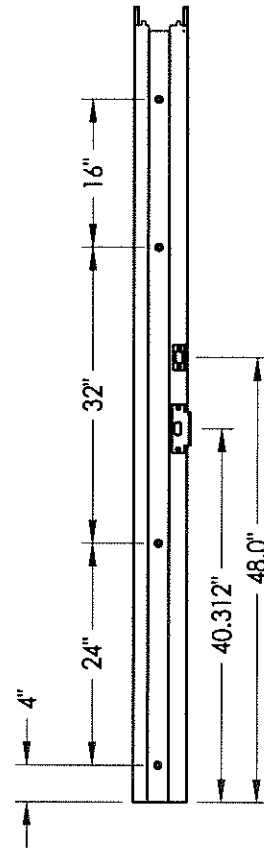
**HINGE JAMB**



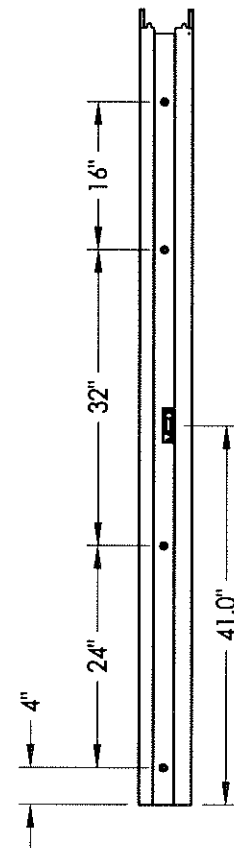
**STRIKE JAMB**  
Mortise Lock



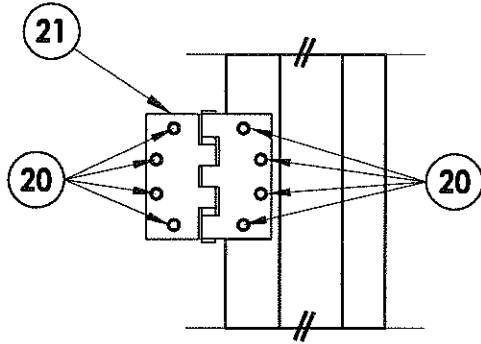
**STRIKE JAMB**  
161 Latch



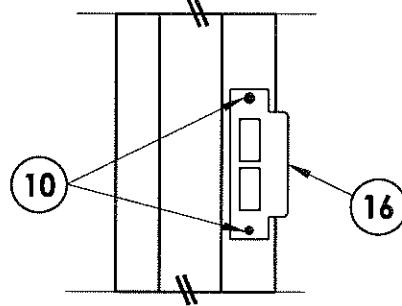
**STRIKE JAMB**  
161 Latch & Deadbolt



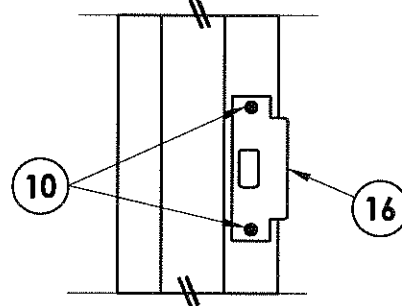
**STRIKE JAMB**  
Panic Bar



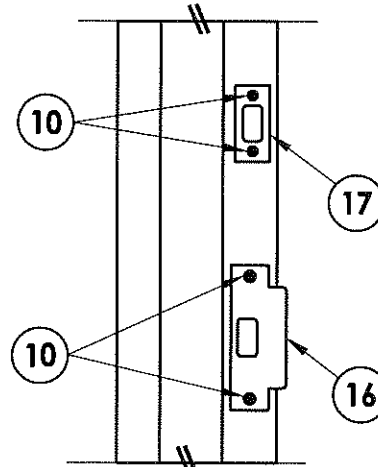
**HINGE DETAIL**



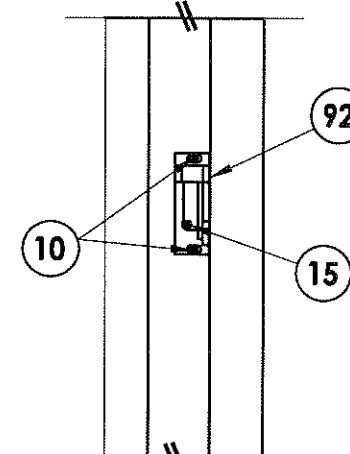
**LATCH DETAIL**  
Mortise Lock



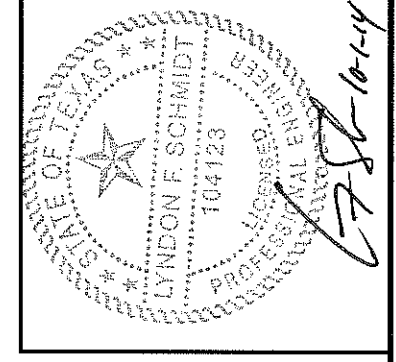
**LATCH DETAIL**  
161 Latch



**LATCH & DEADBOLT DETAIL**  
161 Latch & Deadbolt



**LATCH DETAIL**  
Panic Bar



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

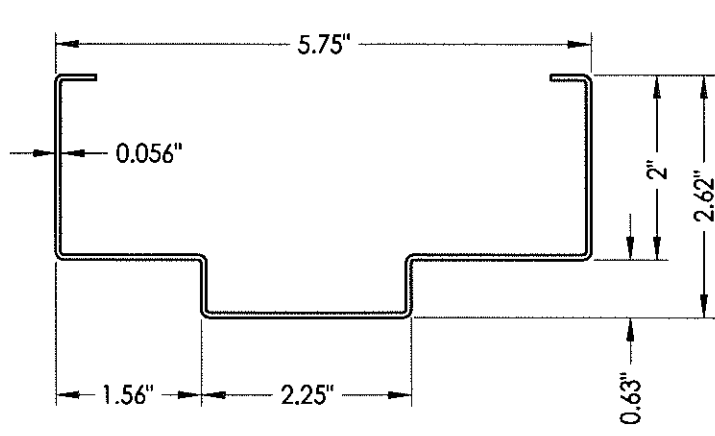
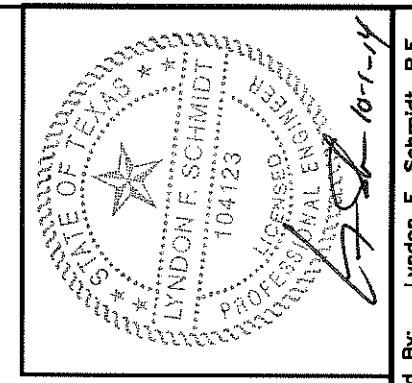
TEXAS BOARD OF PROFESSIONAL ENGINEERS  
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: CAL-ROYAL  
STEEL COMMERCIAL DOOR  
PART OR ASSEMBLY: FRAME ANCHORING  
DETAILS

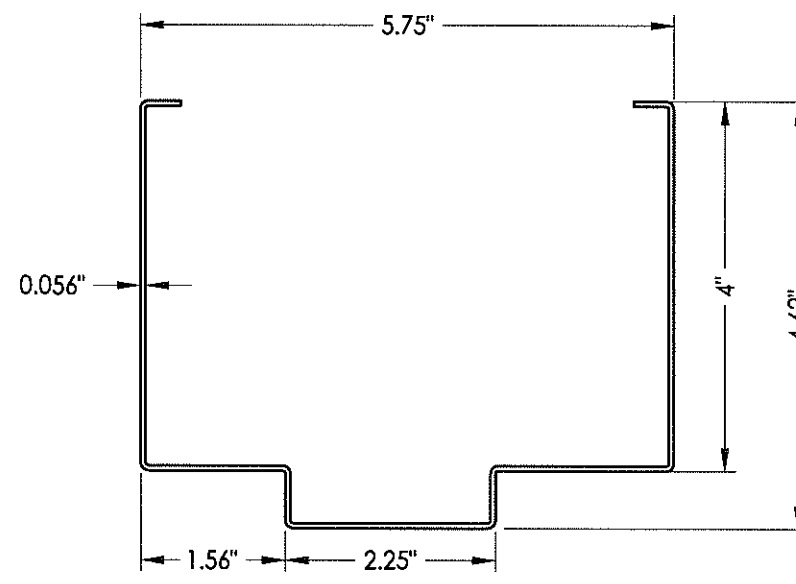
NO.	DATE	BY

DATE: 10/1/14  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4484  
SHEET 6 OF 8

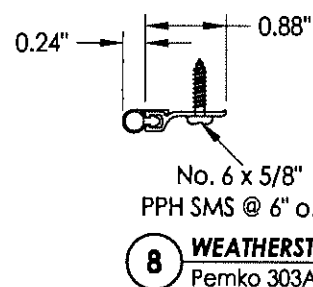
\\2012ess\RWB\Drawings\Cal-Royal NEW\Texas Dept of Ins\VDI - 472 Renewal\Drawings\Current\TEXAS 2014.dwg, 4.7



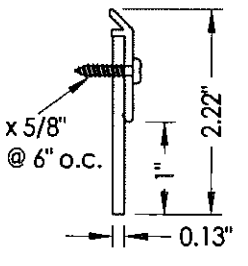
**26** HOLLOW METAL FRAME  
2" HEAD



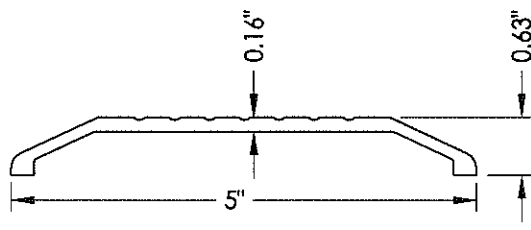
**26** HOLLOW METAL FRAME  
4" HEAD



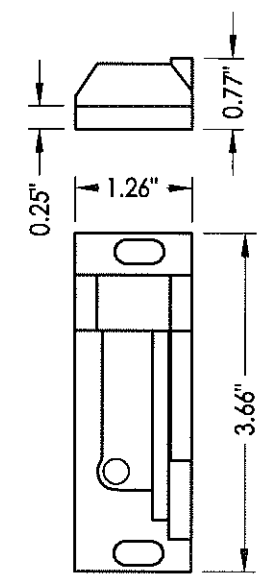
**8** WEATHERSTRIP  
Pemko 303A



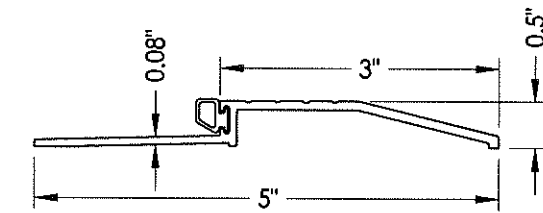
**11** DOOR SWEEP  
Pemko 3151



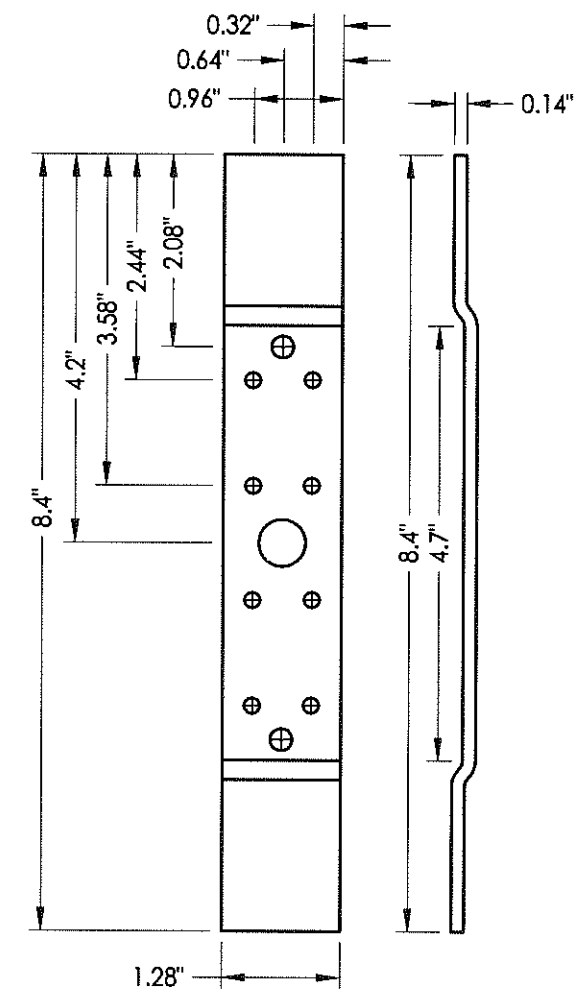
**40** THRESHOLD  
Pemko 156



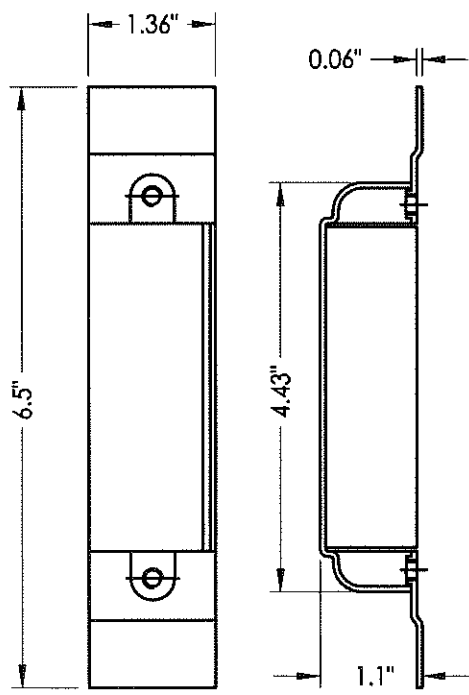
**92** PANIC BAR LATCH STRIKE PLATE  
@ Jamb



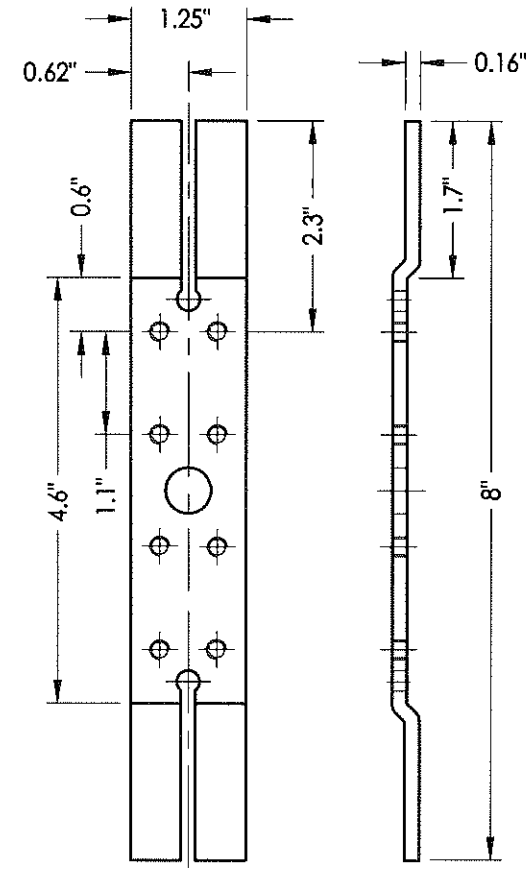
**42** THRESHOLD  
Pemko 2001P



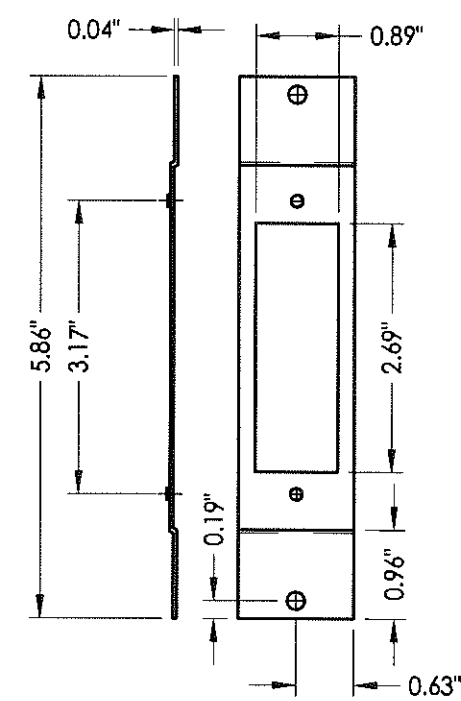
**28** FRAME HINGE REINFORCEMENT



**30** DOOR LATCH REINFORCEMENT  
Mortise Lock only



**22** DOOR HINGE REINFORCEMENT



**27** FRAME LATCH STRIKE REINFORCEMENT

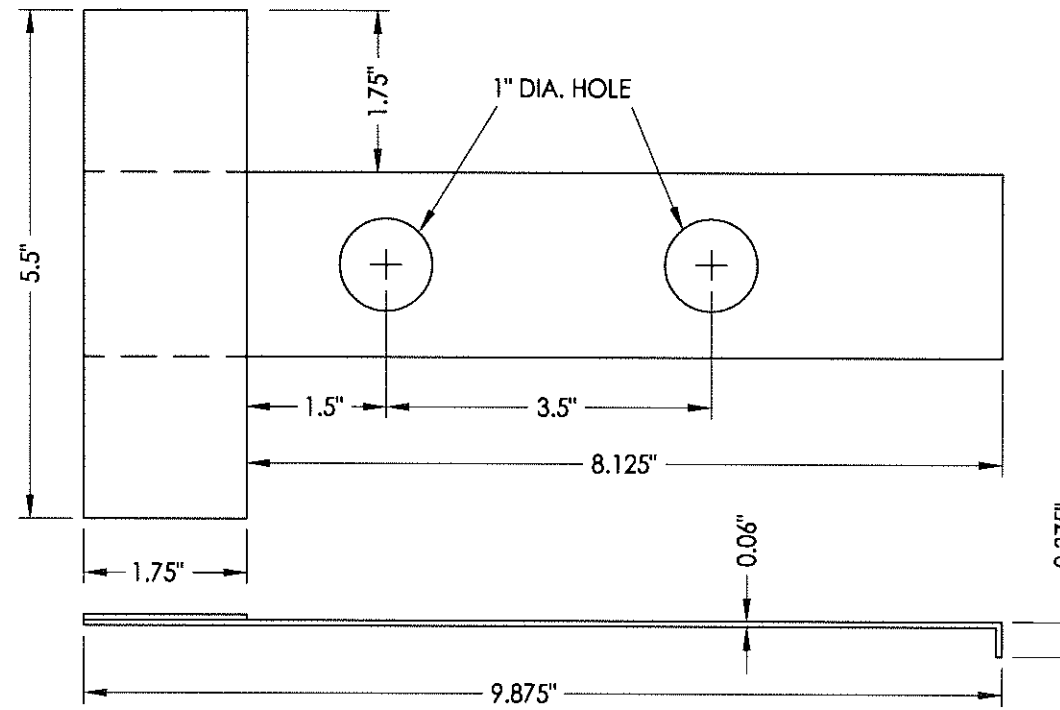
Documents Prepared By: **Lyndon F. Schmidt, P.E.**  
TEXAS P.E. #104123

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

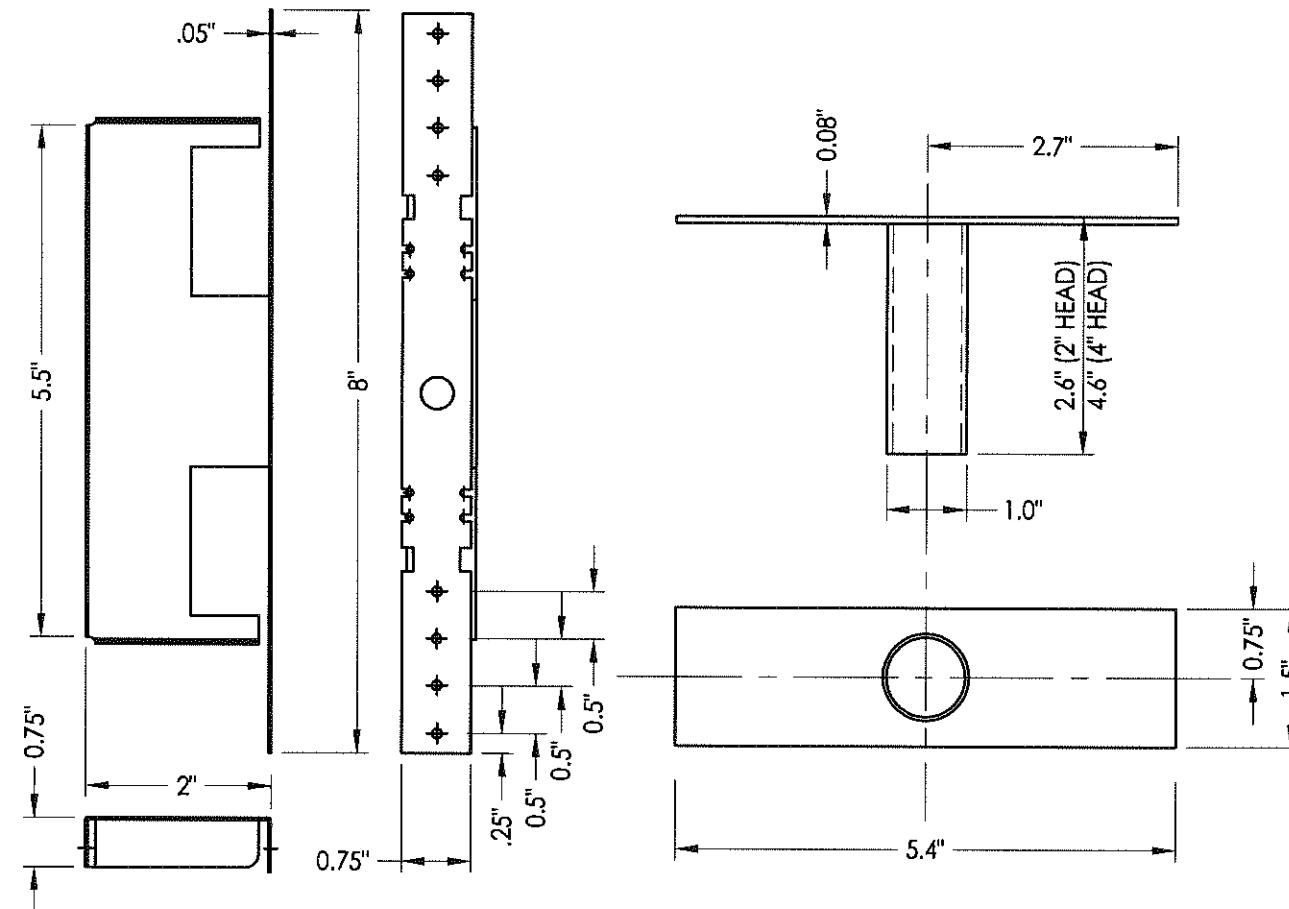
TEXAS BOARD OF PROFESSIONAL ENGINEERS  
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: CAL-ROYAL STEEL COMMERCIAL DOOR PART OR ASSEMBLY: COMPONENTS		
NO.	DATE	BY
REVISIONS		
DATE: 10/1/14		
SCALE: N.T.S.		
DWG. BY: JK		
CHK. BY: LFS		
DRAWING NO.: TX-4484		
SHEET 7 OF 8		

BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
B	2 X 4 FRAMING (SG >= 0.55)	WOOD
C	1/4" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
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	WOOD STRAP ANCHOR	STEEL
H	#8 X 1-1/2" PH WOOD SCREW	STEEL
J	MASONRY "TEE" ANCHOR	STEEL
1	CAL-ROYAL DOOR PANEL	-
4	DOOR TOP CHANNEL	STEEL
5	LOCK BOX REINFORCEMENT	STEEL
6	CLOSER REINFORCEMENT (11 gauge)	STEEL
7	DOOR BOTTOM CHANNEL	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
16	ANSI LATCH STRIKE	STEEL
17	DEAD BOLT STRIKE	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
26	HOLLOW FRAME 4" HEAD	STEEL
27	FRAME LATCH STRIKE REINFORCEMENT	STEEL
28	FRAME HINGE REINFORCEMENT	STEEL
30	FRAME LATCH STRIKE REINFORCEMENT (MORTISE LOCK)	STEEL
40	INSWING THRESHOLD - PEMKO 156	ALUM
42	OUTSWING THRESHOLD - PEMKO 2001P	ALUM
70	CAL-ROYAL M SERIES MORTISE LOCK	-
71	CAL-ROYAL T300 SERIES DEADBOLT	-
72	CAL-ROYAL PIONEER SL/CSL SERIES CYLINDRICAL LOCK	-
73	CAL-ROYAL GENESYS SERIES CYLINDRICAL LOCK	-
74	CAL-ROYAL 7700 SERIES PANIC BAR	-
92	PANIC BAR LATCH STRIKE PLATE	STEEL

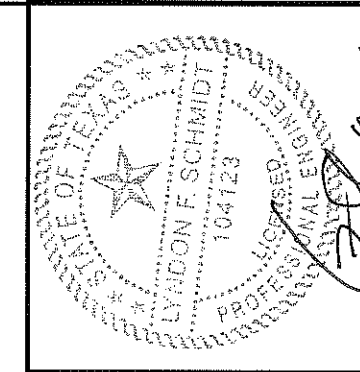


**J** MASONRY "TEE" ANCHOR



**G** WOOD STRAP ANCHOR

**9** TUBE ANCHOR



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: CAL-ROYAL STEEL COMMERCIAL DOOR  
PART OR ASSEMBLY: BILL OF MATERIALS AND COMPONENTS

NO.	DATE	BY	REVISIONS

DATE: 10/1/14  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4484  
SHEET 8 OF 8