

R W Building Consultants, Inc.

Consulting and Engineering Services for the Building Industry

P.O. Box 230 Valrico, FL 33595 Phone 813.659.9197

Florida Board of Professional Engineers Registry License No. 9813

Product Evaluation Report

Report No.: FL-41130.5

Date: July 1, 2023

Product Category	Sub Category	Manufacturer	Product Name
Exterior Doors	Swinging Exterior Door Assemblies	DKS Steel Door & Frame Systems, Inc. 2142 Tubeway Ave. Commerce, CA 90040 (323) 888-7763	DKS Series 1800 Steel Commercial Double Door Inswing / Outswing "Impact"

Scope: This is a Product Evaluation report issued by R W Building Consultants, Inc. and Lyndon F. Schmidt, P.E. for DKS Steel Door & Frame Systems, Inc. based on Rule Chapter No. 61G20-3, Method 1D of the State of Florida Product Approval, Department of Business & Professional Regulation.

RW Building Consultants and Lyndon F. Schmidt, P.E. do not have nor will acquire financial interest in the company manufacturing or distributing the product or in any other entity involved in the approval process of the product named herein.

Limitations:

1. This product has been evaluated and is in compliance with the 8th Edition (2023) Florida Building Code (FBC) structural requirements excluding the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in areas requiring wind borne debris protection this product complies with FBC Sections 1609.1.2 & R301.2.1.2 and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E 1996 and FBC Sections 1609.1.2.2 & R301.2.1.2.1.
4. This door achieves a Class I Stiffness classification per Section 8.2.2 of ANSI A250.13.
5. Site conditions that deviate from the details of drawing FL-41130.5 require further engineering analysis by a licensed engineer or registered architect.
6. See drawing FL-41130.5 for size and design pressures limitations.

Supporting Documents:

- | | | | |
|--|--|---|--|
| 1. Test Report No.
TEL 01820265
ITS 3053378 | Test Standard
ASTM E 330-02 & E 1886-05/1996-06
UL 10C - 09 | Testing Laboratory
Testing Evaluation Lab., Inc.
Intertek Testing Services | Signed by
Lyndon F. Schmidt, P.E.
Mike van Geyn |
| 2. Drawing No.
No. FL-41130.5 | Prepared by
RW Building Consultants, Inc. (#9813) | | Signed & Sealed by
Lyndon F. Schmidt, P.E. |
| 3. Calculations
Anchoring | Prepared by
RW Building Consultants, Inc. (#9813) | | Signed & Sealed by
Lyndon F. Schmidt, P.E. |

4. Quality Assurance

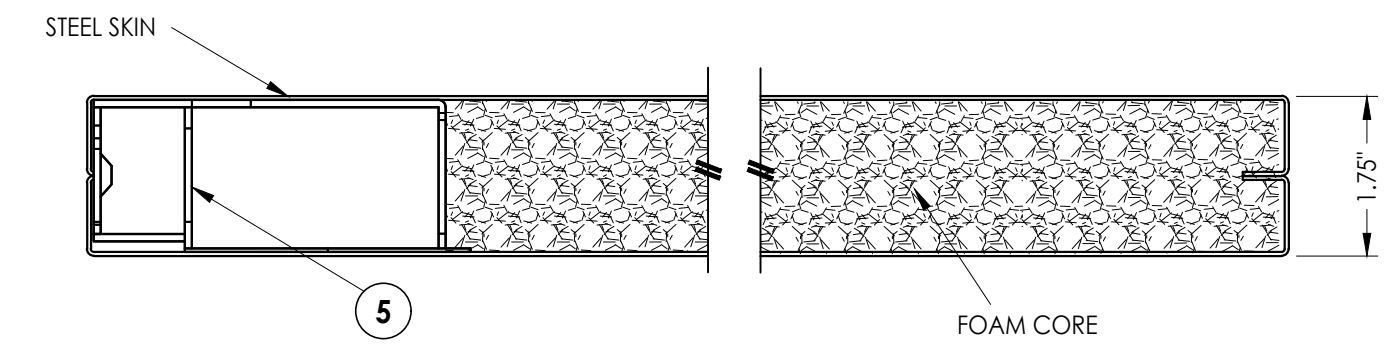
Certificate of Participation issued by National Accreditation and Management Institute, certifying that DKS Steel Door & Frame Systems, Inc. is manufacturing products within a quality assurance program that complies with ISO/IEC 17020 and Guide 53.

Digitally signed by Lyndon F Schmidt
Date: 2023.07.19 09:17:08 -04'00'

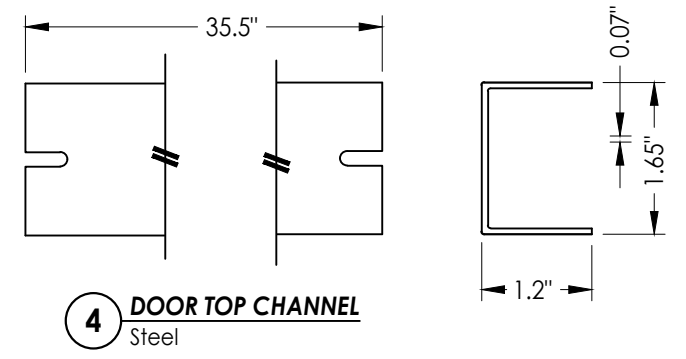
LYNDON F. SCHMIDT, State of Florida, Professional Engineer, License No. 43409
This item has been digitally signed and sealed by L. F. Schmidt on 7-19-23.
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

THIS PRODUCT APPROVAL IS VALID ONLY FOR THE STATE OF FLORIDA

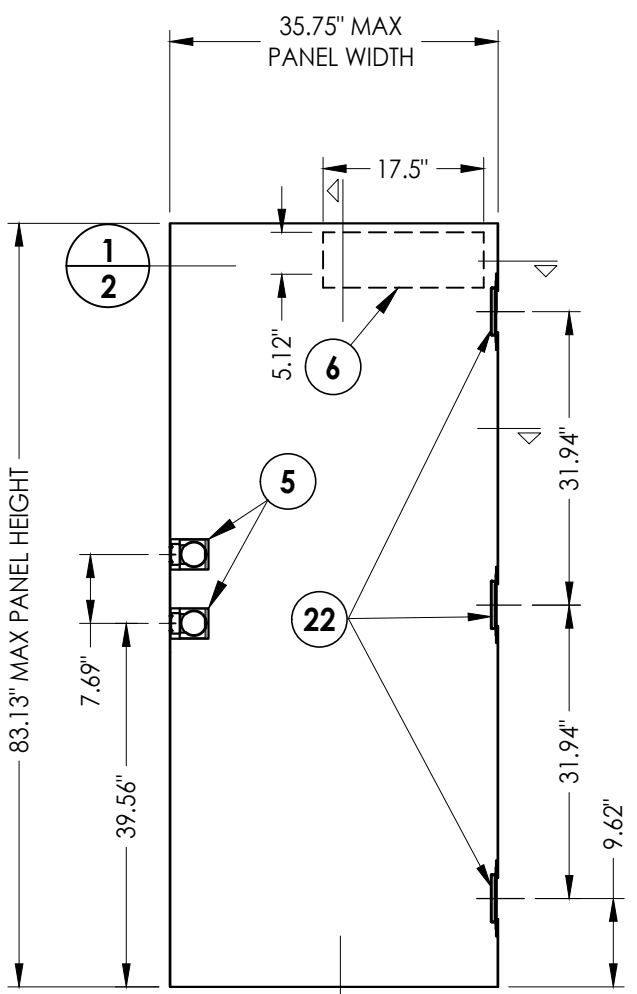
Z:\2023 FBC Drawings\DKS Steel Door & Frames Systems\FL-41130 R1\FL-41130.3-6.dwg



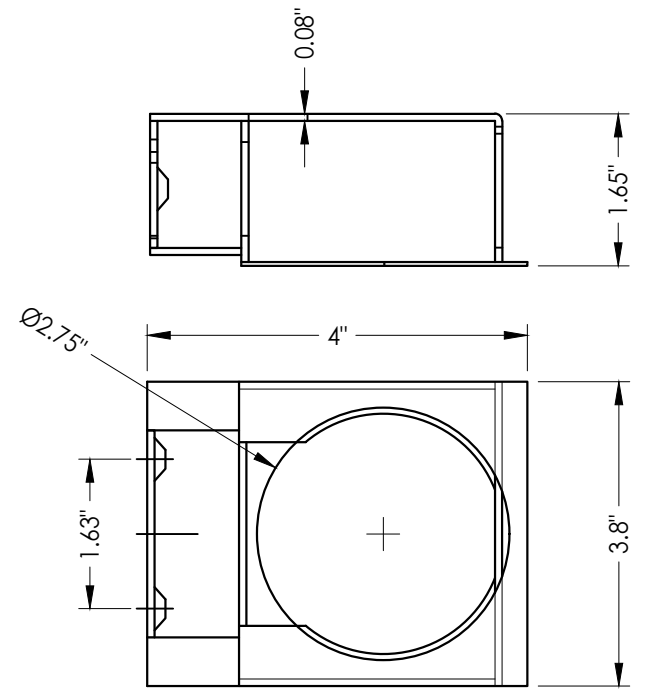
1
2 HORIZONTAL CROSS SECTION



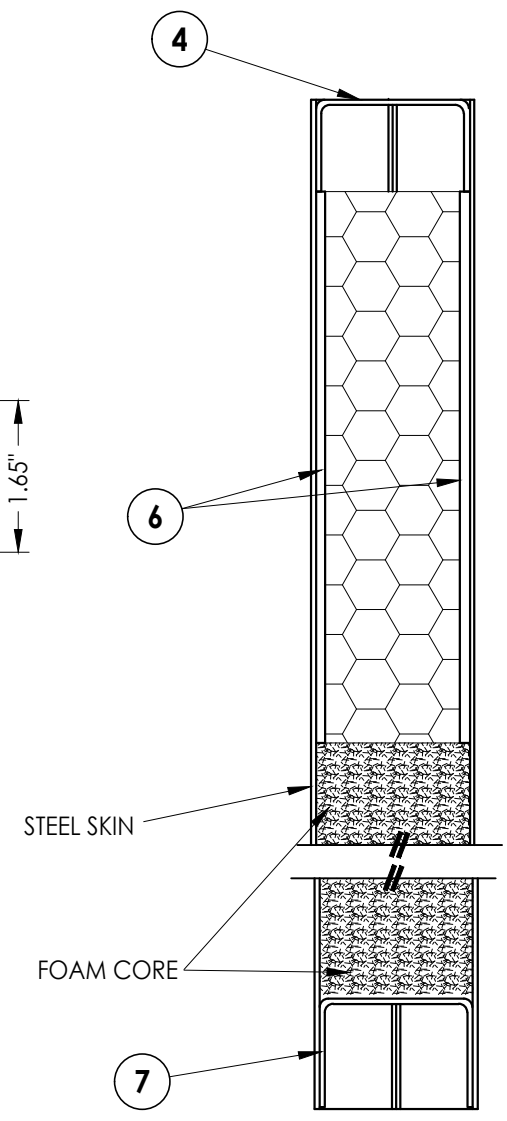
4 DOOR TOP CHANNEL
Steel



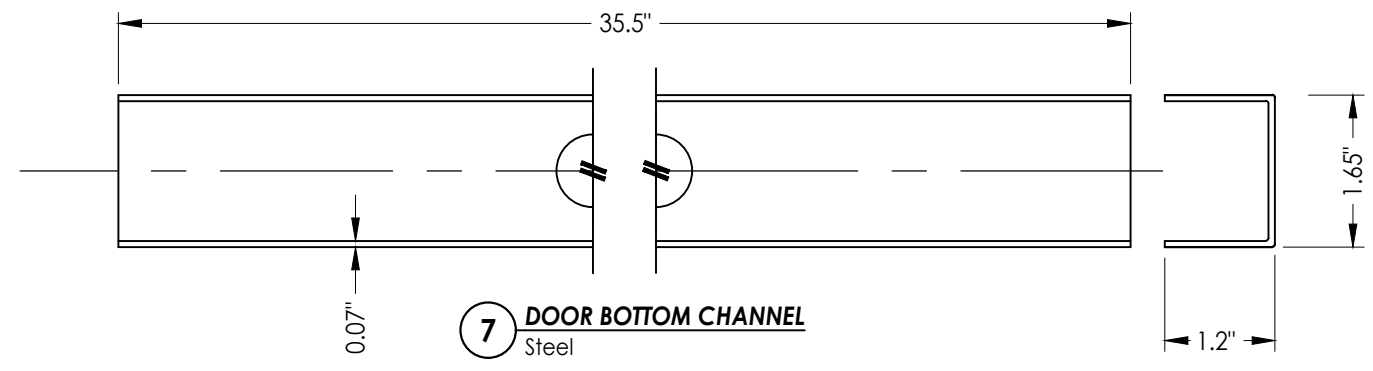
1 DKS STEEL DOOR PANEL
Active door



5 STEEL LOCK BOX REINFORCEMENT
161 Lock Prep



2
2 VERTICAL CROSS SECTION



7 DOOR BOTTOM CHANNEL
Steel

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. No. 43409

RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

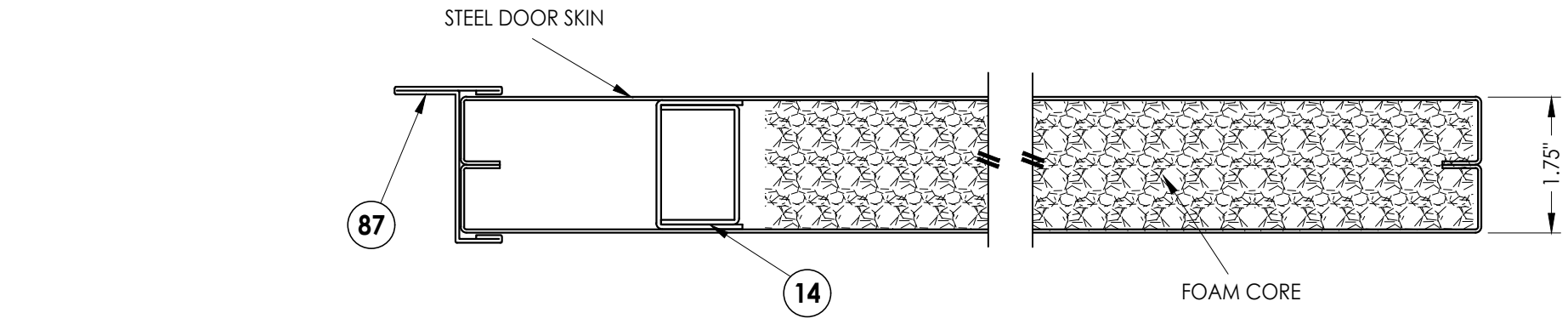
PRODUCT: DKS
STEEL COMMERCIAL DOOR

PART OR ASSEMBLY:
DOOR PANEL DETAILS

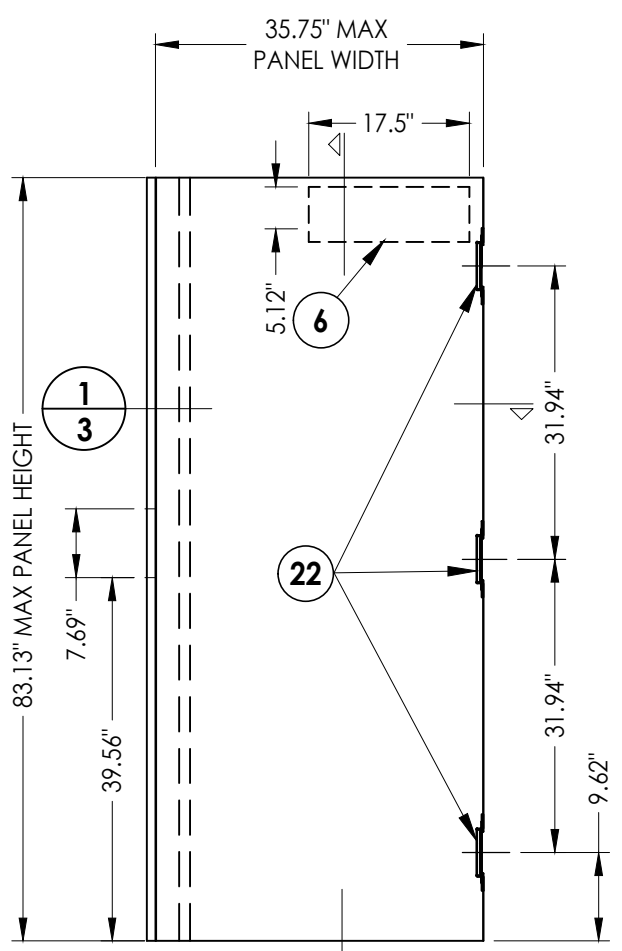
NO.	DATE	BY
1	7/01/23	LFS
	UPDATE TO 8TH ED. (2023)	FBC

DATE: 3/21/22
SCALE: N.T.S.
DWG. BY: LFS
CHK. BY: RW
DRAWING NO.: FL-41130.5
SHEET 2 OF 9

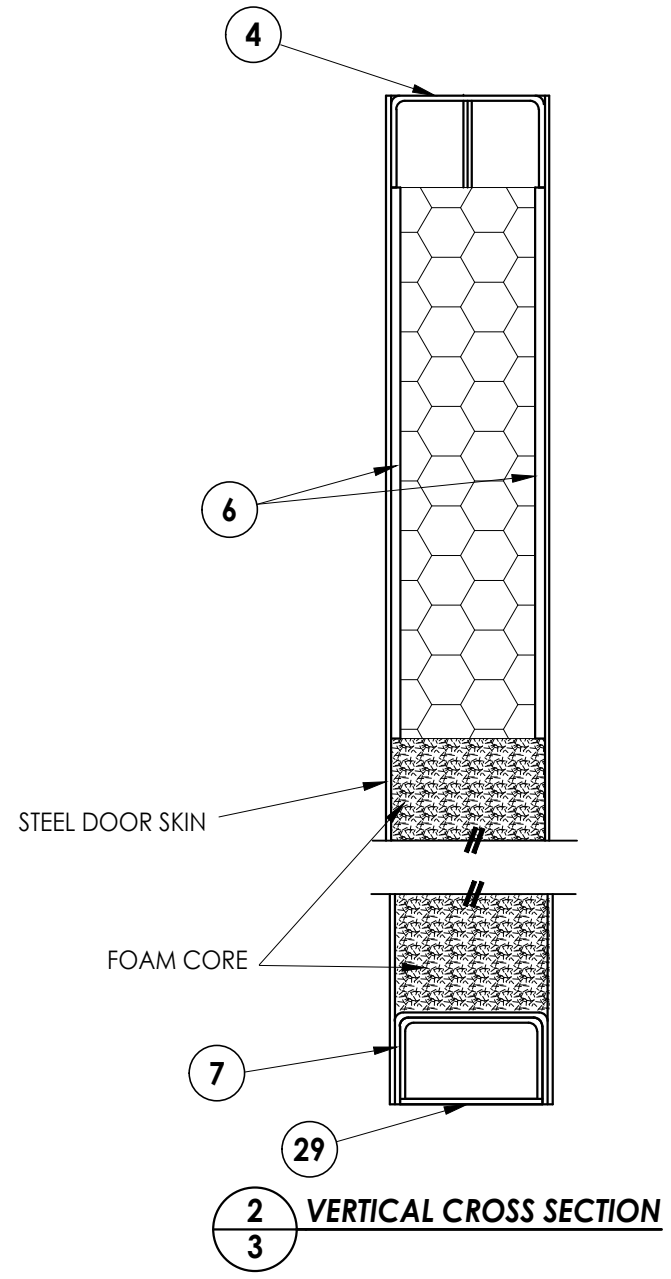
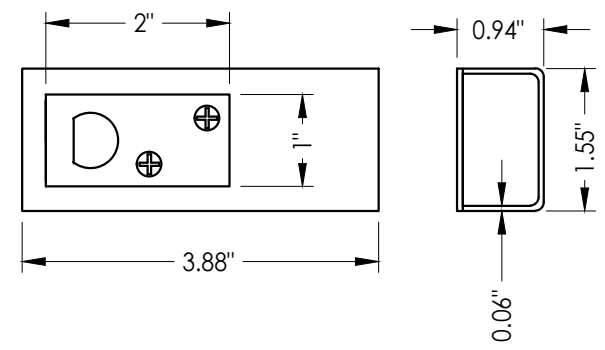
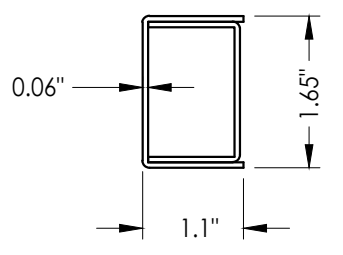
Z:\2023 FBC Drawings\DKS Steel Door & Frames Systems\FL-41130 R1\FL-41130.3-6.dwg



1
3 HORIZONTAL CROSS SECTION



2
3 DKS STEEL DOOR PANEL
Inactive 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)

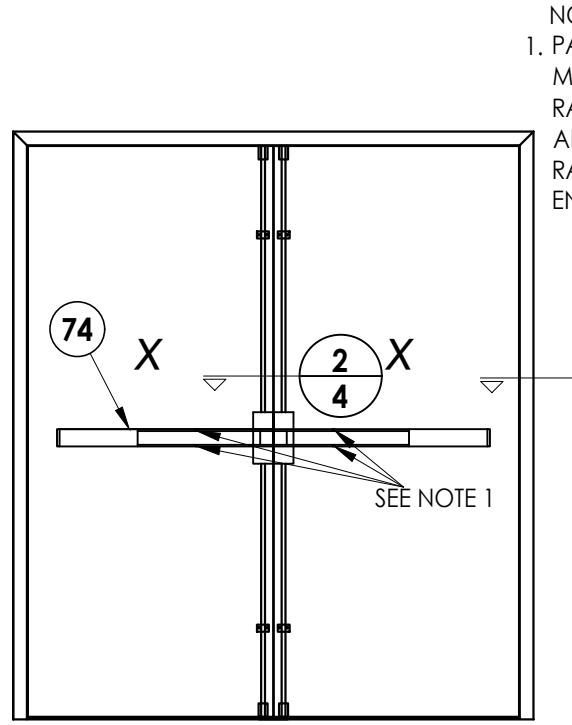
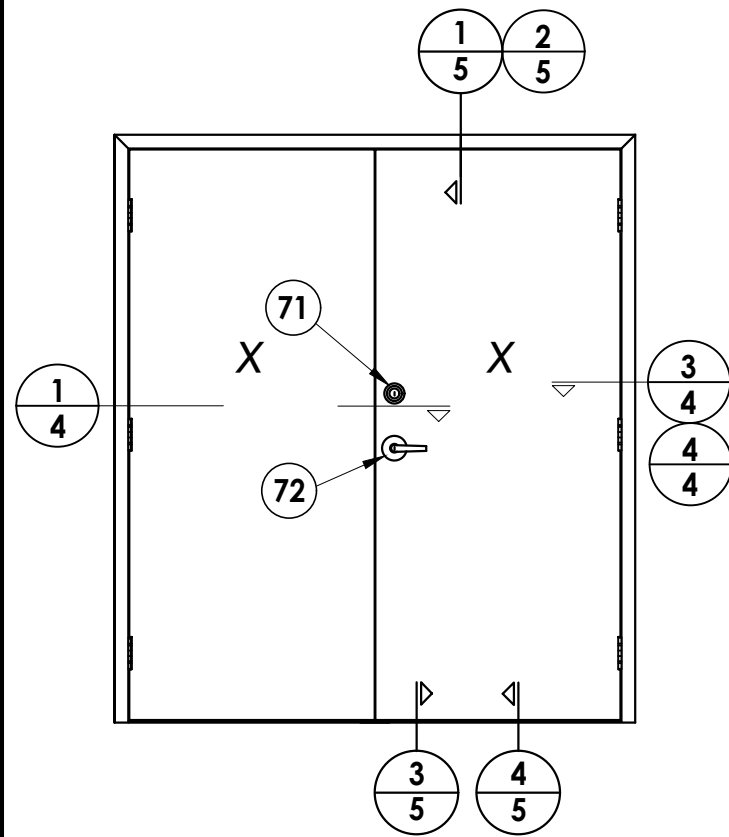
Documents Prepared By:
 Lyndon F. Schmidt
 P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
 P.O. Box 230, Valrico, FL 33595
 Phone No.: 813.659.9197
 FBPE Registry No. 9813

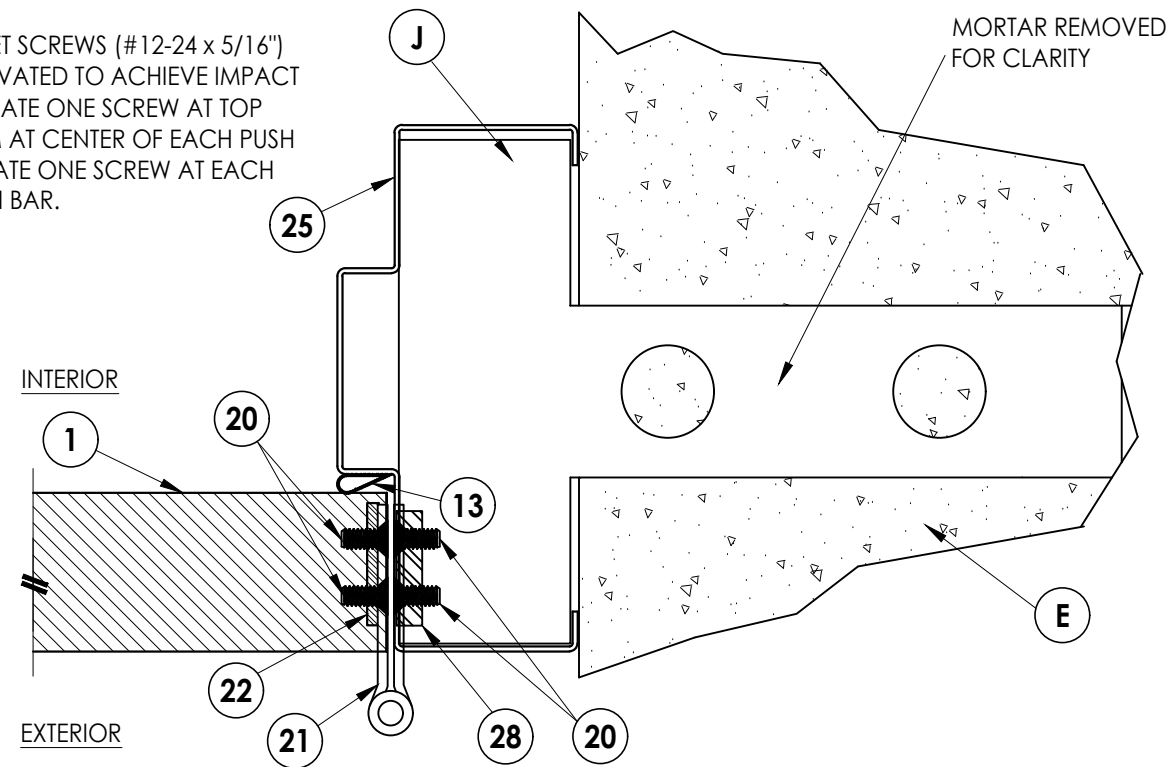
PRODUCT: DKS
 STEEL COMMERCIAL DOOR
 PART OR ASSEMBLY:
 DOOR PANEL DETAILS

NO.	DATE	BY
1	7/01/23	LFS
UPDATE TO 8TH ED. (2023) FBC		

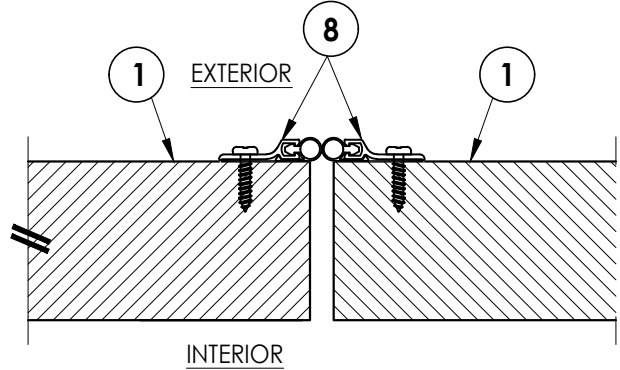
DATE: 3/21/22
 SCALE: N.T.S.
 DWG. BY: LFS
 CHK. BY: RW
 DRAWING NO.: FL-41130.5
 SHEET 3 OF 9



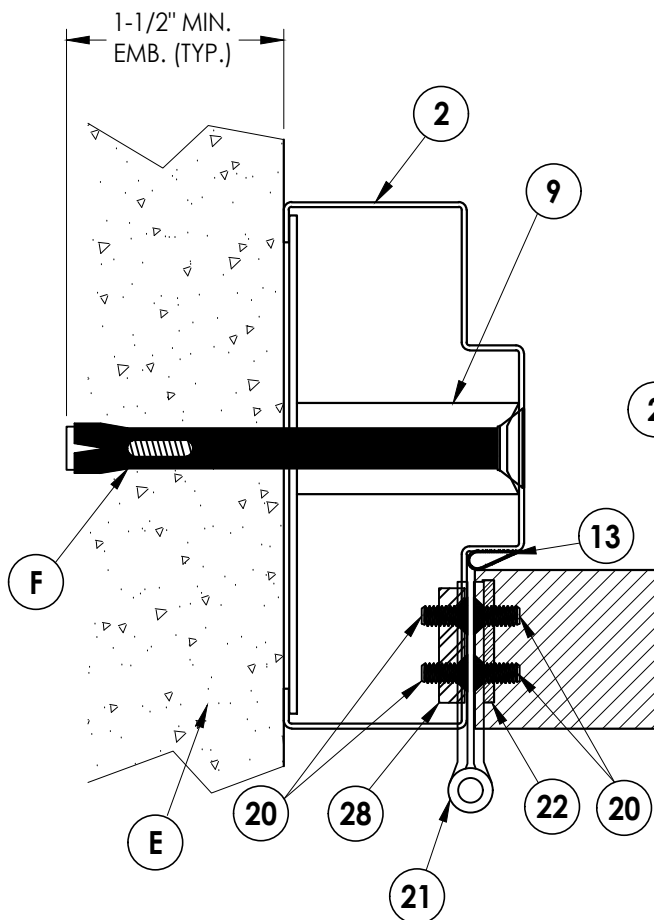
NOTE:
 1. PANIC BAR SET SCREWS (#12-24 x 5/16")
 MUST BE ACTIVATED TO ACHIEVE IMPACT
 RATING. LOCATE ONE SCREW AT TOP
 AND BOTTOM AT CENTER OF EACH PUSH
 RAIL OR LOCATE ONE SCREW AT EACH
 END OF EACH BAR.



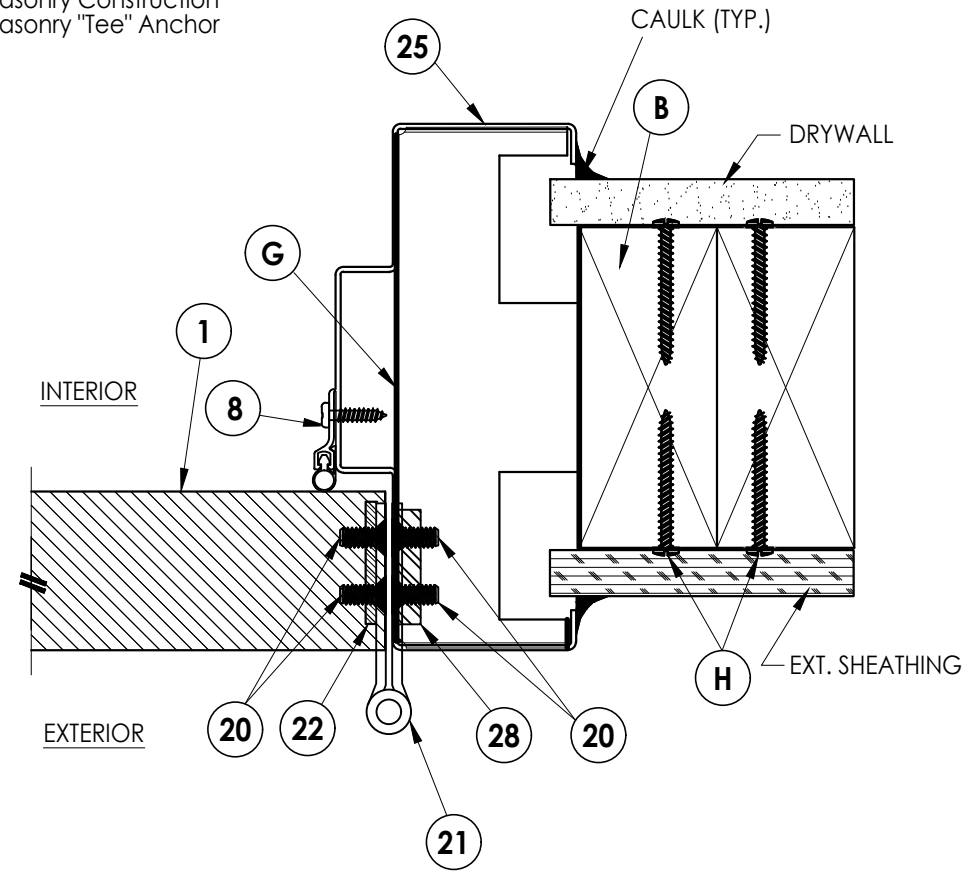
3
4 **HORIZONTAL CROSS SECTION**
 Masonry Construction
 Masonry "Tee" Anchor



2
4 **HORIZONTAL CROSS SECTION**



1
4 **HORIZONTAL CROSS SECTION**



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

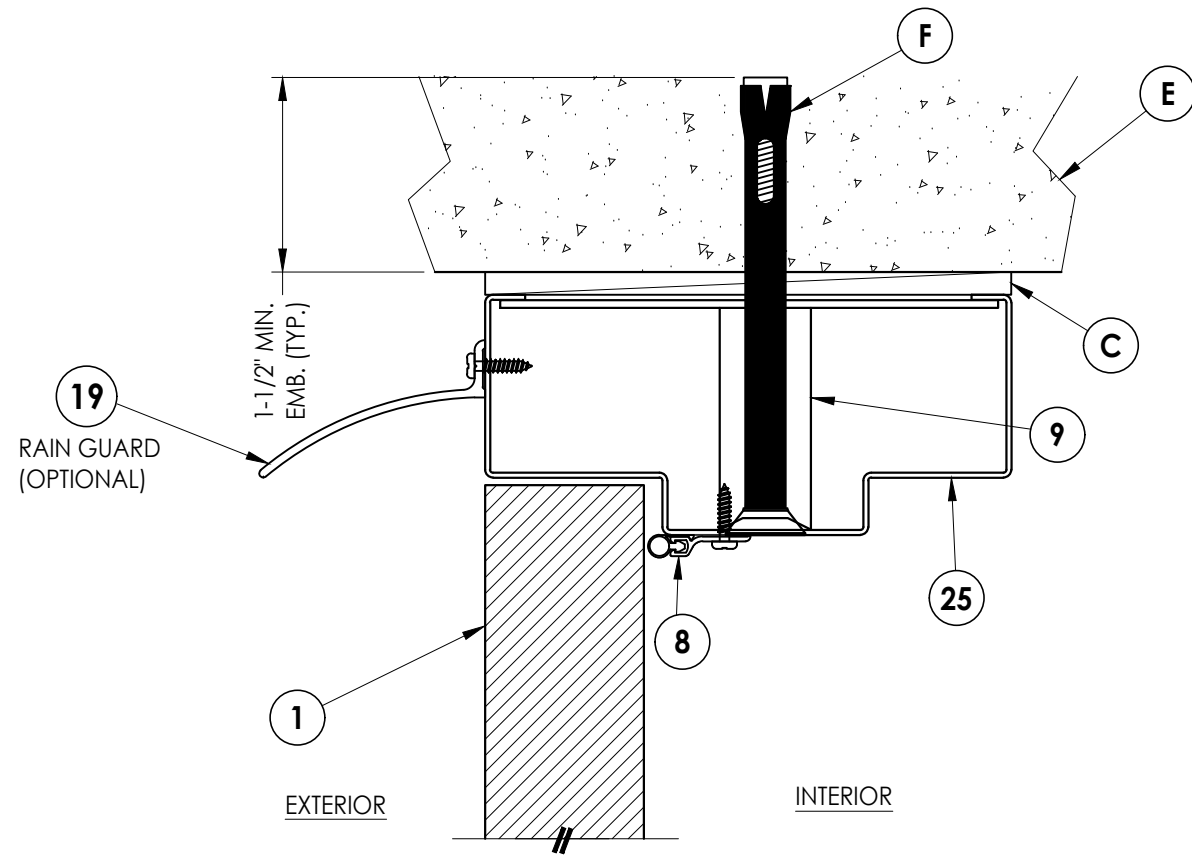
Documents Prepared By:
 Lyndon F. Schmidt
 P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
 P.O. Box 230, Valrico, FL 33595
 Phone No.: 813.659.9197
 FBPE Registry No. 9813

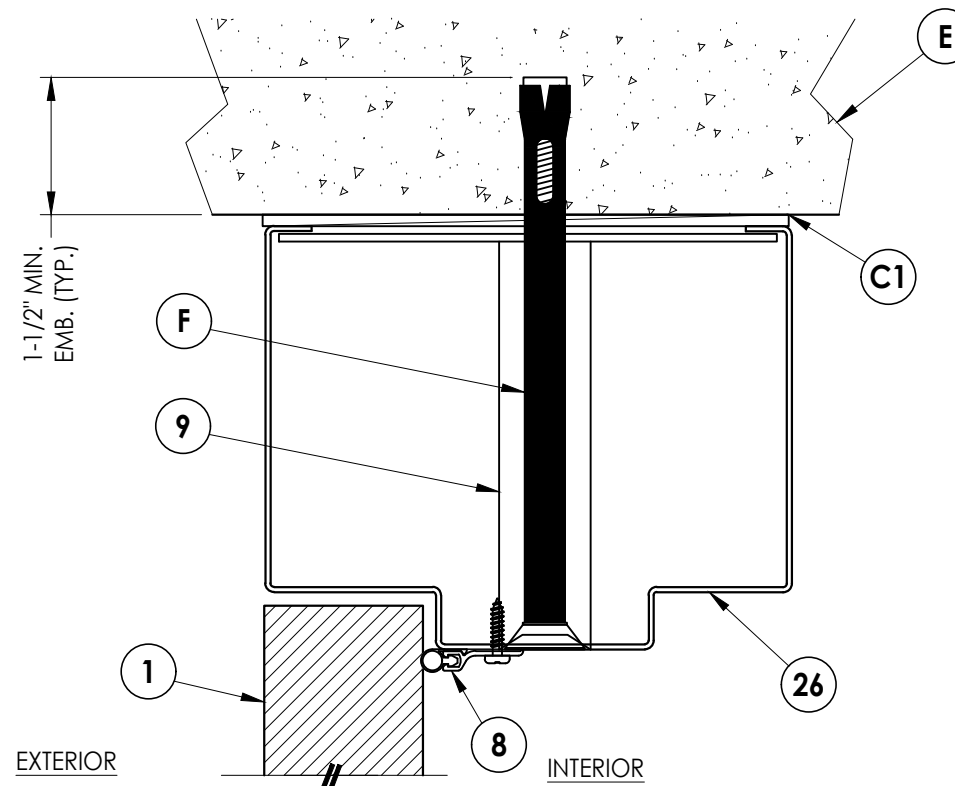
PRODUCT: DKS STEEL COMMERCIAL DOOR
 PART OR ASSEMBLY: HORIZONTAL CROSS SECTIONS

NO.	DATE	BY	REVISIONS
1	7/01/23	FBC	UPDATE TO 8TH ED. (2023)
		LFS	

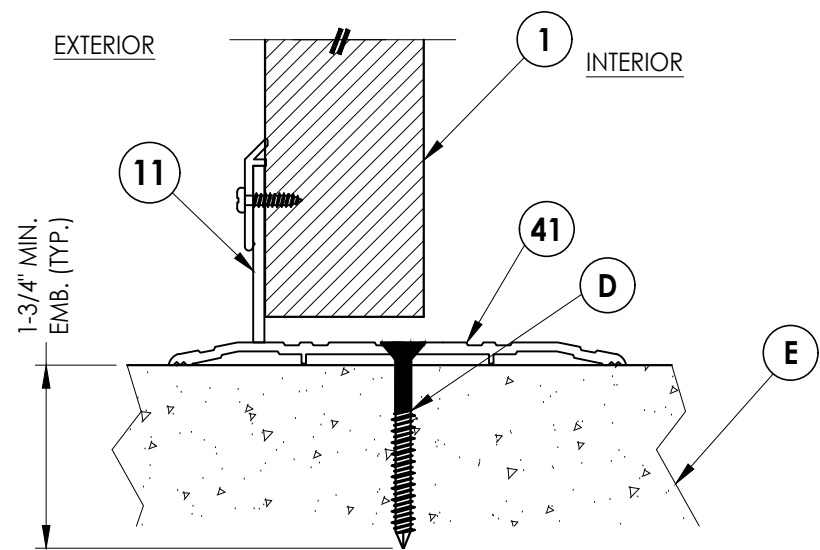
DATE: 3/21/22
 SCALE: N.T.S.
 DWG. BY: LFS
 CHK. BY: RW
 DRAWING NO.: FL-41130.5
 SHEET 4 OF 9



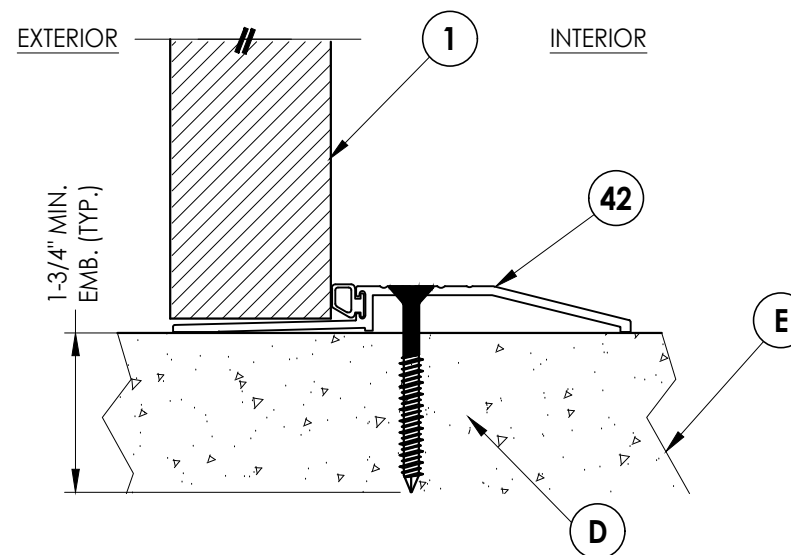
1
5 **VERTICAL CROSS SECTION**
Outswing configuration - Inswing also approved



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



3
5 **VERTICAL CROSS SECTION**
Inswing configuration



4
5 **VERTICAL CROSS SECTION**
Outswing configuration

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT:
DKS
STEEL COMMERCIAL DOOR

PART OR ASSEMBLY:
VERTICAL CROSS SECTIONS

NO.	DATE	REVISIONS
1	7/01/23	UPDATE TO 8TH ED. (2023) FBC
		LFS
		BY

DATE: 3/21/22

SCALE: N.T.S.

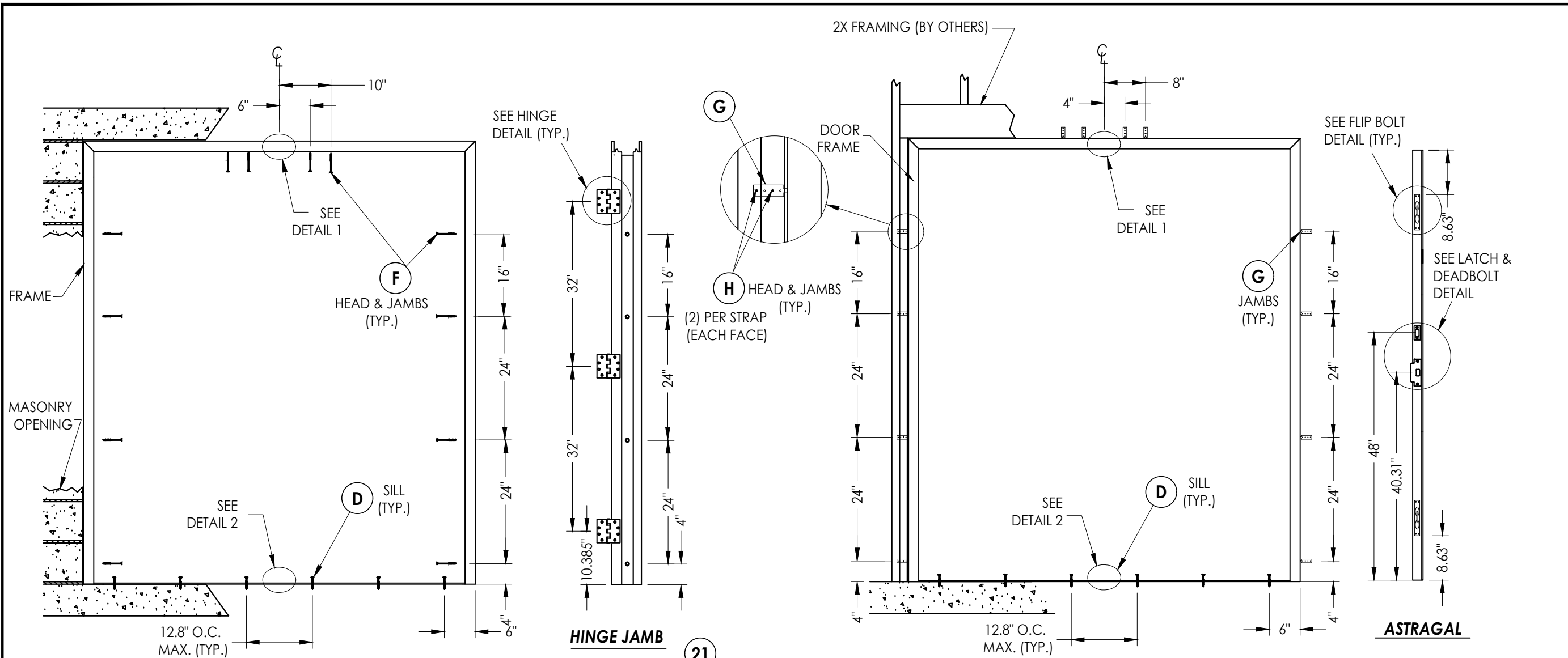
DWG. BY: LFS

CHK. BY: RW

DRAWING NO.:

FL-41130.5

SHEET 5 OF 9



FRAME ANCHORING
Masonry Construction
Concrete Anchors

CONCRETE ANCHOR NOTES:

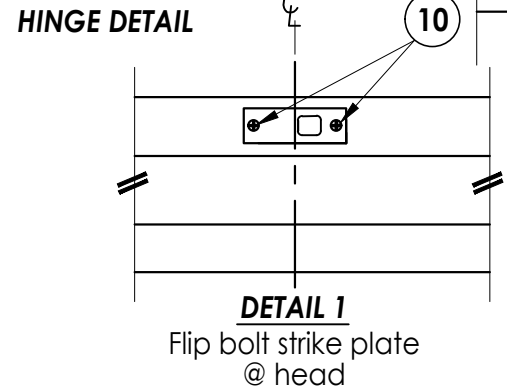
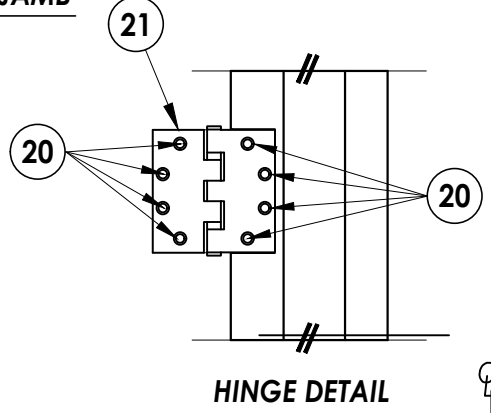
1. Substitution of equal concrete screws from a different supplier may have different edge distance and center distance requirements.
2. Concrete screw locations at the corners may be adjusted to maintain the minimum edge distance to mortar joints. If concrete screw locations noted as "MAX. ON CENTER"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

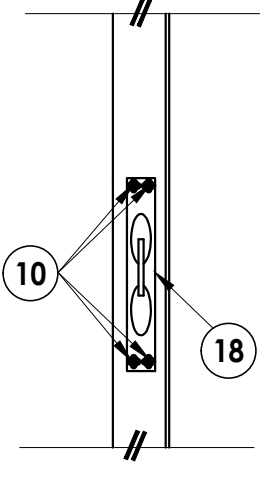
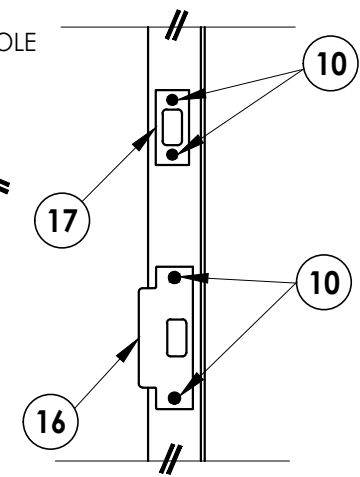
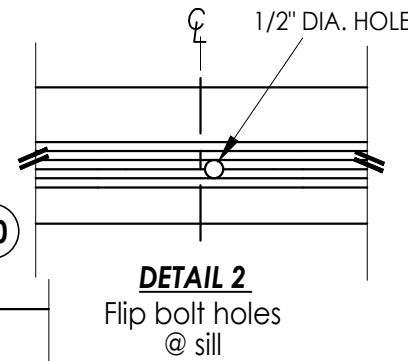
4. Embedment may be through 1-1/4" face shell of hollow block.

WOOD SCREW INSTALLATION NOTES:

1. Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.



FRAME ANCHORING
2X Stud Construction
Strap Anchors



Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

PRODUCT:
DKS
STEEL COMMERCIAL DOOR

PART OR ASSEMBLY:
FRAME ANCHORING

DATE: 3/21/22

SCALE: N.T.S.

DWG. BY: LFS

CHK. BY: RW

DRAWING NO.: FL-41130.5

SHEET 6 **OF** 9

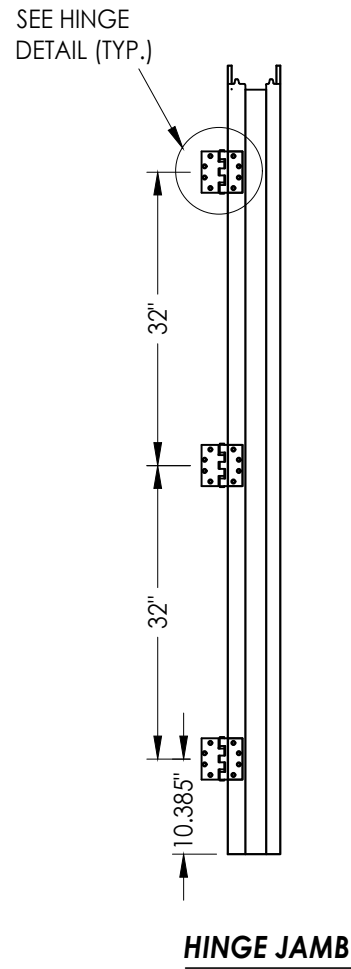
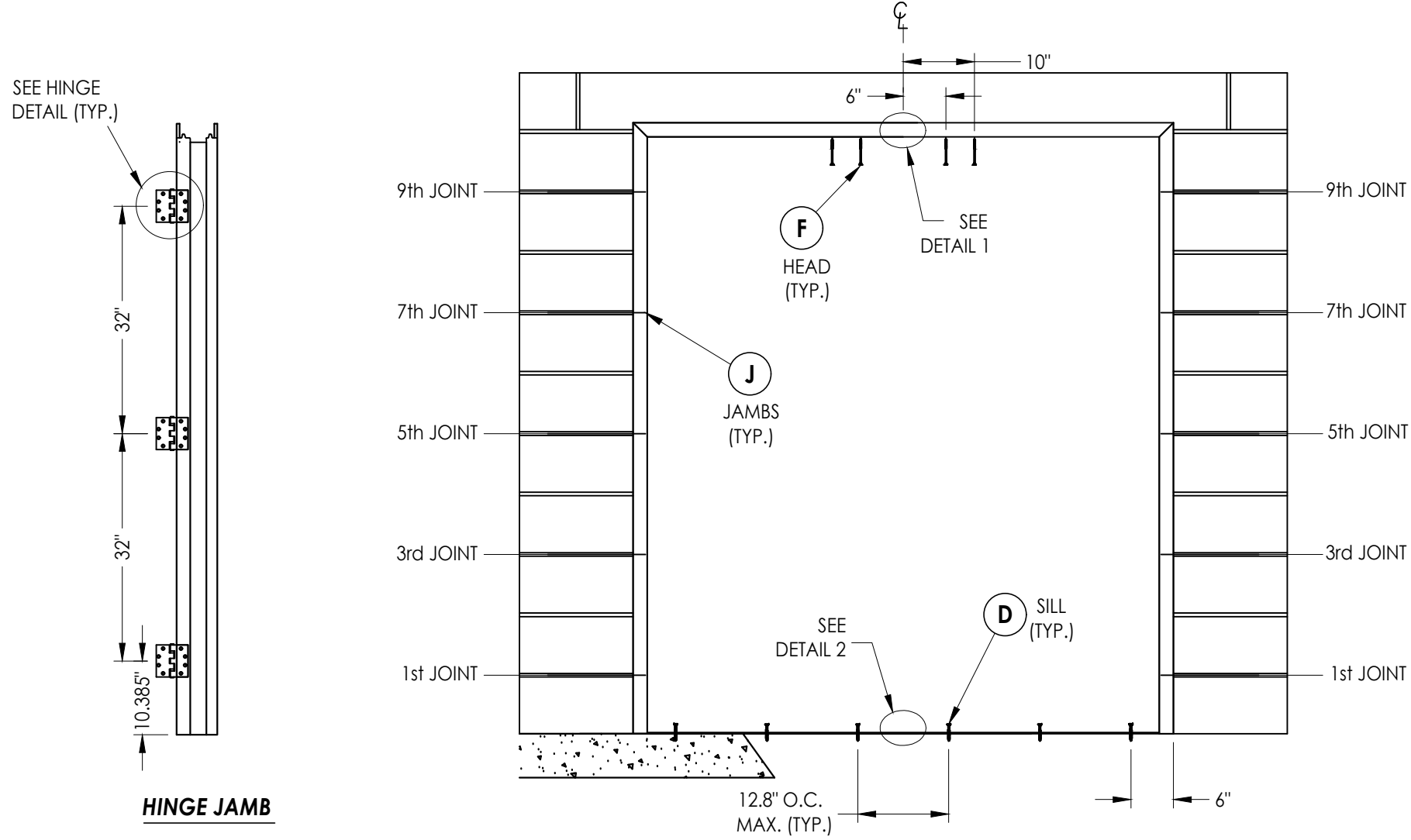
REVISIONS

NO.	DATE	DESCRIPTION	BY
1	7/01/23	UPDATE TO 8TH ED. (2023) FBC	LFS

BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

© 2022 R.W. BUILDING CONSULTANTS INC.

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

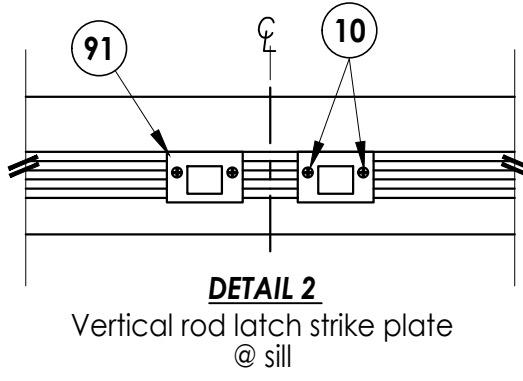
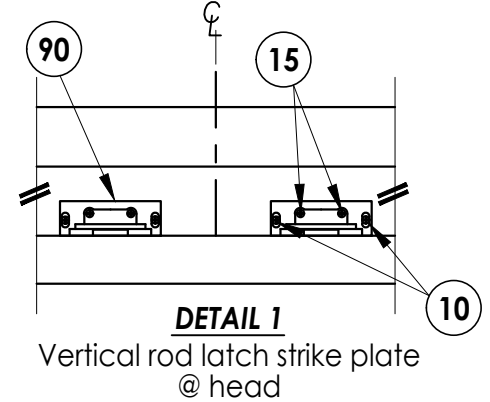
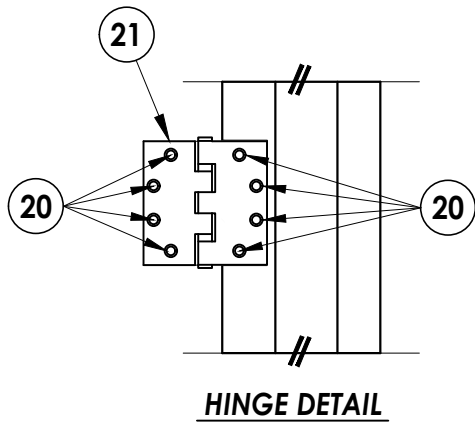


FRAME ANCHORING
Masonry Construction
Masonry "Tee" Anchors

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 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"	4"
DeWALT® ULTRACON+	1/4"	1-3/4"	1"	4"
DYNABOLT SLEEVE ANCHOR	3/8"	1-1/2"	2-1/4"	4-1/2"



Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

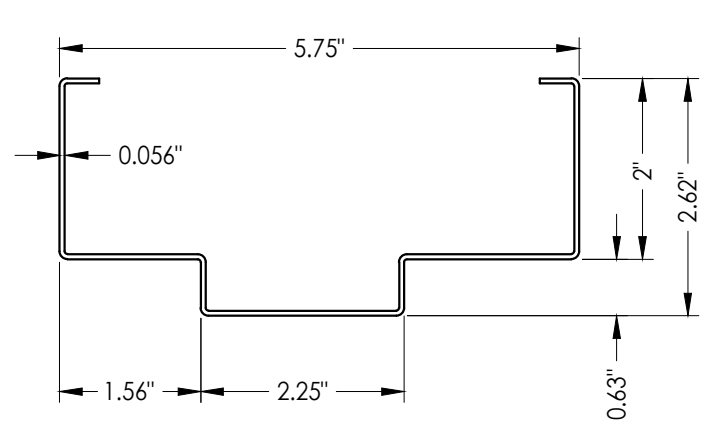
PRODUCT:
DKS STEEL COMMERCIAL DOOR

PART OR ASSEMBLY:
FRAME ANCHORING

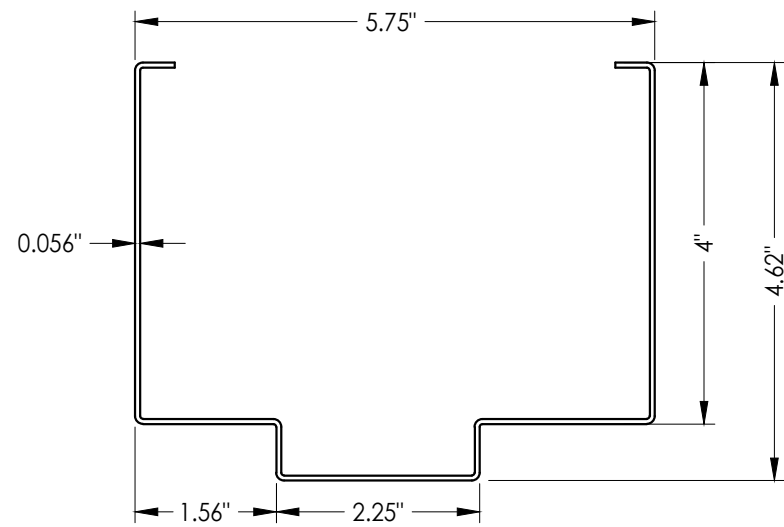
NO.	DATE	BY
1	7/01/23	LFS

UPDATE TO 8TH ED. (2023) FBC

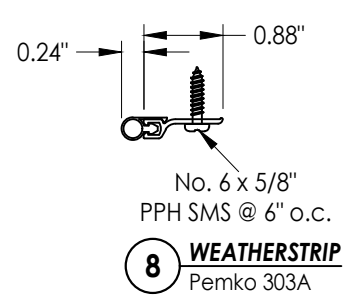
DATE: 3/21/22
SCALE: N.T.S.
DWG. BY: LFS
CHK. BY: RW
DRAWING NO.: FL-41130.5
SHEET 7 OF 9



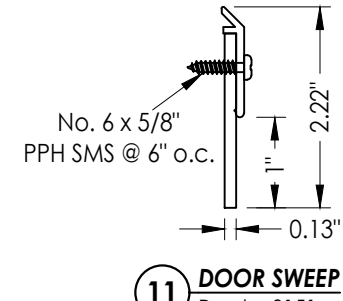
26 HOLLOW METAL FRAME
2" HEAD



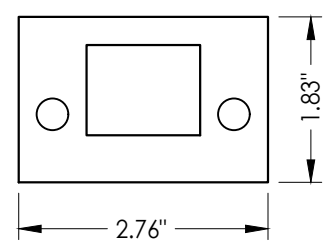
26 HOLLOW METAL FRAME
4" HEAD



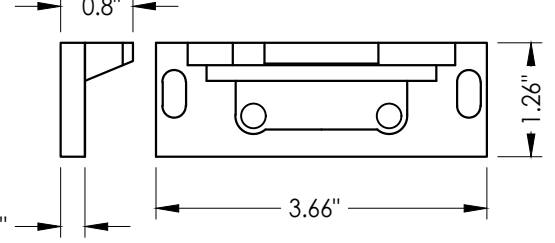
8 WEATHERSTRIP
Pemko 303A



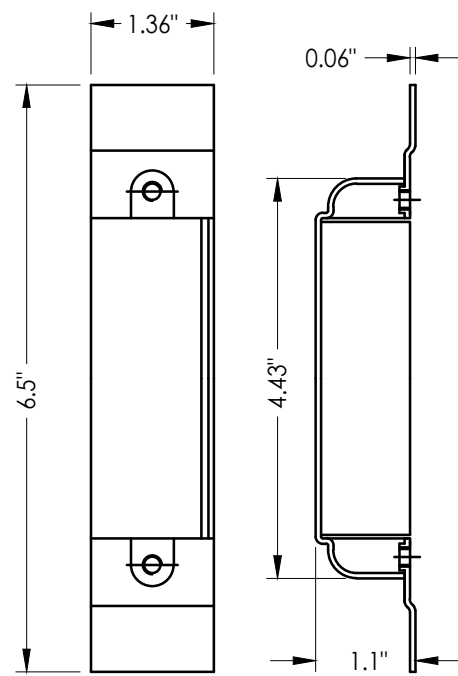
11 DOOR SWEEP
Pemko 3151



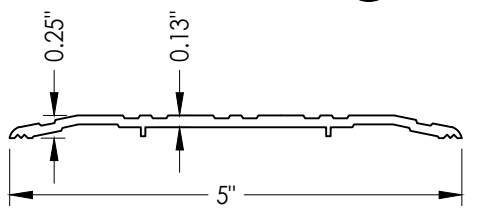
91 VERTICAL ROD LATCH STRIKE PLATE
@ Sill



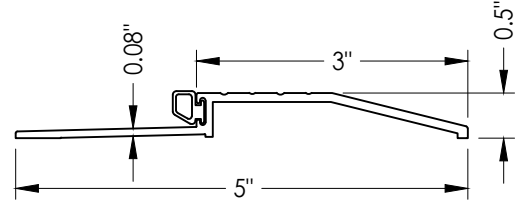
90 VERTICAL ROD LATCH STRIKE PLATE
@ Head



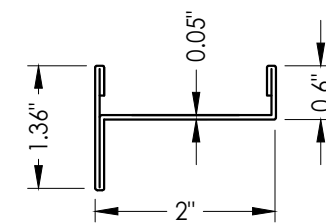
30 DOOR LATCH REINFORCEMENT



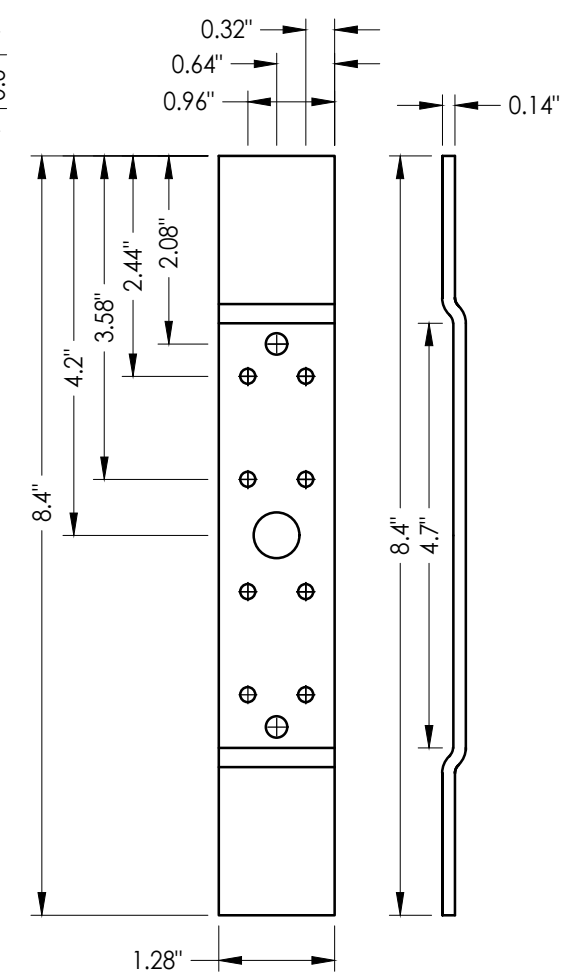
41 THRESHOLD
Pemko 271



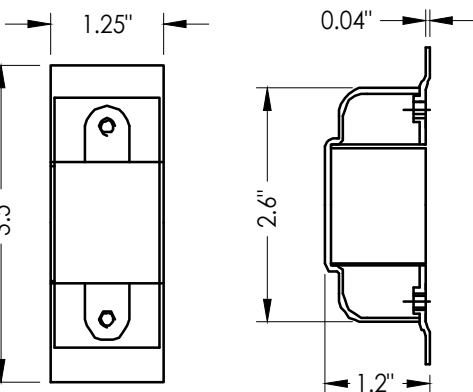
42 THRESHOLD
Pemko 2001P



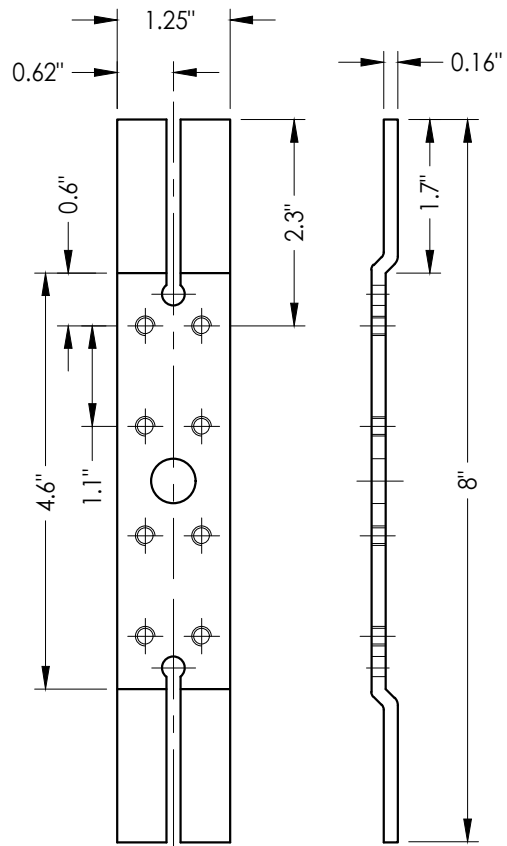
87 ASTRAGAL



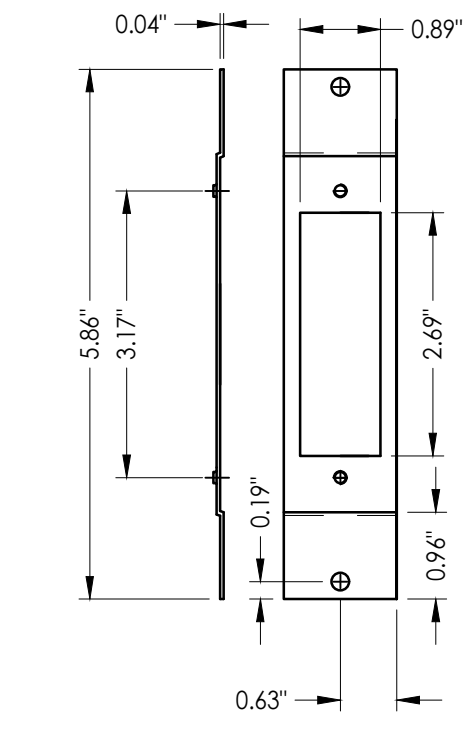
28 FRAME HINGE REINFORCEMENT



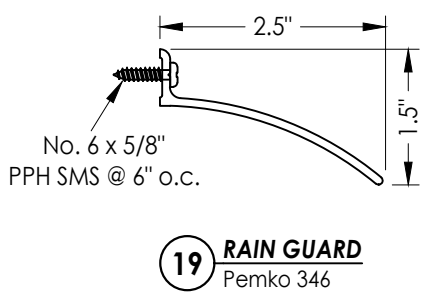
31 DOOR DEADBOLT REINFORCEMENT



22 DOOR HINGE REINFORCEMENT



27 FRAME LATCH STRIKE REINFORCEMENT



19 RAIN GUARD
Pemko 346

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

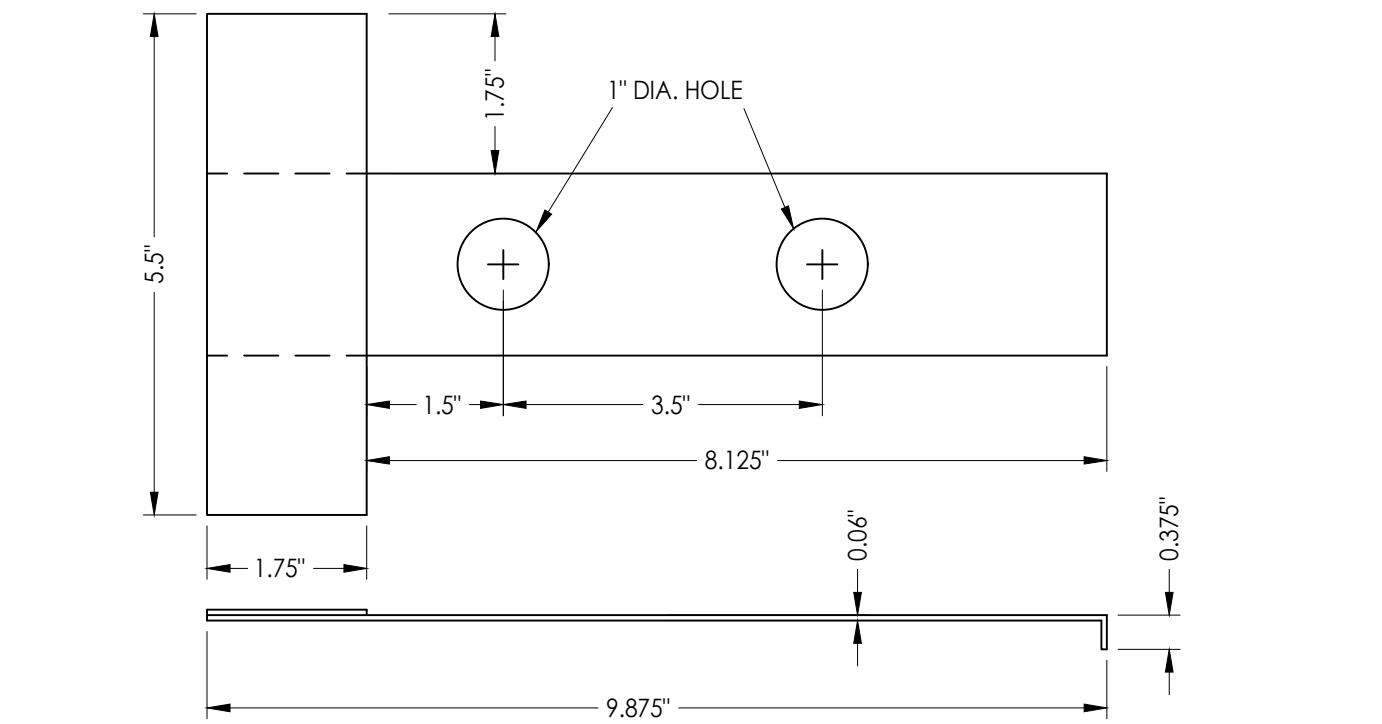
RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Vairico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT:	DKS STEEL COMMERCIAL DOOR
PART OR ASSEMBLY:	COMPONENTS

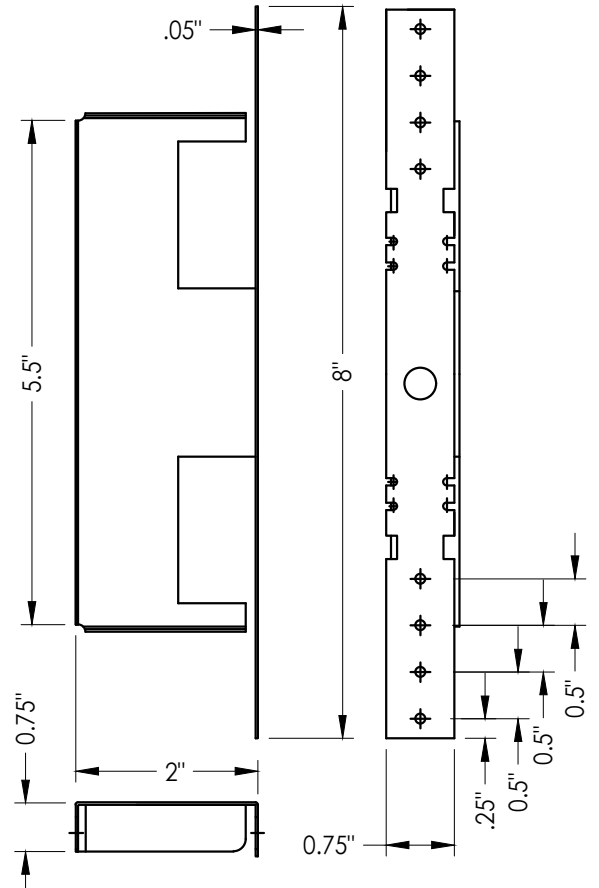
NO.	DATE	REVISIONS	LFS	BY
1	7/01/23	UPDATE TO 8TH ED. (2023)	FBC	

DATE:	3/21/22
SCALE:	N.T.S.
DWG. BY:	LFS
CHK. BY:	RW
DRAWING NO.:	FL-41130.5
SHEET	8 OF 9

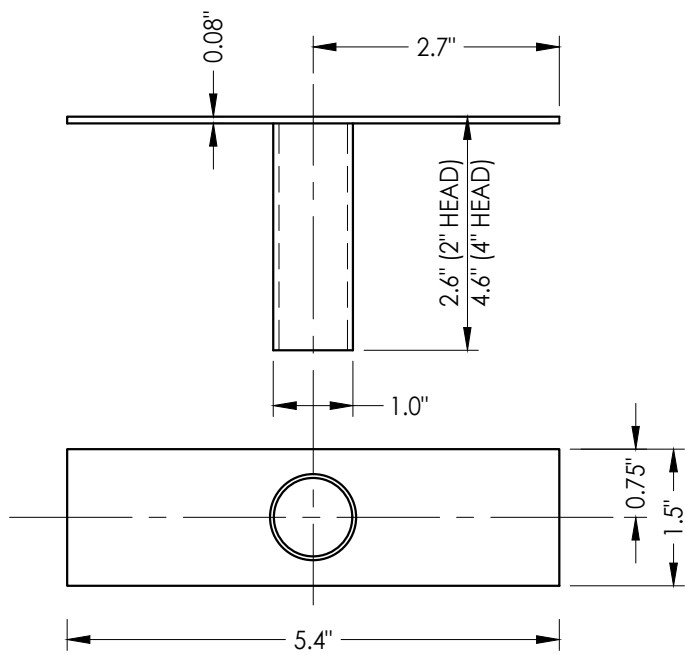
BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
B	2 X 4 FRAMING (SG >= 0.55)	-
C	1/4" MAX. SHIM SPACE	-
C1	1/8" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" PFH DeWALT OR ITW CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	3/8" PFH ITW DYNABOLT SLEEVE ANCHOR	STEEL
G	WOOD STRAP ANCHOR	STEEL
H	#8 X 1-1/2" PH WOOD SCREW (1-3/8" MIN. EMBEDMENT)	STEEL
J	MASONRY "TEE" ANCHOR	STEEL
1	DKS DOOR PANEL (ACTIVE DOOR)	-
2	DKS DOOR PANEL (INACTIVE DOOR)	-
4	DOOR TOP CHANNEL	STEEL
5	LOCK BOX REINFORCEMENT	STEEL
6	CLOSER REINFORCEMENT (11 GA.)	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	-
19	RAIN GUARD (PEMKO 346)	ALUM.
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



J MASONRY 'TEE' ANCHOR



G WOOD STRAP ANCHOR



9 TUBE ANCHOR

Documents Prepared By:
Lyndon F. Schmidt
P.E. No. 43409

RW BUILDING CONSULTANTS, INC.
P.O. Box 230, Valrico, FL 33595
Phone No.: 813.659.9197
FBPE Registry No. 9813

PRODUCT: DKS STEEL COMMERCIAL DOOR
PART OR ASSEMBLY: BILL OF MATERIALS AND COMPONENTS

NO.	DATE	BY	REVISIONS
1	7/01/23	FBC	UPDATE TO 8TH ED. (2023)

DATE: 3/21/22
SCALE: N.T.S.
DWG. BY: LFS
CHK. BY: RW
DRAWING NO.: FL-41130.5
SHEET 9 OF 9

© 2022 R.W. BUILDING CONSULTANTS INC.