

SHEETS CONTENT:

- SHEET #1 INDEX, COVER SHEET & GENERAL NOTES
SHEET #2 ASSEMBLY ELEVATIONS No 1, 2, 3.
SHEET #3 ASSEMBLY ELEVATIONS No 7, 7-EMB.
SHEET #3A MAX. DESIGN PRESSURE RATING SCHEDULE (PSF)
SHEET #4 OPTIONAL EMBOSSED DOOR SHEET CONFIGURATIONS.
SHEET #5 HORIZONTAL SECTIONS A-A & B-B.
SHEET #6 HORIZONTAL SECTIONS C-C & C'-C'.
SHEET #7 VERTICAL SECTIONS D-D, E, F, G, H, I AND HORIZONTAL SECTION J-J
SHEET #8 MODEL 1500-A AIR LOUVER DETAILS.
SHEET #9 FRAME SECTIONS, & REINFORCING DETAILS AND THRESHOLD DETAIL
SHEET #10 TYPICAL DOOR SECTION, "Z" ASTRAGAL & ASA STRIKE REINFORCING
SHEET #11 MULLION INSTALLATION DETAILS.
SHEET #12 SURFACE BOLT INSTALLATION AND DETAILS.
SHEET #13 DOOR TOP AND BOTTOM TYPICAL END CHANNEL DETAIL.
DOOR SURFACE CLOSER REINFORCEMENT DETAIL.
DOOR SURFACE CLOSER AND END CHANNEL ASSEMBLY.
SHEET #14 DOOR SNAP IN TOP CAP DETAILS.
SHEET #15 HINGE BAR REINFORCING FOR DOOR
ANSI #A115.1 #86 MORTISE LOCK/RIM PANIC REINFORCING
DOOR SURFACE BOLT REINFORCING DETAIL.
SHEET #16 #161 CYLINDRICAL LOCK AND DEAD BOLT REINFORCEMENT DETAIL.
SHEET #17 ANCHOR DETAILS.
SHEET #18 ANCHOR SCHEDULE.
WIRE ANCHOR DETAIL.
2 PIECES COMBINATION STUD ANCHOR DETAIL.
EMA BUTTERFLY ANCHOR DETAIL.
SHEET #19 BILL OF MATERIALS.

MAX. A.S.D. DESIGN PRESSURE RATINGS (psf) REQUIREMENTS FOR ASSEMBLIES. * * SEE SHEETS 2 & 3 FOR ASSEMBLY DEFINITIONS

ASSEMBLY #	WHERE WATER INFILTRATION REQUIREMENT IS NEEDED **	WHERE WATER INFILTRATION REQUIREMENT IS <u>NOT</u> NEEDED
1	+ 65, - 65	+ 65, - 65
2	+ 65, - 65	+ 65, - 65
3	+ 65, - 65	+ 65, - 65
7	+ 65, - 53.3	+ 65, - 53.3
7-EMB	+ 65, - 53.3	+ 65, - 53.3

** APPROVED ONLY WHEN CANOPY IS PROVIDED IMMEDIATELY ABOVE THE DOOR LOCATION COVERING THE ENTIRE WIDTH OF DOOR AND PROJECTING OUT A DISTANCE EQUAL OR LARGER THAN THE DOORS HEIGHT.
NOT APPROVED IF THE ABOVE CONDITION IS NOT COMPLIED WITH.

THIS DOOR WAS NOT TESTED FOR AIR INFILTRATION

THIS DRAWING SHALL ONLY BE USED TO OBTAIN PERMITS IN THE STATE OF FLORIDA

GENERAL NOTES AND SPECIFICATIONS:

1. DOUBLE & SINGLE SERIES LS18 FLUSH/EMBOSSED OUTSWING COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE STEEL FRAME LOUVERED ASSEMBLIES, SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR CODE COMPLIANCE IN ACCORDANCE WITH THE **2023 (8th EDITION)** OF THE FLORIDA BUILDING CODE. DOOR MAY BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES (MIAMI-DADE / BROWARD COUNTIES).
DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTIONS **1620** OF THE ABOVE MENTIONED CODES, USING **ASCE 7-22** AND SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 1 & 3A.
IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESIGN WIND LOADS DETERMINED PER **ASCE 7-22** SHALL BE FIRST REDUCED TO A.S.D. DESIGN WIND LOADS BY MULTIPLYING THEM BY 0.6 IN ORDER TO COMPARE THESE W/ MAX. (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 1 & 3A.

IN ORDER TO VERIFY THAT COMPONENTS AND ANCHORS ON THIS P.A.D., AS TESTED, WERE NOT OVER STRESSED, A 33% INCREASE IN ALLOWABLE LOADS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS. HOWEVER, FASTENERS SPACING TO WOOD HAS BEEN DETERMINED IN ACCORDANCE WITH **N.D.S. 2018**.
THIS DOOR'S ADEQUACY FOR WIND AND IMPACT LOAD HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1626 OF THE ABOVE MENTIONED CODE AS PER PROTOCOLS TAS-201, TAS-202, TAS-203 AS PER HURRICANE TEST LABORATORY REPORT #0279-0719-03 AND AS PER SUBMITTED STRUCTURAL CALCULATIONS, PERFORMED AS PER SECTION **1616** OF THE FLORIDA BUILDING CODE.

2. ALL COMPONENTS SHALL BE AS SPECIFIED ON APPLICABLE DETAIL SHEETS AND AT BILL OF MATERIALS (SHEET 19) OF THIS DRAWING.

3. COMPLIANCE OF EGRESS / ESCAPE REQUIREMENTS OF THESE DOORS PER FBC TO BE DETERMINED BY BUILDING OFFICIALS ON A CASE-BY-CASE BASIS.

4. ALL SCREWS USED FOR ASSEMBLY CONNECTIONS (METAL TO METAL) TO BE STAINLESS STEEL 304 OR 316 AISI SERIES OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 WITH 50 ksi YIELD POINT AND 90 ksi TENSILE STRENGTH & SHALL COMPLY W/ FLORIDA BUILDING CODE SECTION 2411.3.3.4.

5. ALL WELDING TO CONFORM W/AMERICAN WELDING SOCIETY A.W.S. D.1.3 AND D-19.0 REGULATIONS. USE E 60XX ELECTRODES

6. ALL ANCHORS FOR DOOR FRAME CONNECTIONS TO EXISTING STRUCTURE SHALL BE AS SPECIFIED ON SHEET 17 OF THIS DRAWING. MAXIMUM ANCHORS SPACINGS SHALL BE AS PER SCHEDULE ON SHEET 18 AND ELEVATIONS ON SHEETS 2 & 3 OF THIS DRAWING. SEE SHEET 2, 3 & 7 FOR THRESHOLD ANCHORS, AND SHEET 11 FOR MULLION ANCHORS.

7. PROVIDE MAX. LOAD BEARING SHIM SPACE AS INDICATED ON SHEETS 5, 6, 7 & 17 OF 19.

8. **THIS DOOR WILL NOT REQUIRE A HURRICANE PROTECTION DEVICE.**

9. SEE MAX. A.S.D. DESIGN PRESSURE RATING REQUIREMENTS FOR WATER INFILTRATION AND LIMITATIONS FOR AIR INFILTRATION FOR ASSEMBLIES ON THIS SHEET.

10. PROVIDE SPECIFIED SEALANT AT ALL DOOR FRAME, THRESHOLD AND VISION LITE COMPONENTS INDICATED ON THIS DRAWING.

11. (a) THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; i.e. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.

(b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT, BASED ON THIS P.E.D., PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.

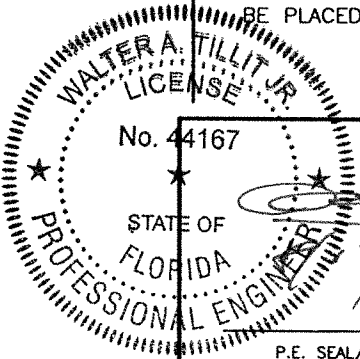
(c) THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

(d) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D.

(e) ORIGINAL P.E.D. SHALL BEAR THE DATE, SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

12. PRODUCT'S MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT DOOR. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABELING TO COMPLY WITH SECTION 1709.5 OF THE FLORIDA BUILDING CODE.

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)



P.E. SEAL/SIGNATURE/DATE

©2023 TILTECO, INC.

TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD
50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

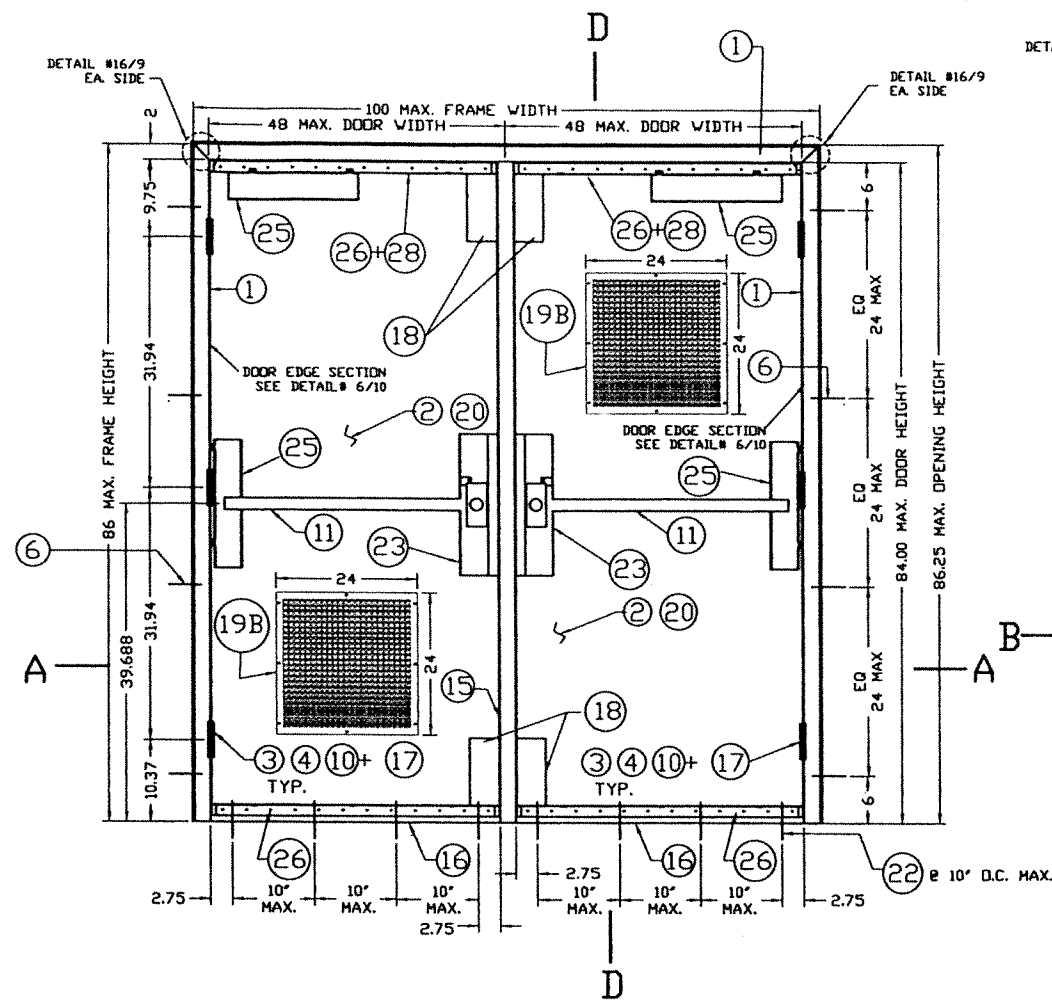
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

Y.M.
DRAWN BY

08/17/2023
DATE

23-180
DRAWING No

SHEET 1 OF 19



ASSEMBLY #1, * INTERIOR ELEVATION

PAIR OF OUTSWING DOORS

WALL CONDITION: MASONRY

ANCHORS: WIRE (6) DETAIL #21

VON DUPRIN 98/99L TRIM SERIES RIM EXIT (1)

AT BOTH DOORS

4 1/2" HAGER MODEL #BB1168 STEEL BUTT HINGE AND

4 1/2" STANLEY MODEL #FBB168 STEEL BUTT HINGE (10)

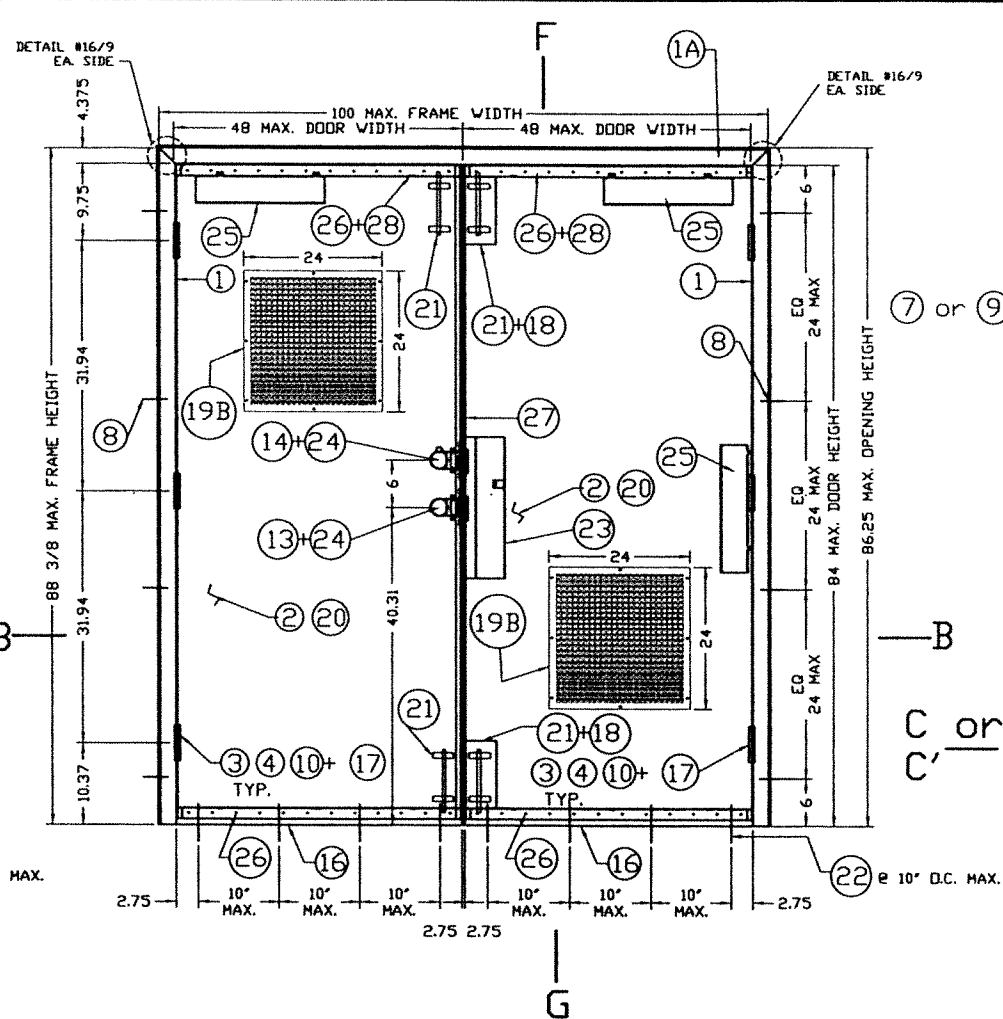
VON DUPRIN 9954 REMOVABLE MULLION (15)

(FOR DOUBLE DOOR ONLY)

DOOR CORE ITEM (20): EXPANDED POLYSTYRENE OR HONEYCOMB PAPER OR 1.5PCF POLYURETHANE OR 12.5PCF MINERAL BOARD FULL FLUSH

AIR LOUVER INC. METAL LOUVER #1500A (19B), W/24"x24" (DOOR CUTOUT) AND LOCATED AT 12" CLEAR FROM TOP OR BOTTOM OF DOOR AND CENTERED W/ DOOR

OUTSWING SINGLE & DOUBLE DOORS
W/ VON DUPRIN RIM PANIC DEVICES



ASSEMBLY #2, * INTERIOR ELEVATION

PAIR OF OUTSWING DOORS

WALL CONDITION: MASONRY

ANCHORS: EMA EXISTING MASONRY ANCHOR DET. #22

SCH-D SERIES CYLINDRICAL LOCK (13) + SCH-B SERIES DEAD BOLT (14) HAGER #275D SURFACE BOLTS (2) (TOP & BOTTOM) AT TWO DOORS

4 1/2" HAGER MODEL #BB1279 STEEL BUTT HINGE AND

4 1/2" STANLEY MODEL #FB179 STEEL BUTT HINGE (10)

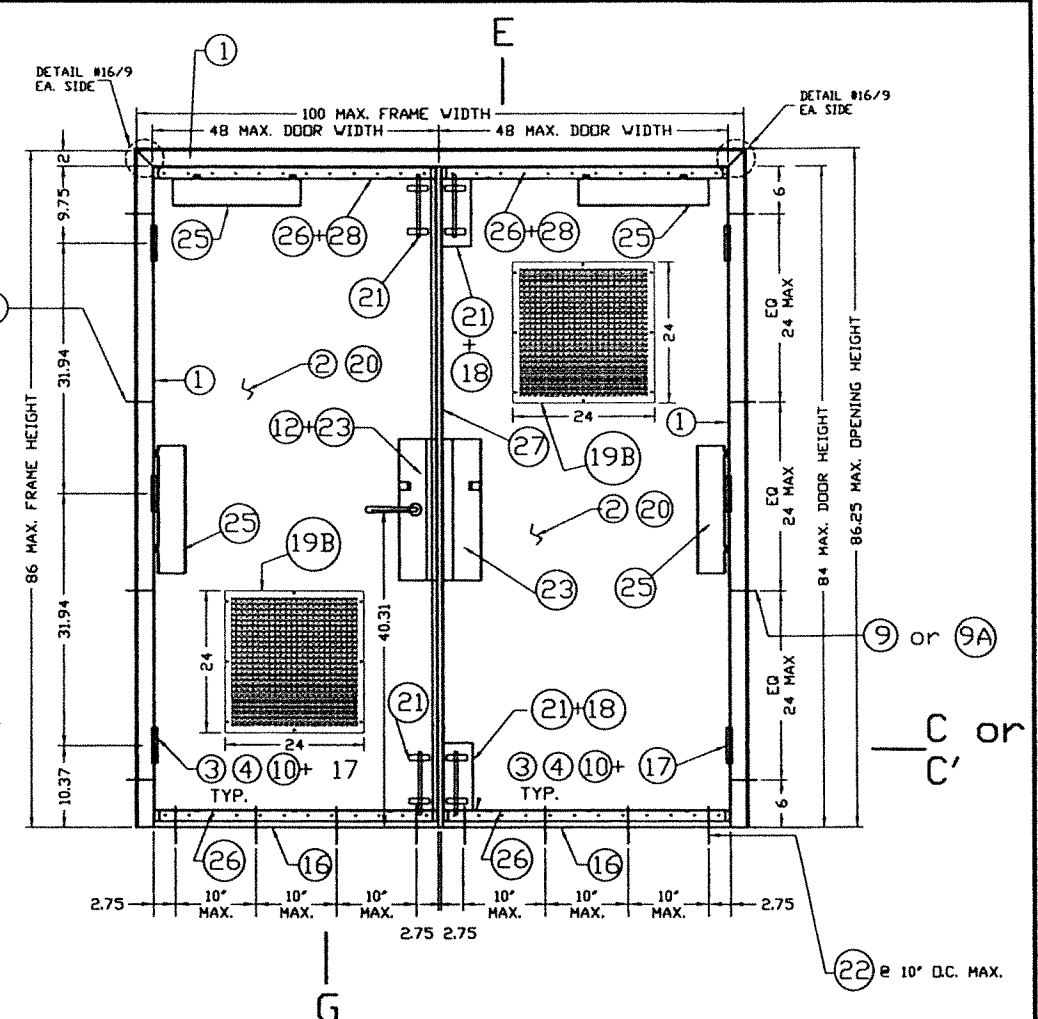
"Z" ASTRAGAL (27) W/ ASA STRIKE

FOR CYLINDRICAL LOCK AND DEAD BOLT STRIKE

DOOR CORE (20): EXPANDED POLYSTYRENE OR HONEYCOMB PAPER OR 1.5PCF POLYURETHANE OR 12.5PCF MINERAL BOARD FULL FLUSH

AIR LOUVER INC. METAL LOUVER #1500A (19B), W/24"x24" (DOOR CUTOUT) AND LOCATED AT 12" CLEAR FROM TOP OR BOTTOM OF DOOR AND CENTERED W/ DOOR

OUTSWING SINGLE DOOR W/ TWO SURFACE BOLTS
& DOUBLE DOORS W/ FOUR SURFACE BOLTS



ASSEMBLY #3, * INTERIOR ELEVATION

PAIR OF OUTSWING DOORS

WALL CONDITION: WOOD STUDS

ANCHORS: 2 PIECE COMBINATION STUD ANCHOR (7) DETAIL #20 OR CARRIAGE BOLT (9A) W/ EMA (DET. #22A) OR WOOD SCREW LAG BOLT (9) W/ EMA (DETAIL #22B)

SCH-L9000 SERIES #86 MORTISE LOCK (12) (W/ DEAD BOLT INCLUDED)

HAGER #275D SURFACE BOLTS (2) (TOP & BOTTOM) AT TWO DOORS

4 1/2" HAGER MODEL #BB1279 STEEL BUTT HINGE AND

4 1/2" STANLEY MODEL #FB179 STEEL BUTT HINGE (10)

"Z" ASTRAGAL (27) W/ ASA STRIKE FOR MORTISE LOCK

DOOR CORE (20): EXPANDED POLYSTYRENE OR HONEYCOMB PAPER OR 1.5PCF POLYURETHANE OR 12.5PCF MINERAL BOARD FULL FLUSH

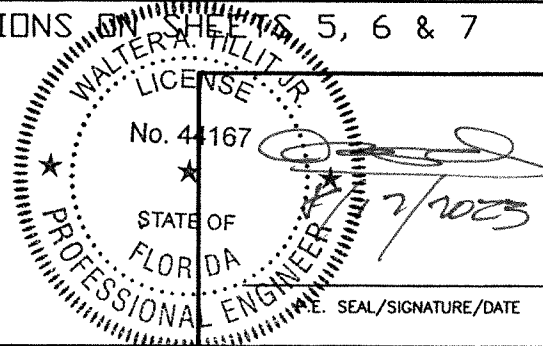
AIR LOUVER INC. METAL LOUVER #1500A (19B), W/24"x24" (DOOR CUTOUT) AND LOCATED AT 12" CLEAR FROM TOP OR BOTTOM OF DOOR AND CENTERED W/ DOOR

OUTSWING SINGLE DOOR W/ TWO SURFACE BOLTS
& DOUBLE DOORS W/ FOUR SURFACE BOLTS

ASSEMBLY ELEVATIONS #1, 2 & 3

SEE SECTIONS ON SHEETS 5, 6 & 7

- SEE SHEET 1 FOR MAXIMUM A.S.D. DESIGN PRESSURE RATING FOR EACH ASSEMBLY, BASED ON WATER INFILTRATION REQUIREMENTS AND AIR INFILTRATION LIMITATIONS.
- SEE SHEET 3A FOR MAXIMUM A.S.D. DESIGN PRESSURE RATING SCHEDULE FOR ASSEMBLY COMBINATIONS, BASED ON WATER INFILTRATION REQUIREMENTS AND AIR INFILTRATION LIMITATIONS.



©2023 TILTECO, INC.

TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone: (305)871-1530 • Fax: (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT JR. P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD

50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

Y.M.
DRAWN BY

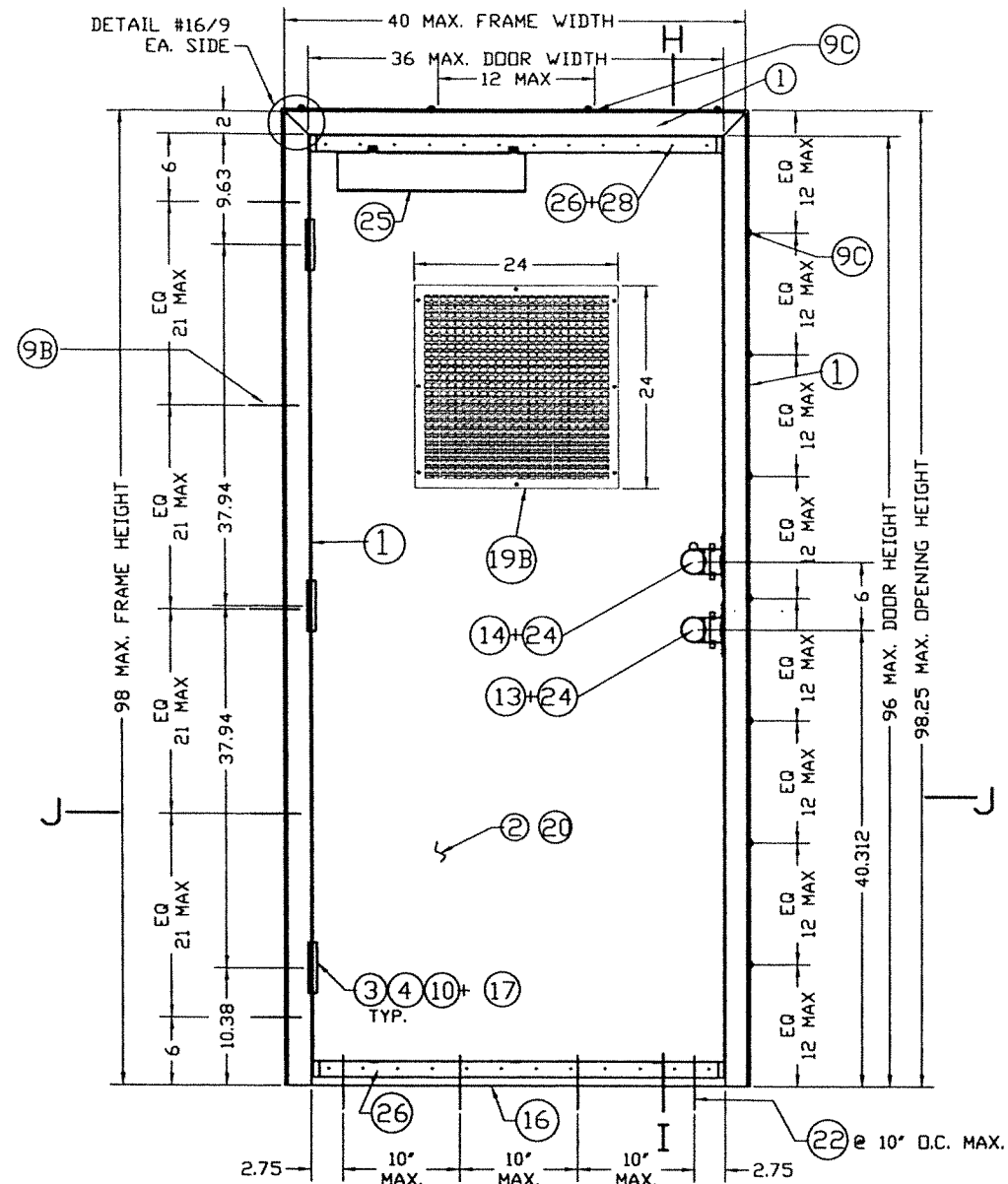
08/17/2023
DATE

23-180
DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

SHEET 2 OF 19

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)



ASSEMBLY #7 * EXTERIOR ELEVATION
SINGLE DOOR OUTSWING
WALL CONDITION - WELDED HOT ROLLED

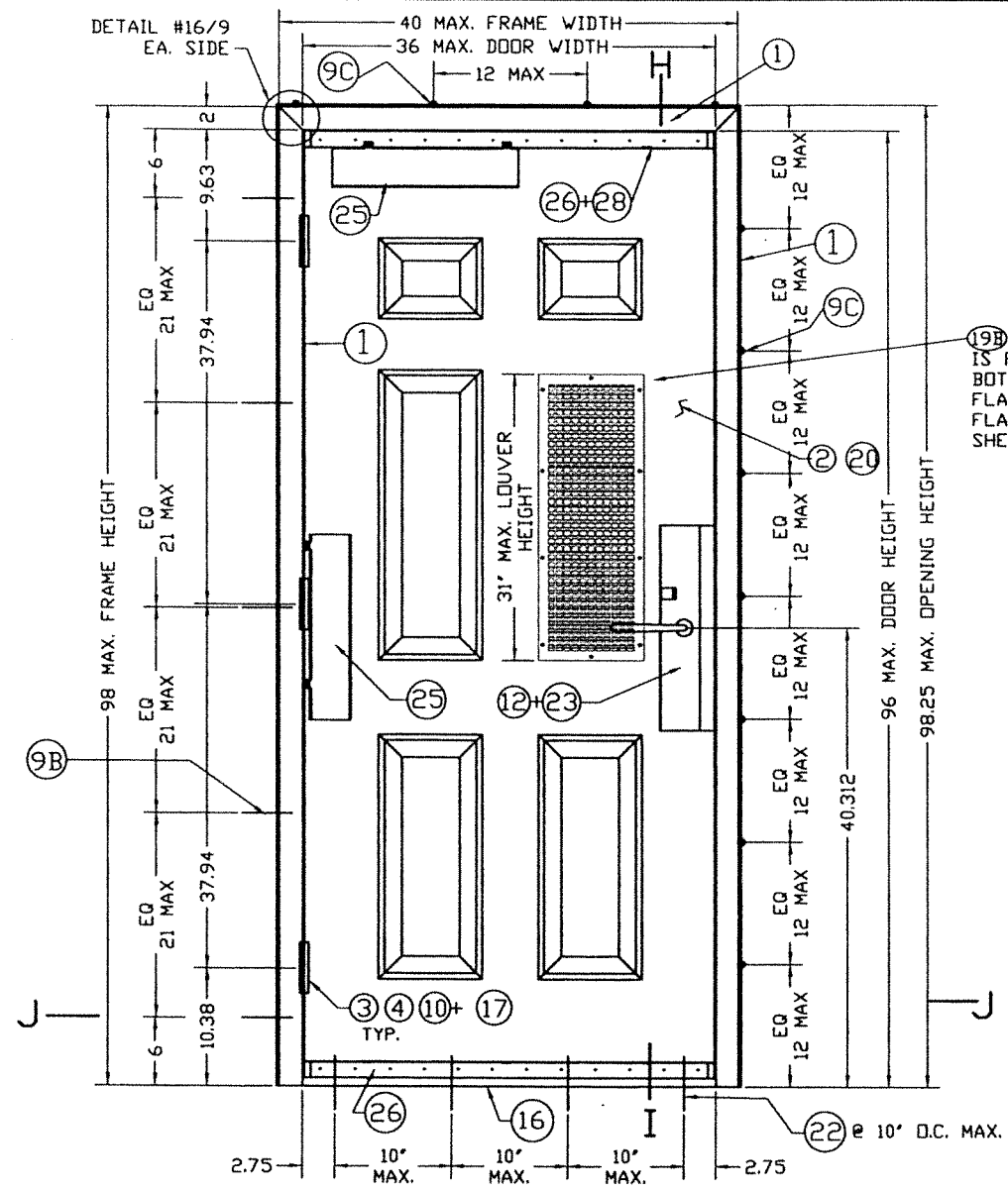
3/8" MIN. THICK STRUCTURAL STEEL CHANNEL FRAME JAMB AND HEAD.
ANCHORS: 3/8"x3 1/2" FLAT HEAD MACHINE SCREW, LOCK WASHER & NUT W/ EMA (DET #23A), OR FRAME (1) WELDED @ 12" O.C. AT JAMB AND HEAD INCLUDING TOP & BOTTOM OF JAMB (DET #23B).
SCH-D SERIES CYLINDRICAL LOCK (13) + SCH-B SERIES DEAD BOLT (14)
4 1/2" HAGER MODEL # BB1279 STEEL BUTT HINGE (10)
DOOR CORE (20) EXPANDED POLYSTYRENE OR HONEYCOMB PAPER OR 1.5PCF POLYURETHANE OR 12.5PCF MINERAL BOARD. FULL FLUSH
AIR LOUVER INC., METAL LOUVER #1500-A (19B) W/ 24"x24" DOOR CUT-OFF, AND LOCATED AT 12" FROM TOP OF DOOR TO TOP OF LOUVER

OUTSWING SINGLE DOORS WITHOUT SURFACE BOLTS

- SEE SHEET 1 FOR MAXIMUM A.S.D. DESIGN PRESSURE RATING FOR EACH ASSEMBLY, BASED ON WATER INFILTRATION REQUIREMENTS AND AIR INFILTRATION LIMITATIONS.
- SEE SHEET 3A FOR MAXIMUM A.S.D. DESIGN PRESSURE RATING SCHEDULE FOR ASSEMBLY COMBINATIONS, BASED ON WATER INFILTRATION REQUIREMENTS AND AIR INFILTRATION LIMITATIONS.

ASSEMBLY ELEVATIONS
#7, 7-EMB

SEE SECTIONS ON SHEET

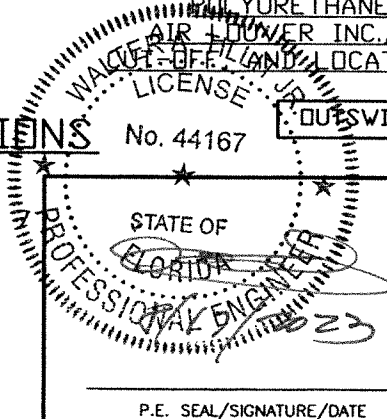


ASSEMBLY * #7-EMB EXTERIOR ELEVATION
SINGLE DOOR OUTSWING
WALL CONDITION - WELDED HOT ROLLED

STRUCTURAL STEEL CHANNEL FRAME JAMB AND HEAD.
ANCHORS: 3/8"x3 1/2" FLAT HEAD MACHINE SCREW, LOCK WASHER & NUT W/ EMA (DET #23A), OR FRAME (1) WELDED @ 12" O.C. AT JAMB AND HEAD INCLUDING TOP & BOTTOM OF JAMB (DET #23B).
SCH-L SERIES #86 MORTISE LOCK (12) W/ DEAD BOLT INCLUDED.
4 1/2" HAGER MODEL # BB1279 STEEL BUTT HINGE (10)
DOOR CORE (20) EXPANDED POLYSTYRENE OR HONEYCOMB PAPER OR 1.5PCF POLYURETHANE OR 12.5PCF MINERAL BOARD. FULL EMBOSSED
AIR LOUVER INC., METAL LOUVER #1500-A (19B) W/ 24"x24" DOOR CUT-OFF, AND LOCATED AT 12" FROM TOP OF DOOR TO TOP OF LOUVER

OUTSWING SINGLE DOORS WITHOUT SURFACE BOLTS

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)



©2023 TILTECO, INC.
TILTECO Inc.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone: (305)871-1530 Fax: (305)871-1531
e-mail: tiltco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD

50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

Y.M.
DRAWN BY

08/17/2023
DATE

23-180
DRAWING No

SHEET 3 OF 19

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

MAX. A.S.D. DESIGN PRESSURE RATING (psf.) SCHEDULE FOR INSTALLATIONS COMBINING ASSEMBLIES #1 THRU #7-EMB BETWEEN EACH OTHER FOR A GIVEN ANCHOR JAMB TYPE *, **

ITEM (SEE SHEET 19)	ANCHOR SPECIFICATIONS AT JAMBS *	ASSEMBLY #1 (SEE SHEET 2) **	ASSEMBLY #2 (SEE SHEET 2) **	ASSEMBLY #3 (SEE SHEET 2) **	ASSEMBLY #7 (SEE SHEET 3) **	ASSEMBLY #7-EMB (SEE SHEET 3) **
6	0.157" DIA.x9 1/2" LONG WIRE ANCHOR (SEE DETAIL 21/17)	+65, -65	+65, -65	+65, -65	+65, -53.3	+65, -53.3
7	2 PIECE COMBINATION STUD ANCHOR (SEE DETAIL 20/17)	+65, -65	+65, -65	+65, -65	+65, -53.3	+65, -53.3
8	EXISTING MASONRY ANCHOR & E.M.A. (SEE DETAIL 22/17)	+65, -65	+65, -65	+65, -65	+65, -53.3	+65, -53.3
9	EXISTING WOOD BUCK ANCHOR W/WOOD SCREW LAG BOLT & E.M.A. (SEE DETAIL 22A/17)	+65, -65	+65, -65	+65, -65	+65, -53.3	+65, -53.3
9A	EXISTING WOOD BUCK ANCHOR W/ STEEL CARRIAGE BOLT & E.M.A. (SEE DETAIL 22B/17)	+65, -65	+65, -65	+65, -65	+65, -53.3	+65, -53.3
9B	CHANNEL IRON THROUGH BOLTING W/3/8" x 3 1/2" STEEL FLAT HEAD MACHINE SCREW & E.M.A. (SEE DETAIL 23A/17)	+65, -53.3	+65, -53.3	+65, -53.3	+65, -53.3	+65, -53.3
9C	CHANNEL IRON W/3/8" STITCH WELD (SEE DETAIL 23B/17)	+65, -53.3	+65, -53.3	+65, -53.3	+65, -53.3	+65, -53.3

* NOTES ON FRAME HEAD REQUIREMENTS

1. FOR SINGLE & DOUBLE DOORS INSTALLED AT WOOD FRAME BUILDINGS, DOOR HEADS SHALL BE CONTINUOUSLY RETAINED BY EXISTING BUILDINGS WOOD HEADER FOLLOWING DETAILS AS PER SECTION E, SHEET 7.
2. FOR SINGLE & DOUBLE DOORS INSTALLED AT STEEL FRAME BUILDINGS, DOOR HEADS SHALL BE CONTINUOUSLY WELDED TO EXISTING BUILDINGS STEEL FRAME HEADER FOLLOWING DETAILS AS PER SECTION H, SHEET 7 & DETAIL 23B ON SHEET 17.
3. FOR SINGLE & DOUBLE DOORS INSTALLED AT CONCRETE /MASONRY BUILDINGS, DOOR HEADS NEED NOT BE ATTACHED TO EXISTING BUILDINGS HEADER. APPLICABLE TO SECTIONS D & F, SHEET 7.

** NOTES ON WATER AND AIR INFILTRATION REQUIREMENTS AND LIMITATIONS

1. SEE GENERAL NOTE 9 ON SHEET 1 OF 19 FOR REQUIREMENTS AND LIMITATIONS

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

7/2023

SEAL/SIGNATURE/DATE

©2023 TILTECO, INC.

TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD

50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

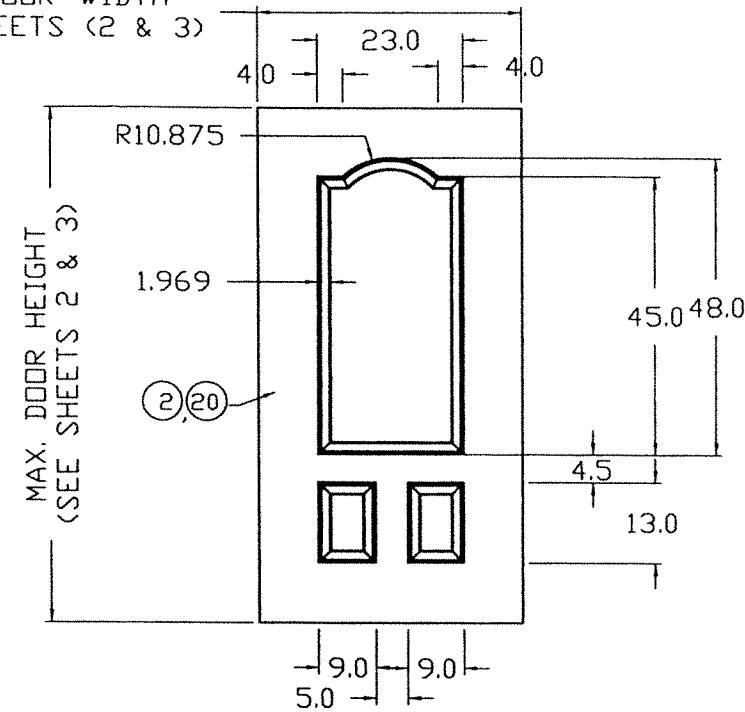
Y.M.
DRAWN BY

08/17/2023
DATE

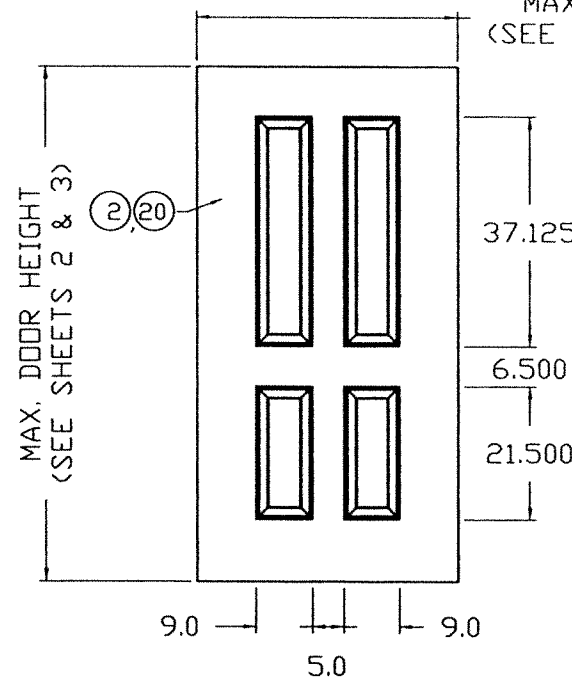
23-180
DRAWING No

SHEET 3A OF 19

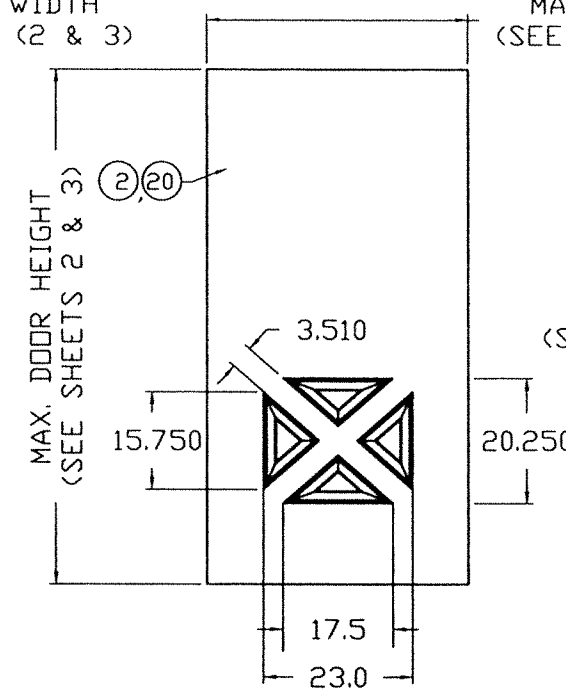
MAX. DOOR WIDTH
(SEE SHEETS (2 & 3))



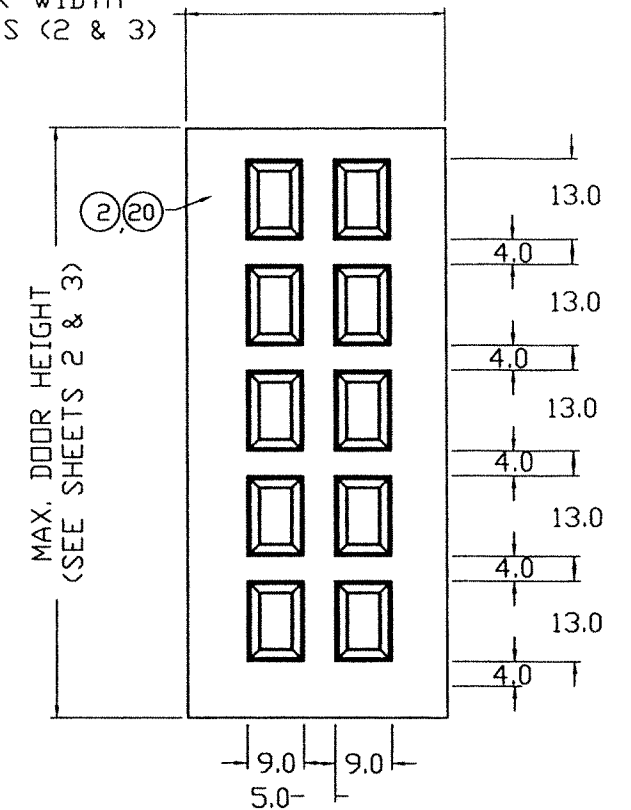
MAX. DOOR WIDTH
(SEE SHEETS (2 & 3))



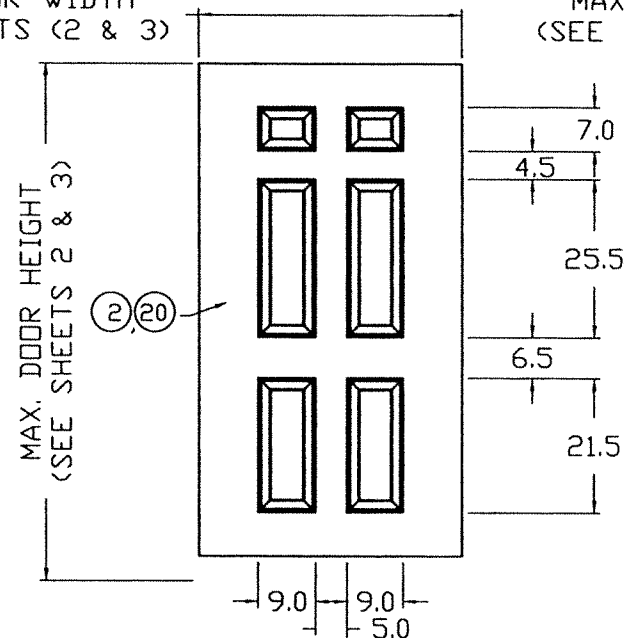
MAX. DOOR WIDTH
(SEE SHEETS (2 & 3))



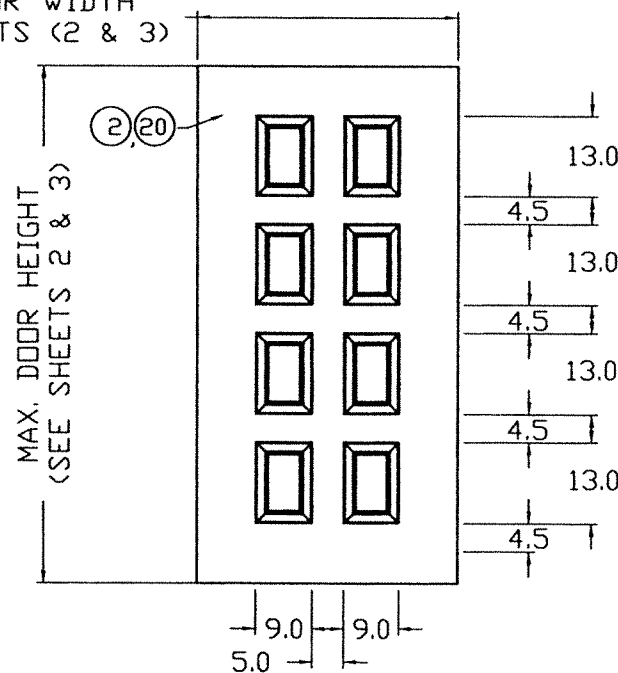
MAX. DOOR WIDTH
(SEE SHEETS (2 & 3))



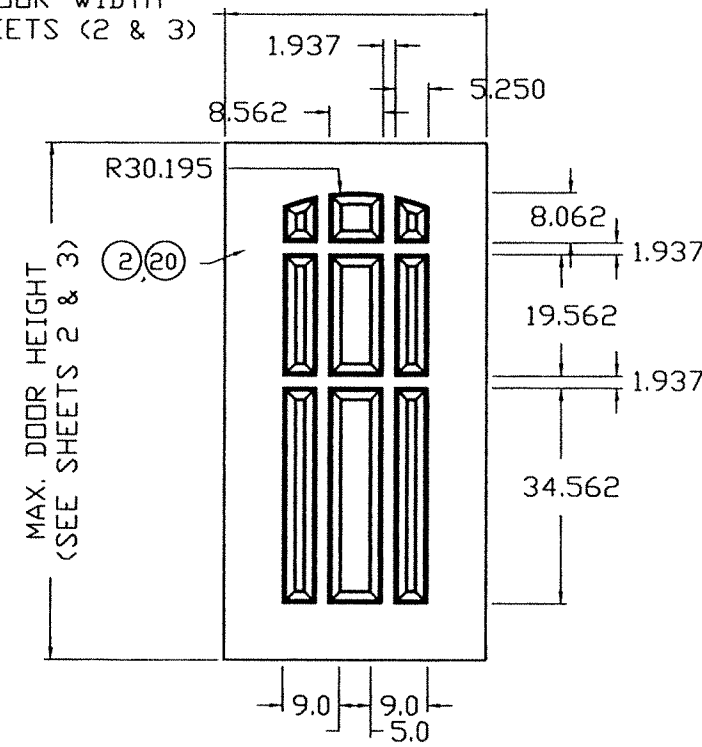
MAX. DOOR WIDTH
(SEE SHEETS (2 & 3))



MAX. DOOR WIDTH
(SEE SHEETS (2 & 3))



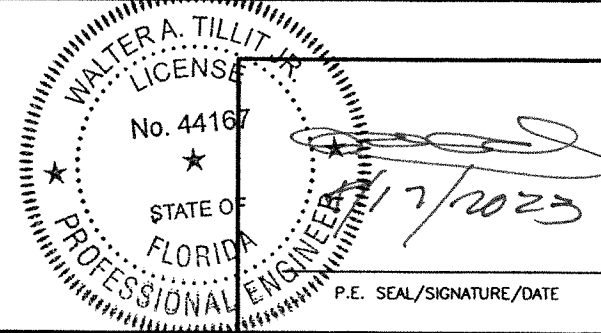
MAX. DOOR WIDTH
(SEE SHEETS (2 & 3))



OPTIONAL EMBOSSED DOOR SLAB W/ LOUVERS SHEET CONFIGURATIONS

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

NOTE:
EMBOSSED DOORS W/ LOUVERS PERMITTED
IN SINGLES & PAIRS LIMITED TO DESIGN
PRESSURES NOTED FOR EACH ASSEMBLY



©2023 TILTECO, INC.

TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 • Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD

50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

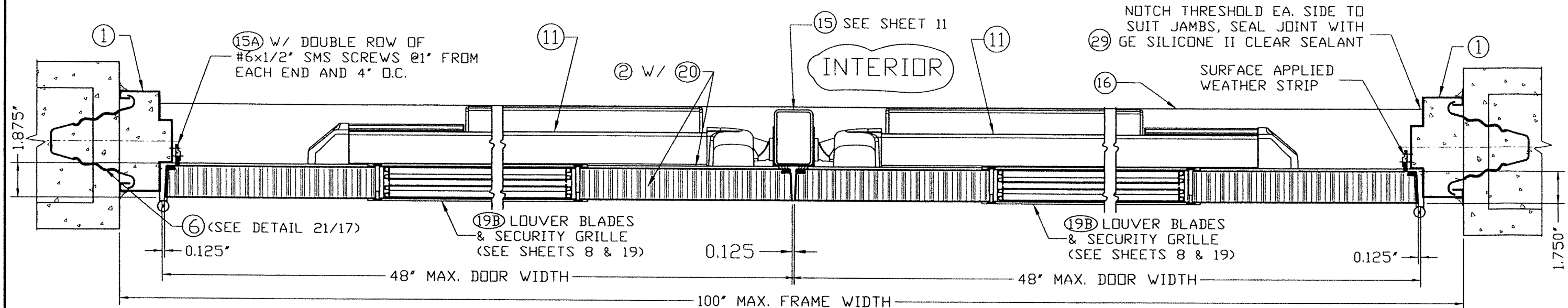
Y.M.
DRAWN BY

08/17/2023
DATE

23-180
DRAWING No

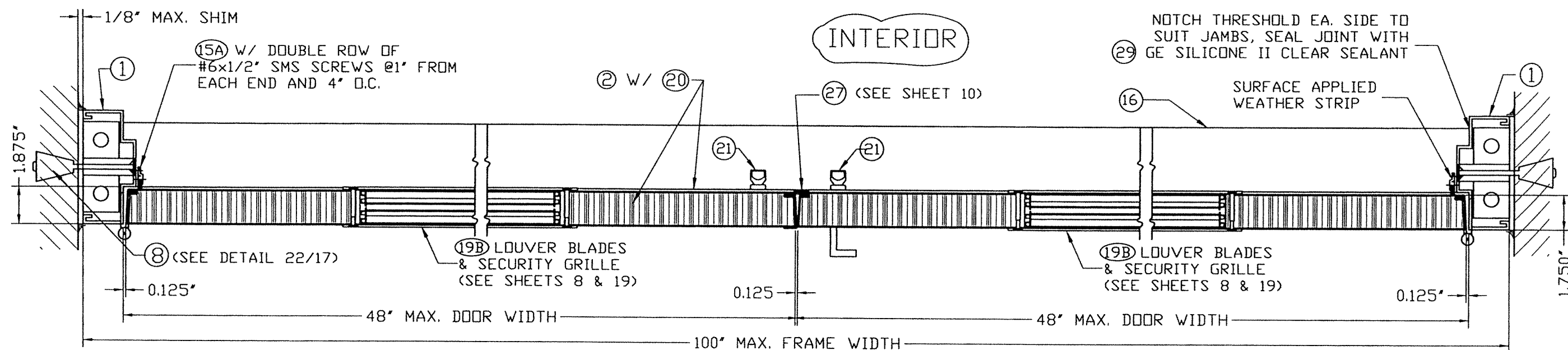
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

SHEET 4 OF 19



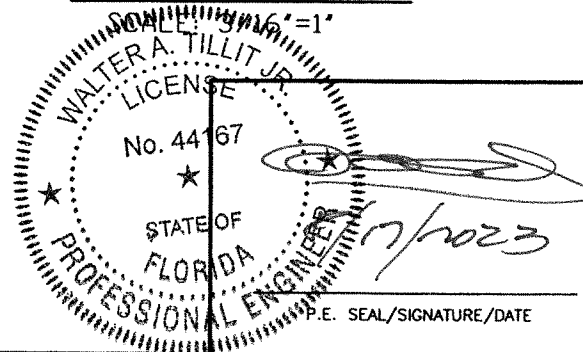
SECTION A-A

SCALE: 3/16"=1'



SECTION B-B

SCALE: 3/16"=1'



FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

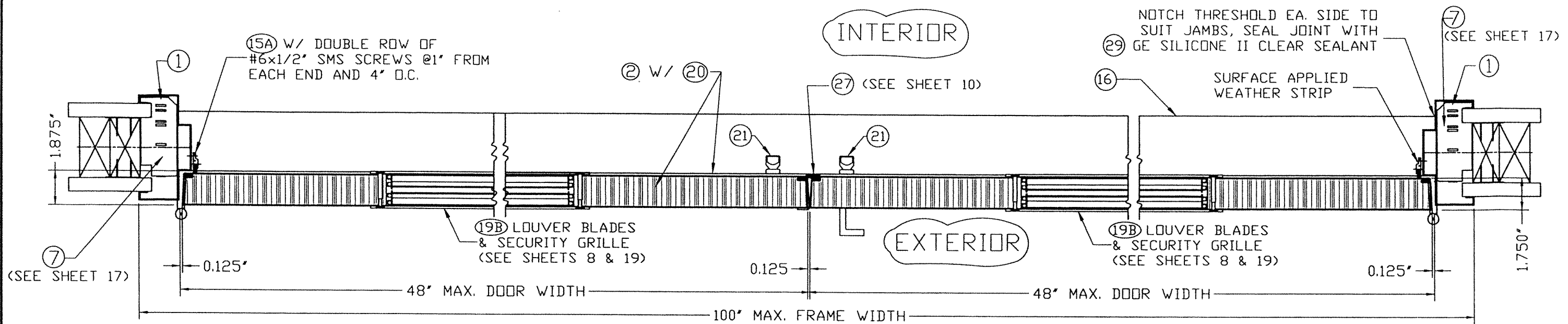
©2023 TILTECO, INC.
TILTECO Inc.
 TILLIT TESTING & ENGINEERING COMPANY
 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
 Phone : (305)871-1530 • Fax : (305)871-1531
 e-mail: tilteco@aol.com
 CA-0006719
 WALTER A. TILLIT Jr., P.E.
 FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
 COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
 STEEL FRAME LOUVERED ASSEMBLIES.

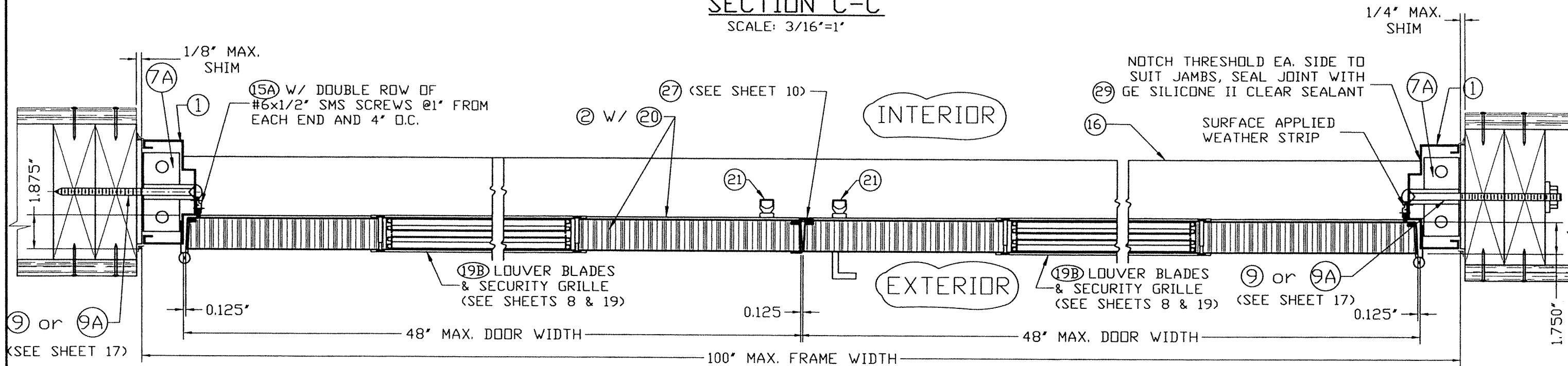
DAYBAR INDUSTRIES LTD
 50 WEST DRIVE, BRAMPTON,
 ON CANADA, L6T 2J4
 TEL: 905 625-8000
 FAX: 905 625-4204

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

Y.M.
 DRAWN BY
 08/17/2023
 DATE
23-180
 DRAWING No
 SHEET 5 OF 19



SECTION C-C
SCALE: 3/16"=1"



SECTION C'-C'
SCALE: 3/16"=1"

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER
8/17/2023
SEAL/SIGNATURE/DATE

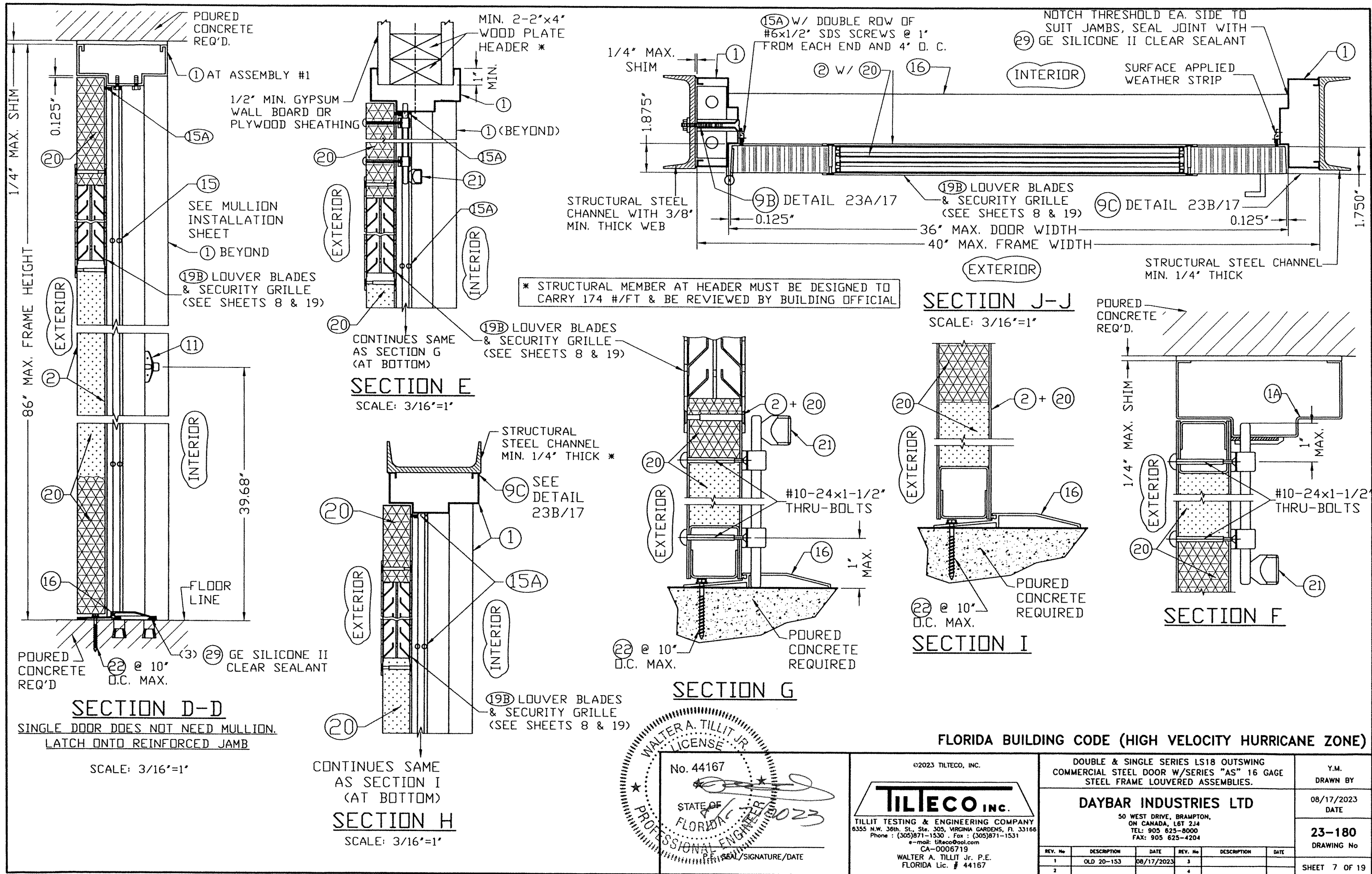
FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

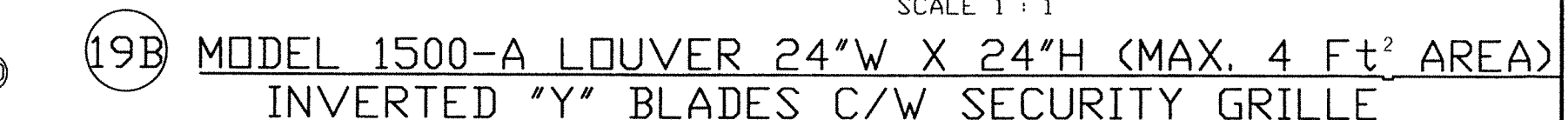
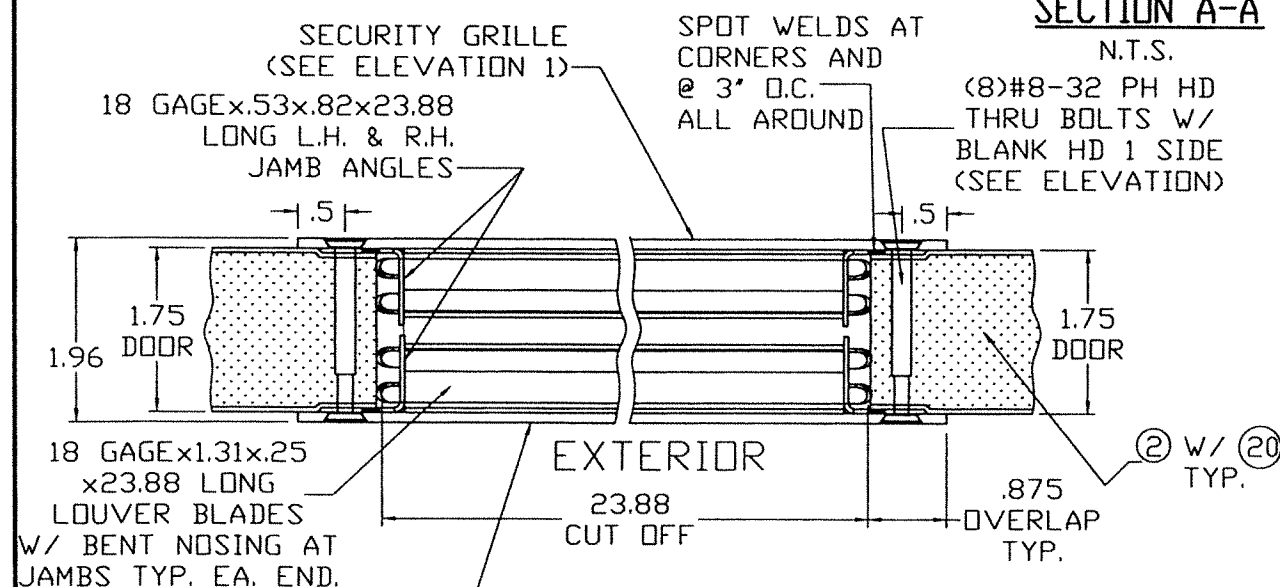
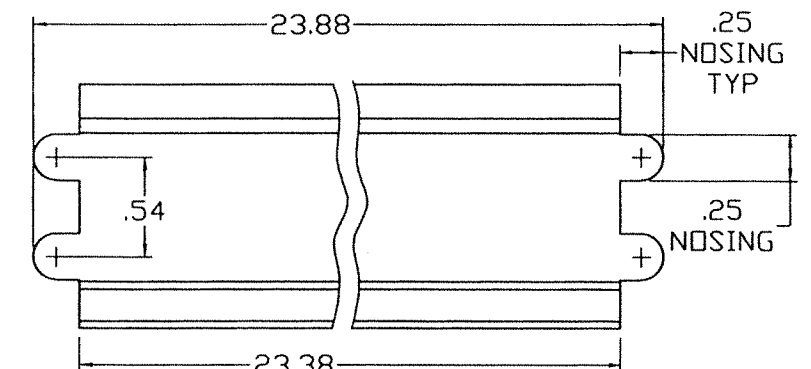
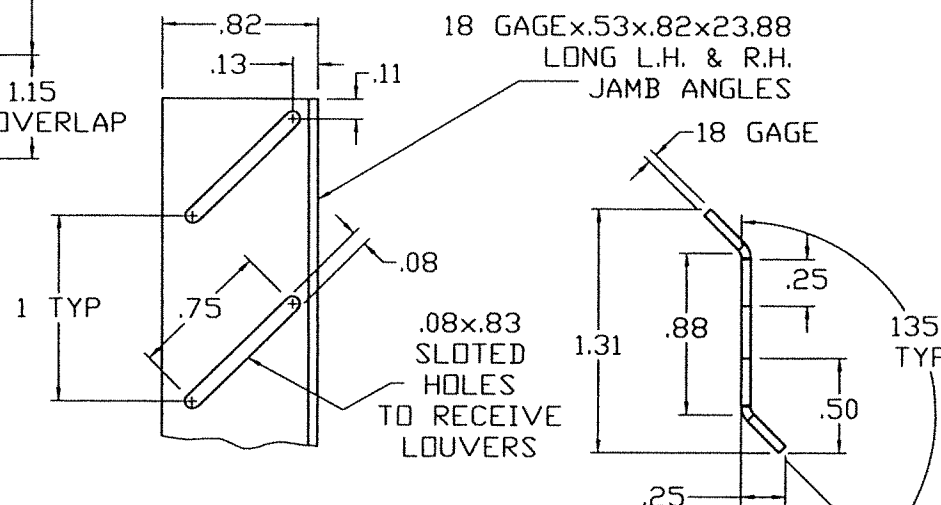
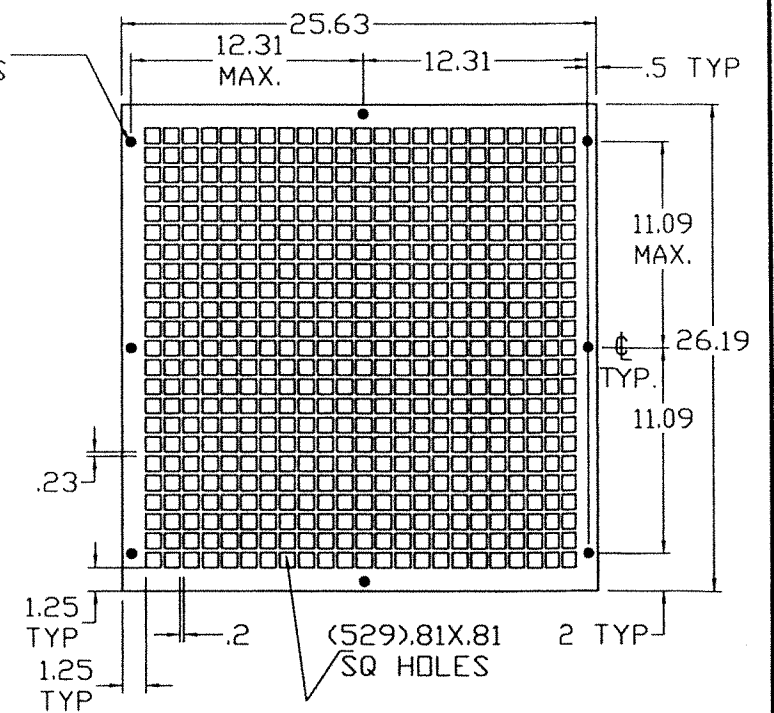
©2023 TILTECO, INC.
TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone: (305) 871-1530 • Fax: (305) 871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.
DAYBAR INDUSTRIES LTD
50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

Y.M.
DRAWN BY
08/17/2023
DATE
23-180
DRAWING No
SHEET 6 OF 19



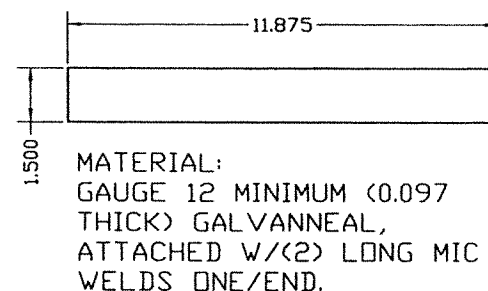
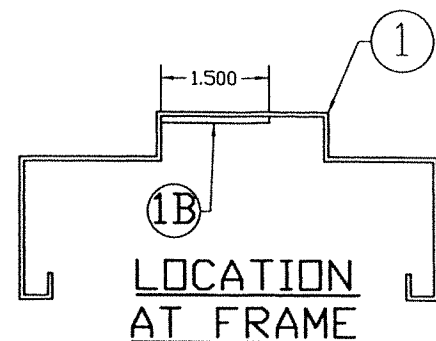


FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

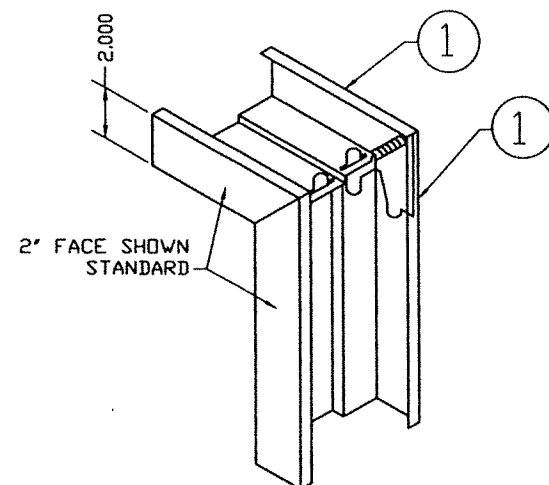
DOUBLE & SINGLE SERIES LS18 OUTSWING COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE STEEL FRAME LOUVERED ASSEMBLIES.	Y.M. DRAWN BY
DAYBAR INDUSTRIES LTD 50 WEST DRIVE, BRAMPTON, ON CANADA, L6T 2J4 TEL: 905 625-8000 FAX: 905 625-4204	08/17/2023 DATE
	23-180 DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

SHEET 8 OF 19

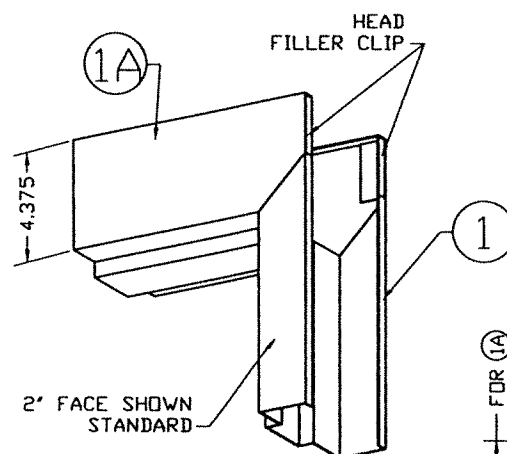


1B SURFACE STRIKE REINFORCING

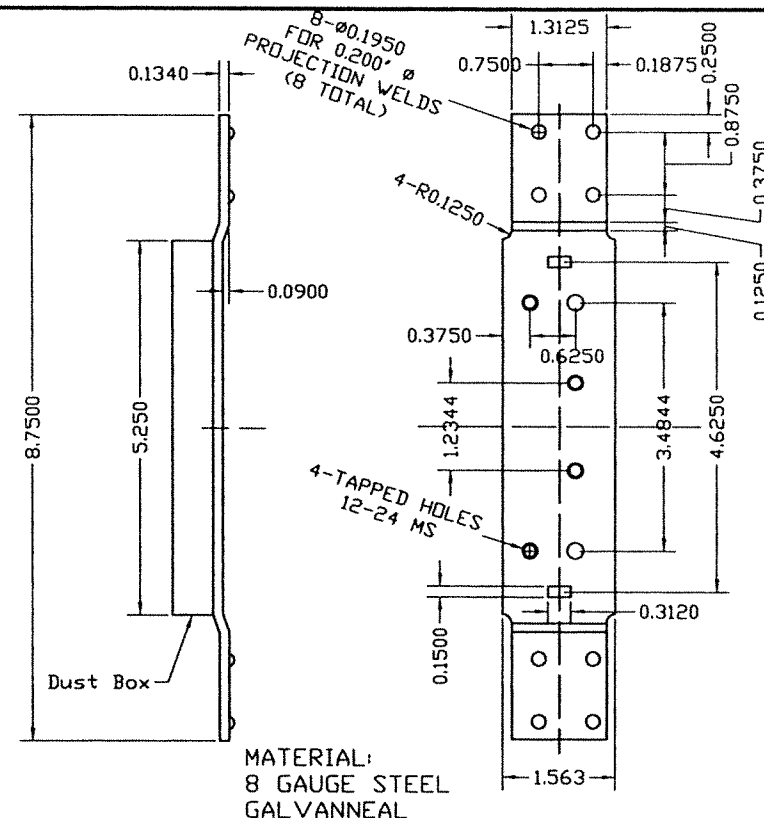


1. DIE MITERED CORNER CONT. WELDED INSIDE FACES & AT RETURNS
2. CAULK COMPLETE INSIDE CORNER WITH (29) GE SILICONE II

DETAIL 16 TYPICAL WELDED CORNER

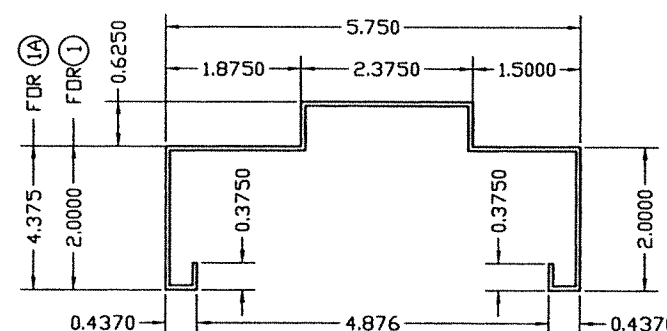
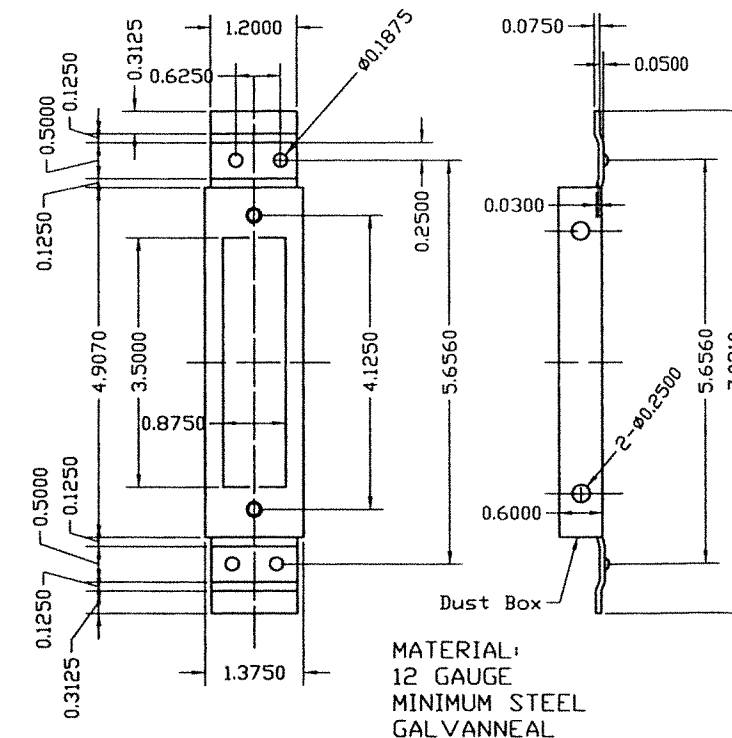


3 4 1/2" FRAME DOOR HINGE REINFORCING DETAIL

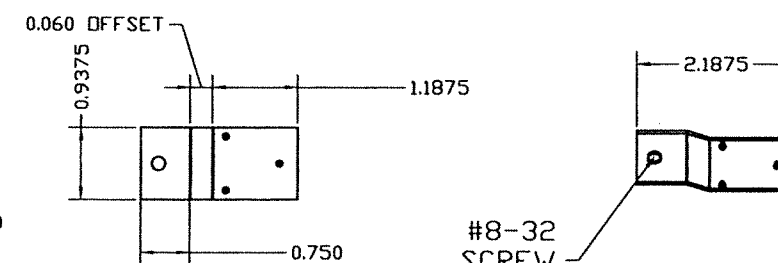


5 4 7/8" STRIKE REINFORCEMENT FOR FRAME DETAIL

ATTACHED W/ (4) 3/16" Ø PROJECTION WELDS.



1 TYPICAL JAMB & HEAD SECTION

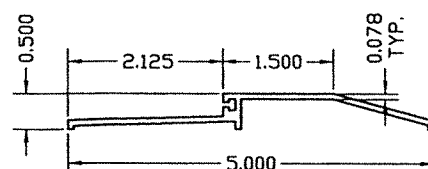


DEAD LOCK STRIKE TAB 14 GA (0.074) MIN

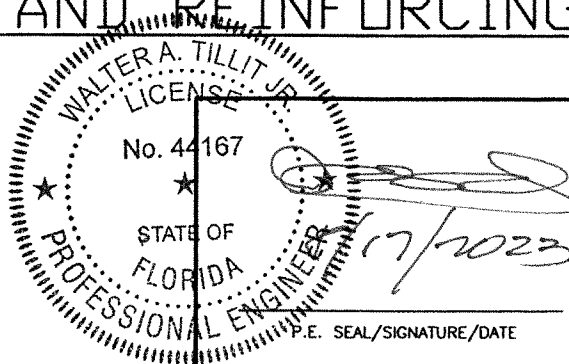
ATTACHED TO STRIKE JAMB W/ (3) 1/8" Ø PROJECTION WELDS.

1A OPTIONAL HEAD SECTION

FRAME SECTIONS AND REINFORCING DETAILS



16 EXTRUDED ALUMINUM THRESHOLD NGP #950NA



FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD

50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

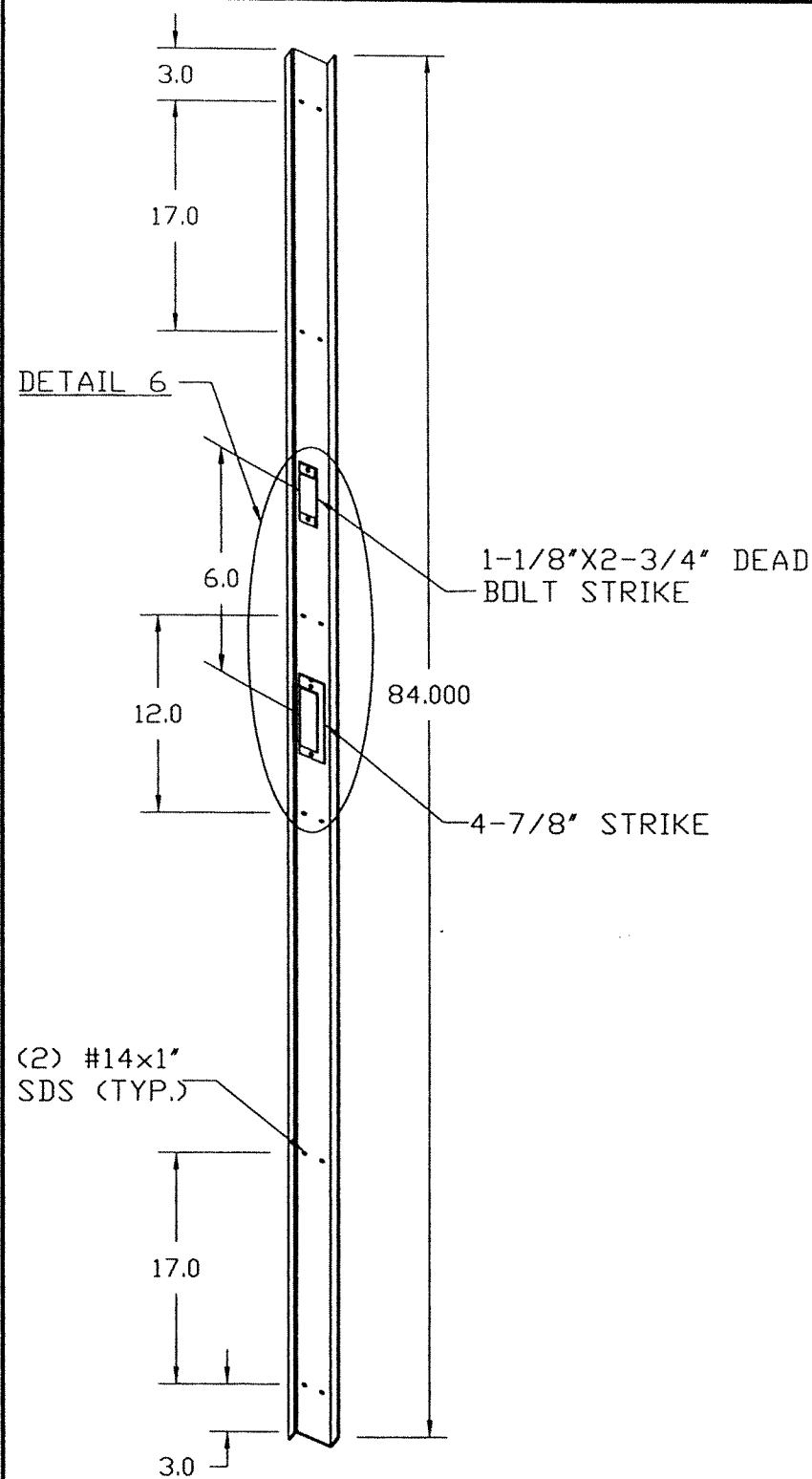
Y.M.
DRAWN BY

08/17/2023
DATE

23-180
DRAWING No

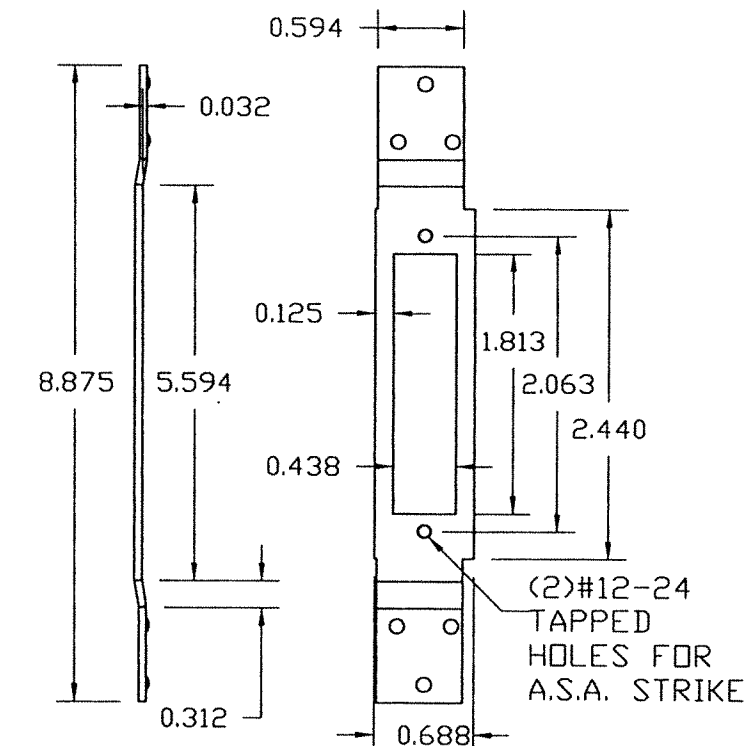
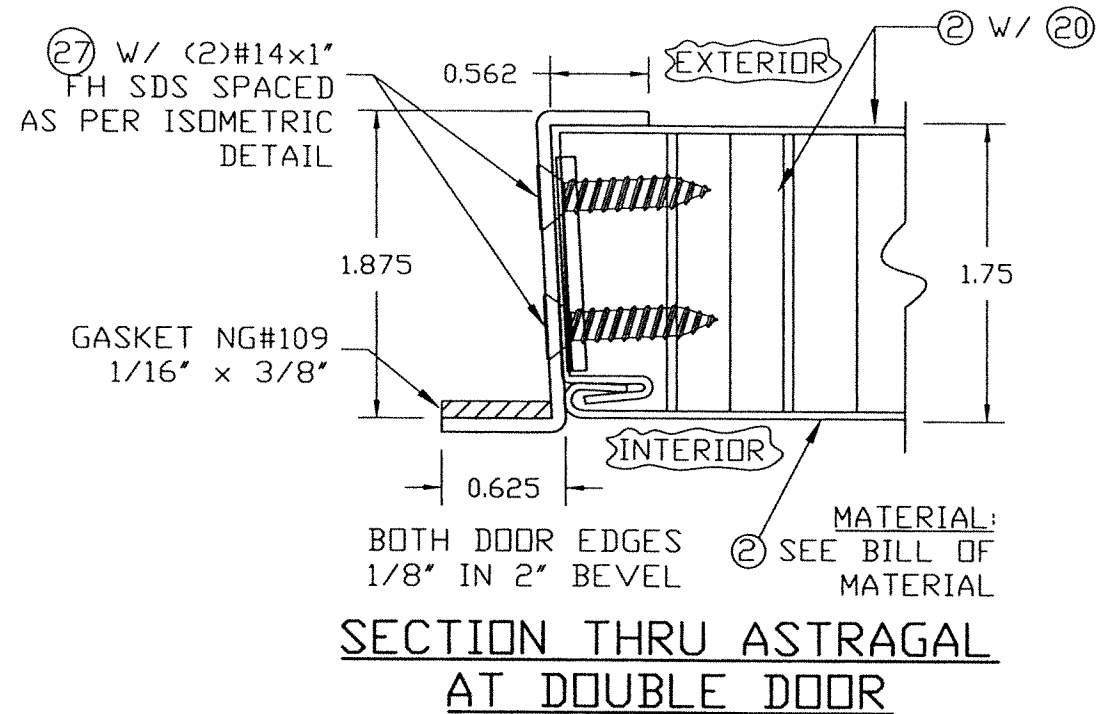
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

SHEET 9 OF 19

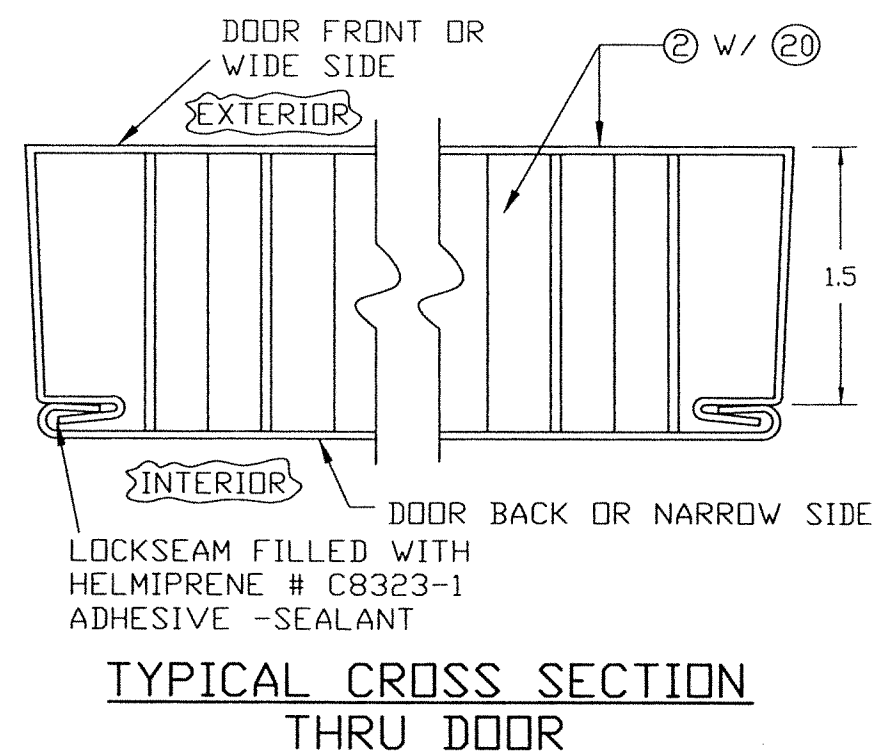


(27) "Z" ASTRAGAL ISOMETRIC DETAIL

MATERIAL:
0.075" THICK STEEL

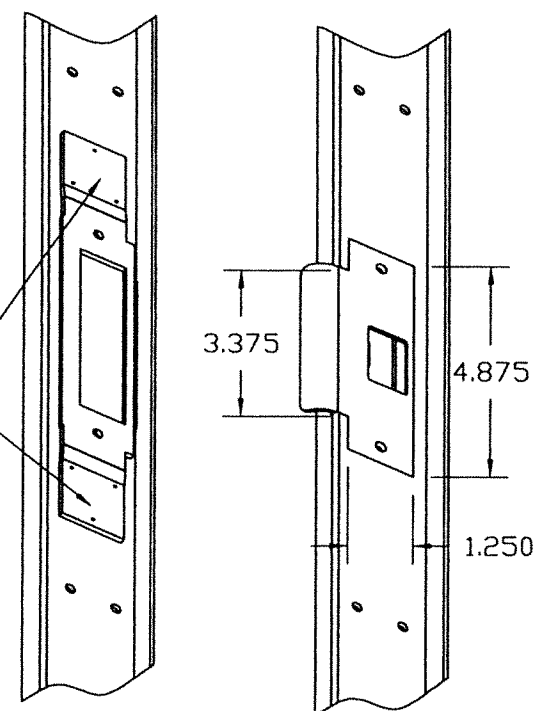


12 GAGE STEEL ASA 1299 STRIKE REINFORCEMENT FOR ASTRAGAL



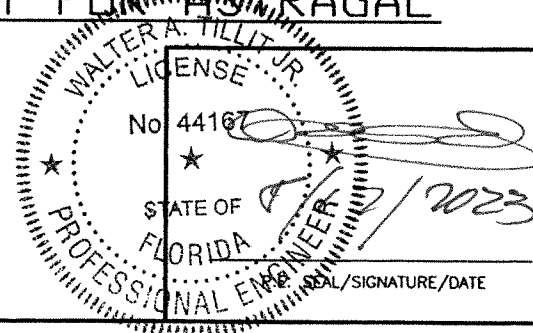
TYPICAL CROSS SECTION THRU DOOR

12GA. STEEL ASA
STRIKE REINFORCEMENT
3x1/8" PROJECTION
WELD EACH SIDE



DETAIL 6

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)



©2023 TILTECO, INC.
TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD

50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

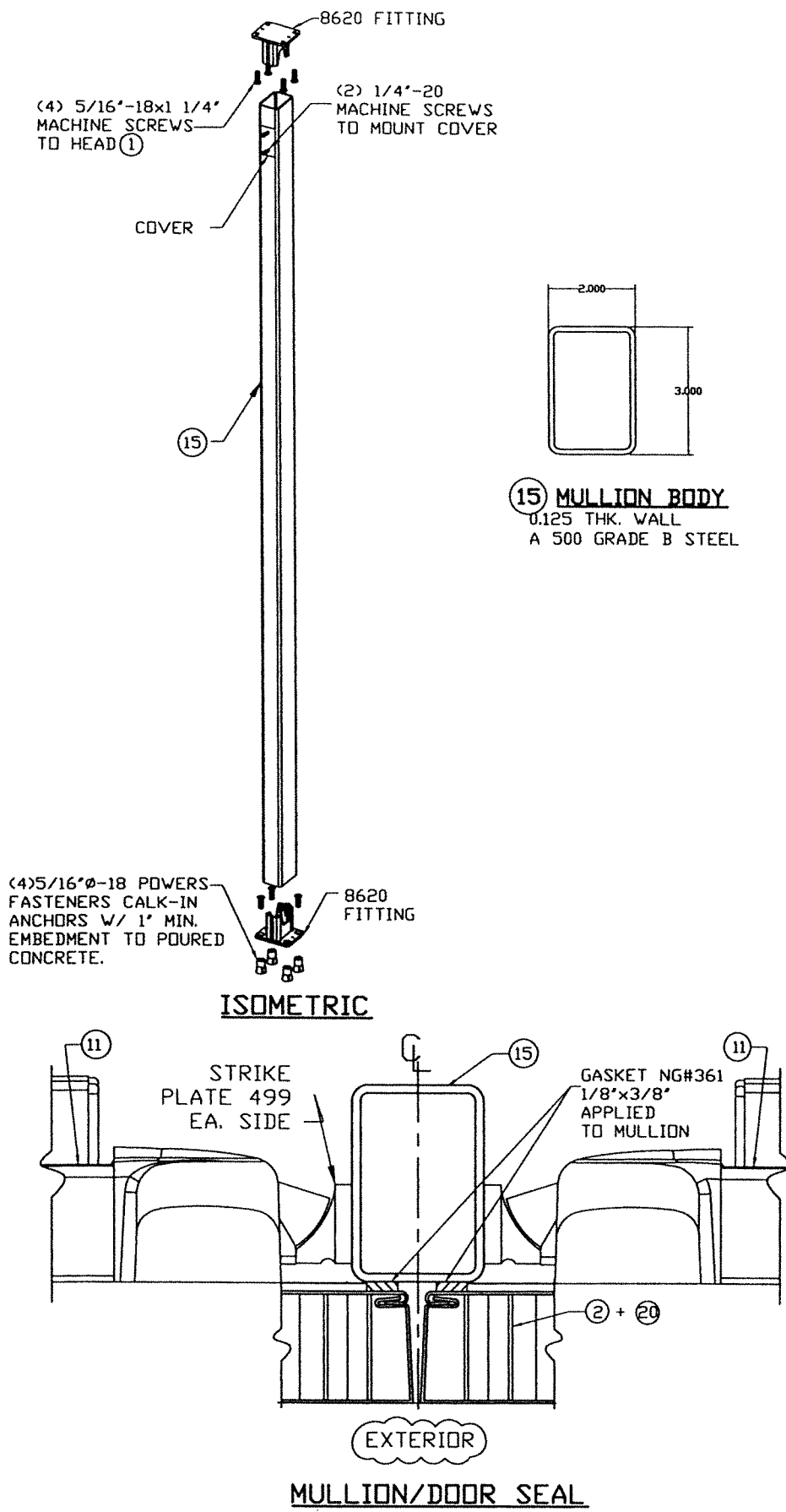
Y.M.
DRAWN BY

08/17/2023
DATE

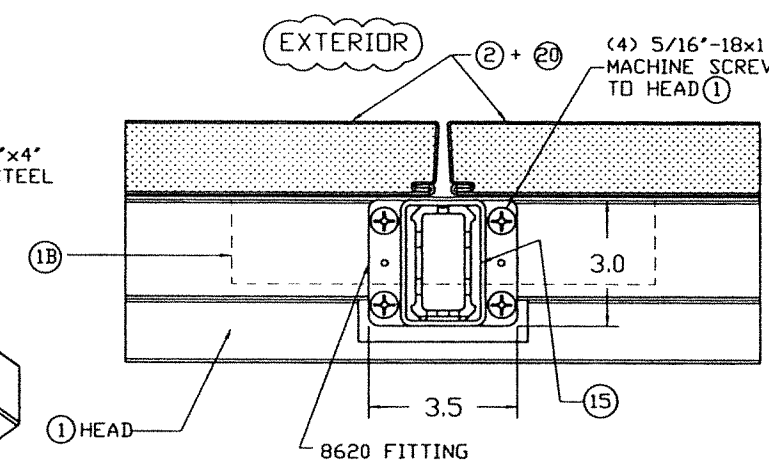
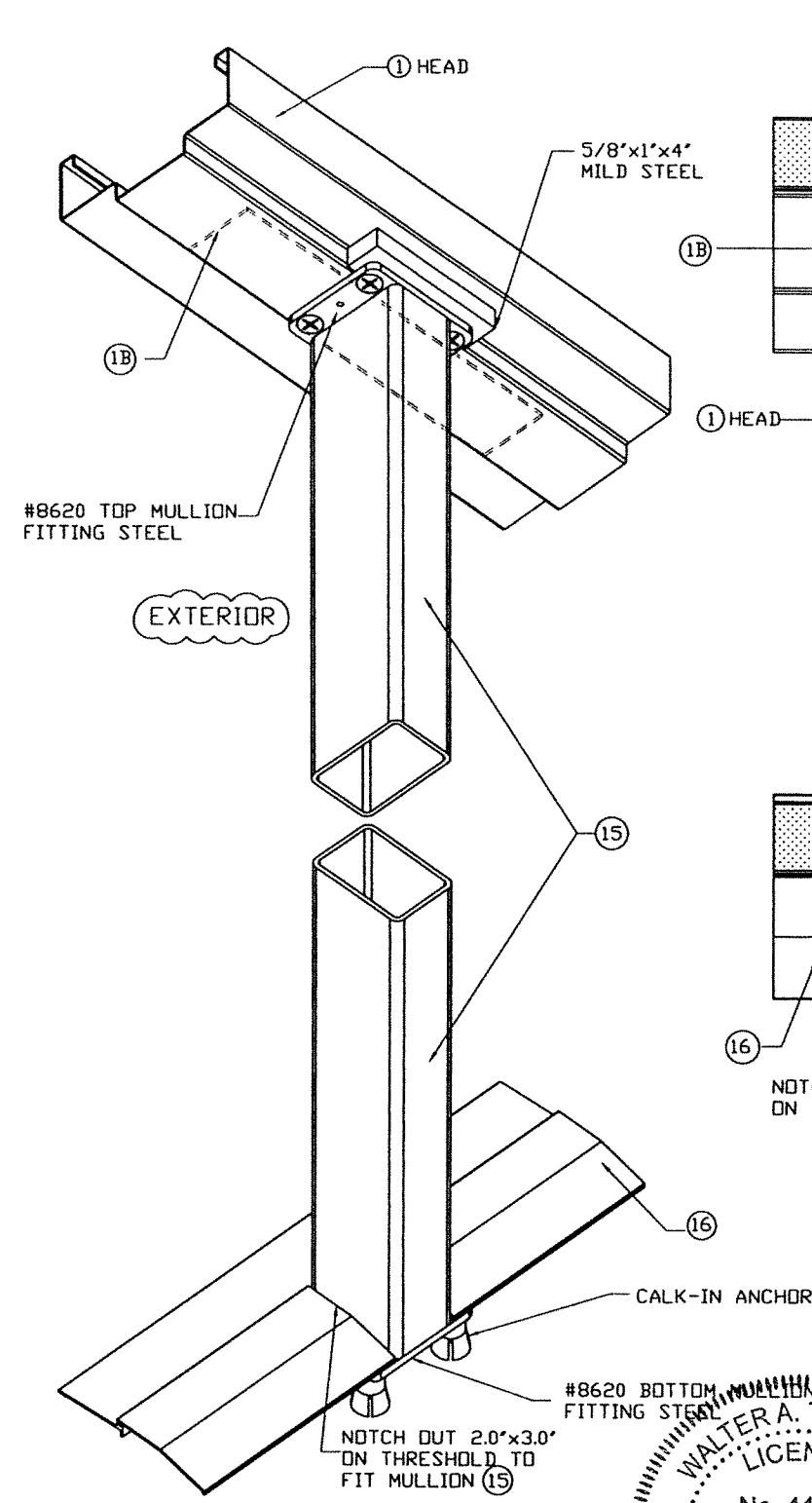
23-180
DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

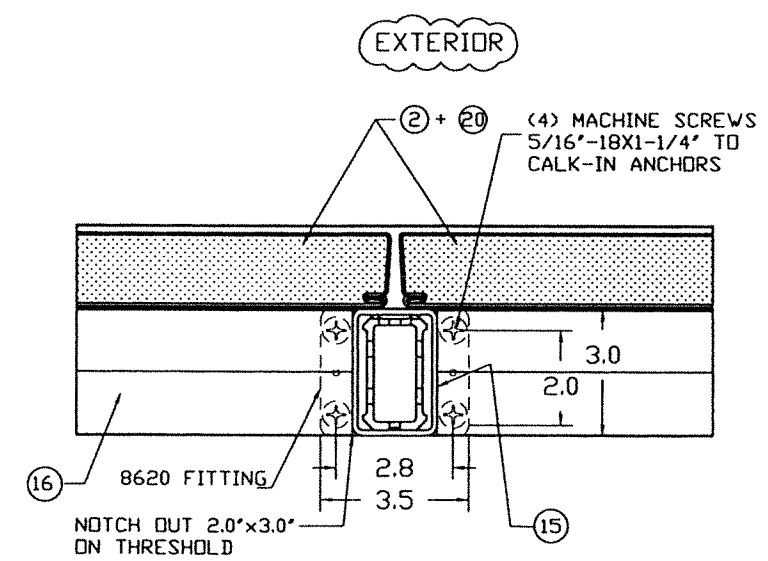
SHEET 10 OF 19



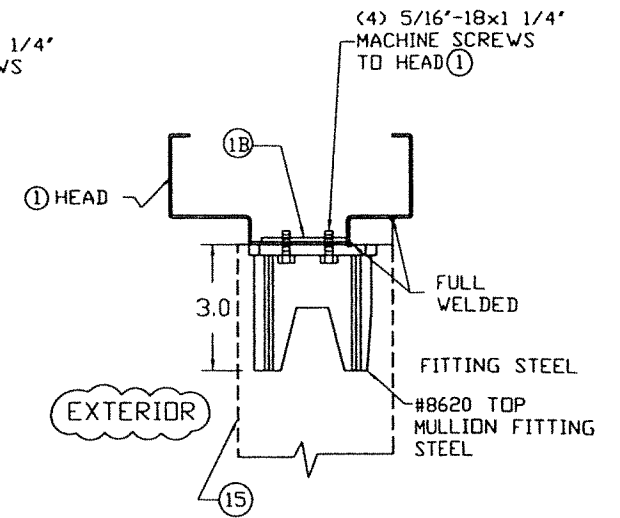
15 VON DUPRIN SERIES 9954 (W/ 499 STRIKE PLATE) MULLION INSTALLATION



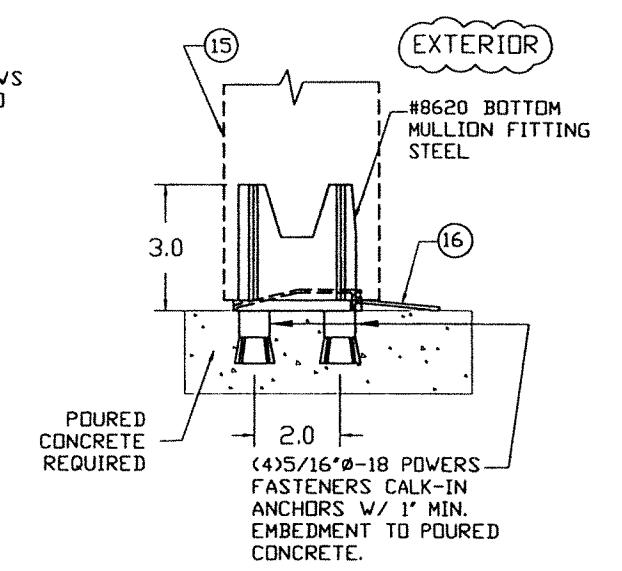
CONNECTION AT TOP (PLAN)



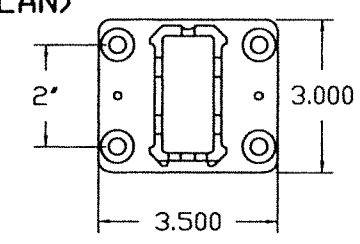
CONNECTION AT BOTTOM (PLAN)



SECTION



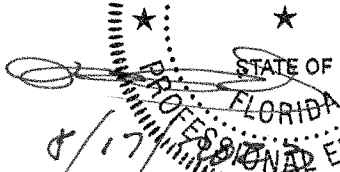
SECTION

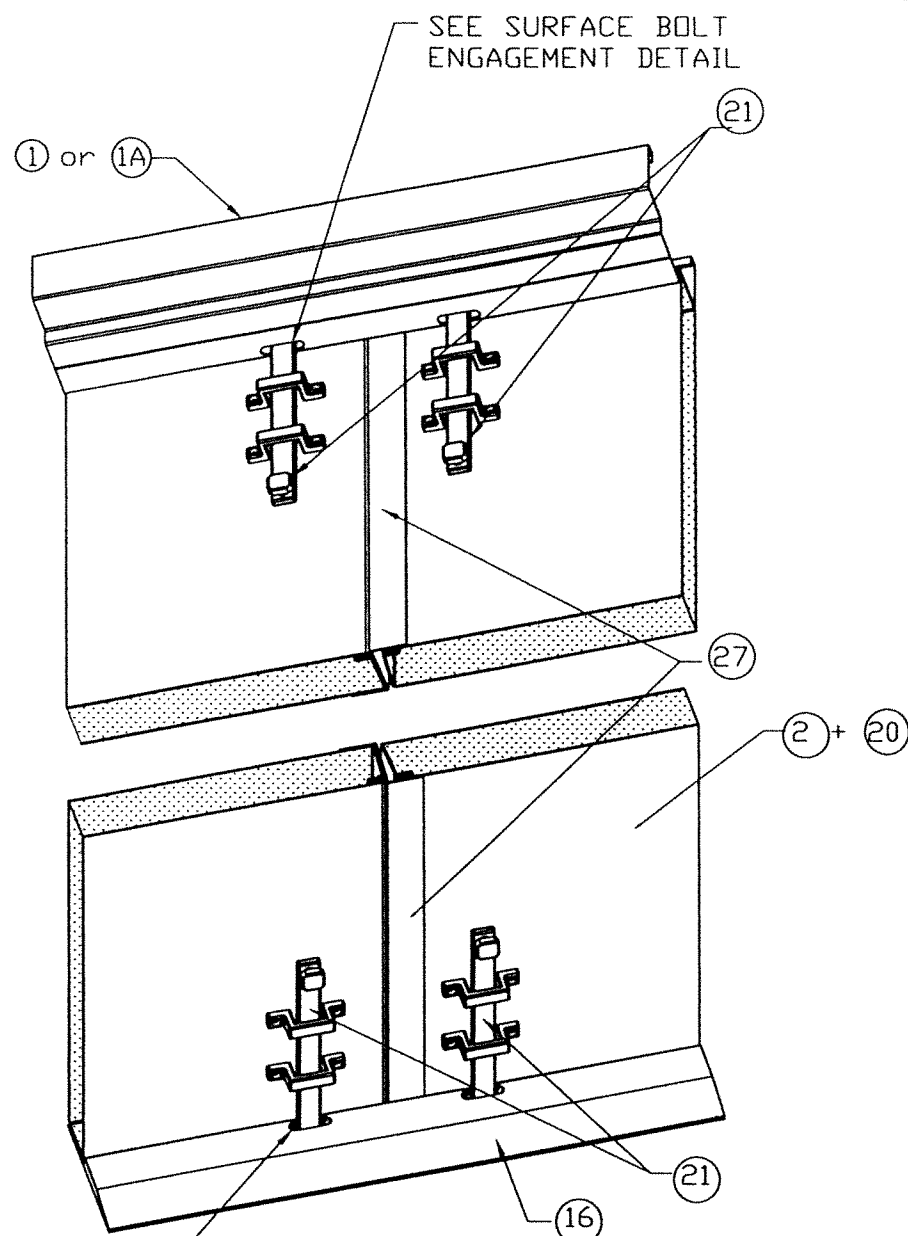


MULLION FITTING 8620 STEEL

WALTER A. TILLIT JR.
LICENSE
No. 44167

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

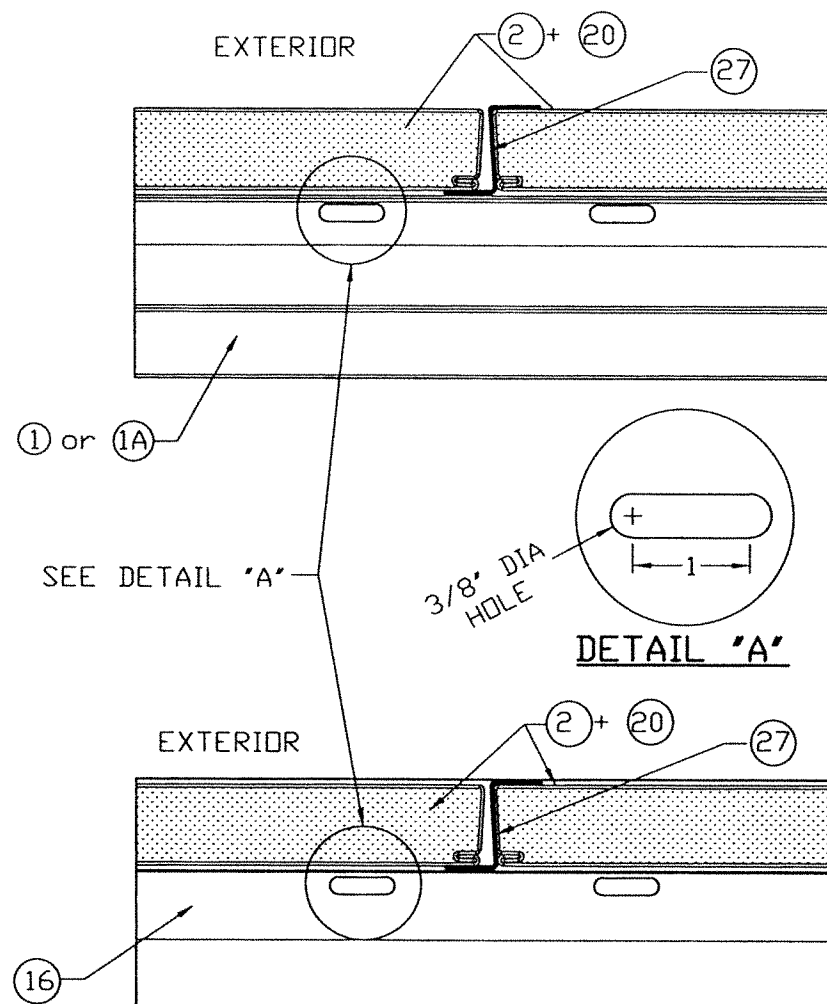
 P.E. SEAL/SIGNATURE/DATE	©2023 TILTECO, INC.  DELIT TESTING & ENGINEERING COMPANY 1655 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone : (305)871-1530 Fax : (305)871-1531 e-mail: tilteco@aol.com CA-0006719 WALTER A. TILLIT Jr. P.E. FLORIDA Lic. # 44167	DOUBLE & SINGLE SERIES LS18 OUTSWING COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE STEEL FRAME LOUVERED ASSEMBLIES.						Y.M. DRAWN BY 08/17/2023 DATE 23-180 DRAWING No																	
		DAYBAR INDUSTRIES LTD 50 WEST DRIVE, BRAMPTON, ON CANADA, L6T 2J4 TEL: 905 625-8000 FAX: 905 625-4204																							
		<table><tr><th>REV. No</th><th>DESCRIPTION</th><th>DATE</th><th>REV. No</th><th>DESCRIPTION</th><th>DATE</th></tr><tr><td>1</td><td>OLD 20-153</td><td>08/17/2023</td><td>3</td><td></td><td></td></tr><tr><td>2</td><td></td><td></td><td>4</td><td></td><td></td></tr></table>	REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	1	OLD 20-153	08/17/2023	3			2			4							
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE																				
1	OLD 20-153	08/17/2023	3																						
2			4																						



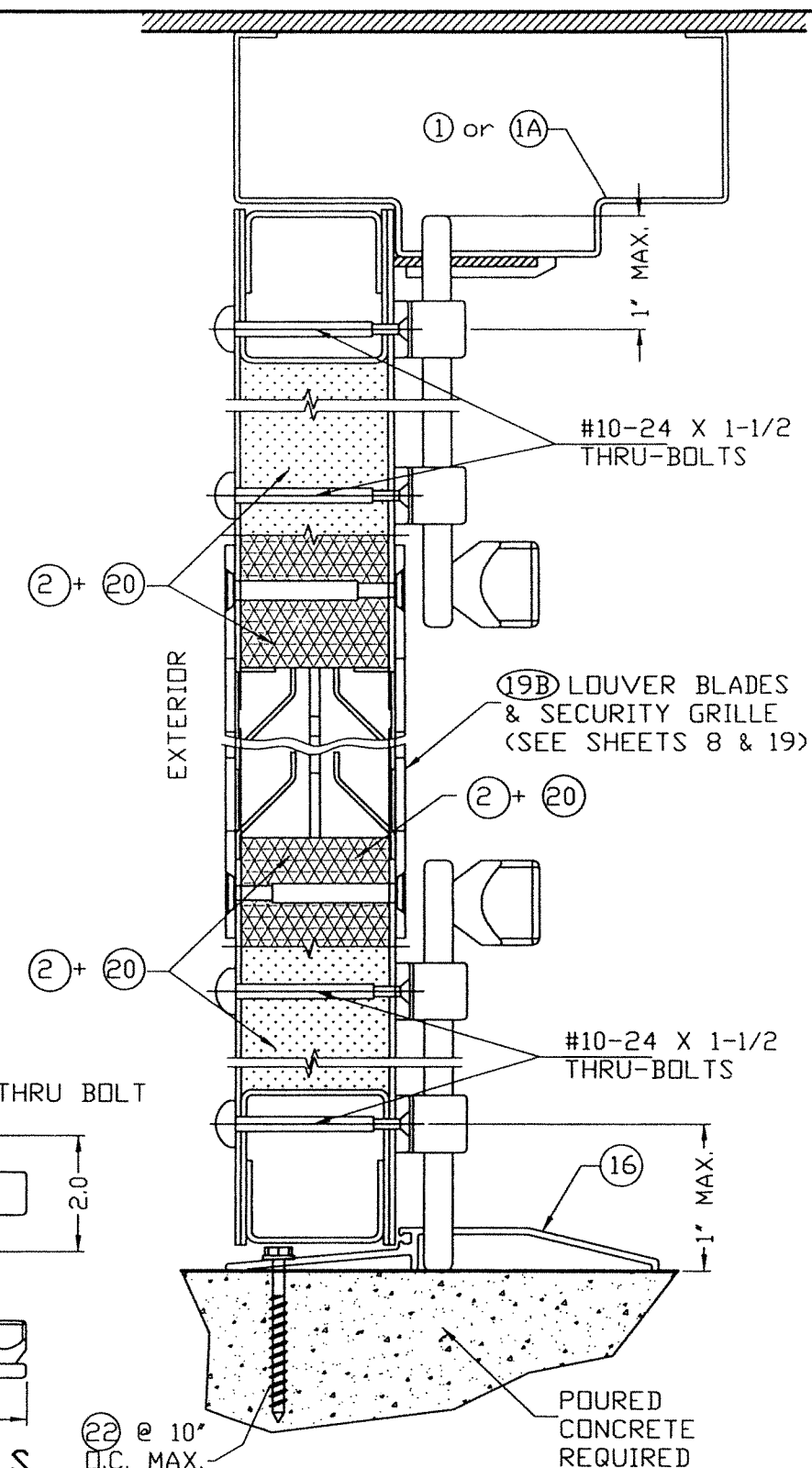
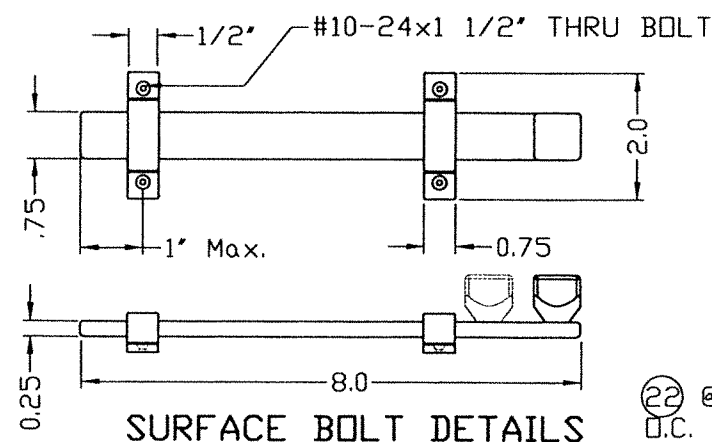
**SURFACE BOLT INSTALLATION
AT DOOR W/ ASTRAGAL (INTERIOR VIEW)**

NOTE:
SURFACE BOLT
MANUFACTURER-HAGER
MODEL #275D
MATERIAL-STEEL
FINISH US26D

**(21) 8" #275D HAGER
SURFACE BOLT**



**TYPICAL SURFACE BOLT ENGAGEMENT
DETAIL AT HEAD & SILL**



FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

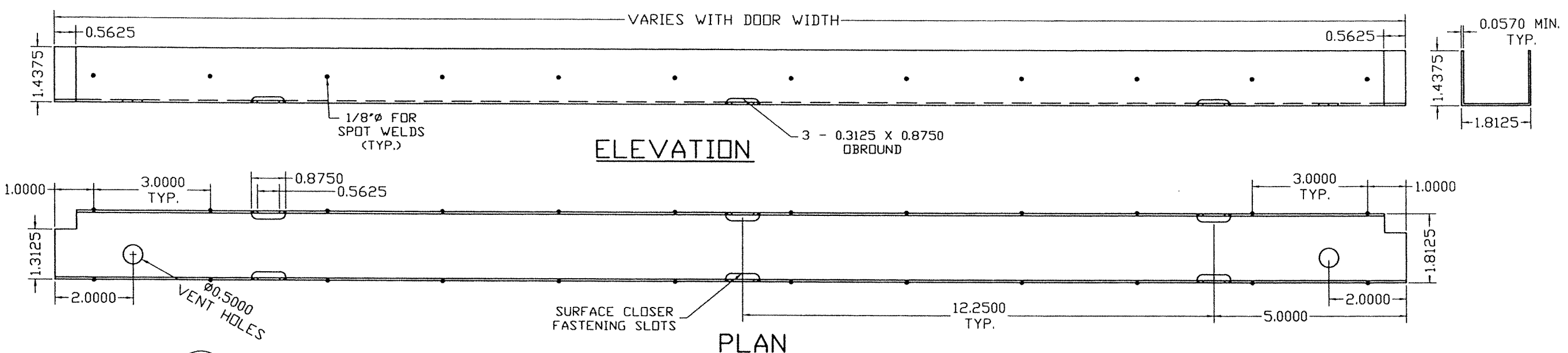
WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
SEAL/SIGNATURE/DATE

©2023 TILTECO, INC.
TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tiltco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.
DAYBAR INDUSTRIES LTD
50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

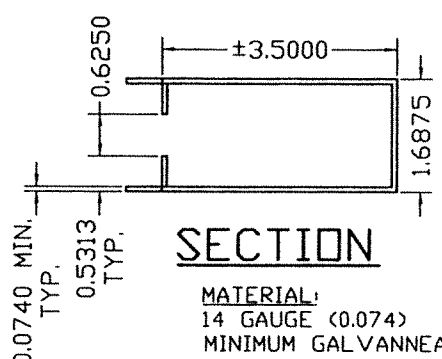
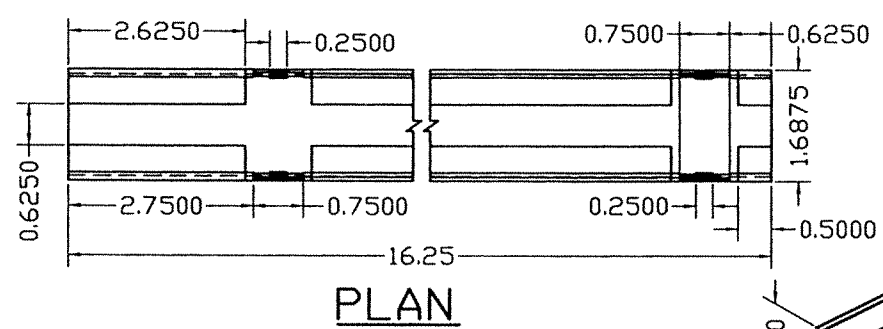
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

Y.M.
DRAWN BY
08/17/2023
DATE
23-180
DRAWING No
SHEET 12 OF 19



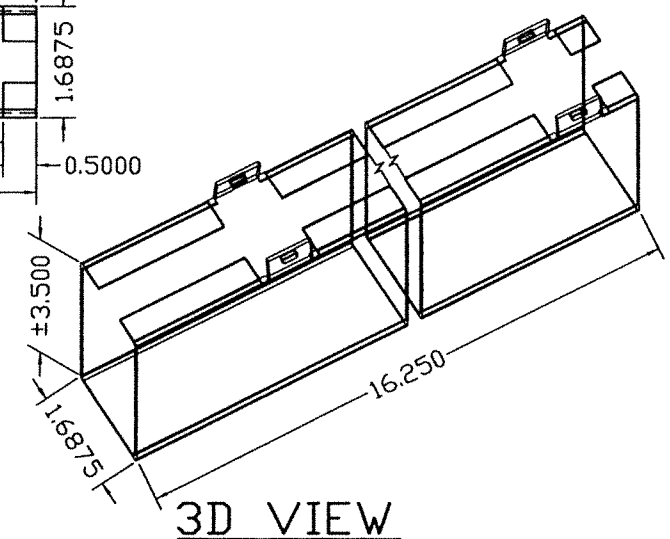
26 DOOR TOP AND BOTTOM TYPICAL END CHANNEL DETAIL

MATERIAL:
16 GAUGE (0.057) MINIMUM
GALVANNEAL STEEL

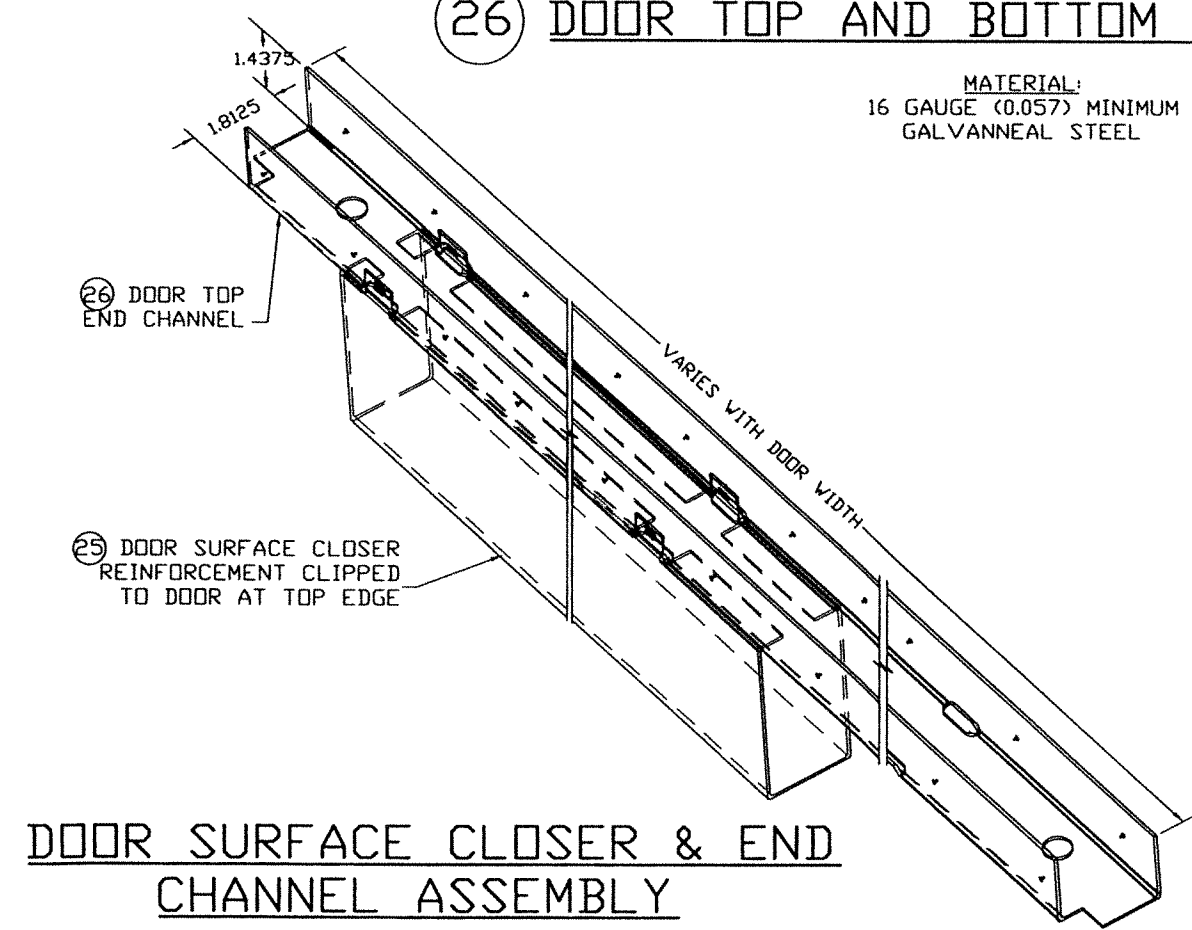


25 DOOR SURFACE CLOSER REINFORCEMENT DETAIL

MATERIAL:
14 GAUGE (0.074)
MINIMUM GALVANNEAL



LAMINATED TO EACH FACE OF DOOR
W/ CONTACT ADHESIVE (HELHIBOND 8326-1)
AT HINGE EDGE AND TOP END CHANNEL.



DOOR SURFACE CLOSER & END CHANNEL ASSEMBLY

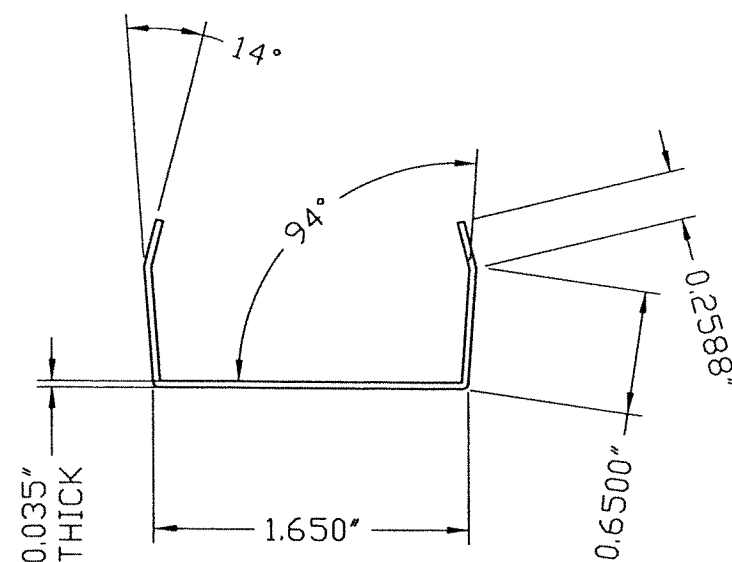
FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER
P.E. SEAL/SIGNATURE/DATE

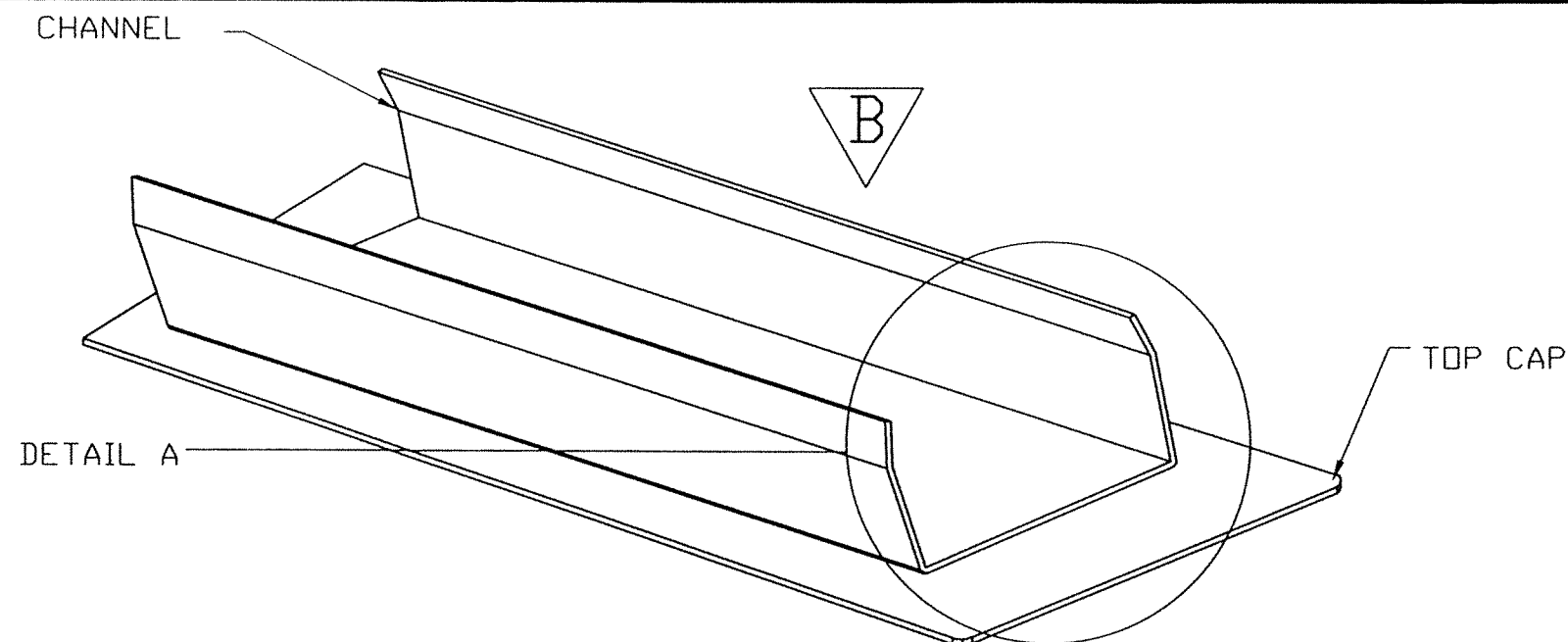
©2023 TILTECO, INC.
TILTECO Inc.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 38th. St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE STEEL FRAME LOUVERED ASSEMBLIES.					
DAYBAR INDUSTRIES LTD					
50 WEST DRIVE, BRAMPTON, ON CANADA, L6T 2J4 TEL: 905 625-8000 FAX: 905 625-4204					
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

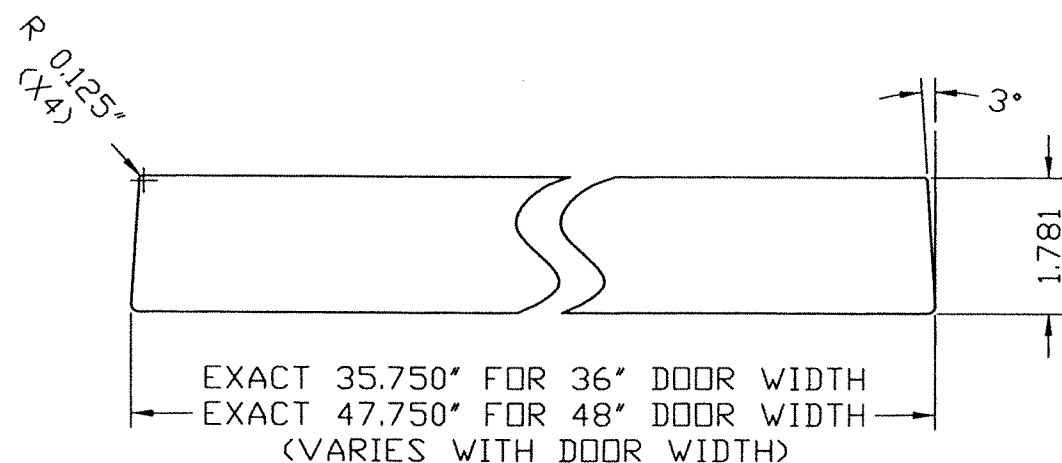
Y.M.
DRAWN BY
08/17/2023
DATE
23-180
DRAWING No
SHEET 13 OF 19



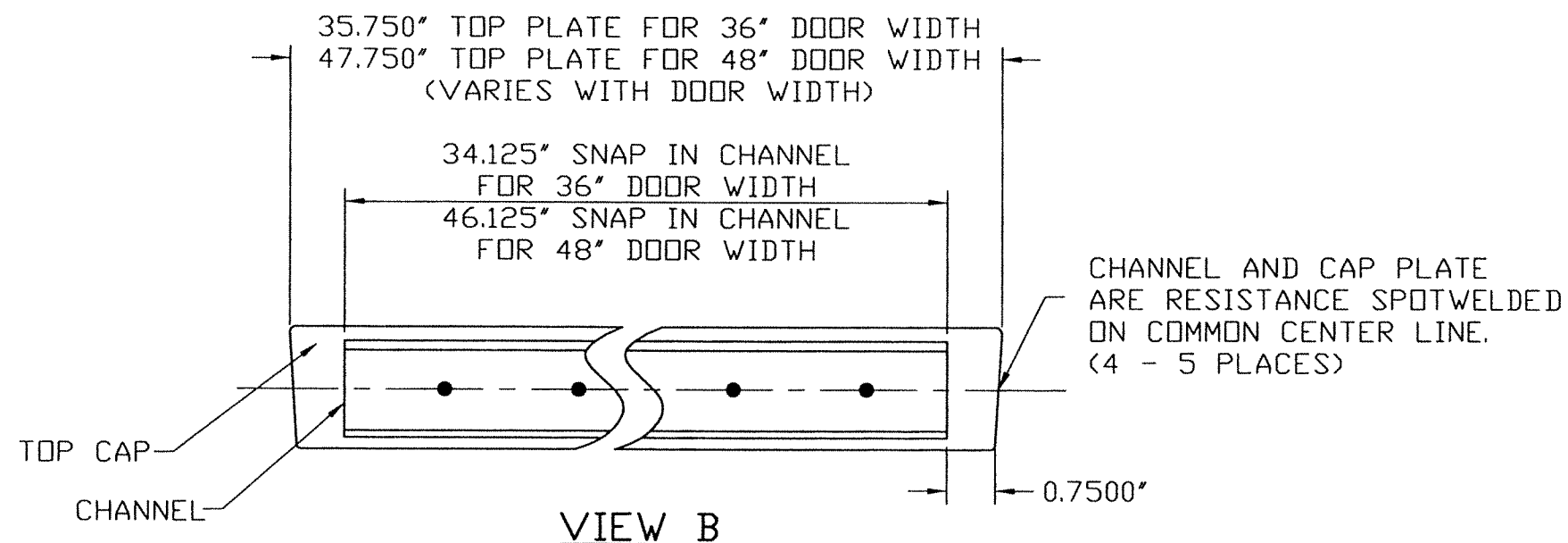
DETAIL A
SNAP IN CHANNEL



ASSEMBLY (ISOMETRIC)
(SNAP IN CHANNEL WITH TOP CAP)



STANDARD TOP CAP



VIEW B

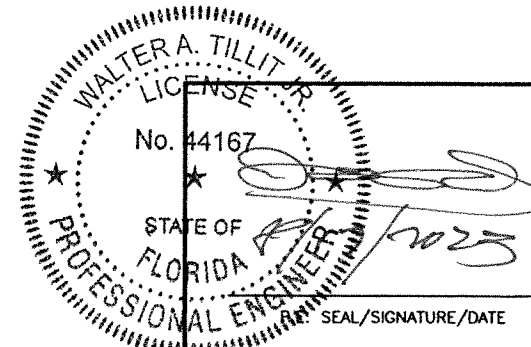
28 DOOR SNAP IN TOP CAP DETAIL

MATERIAL: 20 GA GALVANNEAL STEEL FOR
BOTH PCS. ASTM A-653, A-60

INSTALLATION OPTIONS:

(A) CAULK AND PRESSFIT

(B) CAULK, PRESSFIT AND TACK WELD



FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

©2023 TILTECO, INC.

TILTECO Inc.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 • Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD

50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905-625-8000
FAX: 905-625-4204

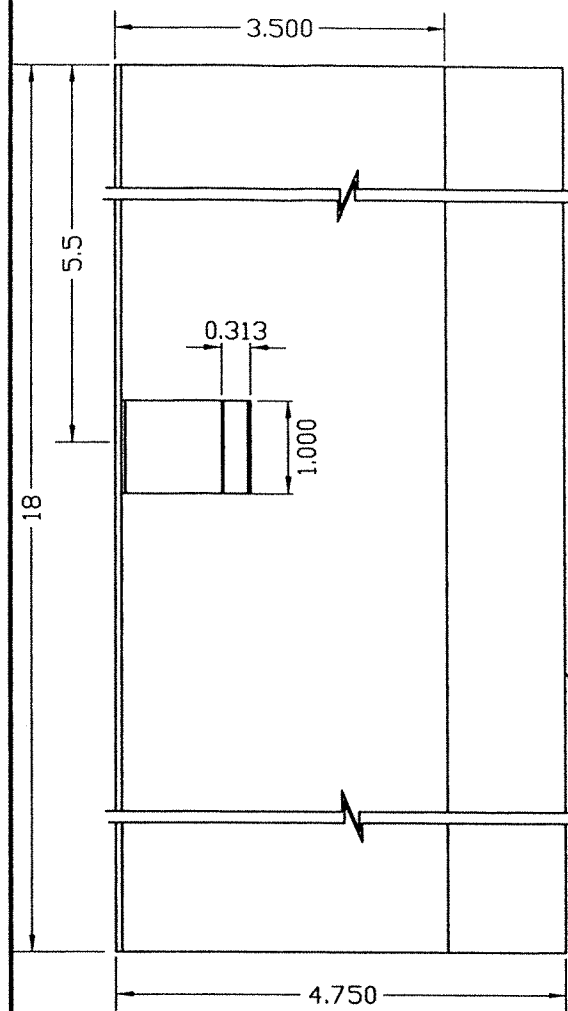
Y.M.
DRAWN BY

08/17/2023
DATE

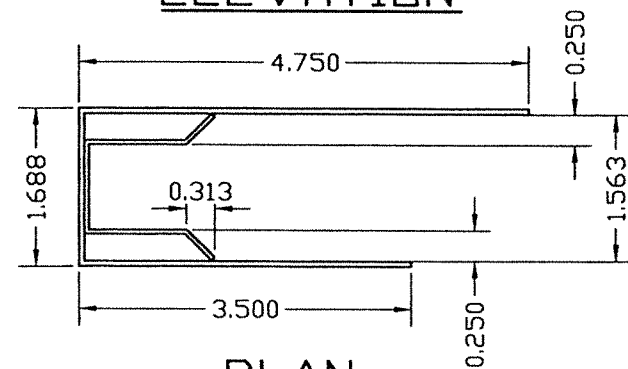
23-180
DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

SHEET 14 OF 19



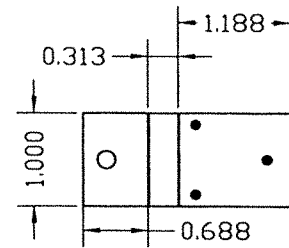
ELEVATION



PLAN

MATERIAL:
ALL GALVANNEAL STEEL

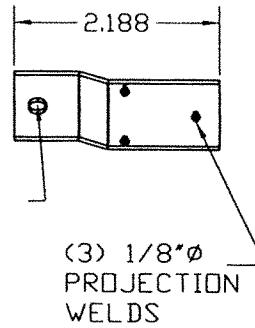
(23) ANSI #A115.1 #86 MORTISE LOCK (12) /RIM PANIC (11) REINFORCING



DOOR EDGE MOUNTING TAB

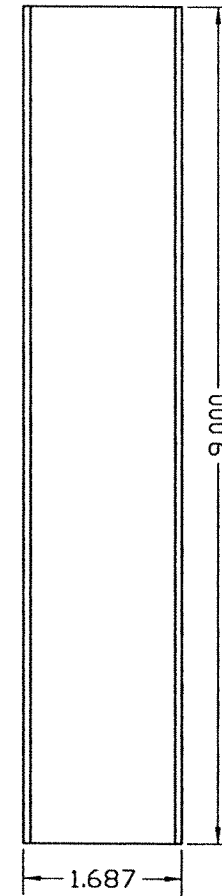
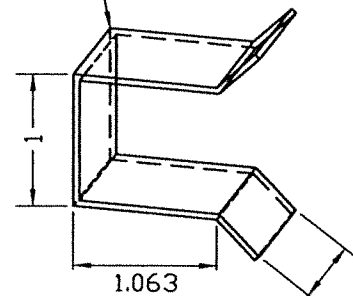
14 GA (0.074) MIN STEEL

#12-24 SCREW

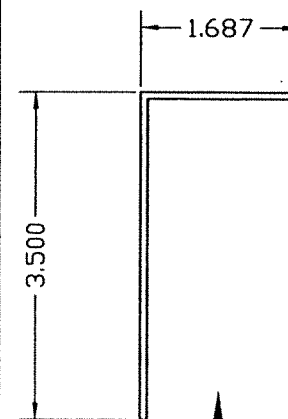


GAGE 14 (0.074) MINIMUM
RP REINFORCING SAME AS #86.
LESS LOCK CLIP & MOUNTING
TABS, GLUE W /CONTACT
ADHESIVE TO DOOR FACE

LOCK CLIP-18GA (0.045)
MIN. ONLY VALID FOR
ASSEMBLY WHERE
APPLICABLE



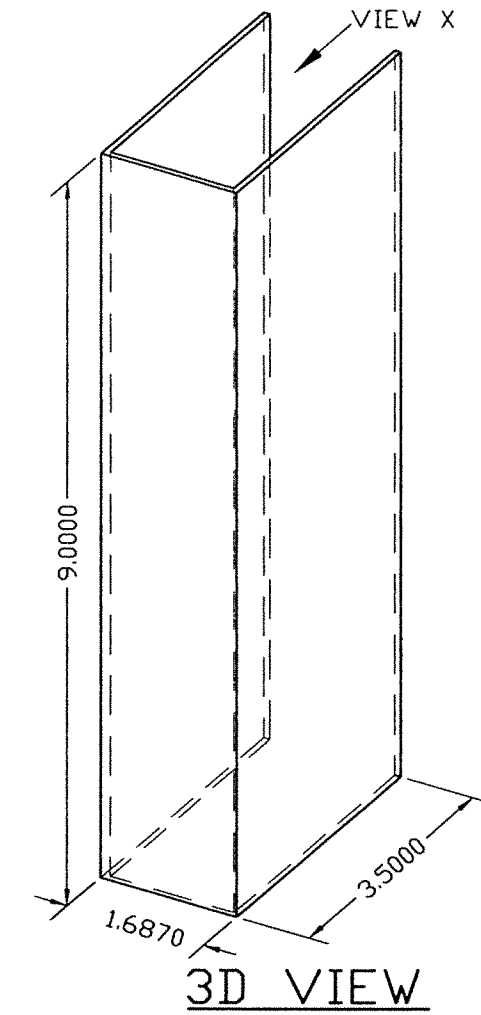
VIEW X



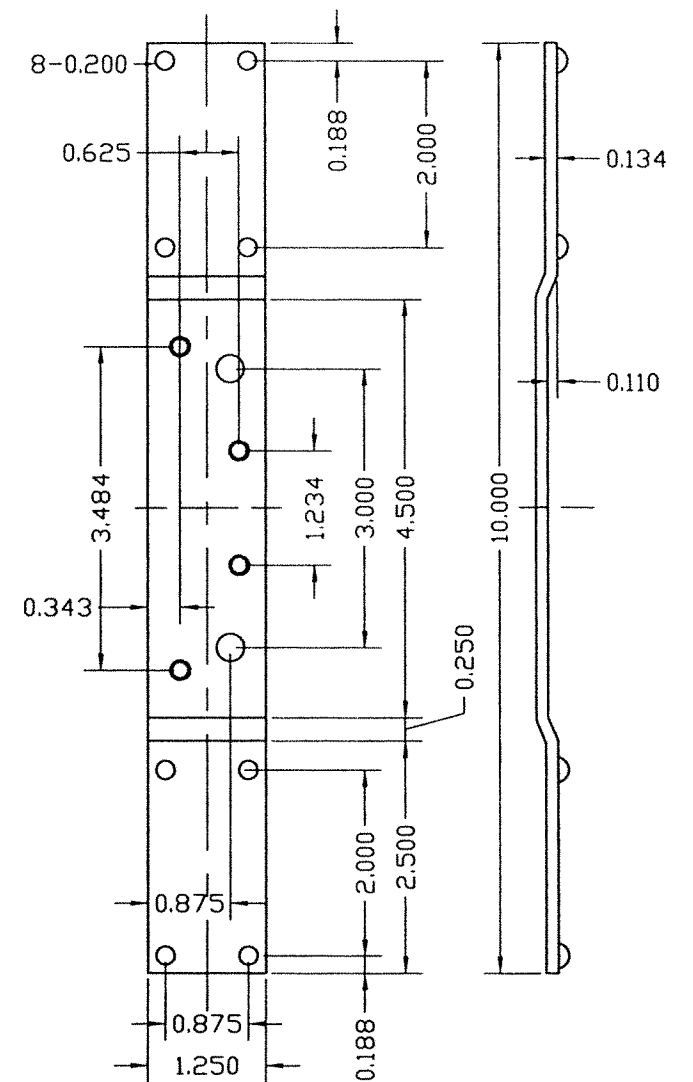
PLAN

MATERIAL:
14 GAUGE (0.074) MINIMUM
GALVANNEAL STEEL, GLUED TO
DOOR AT HEAD & SILL USING
HEMILBOND 8320-1 CONTACT
ADHESIVE.

(18) DOOR SURFACE BOLT REINFORCING DETAIL



3D VIEW



(17) 4 1/2" HINGE BAR REINFORCING FOR DOOR

MATERIAL:
8 GAUGE
GALVANNEAL STEEL

WALTER A. TILLIT JR.
LICENSE
No. 44167

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

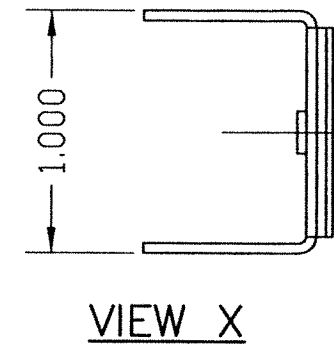
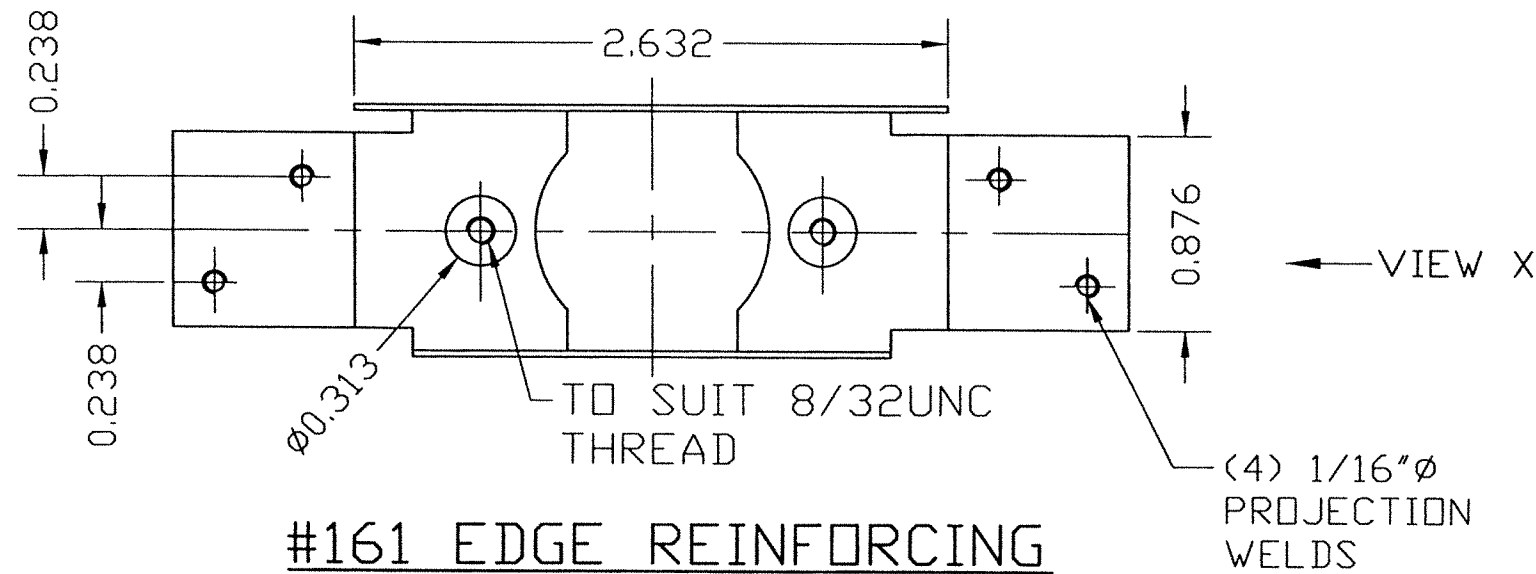
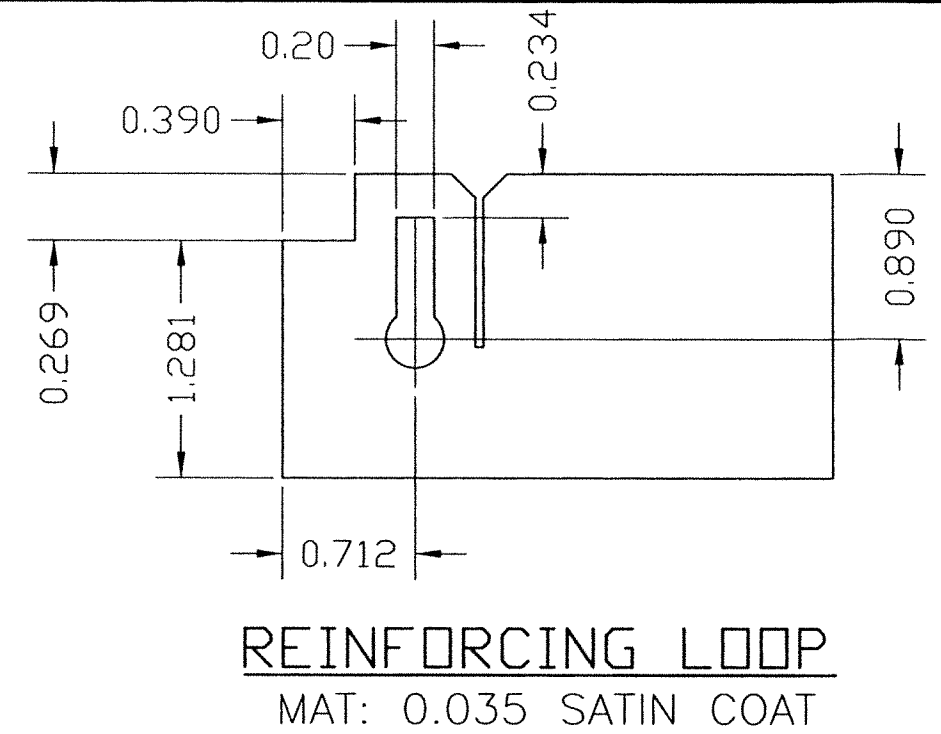
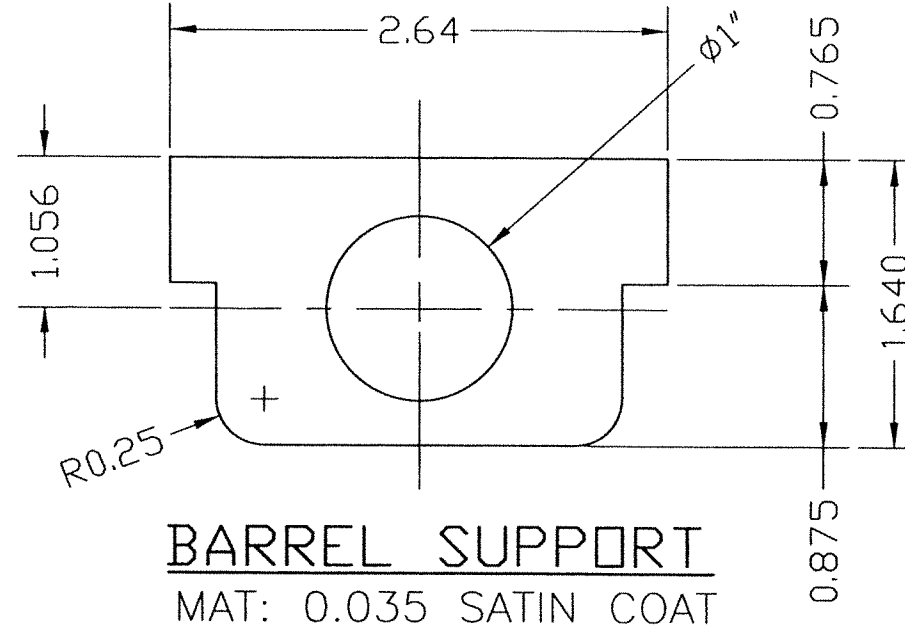
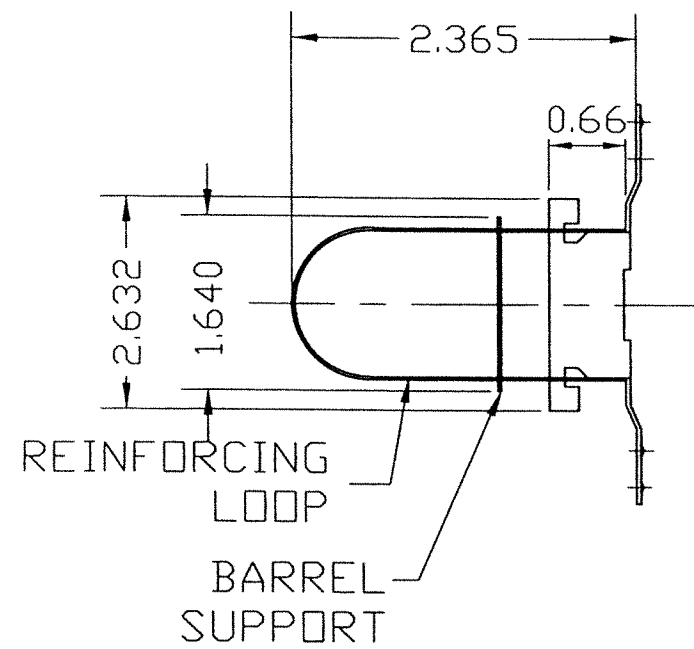
2023 TILTECO, INC.

TILTECO INC.

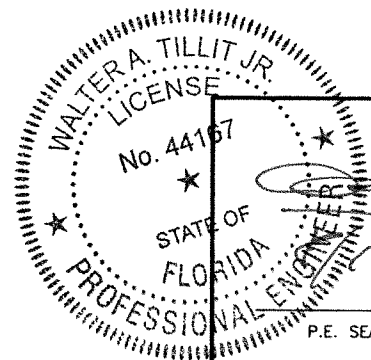
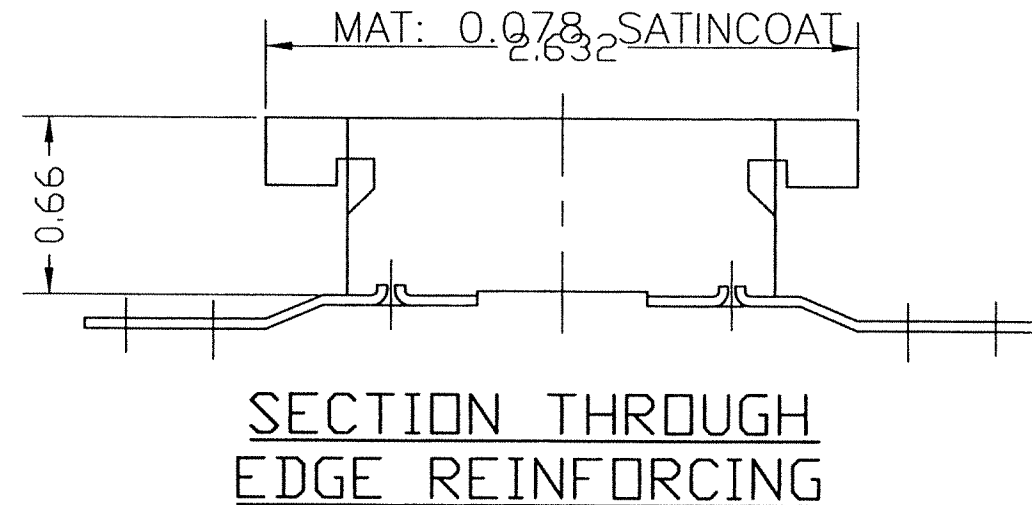
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

P.E. SEAL/SIGNATURE/DATE

DOUBLE & SINGLE SERIES LS18 OUTSWING COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE STEEL FRAME LOUVERED ASSEMBLIES.						Y.M. DRAWN BY
DAYBAR INDUSTRIES LTD 50 WEST DRIVE, BRAMPTON, ON CANADA, L6T 2J4 TEL: 905 625-8000 FAX: 905 625-4204						08/17/2023 DATE
						23-180 DRAWING No
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	
1	OLD 20-153	08/17/2023	3			
2			4			



(24) #161 CYLINDRICAL LOCK AND DEAD BOLT REINFORCEMENT DETAIL



P.E. SEAL/SIGNATURE/DATE

©2023 TILTECO, INC.

TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 , Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD

50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

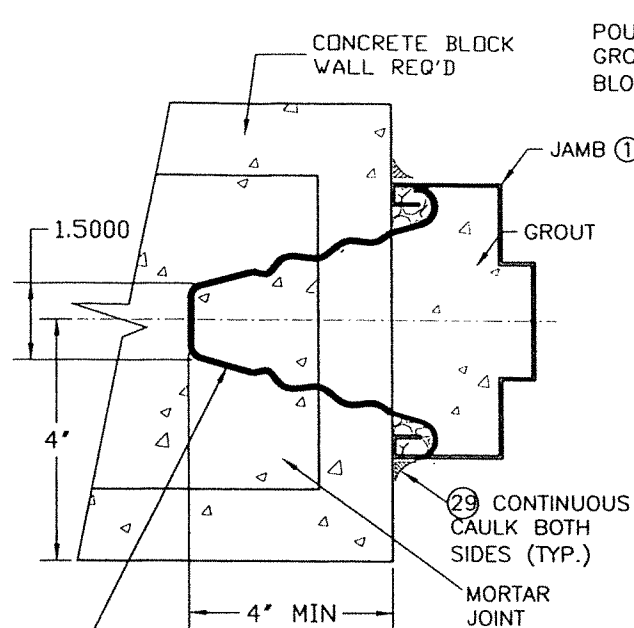
Y.M.
DRAWN BY

08/17/2023
DATE

23-180
DRAWING No

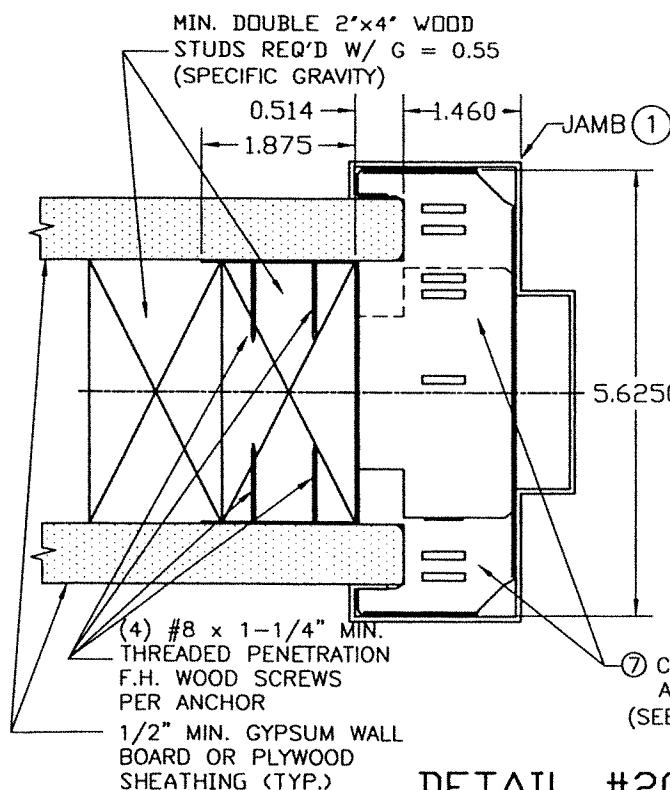
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

SHEET 16 OF 19

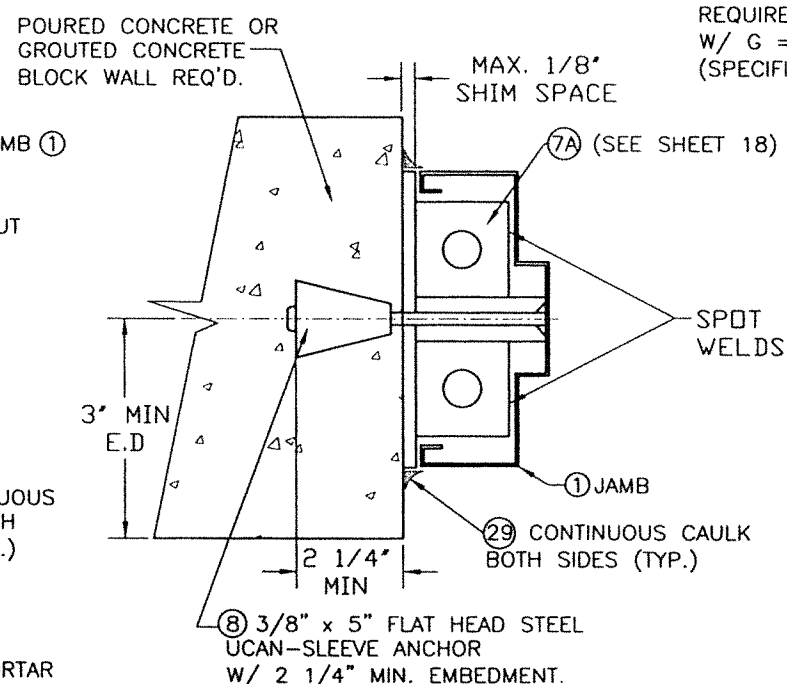


⑥ MASONRY WIRE ANCHORS IN HORIZ. MORTAR JOINTS; FILL JAMBS ① SOLID WITH GROUT PER ASTM C476 W/ MIN. COMPRESSION STRENGTH OF 2.5 Ksi (SEE SHEET 18)

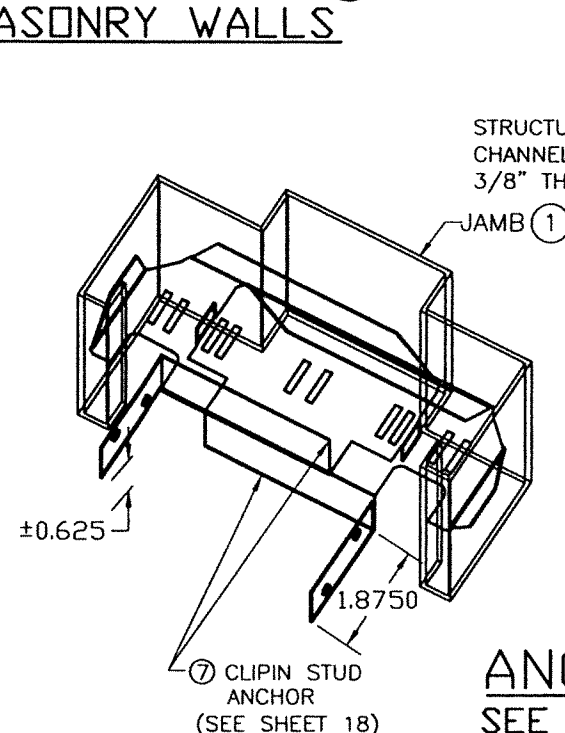
DETAIL #21
WIRE ANCHOR ⑥
INSTALLATION TO
MASONRY WALLS



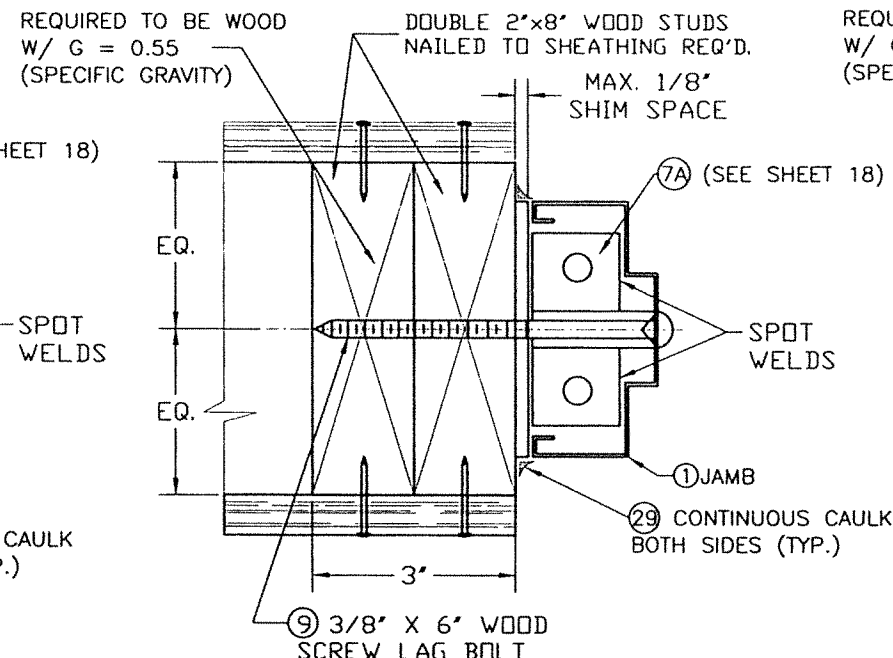
DETAIL #20
INSTALLATION OF 2 PIECE COMBINATION
STUD ANCHOR ⑦ INTO WOOD FRAME WALLS



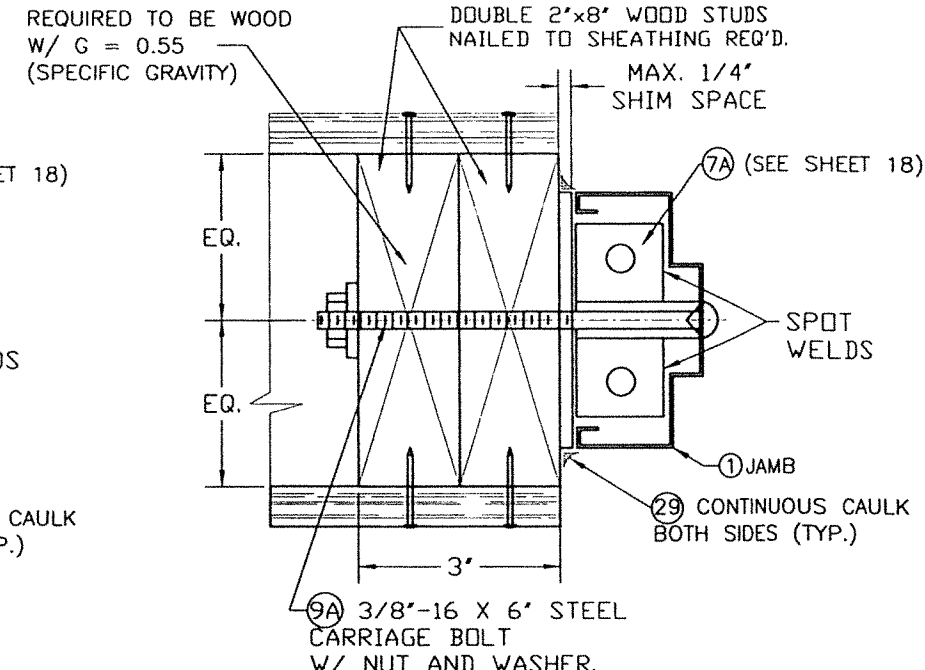
DETAIL #22
INSTALLATION OF UCAN
SLEEVE ANCHORS ⑧ TO
MASONRY WALLS



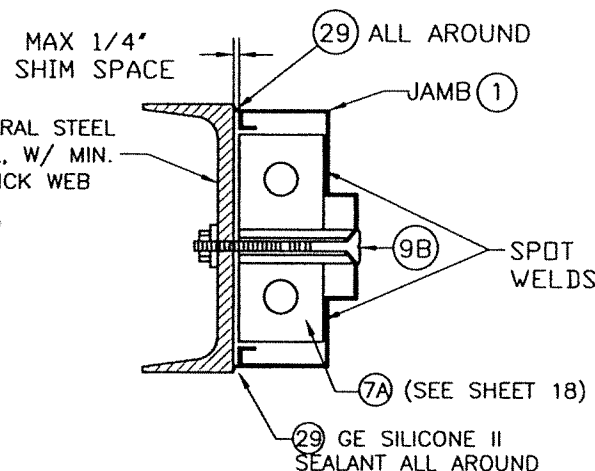
ANCHOR DETAILS:
SEE SCHEDULE ON SHEET 18



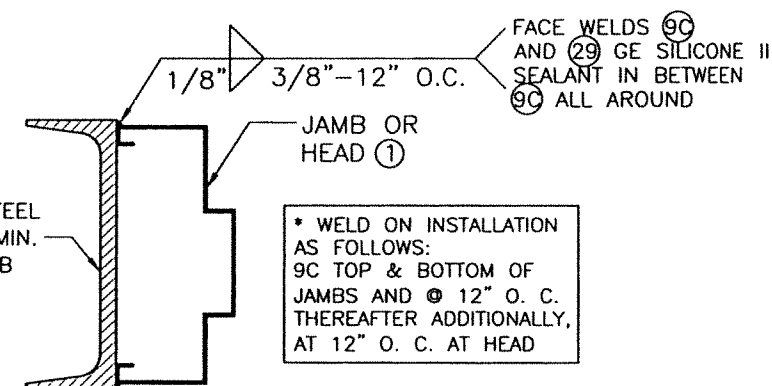
DETAIL #22A
INSTALLATION OF 3/8"Ø LAG
SCREW ⑨ TO WOOD FRAME WALLS



DETAIL #22B
INSTALLATION OF 3/8"Ø CARRIAGE
BOLT ⑨A TO WOOD FRAME WALLS



DETAIL #23B
INSTALLATION OF JAMB ① TO
STEEL CHANNEL THRU WELDING ⑨C



* WELD ON INSTALLATION AS FOLLOWS:
9C TOP & BOTTOM OF JAMBS AND @ 12" O. C. THEREAFTER ADDITIONALLY, AT 12" O. C. AT HEAD

No. 44 67
2023 TILTECO, INC.
STATE OF FLORIDA
TILTECO Inc.
TILTECO TESTING & ENGINEERING COMPANY
6355 N.W. 20th St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone: (305)871-1530 Fax: (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD

50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

Y.M.
DRAWN BY

08/17/2023
DATE

23-180
DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

SHEET 17 OF 19



Technical drawing showing two views of a mechanical component, likely a bracket or connector, with dimensions and labels.

Top View (Isometric):

- Label: LEAF TO SNAP ANOTHER PIECE
- Dimensions: $1\frac{13}{16}$, $5/8$, $9/16$, $2\frac{1}{2}$, $1\frac{13}{16}$, $5/8$, $4\frac{1}{8}$, $3/4$.
- Feature: $3/32 \times 1/2$ HOLES TO PERMIT SNAP TO ANOTHER PIECE

Bottom View (Isometric):

- Label: LEAF TO SNAP ANOTHER PIECE
- Dimensions: $7/16$, $7/16$, $1\frac{13}{16}$, $5/8$, $9/16$, $2\frac{1}{2}$, $1\frac{13}{16}$, $5/8$, $4\frac{1}{8}$, $3/4$.
- Feature: $3/32 \times 1/2$ HOLES TO PERMIT SNAP TO ANOTHER PIECE

SHEET 18 OF 19

BILL OF MATERIALS:

ITEM	QTY	DESCRIPTION	MATERIAL	SIZE AND SPEC'S
1	1	16 GAUGE JAMB/ HEAD FRAME SERIES 'AS'	16 GAUGE .058 MINIMUM. ALL COMPONENTS OF THIS ITEM, I.e., HEAD, JAMBS, REINFORCEMENTS AND ANCHORS ARE COMMERCIAL GALVANIZED STEEL (TYPE B), ASTM A653/A653M, COATING DESIGNATION A40, KNOWN COMMERCIALLY AS PAINTABLE GALVANNEAL W/ MIN. TENSILE STRENGTH 52 KSI, MIN. YIELD STRENGTH 45 KSI, ELONGATION 40%.	5 3/4' DEPTH X 2' FACE X .058" MIN THICK (SEE SHEET 9)
1A	1	16 GAUGE OPTIONAL HEAD FRAME SERIES 'AS'	SAME AS ITEM 1	5 3/4' DEPTH X 4 3/8" FACE X .058" MIN THICK (SEE SHEET 9)
1B	1	SURFACE STRIKE REINFORCING	12 GAGE GALVANNEAL STEEL	12 GAGE (0.097" MIN.) x 1.500' x 11.875' LONG, SEE DETAIL ON SHEET 9.
2	1	18 GAUGE FLUSH/EMBOSSSED DOOR COMMERCIAL W/ CORE (20)	18 GAUGE .045 MINIMUM. ALL COMPONENTS OF THIS ITEM, I.e., FACE SHEETS, INTERNAL COMPONENTS AND REINFORCEMENTS ARE GALVANIZED STEEL CONFORMING TO ASTM A924, TO ASTM A653/A653M, COMMERCIAL STEEL (TYPE B), COATING DESIGNATION A40, KNOWN COMMERCIALLY AS PAINTABLE GALVANNEAL W/TENSILE STRENGTH 60 KSI, AND YIELD STRENGTH 45 KSI, ELONGATION 40%.	1 3/4" THICK X (.045 MIN), SEE SHEET 6.
3	3	8 GAUGE DOOR HINGE REINFORCING	STEEL	1 1/4" X 10" X 8 GAUGE
4	3	8 GAUGE FRAME HINGE REINFORCING	STEEL	1 1/2" X 8 3/4" X 8 GAUGE
5	1	STRIKE REINFORCING (FRAME)	STEEL	1 3/8" X 7 5/16" X 14 GAUGE (.072 MIN)
6	AS REQ'D	WIRE MASONRY FRAME ANCHORS	STEEL W/ MIN. YIELD STRENGTH = 40.2KSI AND MIN. TENSILE STRENGTH = 95.9 KSI	9 1/2" LONG X 0.157" MIN. DIAMETER.
7	AS REQ'D	CLIPIN STUD ANCHORS (2 PIECE COMBINATION)	STEEL, ASTM A-653, A-60 GALVANNEAL	1 7/8" X 5 5/8" X 20 GAUGE (.035 MIN) W/ (4)#8 X 1 5/8" WOOD SCREWS
7A	AS REQ'D	EMA BUTTERFLY ANCHOR (PART #PT1-008)	STEEL	18 GAUGE STEEL SATIN COAT.
8	AS REQ'D	EMA ANCHOR BOLTS	STEEL, W/ Fy = 45,000 psi.	3/8" X 5" STEEL UCAN-SLEEVE ANCHOR
9	AS REQ'D	WOOD SCREW LAG BOLT	STEEL, W/ Fy = 45,000 psi.	3/8" x 6"
9A	AS REQ'D	CARRIAGE ANCHOR BOLT	STEEL, W/ Fy = 45,000 psi.	3/8"-16 X 6" STEEL CARRIAGE BOLT C/W NUT AND WASHER, PER ASTM A-307
9B	AS REQ'D	F.H. M.S. TO STEEL CHANNEL THROUGH BOLTING	STEEL, W/ Fy = 45,000 psi.	3/8" X 3 1/2" STEEL F.H. M.S., PER ASTM A-307
9C	AS REQ'D	STEEL CHANNEL WELDING	STEEL, E60XX ELECTRODE	WELD ON INSTALLATION, MIN. 1/8"x3/8" STITCH WELD
10	3	HINGES-HAGER BB1279, BB1168HD OR STANLEY FBB179, FBB168	STEEL	4.5" X 4.5" STANDARD WEIGHT (.134 THICK), ATTACHED TO FRAME W/(4) 12-24x1/2" FHMS.
11	1	RIM EXIT: VON DUPRIN 98/99L X CYC X TRIM	AS PER MANUFACTURER'S CATALOG	RIM EXIT ATTACHED TO DOOR W/(4) 1/4-20x1" MS.
12	1	MORTISE LOCK: SCHLAGE-L9000 SERIES W/ DEAD BOLT	AS PER MANUFACTURER'S CATALOG	MORTISE LOCK ATTACHED W/(2) #12-24x1/2" SREWS.
13	1	CYLINDRICAL LOCK: - SCHLAGE D SERIES	AS PER MANUFACTURER'S CATALOG	ATTACHED TO STRIKE PLATE W/(2) 12-24x1/2" SCREWS.
14	1	DEAD BOLT: - SCHLAGE B SERIES	AS PER MANUFACTURER'S CATALOG	ATTACHED TO STRIKE PLATE W/(2) 8-32x1/2" SCREWS
15	1	VON DUPRIN #99S4 REMOVABLE MULLION	0.125" THICK A 500 GRADE B STEEL	SECURED TO 499 STRIKE PLATE WITH (8) 5/16"-18x3/4"(MIN.) MACHINE SCREWS.
15A	1	WEATHER STRIP (NATIONAL GUARD PRODUCTS #120NA)	NEOPRENE	SECURED WITH DOUBLE ROW OF #6x1/2" SMS SCREWS @ 1' FROM EACH END AND 4" O.C. (AS PREDRILLED BY MANUFACTURER)
16	1	THRESHOLD (NATIONAL GUARD PRODUCTS #950NA)	EXTRUDED ALUMINUM (6063-T5 ALLOY)	5' x 0.500" x 0.080" THICK, ATTACHED TO SLAB W/ 3/16"x 1 3/4" F. H. TAPCON ANCHORS W/ 1 1/4" MIN. EMBEDMENT LOCATED @ 2 3/4" FROM EACH END AND 10" O. C.
17	1	4 1/2" HINGE BAR REINFORCING FOR DOOR	GALVANNEAL STEEL	1.25" x 10" x 0.134" MIN. THICK
18	1	DOOR SURFACE BOLT REINFORCING	GALVANNEAL STEEL	14 GAGE (0.074") x 1.687" x 3.500" x 9.000" LONG.
19B	AS REQ'D	MODEL 1500-A LOUVER & SECURITY GRILLE	AS PER MANUFACTURER (AIR LOUVERS, INC.)	24" x 24" (MAX.), SEE SHEET 8 FOR DETAILS & COMPONENTS.
20	1	0.75" THICK EXPANDED POLYSTYRENE DOOR CORE OR 3/4" CELL PAPER HONEYCOMB OR POLYURETHANE OR MINERAL BOARD	0.75" THICK DOOR CORE, EXPANDED POLYSTYRENE SOLID SLAB RIGID BOARD TYPE 1, PCF COMFORMING TO ASTM C578 BY DYPLAST PRODUCTS LLC, OR 3/4" CELL PAPER HONEYCOMB OR 1.5PCF POLYURETHANE OR 12.5PCF MINERAL BOARD.	BONDED TO FACE SHEET WITH CONTACT ADHESIVE HELMIBOND # 8320-1 APPLICATION RATE OF 7 GRAMS PER SQUARE FOOT ON ALL CORES
21	4	8" LONG # 275 D HAGER SURFACE BOLT	STEEL W/ US26D FINISH	ENGAGED TO THE DOOR AT TOP AND BOTTOM TO HEADER & THRESHOLD RESPECTIVELY & FASTENED TO DOOR W/ (4) #10-24 x 1 1/2" THRU BOLT EACH CONNECTION.
22	AS REQ'D	TAPCON ANCHORS	STEEL	3/16" x 1 3/4"
23	1	MORTISE LOCK AND RIM PANIC DEVICE REINFORCEMENT	0.074" MIN. THICK GALVANNEAL STEEL	SEE SHEET 15 FOR SUBCONJUNTS
24	1	#161 CYLINDRICAL LOCK AND DEAD BOLT REINFORCEMENT	SATIN COAT STEEL	SEE SHEET 16 FOR DETAILS
25	1	DOOR SURFACE CLOSER REINFORCEMENT	0.074" MIN. THICK GALVANNEAL STEEL	14 GAGE (0.074" MIN.) x 3 1/2" x 1.6875 x 16.250" LONG.
26	1	DOOR TOP/ BOTTOM END CHANNEL	16 GAGE GALVANNEAL STEEL	16 GAGE (0.057" MIN.) x 1.8125" x 1.4375.
27	1	'Z' ASTRAGAL	0.075" MIN. THICK A 500 GRADE B STEEL	0.075" MIN. THICK x 2.00" x (2)0.625" x 84" LONG.
28	1	DOOR SNAP IN TOP CAP	20 GAGE GALVANNEAL STEEL ASTM A-653, A-60	SEE SHEET 14 FOR SIZES
29	AS REQ'D	CAULKING: GE SILICONE II	N/A	
30	AS REQ'D	995 DOW CORNING STRUCTURAL SILICONE	N/A	

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (HIGH VELOCITY HURRICANE ZONE)

©2023 TILTECO, INC.

TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

DOUBLE & SINGLE SERIES LS18 OUTSWING
COMMERCIAL STEEL DOOR W/SERIES "AS" 16 GAGE
STEEL FRAME LOUVERED ASSEMBLIES.

DAYBAR INDUSTRIES LTD

50 WEST DRIVE, BRAMPTON,
ON CANADA, L6T 2J4
TEL: 905 625-8000
FAX: 905 625-4204

Y.M.
DRAWN BY

08/17/2023
DATE

23-180
DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-153	08/17/2023	3		
2			4		

SHEET 19 OF 19