



6605 Flotilla Street
City of Commerce
CA 90040

DKS SERIES 1800 STEEL COMMERCIAL DOUBLE DOOR INSWING / OUTSWING "IMPACT"

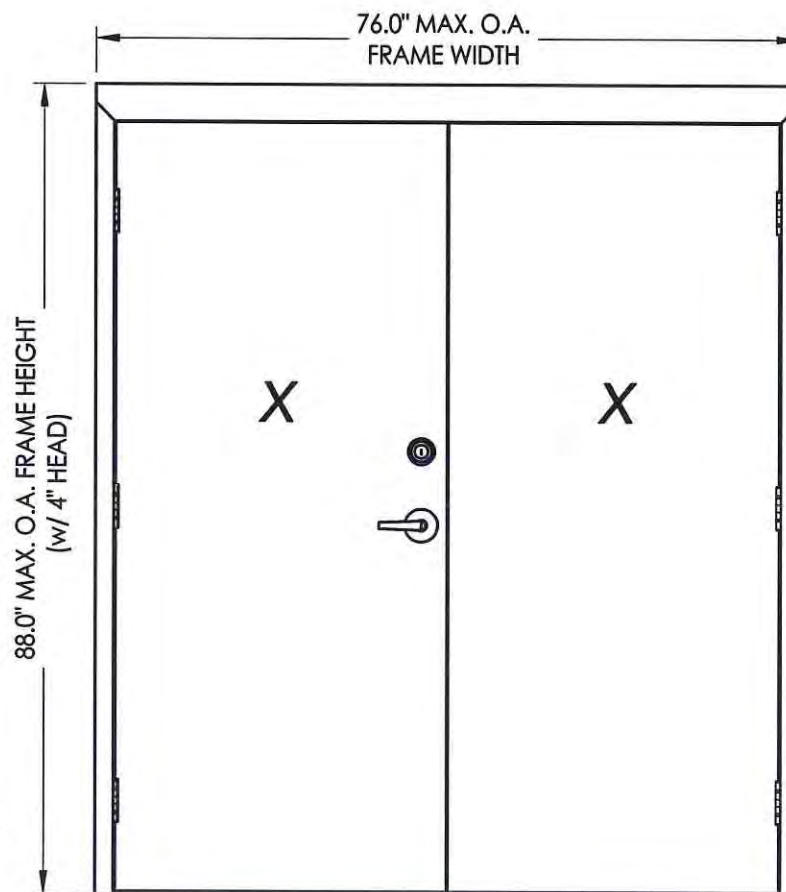
EVALUATED FOR USE IN THE STATE OF TEXAS

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:

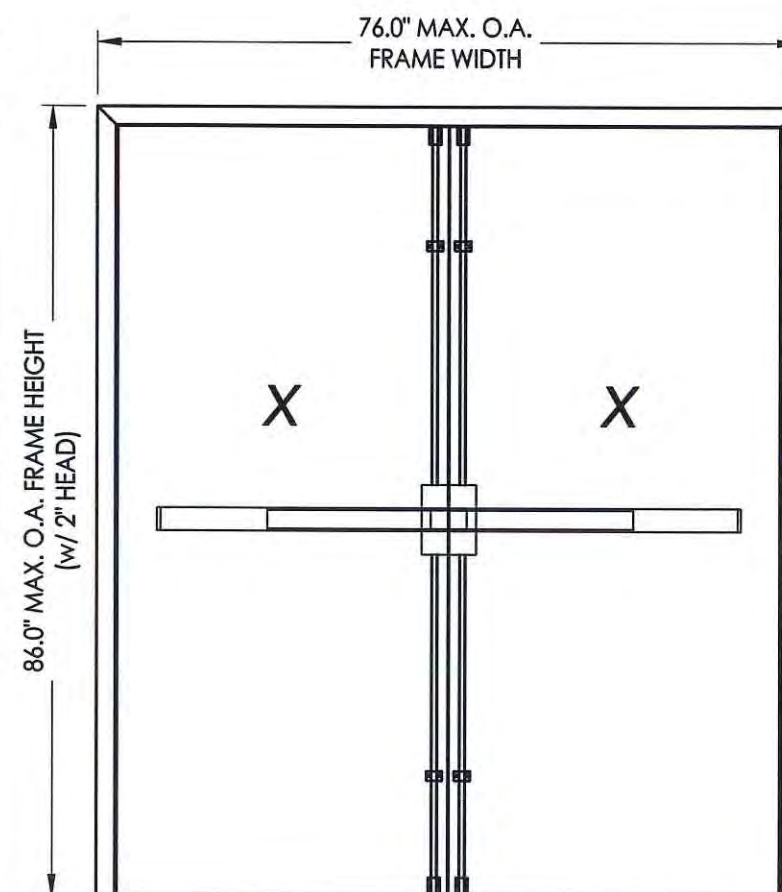
1. Anchors shall be as listed and spaced as shown in the details. Anchor embedment to base material shall be beyond wall dressing or stucco.
2. This system has been tested and evaluated as a large missile impact protective system for installation in the Seaward, Inland I and Inland II areas. This product 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.

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



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



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

MAX FRAME DIMENSION	LOCK TYPE	DESIGN PRESSURE (PSF) INSWING		DESIGN PRESSURE (PSF) OUTSWING	
		POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
76.0" x 88.0"	161 LATCH & DEADBOLT "Pioneer SL/CSL & T300 Series"	+55.0	-55.0	+55.0	-55.0
76.0" x 88.0"	PANIC BAR EXIT DEVICE w/ VERTICAL RODS "7700-V Series"	N/A	N/A	+70.0	-70.0



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TEXAS P.E. #104123

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

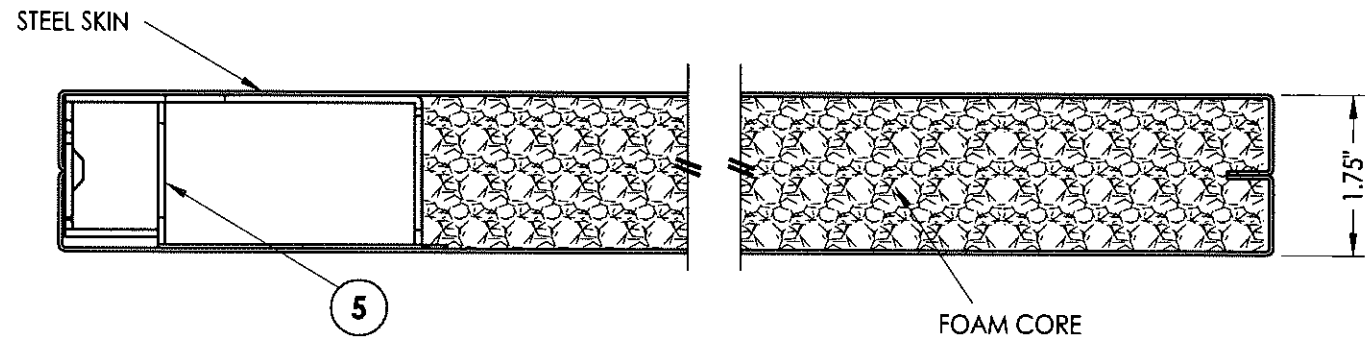
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

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

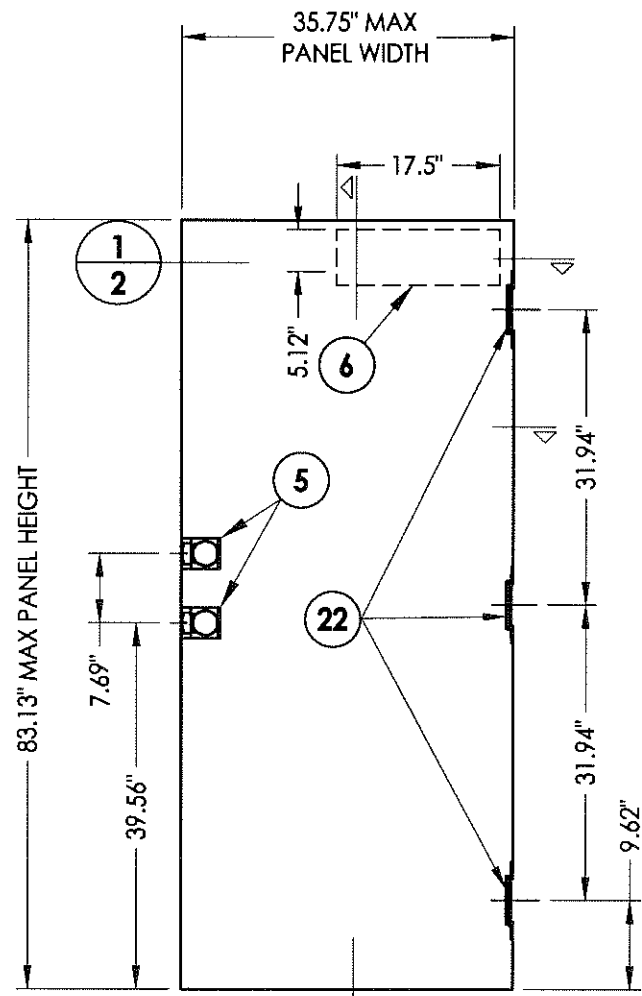
NO.	DATE	BY	REVISIONS

DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4485
SHEET 1 OF 9

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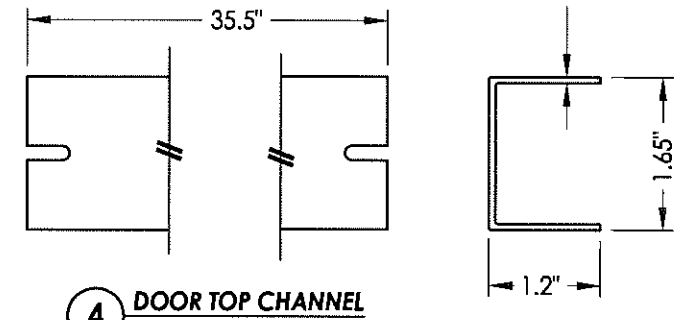


1 HORIZONTAL CROSS SECTION
2

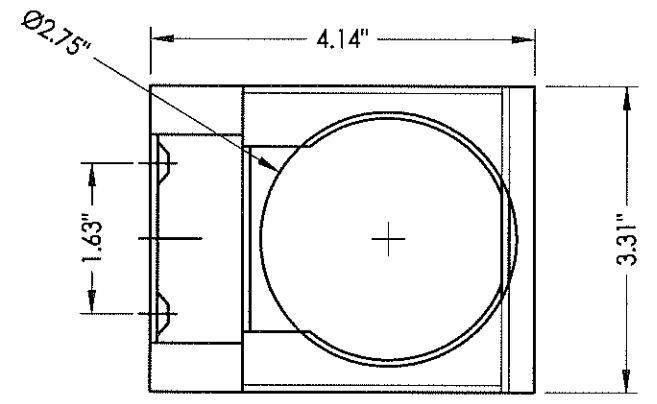


1 CAL-ROYAL DOOR PANEL
Active door

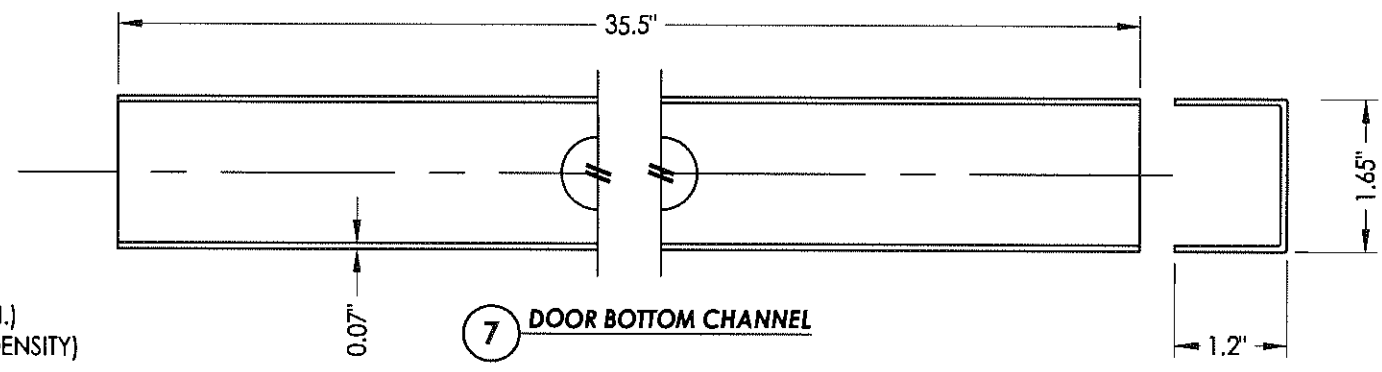
STEEL DOOR SKIN (18 GA.): MIN. 0.045" THK.
STEEL GRADE: ASTM A1008 GALV. STEEL (Fy = 33,000 PSI MIN.)
CORE MATERIAL: EPS FOAM (POLYSTYRENE - 1.0 PCF MIN. DENSITY)



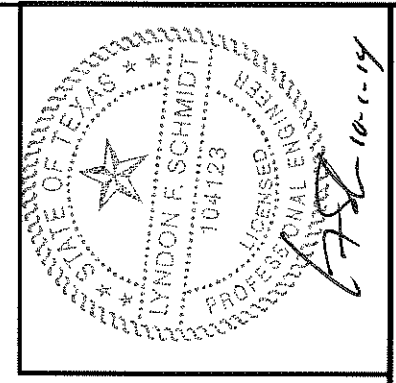
4 DOOR TOP CHANNEL



5 STEEL LOCK BOX REINFORCEMENT
161 Lock prep only



7 DOOR BOTTOM CHANNEL

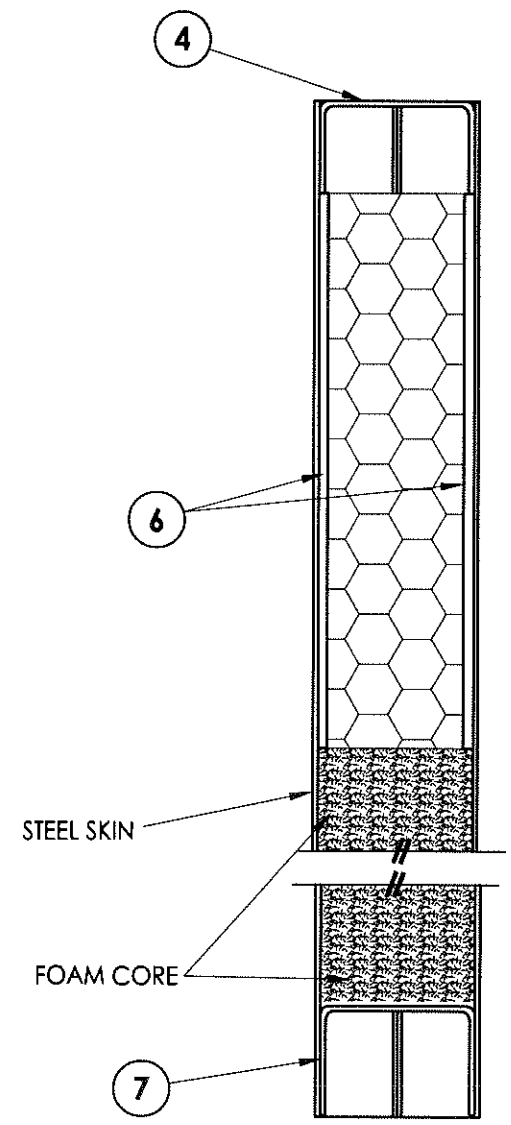


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PRODUCT: CAL-ROYAL
STEEL COMMERCIAL DOOR
PART OR ASSEMBLY: DOOR PANEL DETAILS

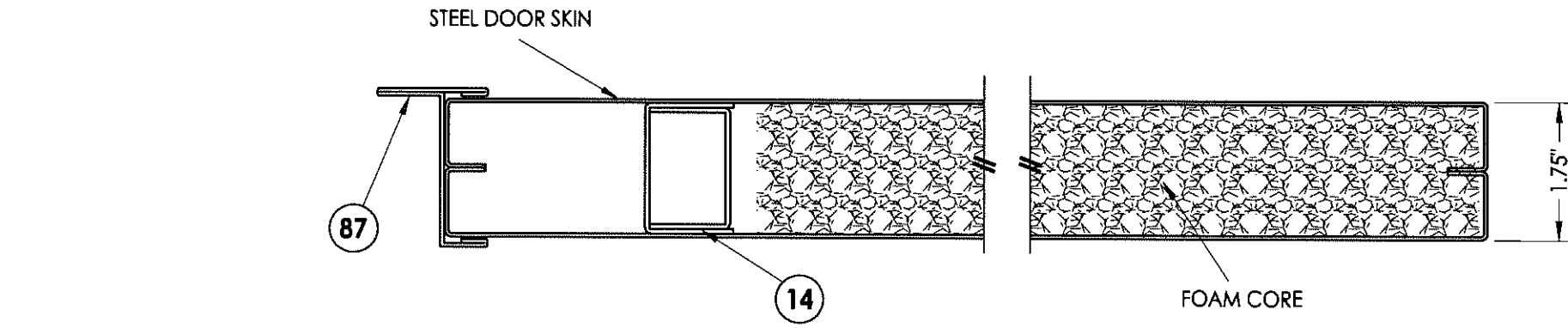
NO.	DATE	BY	REVISIONS

DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4485
SHEET 2 of 9

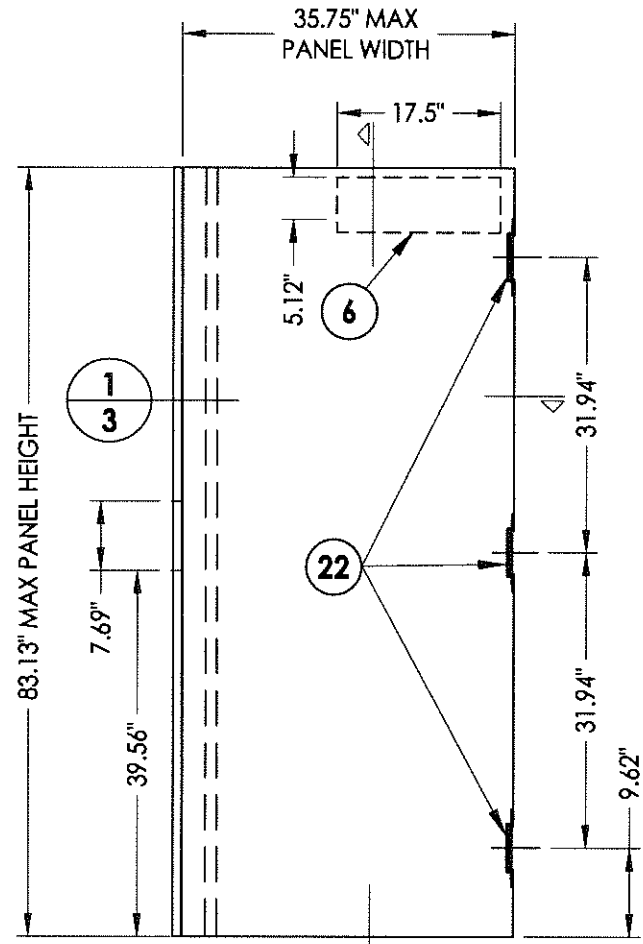


2 VERTICAL CROSS SECTION
2

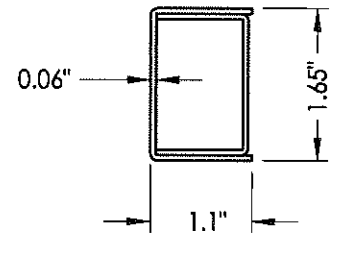
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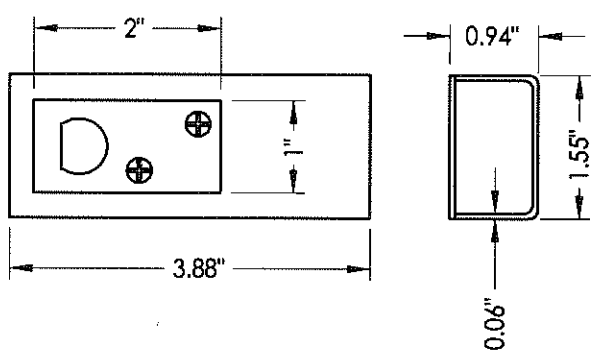
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3 HORIZONTAL CROSS SECTION



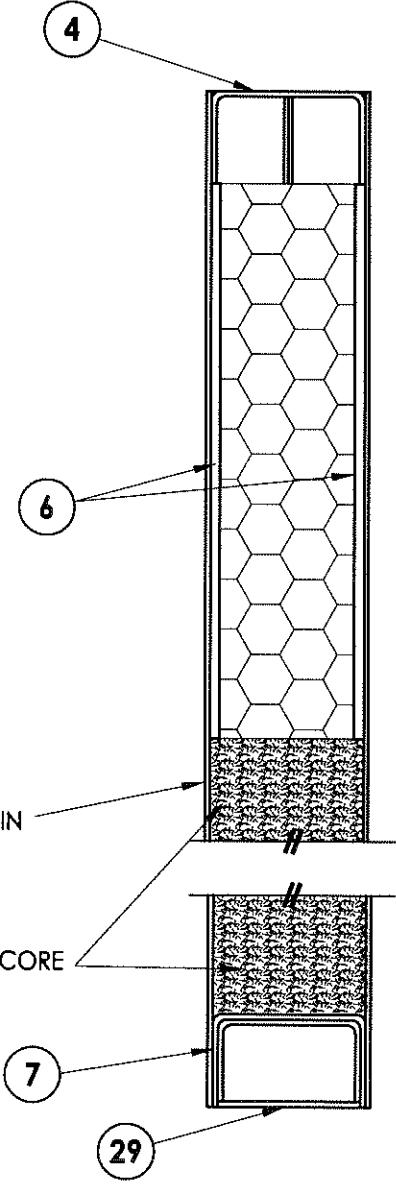
2
3 CAL-ROYAL DOOR PANEL
Inactive Door



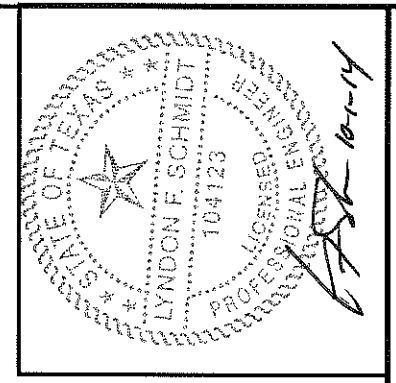
14 STILE REINFORCEMENT



29 DOOR BOTTOM REINFORCEMENT
w/ Strike Plate



2
3 VERTICAL CROSS SECTION



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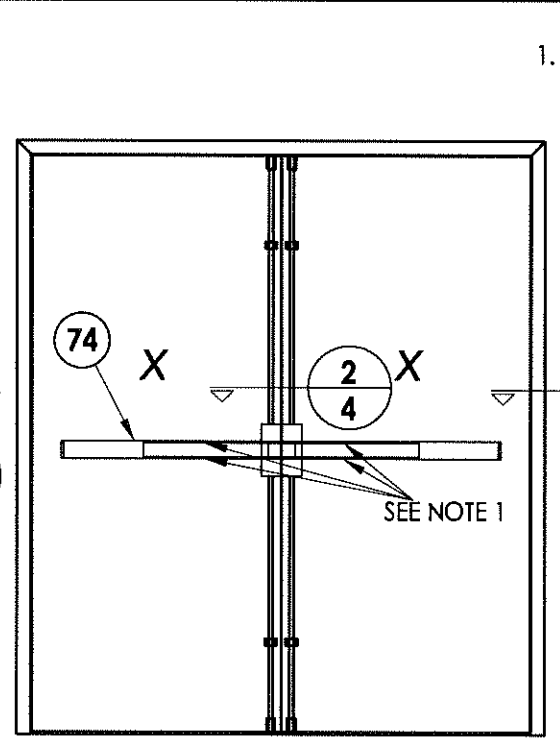
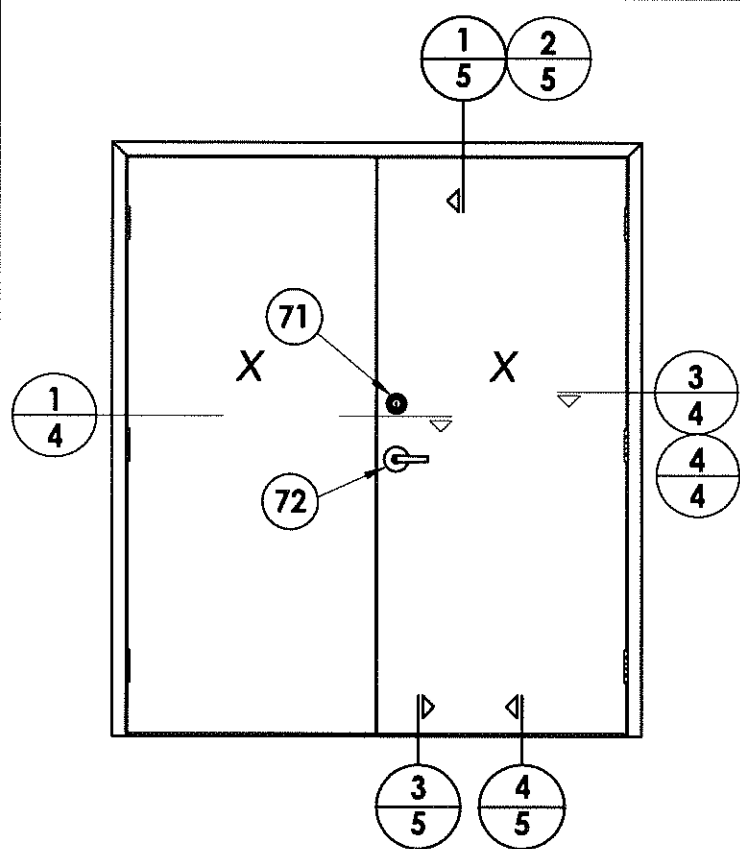
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

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

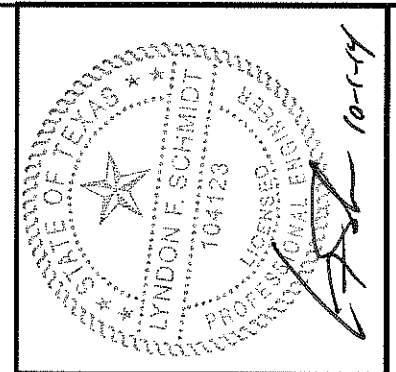
NO.	DATE	BY
REVISIONS		

DATE:	10/1/14
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4485
SHEET	3 of 9

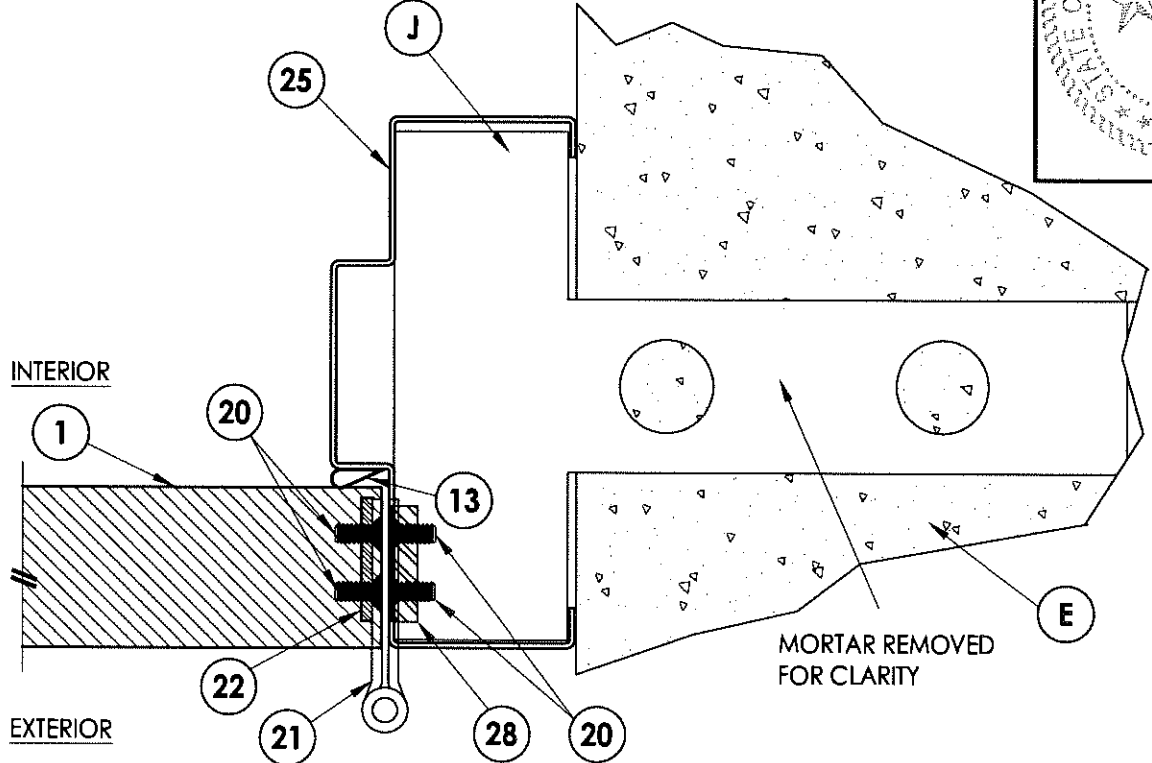
STEEL DOOR SKIN (18 GA.): MIN. 0.045" THK.
STEEL GRADE: ASTM A1008 GALV. STEEL (Fy = 33,000 PSI MIN.)
CORE MATERIAL: EPS FOAM (POLYSTYRENE - 1.0 PCF MIN. DENSITY)



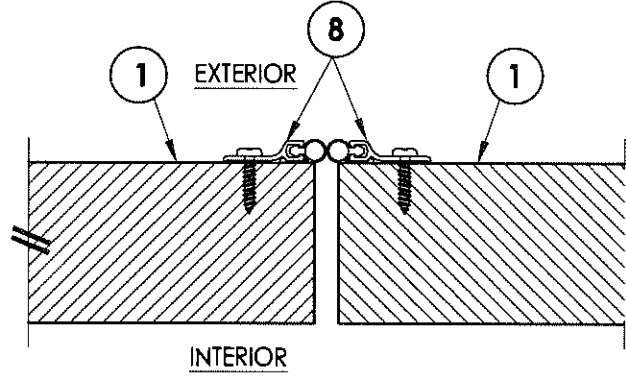
NOTE:
 1. PANIC BAR SET SCREWS (#12-24 x 5/16") MUST BE ACTIVATED TO ACHIEVE IMPACT RATING. LOCATE ONE SCREW AT TOP AND BOTTOM AT CENTER OF EACH PUSH RAIL OR LOCATE ONE SCREW AT EACH END OF EACH BAR.



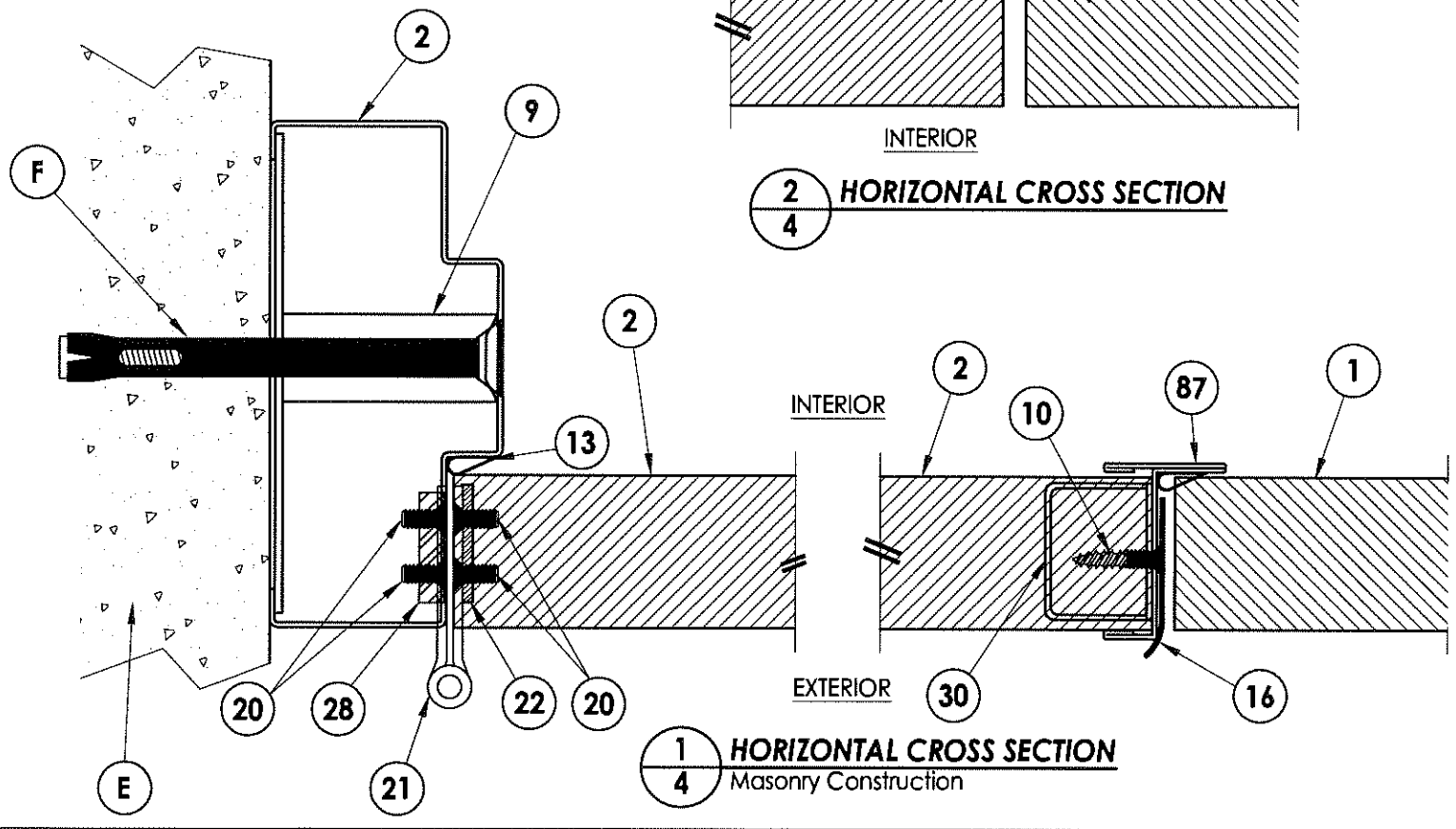
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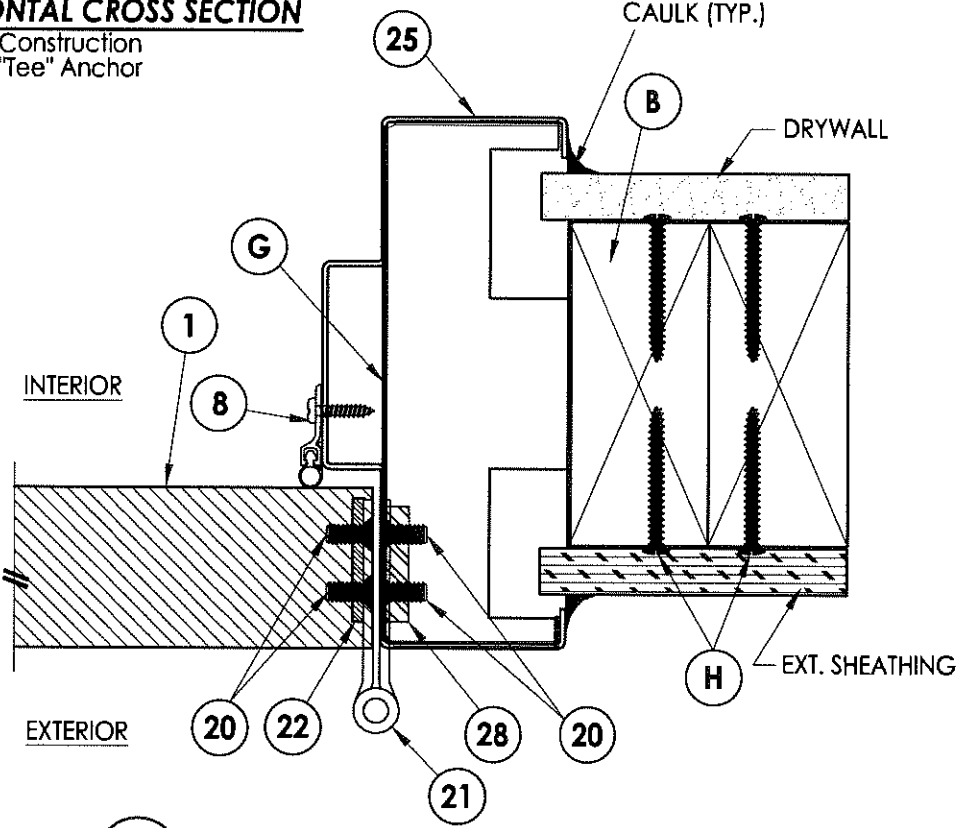
3 HORIZONTAL CROSS SECTION
 4 Masonry Construction
 Masonry "Tee" Anchor



2 HORIZONTAL CROSS SECTION
 4

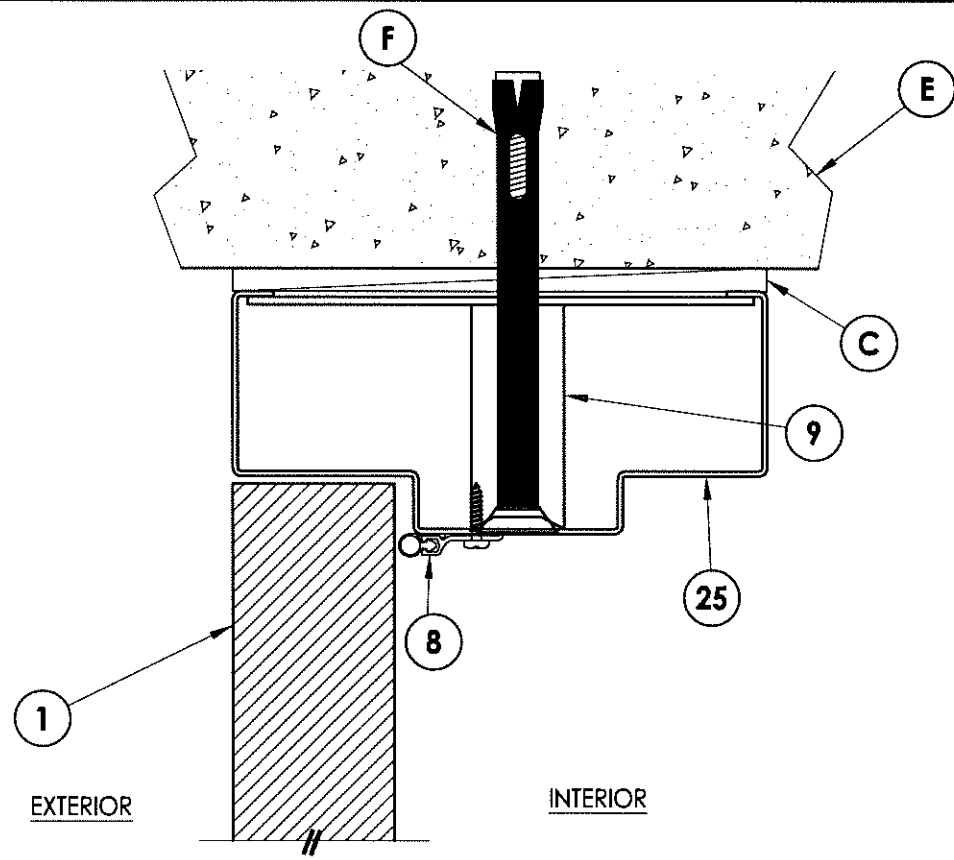


1 HORIZONTAL CROSS SECTION
 4 Masonry Construction

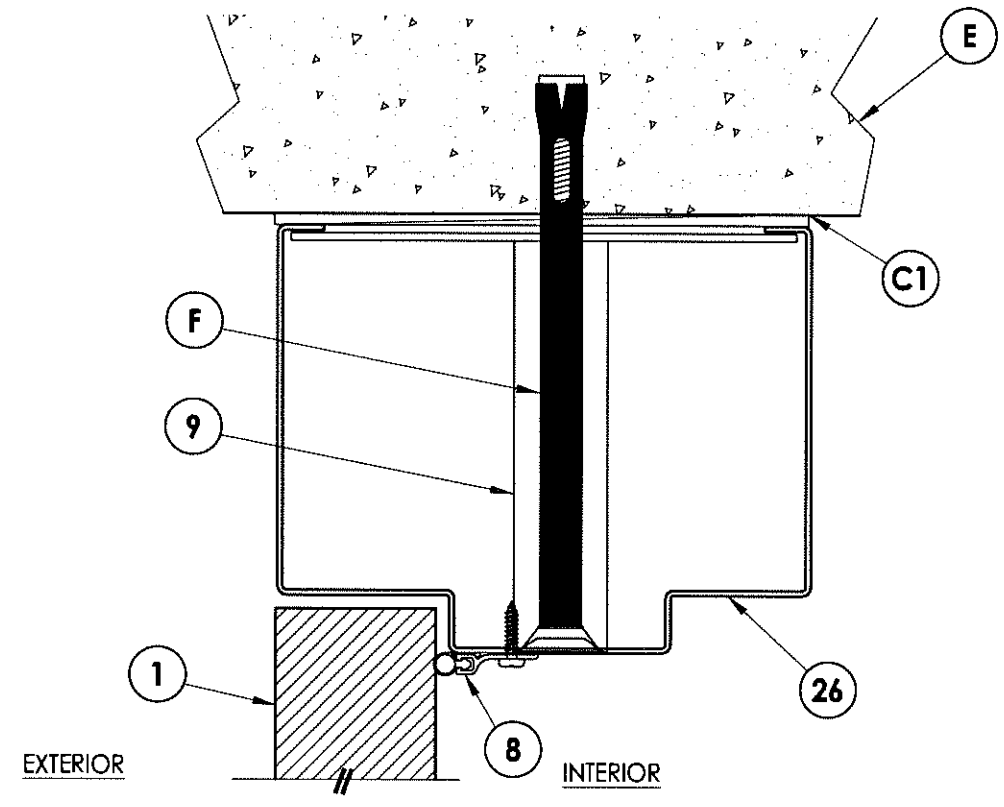


4 HORIZONTAL CROSS SECTION
 4 2X Stud Construction
 Wood Stud Anchor

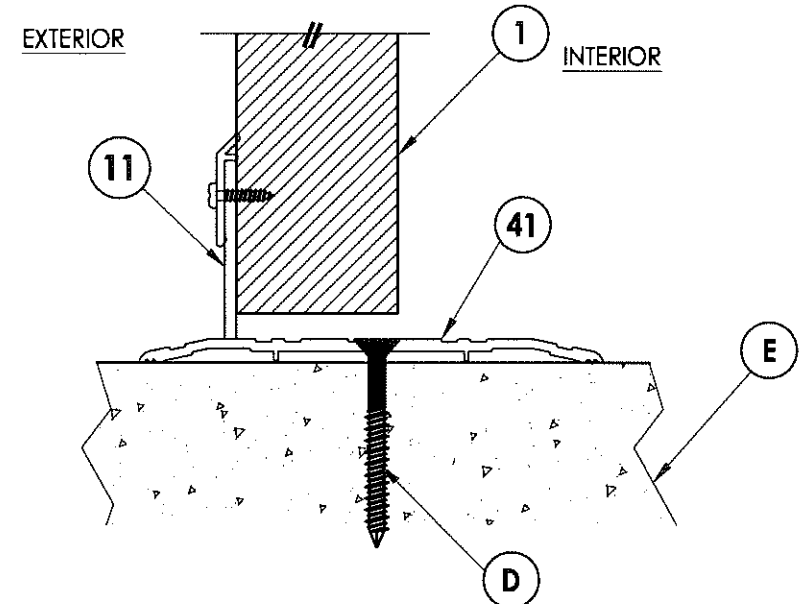
PRODUCT:		CAL-ROYAL	
		STEEL COMMERCIAL DOOR	
PART OR ASSEMBLY:		HORIZONTAL CROSS SECTIONS	
NO.	DATE	BY	REVISIONS
DATE:	10/1/14		
SCALE:	N.T.S.		
DWG. BY:	JK		
CHK. BY:	LFS		
DRAWING NO.:	TX-4485		
SHEET	4	OF	9



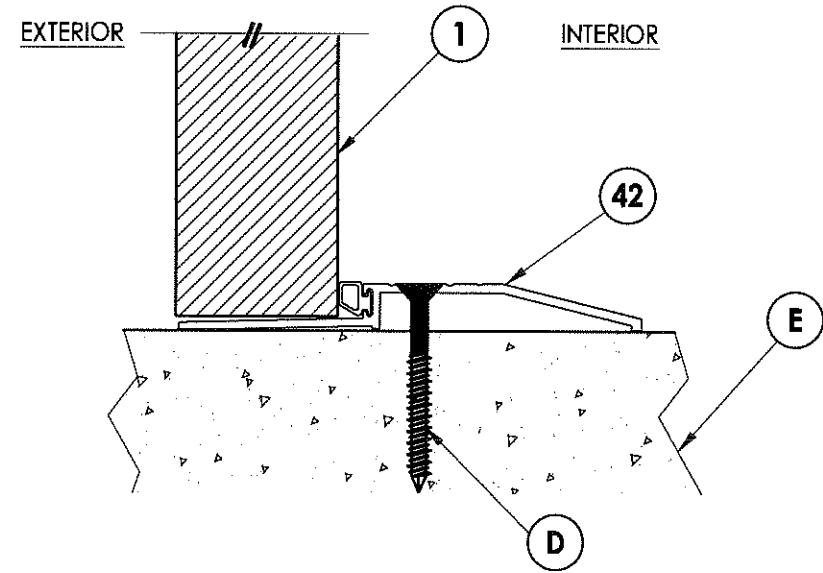
1 VERTICAL CROSS SECTION
5 Outswing configuration - Inswing also approved



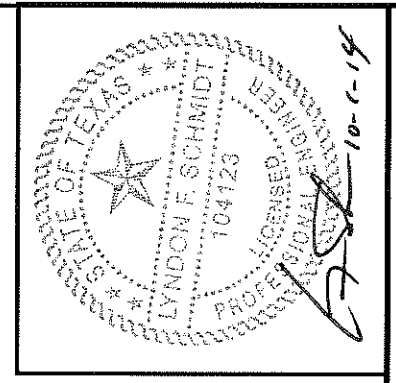
2 VERTICAL CROSS SECTION
5 Outswing configuration - Inswing also approved



3 VERTICAL CROSS SECTION
5 Inswing configuration



4 VERTICAL CROSS SECTION
5 Outswing configuration



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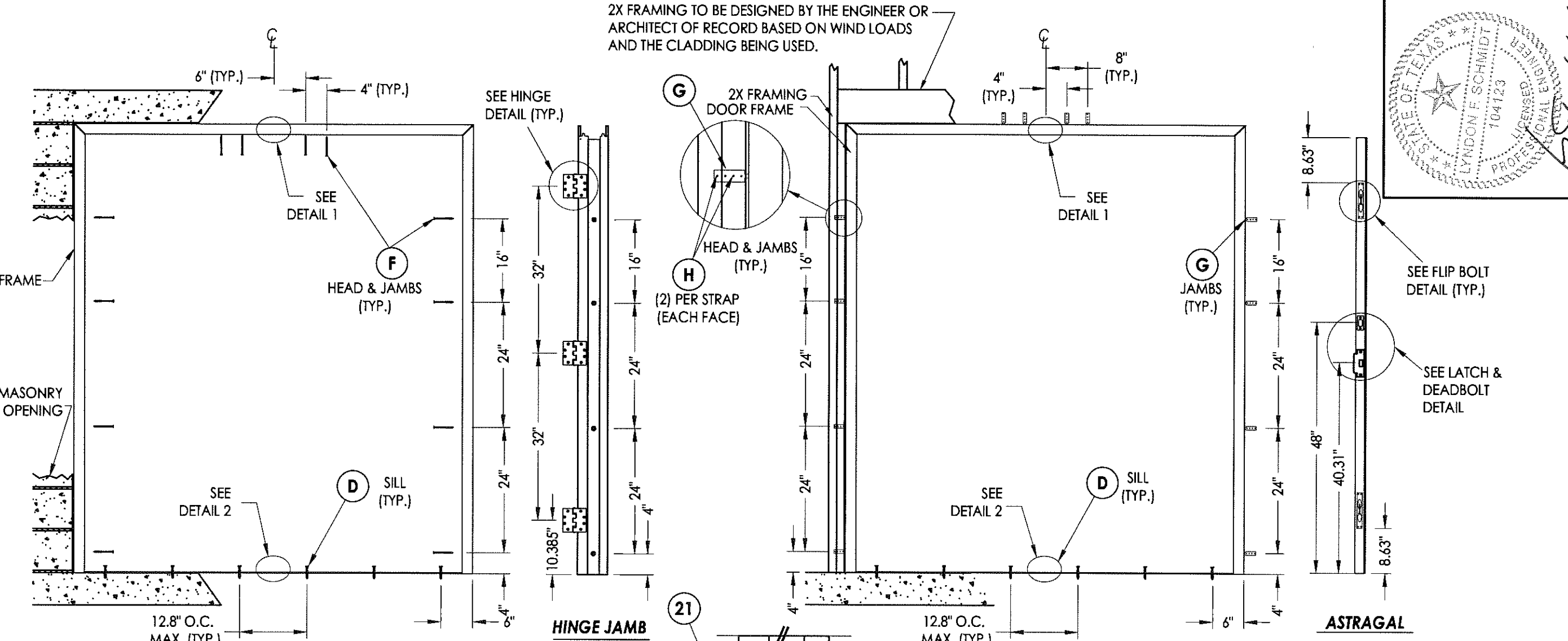
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PRODUCT: CAL-ROYAL
 STEEL COMMERCIAL DOOR
 PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

NO	DATE	BY	REVISIONS

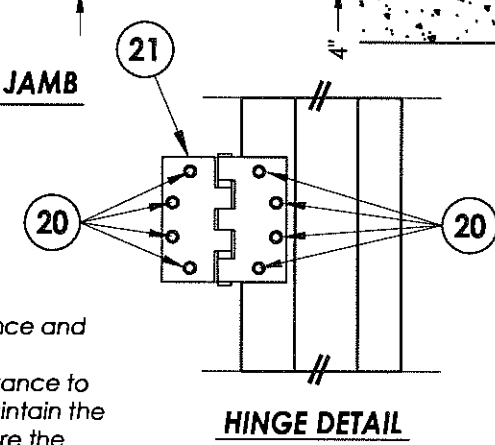
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 DWG. BY: JK
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 DRAWING NO.: TX-4485
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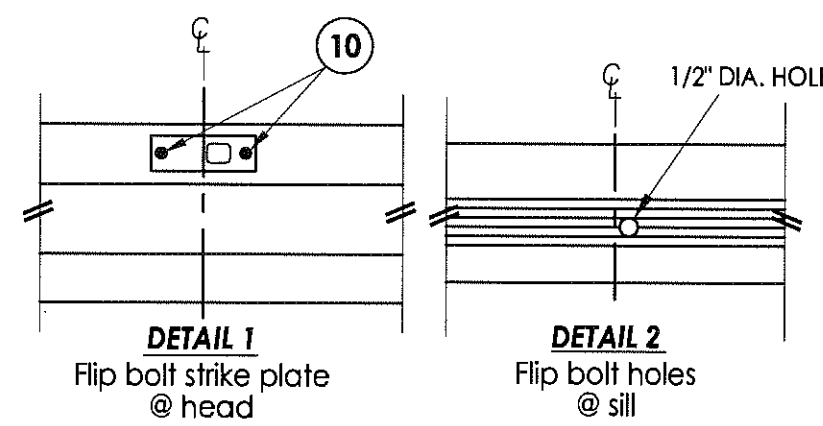


FRAME ANCHORING
Masonry Construction
Concrete Anchors

FRAME ANCHORING
2X Stud Construction
Strap Anchors

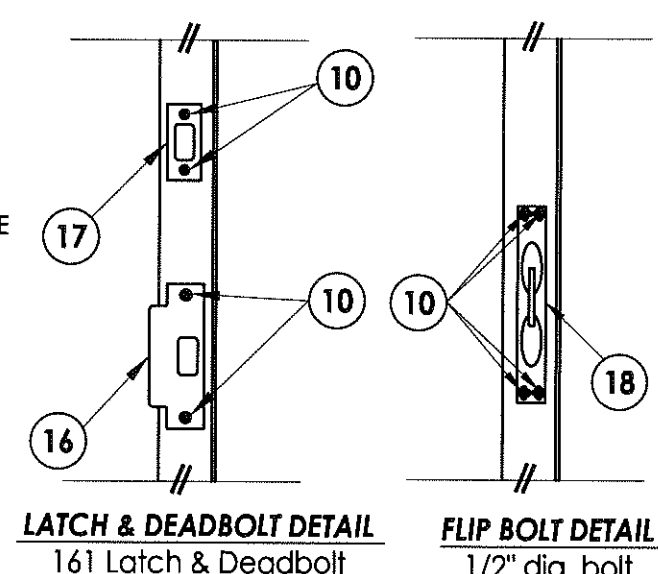


HINGE DETAIL



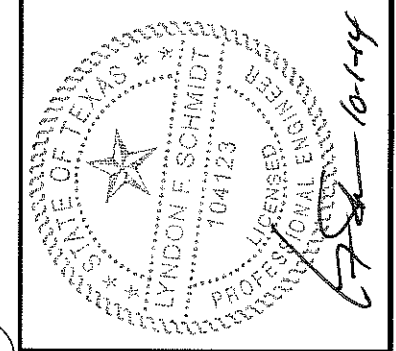
DETAIL 1
Flip bolt strike plate
@ head

DETAIL 2
Flip bolt holes
@ sill



LATCH & DEADBOLT DETAIL
161 Latch & Deadbolt

FLIP BOLT DETAIL
1/2" dia. bolt



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PRODUCT: CAL-ROYAL STEEL COMMERCIAL DOOR

PART OR ASSEMBLY: FRAME ANCHORING

NO.	DATE	BY	REVISIONS

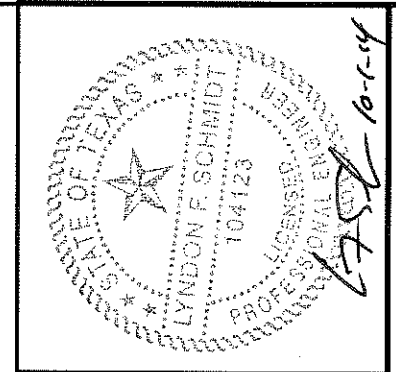
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SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4485
SHEET 6 OF 9

- CONCRETE ANCHOR NOTES:**
- Substitution of equal concrete screws from a different supplier may have different edge distance and center distance requirements.
 - 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.
 - 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.

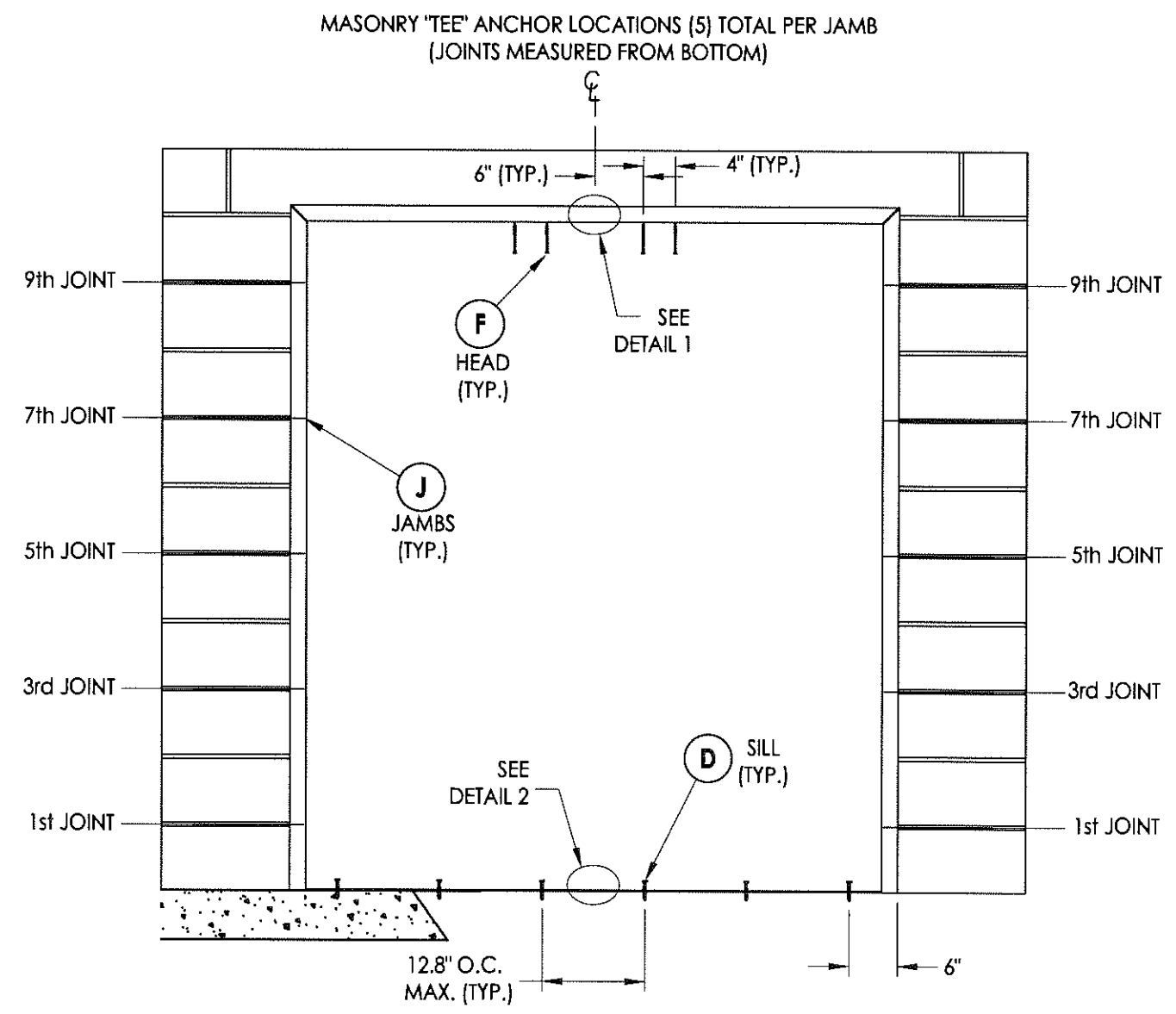
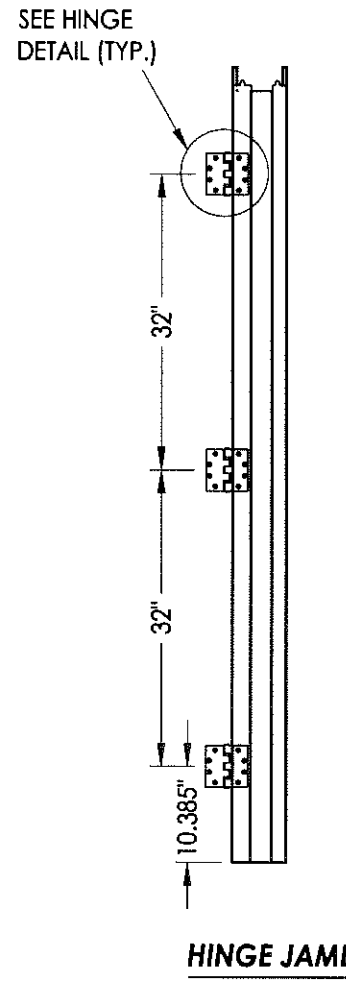
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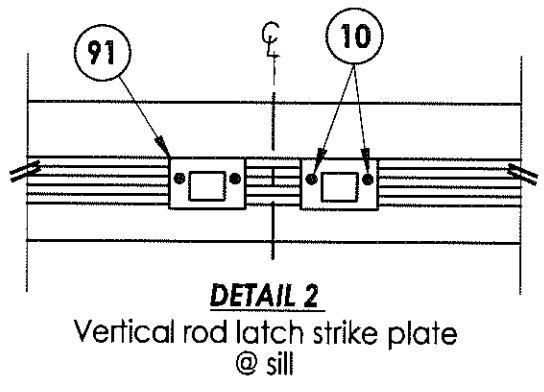
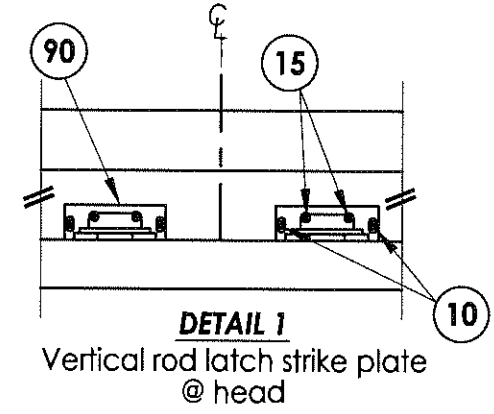
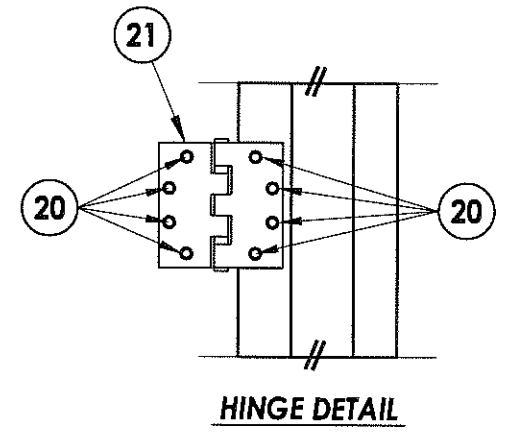
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FRAME ANCHORING
Masonry Construction
Masonry "Tee" Anchors



CONCRETE ANCHOR NOTES:

1. Substitution of equal concrete screws from a different supplier may have different edge distance and center distance requirements.
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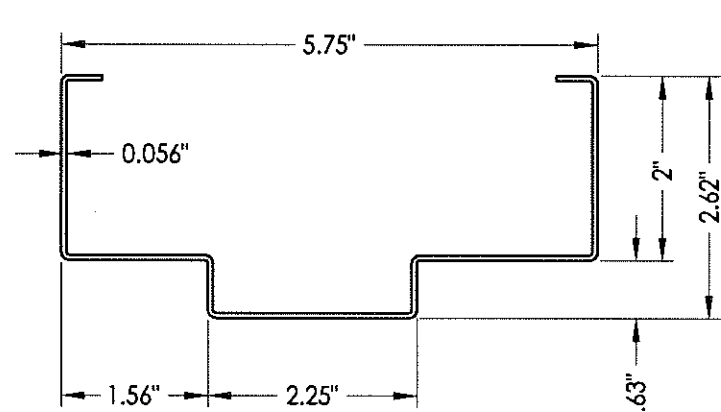
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PRODUCT:	CAL-ROYAL STEEL COMMERCIAL DOOR
PART OR ASSEMBLY:	FRAME ANCHORING
NO.	DATE
BY	REVISIONS

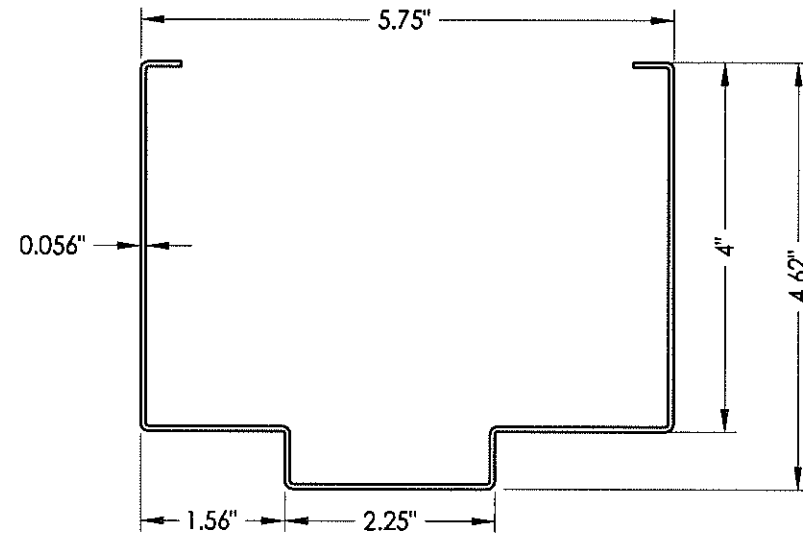
DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4485
SHEET 7 of 9

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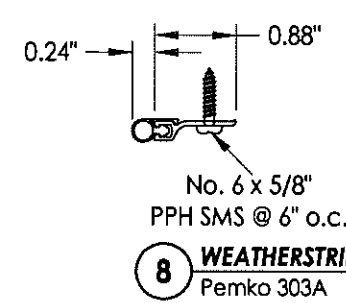
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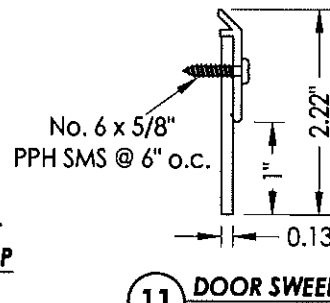
26 HOLLOW METAL FRAME
2" HEAD



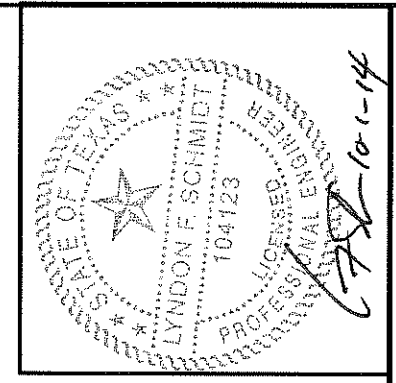
26 HOLLOW METAL FRAME
4" HEAD



8 WEATHERSTRIP
Pemko 303A



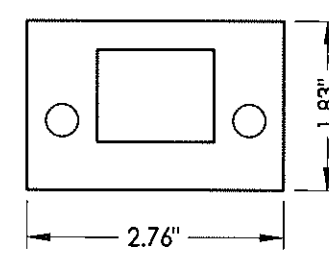
11 DOOR SWEEP
Pemko 3151



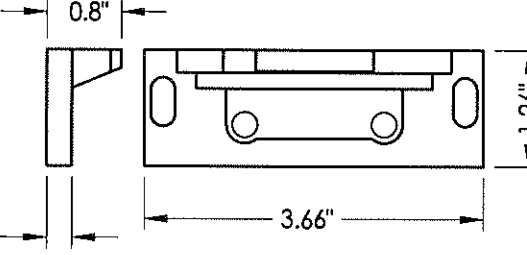
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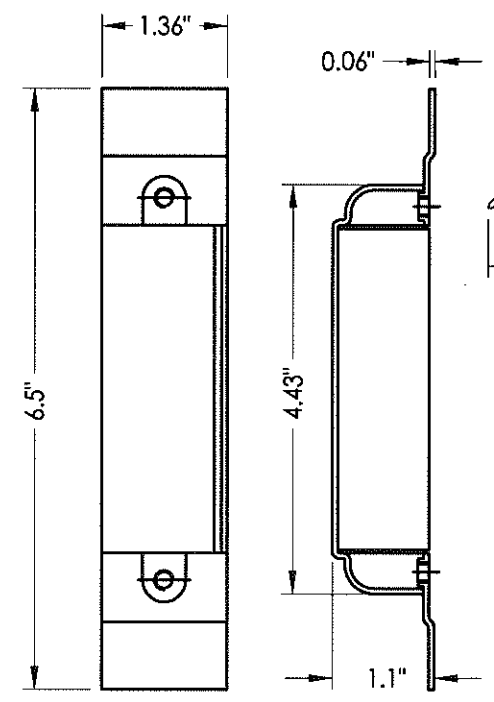
TEXAS BOARD OF PROFESSIONAL ENGINEERS
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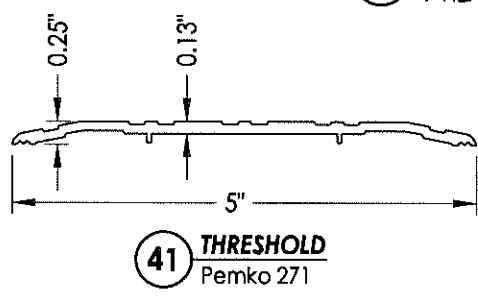
91 VERTICAL ROD LATCH STRIKE PLATE
@ Sill



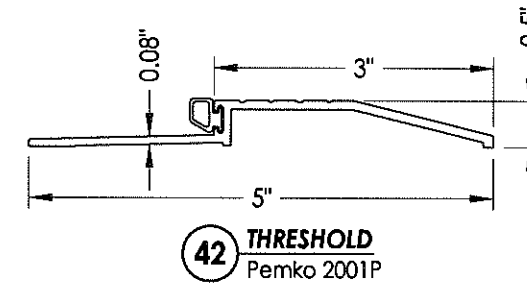
90 VERTICAL ROD LATCH STRIKE PLATE
@ Head



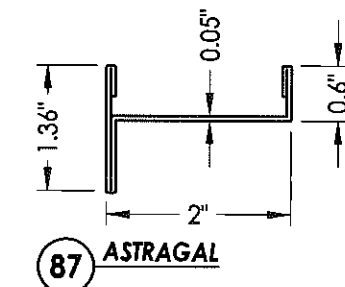
30 DOOR LATCH REINFORCEMENT



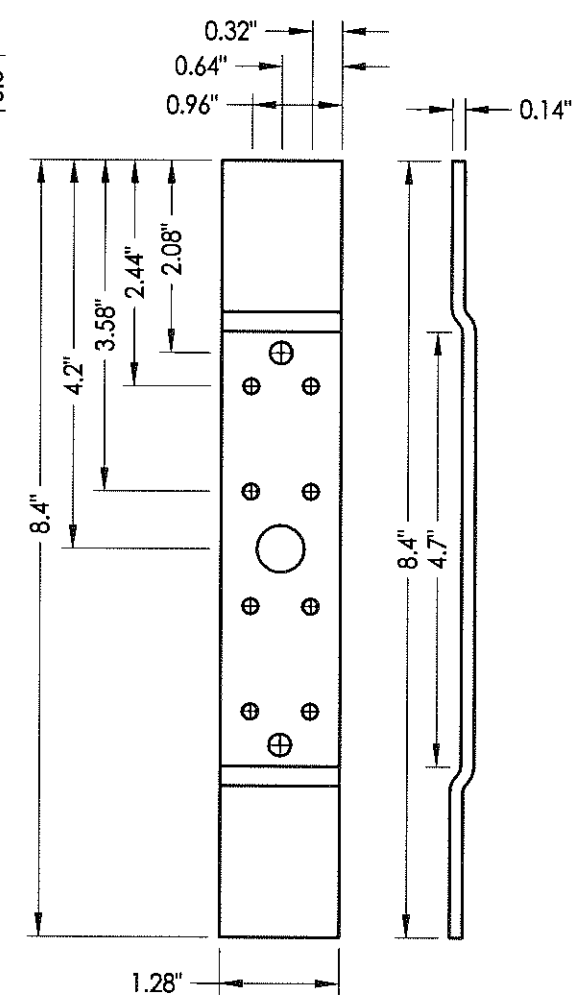
41 THRESHOLD
Pemko 271



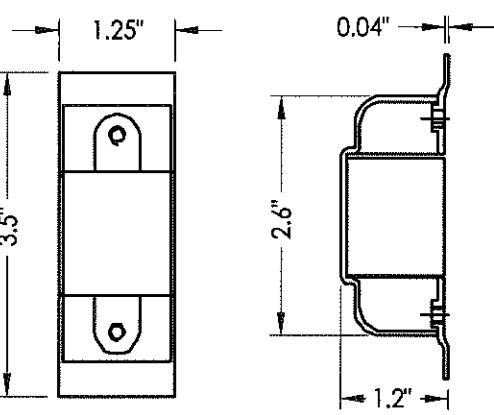
42 THRESHOLD
Pemko 2001P



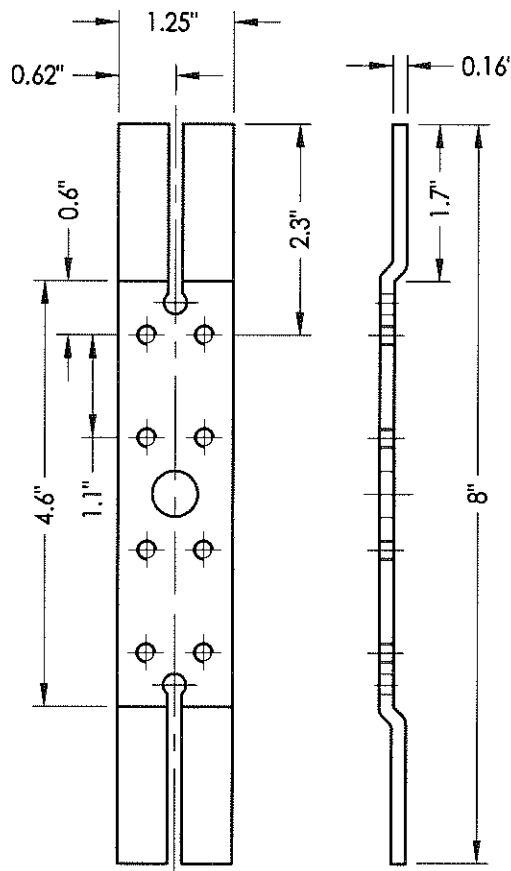
87 ASTRAGAL



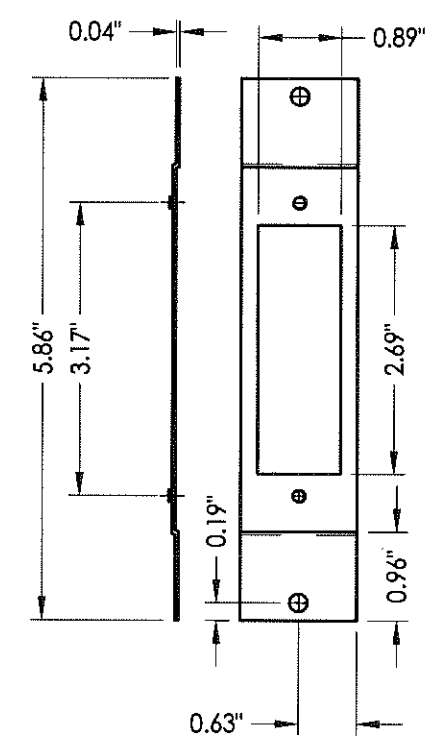
28 FRAME HINGE REINFORCEMENT



31 DOOR DEADBOLT REINFORCEMENT



22 DOOR HINGE REINFORCEMENT



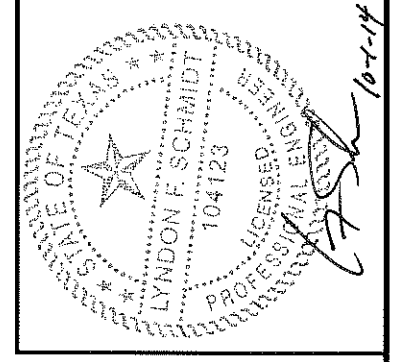
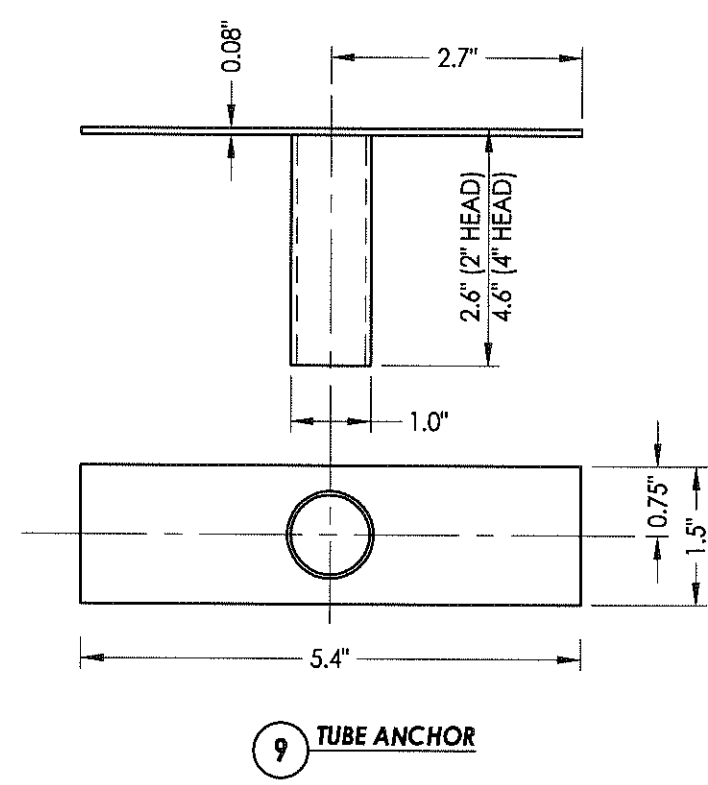
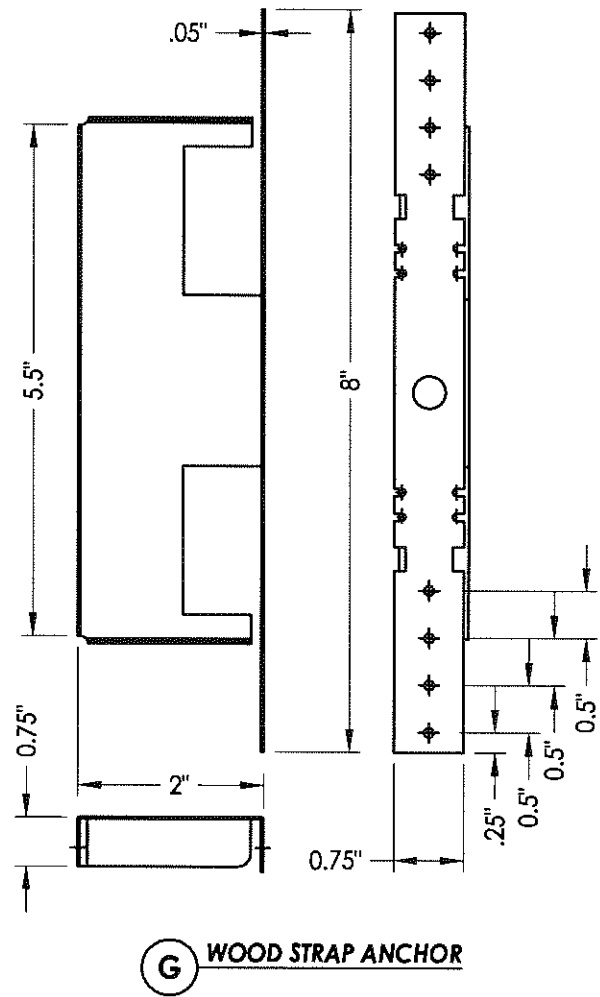
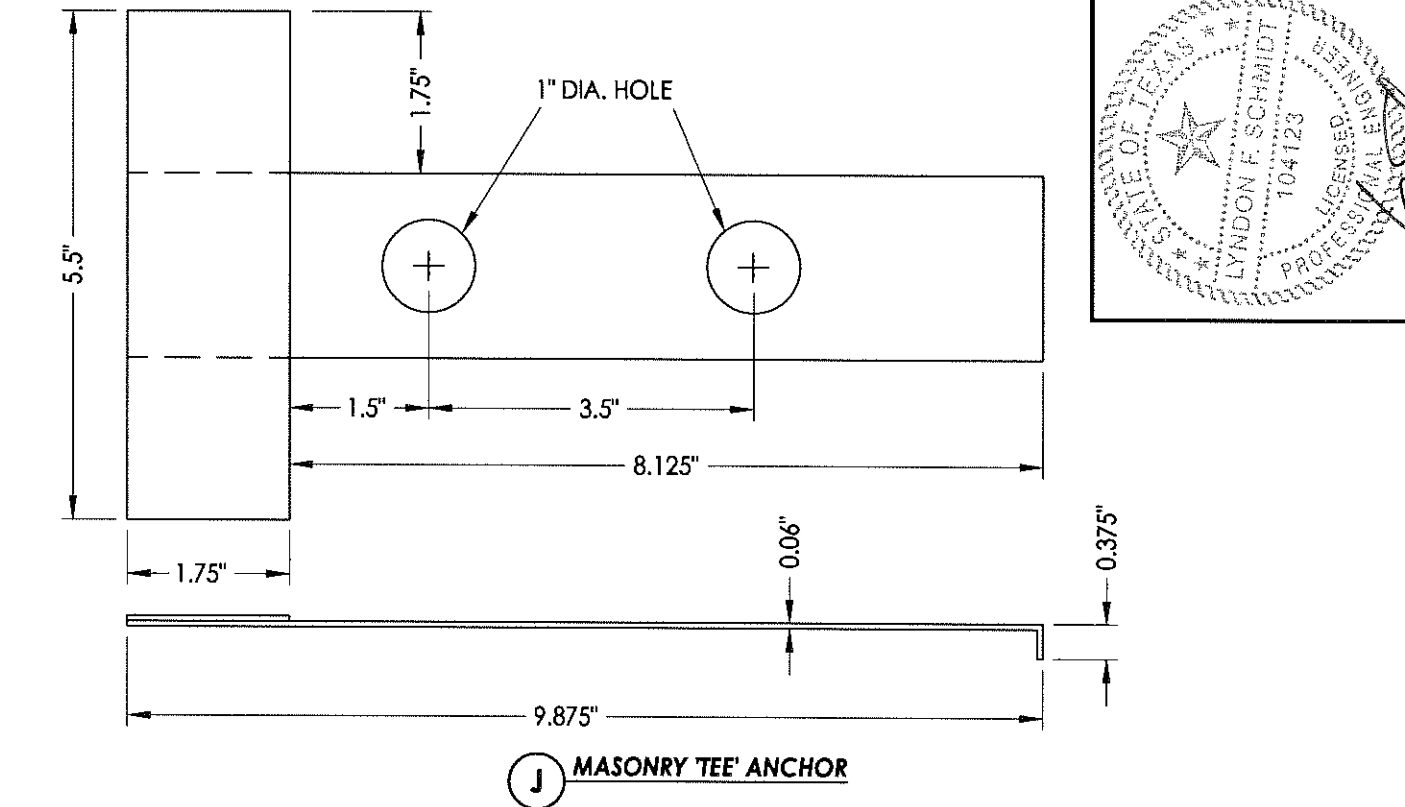
27 FRAME LATCH STRIKE REINFORCEMENT

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-4485	
SHEET 8 OF 9	

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BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
B	2 X 4 FRAMING (SG >= 0.55)	-
C	1/4" MAX. SHIM SPACE	-
C1	1/8" 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 (ACTIVE DOOR)	-
2	CAL-ROYAL DOOR PANEL (INACTIVE DOOR)	-
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
14	STILE REINFORCEMENT	STEEL
15	#8-24 X 3/4" COMBINATION MACHINE / WOOD SCREW	STEEL
16	ANSI LATCH STRIKE	STEEL
17	DEAD BOLT STRIKE	STEEL
18	FLIP BOLT - CAL-ROYAL	-
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
29	DOOR BOTTOM REINFORCEMENT w/ STRIKE PLATE	STEEL
30	DOOR LATCH REINFORCEMENT	STEEL
31	DOOR DEADBOLT REINFORCEMENT	STEEL
41	INSWING THRESHOLD - PEMKO 271	ALUM
42	OUTSWING THRESHOLD - PEMKO 2001P	ALUM
71	CAL-ROYAL PIONEER SL/CSL SERIES CYLINDRICAL LOCK	-
72	CAL-ROYAL T300 SERIES DEADBOLT	-
74	CAL-ROYAL 7700-V SERIES VERTICAL ROD EXIT DEVICE	-
87	ASTRAGAL	STEEL
90	VERTICAL ROD LATCH STRIKE PLATE @ HEAD	STEEL
91	VERTICAL ROD LATCH STRIKE PLATE @ SILL	STEEL



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 COMMERCIAL DOOR
STEEL

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-4485
SHEET 9 OF 9