

GENERAL NOTES:

1. STORM PANEL SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2023 (8th EDITION) OF THE FLORIDA BUILDING CODE. THIS STORM PANEL SHALL NOT BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES (MIAMI-DADE / BROWARD COUNTIES).

DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1609 OF THE ABOVE MENTIONED CODE, FOR A WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE THESE SHUTTERS WILL BE INSTALLED AND FOR A DIRECTIONALITY FACTOR $K_d=0.85$. USING ASCE 7-22 SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 2, 7, 9 THRU 17.

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 2, 7, 9 THRU 17.

IN ORDER TO VERIFY THAT COMPONENTS AND ANCHORS ON THIS P.E.D. AS TESTED WERE NOT OVER STRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS. A DURATION FACTOR $CD=1.60$ WAS USED FOR VERIFICATION OF FASTENERS IN WOOD, PER NDS 2018.

STORM PANEL'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.2 OF THE ABOVE MENTIONED CODE AS PER AMERICAN TEST LAB REPORTS # 0321.01-05, # 0812.01-05 AND # 0119.01-06, PER ASTM E 1886, E 1996 AND ASTM E-330 STANDARDS, QUALIFIED FOR WIND ZONES 1, 2 AND 3; MISSILE TYPE D (BASIC PROTECTION ONLY) AND FOR INSTALLATION AT NON ESSENTIAL FACILITIES AS DEFINED BY ASTM E 1996.

2. ALL ALUMINUM SHEET METAL PANELS SHALL HAVE 5052-H32 OR 3004-H34 ALLOY.

3. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY & TEMPER UNLESS OTHERWISE NOTED. STORM PANEL COMPONENTS (14) STUDDED PLATE AND (15) SNAP CAP ARE PATENT PENDING. ALL ALUMINUM EXTRUSIONS IN CONTACT WITH DISSIMILAR MATERIALS SHALL COMPLY WITH SECTION III-6 OF THE 2020 ALUMINUM DESIGN MANUAL.

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

5. BOLTS TO BE ASTM A-307 GALVANIZED STEEL OR AISI 304 SERIES STAINLESS STEEL, WITH 35 ksi MINIMUM YIELD STRENGTH.

6. ANCHORS TO WALL SHALL BE AS FOLLOWS: (UNLESS OTHERWISE NOTED)

- 1/4"Ø TAPCON ANCHORS AS MANUFACTURED BY I.T.W./BUILDEX.
- 1/4"Ø S.G. TAPCONS AS MANUFACTURED BY ITW/ BUILDEX.
- 1/4"Ø PANEL MATES ANCHORS MALE OR TVAS AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.
- 1/4"Ø X 3/4" SOLID SET ANCHORS, AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.

NOTES:

A.1) MINIMUM EMBEDMENT INTO POURED CONCRETE OF TAPCON ANCHORS AND S.G. TAPCONS IS 1 3/4"; FOR ELCO PANELMATE AND ELCO TVAS IS 2".

A.2) 3/4"Ø SOLID SET ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED.
-1/4"Ø -20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO.

A.3) IN CASE THAT PRECAST STONE, PRECAST CONCRETE PANELS, OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS, ANCHORAGE SHALL BE AS INDICATED ON NOTES A.1) & A.2) ABOVE.

(B) TO EXISTING CONCRETE BLOCK WALL:

- 1/4"Ø TAPCON ANCHORS AS MANUFACTURED BY I.T.W./BUILDEX.
- 1/4"Ø S.G. TAPCONS AS MANUFACTURED BY ITW/ BUILDEX.
- 1/4"Ø PANEL MATES ANCHORS MALE OR TVAS AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.
- 1/4"Ø x 3/4" SOLID SET ANCHORS, AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.

NOTES:

B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS, S.G. TAPCONS, ELCO PANELMATE, ELCO TVAS. INTO THE CONCRETE BLOCK UNIT SHALL BE 1 1/4".

B.2) -3/4"Ø SOLID SET ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE CONCRETE BLOCK UNIT NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED.

1/4"Ø-20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO.

B.3) IN CASE THAT PRECAST STONE OR PRECAST CONCRETE PANELS BE FOUND ON THE EXISTING WALL, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE AS INDICATED ON NOTES B.1) & B.2) ABOVE.

(C) TO EXISTING WOOD FRAME BUILDINGS, SEE SPECIFICATIONS ON SHEETS 12, 13, 14 & 15. ANCHORAGE SHALL BE PERFORMED BEYOND ANY FINISH MATERIAL AT WALL LIKE BRICK VENEER, STUCCO OR ANY OTHER FINISH.

(D) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.

7. PANELS MAY ALSO BE INSTALLED HORIZONTALLY FOLLOWING INSTALLATION DETAILS SHOWN ON SECTIONS 1 THRU 13 (SHEET 4 THRU 8) EXCEPT THAT HEADERS 2, 3, 3A & 4 SHALL NOT BE USED.

8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE SHUTTER IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE. THIS SHUTTER SHALL ONLY BE ATTACHED TO CONCRETE, BLOCK OR WOOD FRAME BUILDINGS.

9. THE INSTALLATION CONTRACTOR IS TO SEAL/CAULK ALL SHUTTER COMPONENT EDGES WHICH REMAIN IN CONTINUOUS CONTACT WITH THE BUILDING TO PREVENT WIND/RAIN INTRUSION. CAULK AND SEAL SHUTTER TRACKS ALL AROUND FULL LENGTH.

10. (a) THIS 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.

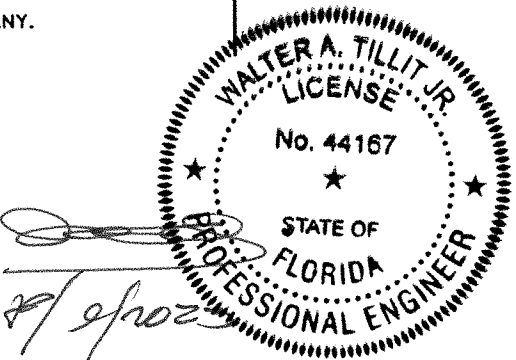
(c) THIS P.E.D. WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

(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. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

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

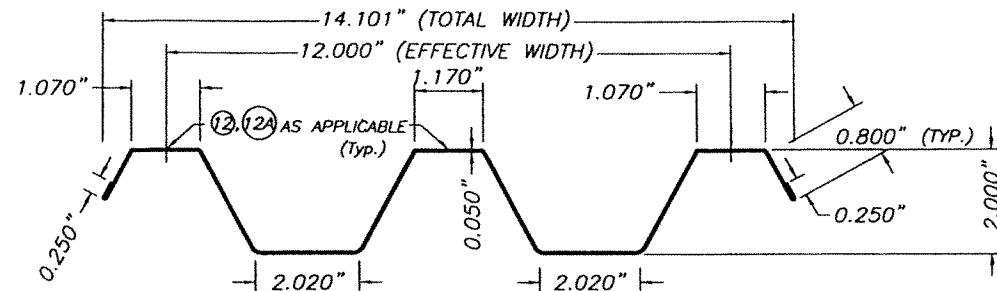
11. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT STORM PANEL IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABELING TO COMPLY WITH SECTION 1709.9.2 OF THE FLORIDA BUILDING CODE.

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

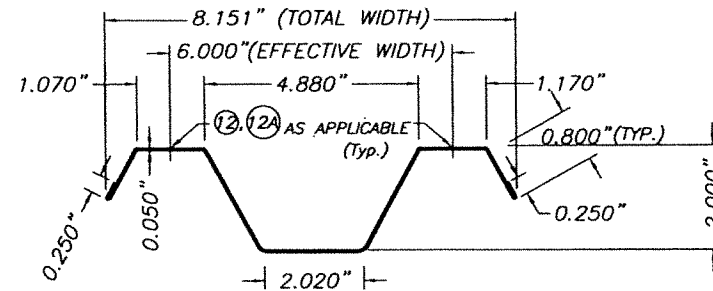


FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

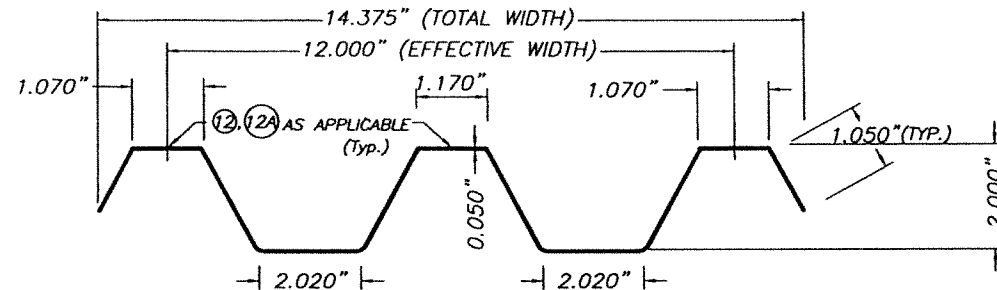
© 2023 TILTECO, INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)		Y.M. DRAWN BY:	
 TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone: (305)871-1530 Fax: (305)871-1531 CA-0006719 WALTER A. TILLIT Jr., P.E. FLORIDA Lic. 44167		EASTERN METAL SUPPLY, INC 4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263 FAX: (561)841-1716		8/9/2023 DATE:	
				23-164 DRAWING No	
				SHEET 1 OF 17	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		



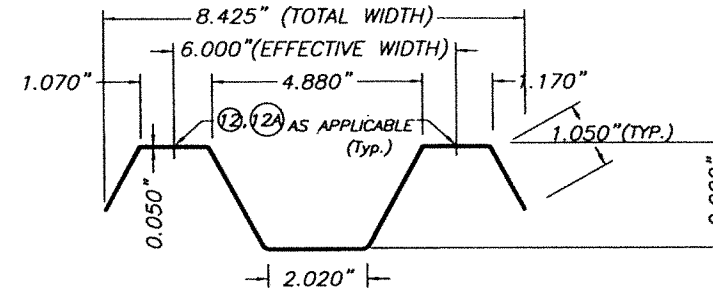
FULL PANEL W/ HEMMED EDGES



HALF PANEL W/ HEMMED EDGES



OPTIONAL FULL PANEL W/O HEMMED EDGES



OPTIONAL HALF PANEL W/O HEMMED EDGES

① STORM PANEL
SCALE : 1/4" = 1"

**MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND
CORRESPONDING MAXIMUM PANEL LENGTH "L" SCHEDULE**

**PANELS RETAINED AT BOTH
ENDS WITH TRACKS**

⑤⑥⑦⑧⑨⑩⑪⑭

OR DIRECT MOUNTED *

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	Max. PANEL LENGTH L (ft.)
+30.0, -30.0	13'-0"
+35.0, -35.0	12'-8"
+40.0, -40.0	12'-4"
+45.0, -45.0	12'-0"
+50.0, -50.0	11'-0"
+55.0, -55.0	10'-0"
+60.0, -60.0	9'-4"
+70.0, -70.0	8'-0"
+80.0, -80.0	7'-0"
+90.0, -90.0	6'-3"
+90.0, -100.0	5'-7"
+90.0, -110.0	5'-1"
+90.0, -120.0	4'-8"
+90.0, -130.0	4'-0"

**PANELS RETAINED AT LEAST
IN ONE OF THEIR ENDS**

WITH TRACKS

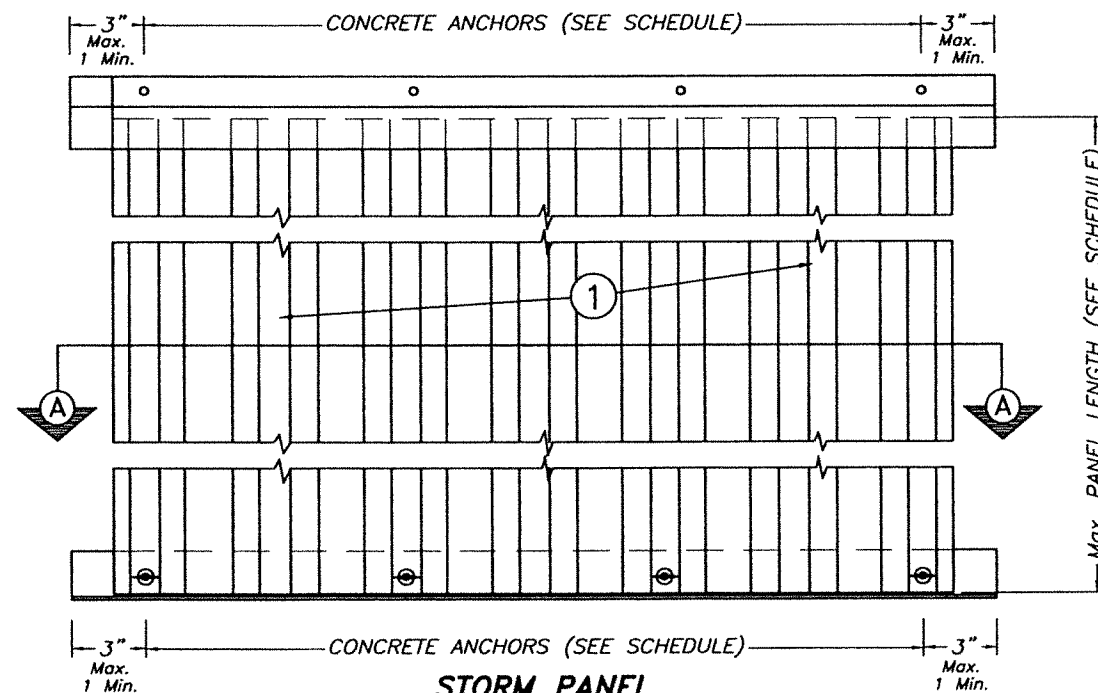
②③④A OR ④*

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	Max. PANEL LENGTH L (ft.)
+30.0, -30.0	13'-0"
+35.0, -35.0	12'-0"
+40.0, -40.0	11'-3"
+45.0, -45.0	10'-0"
+50.0, -50.0	9'-0"
+55.0, -55.0	8'-2"
+60.0, -60.0	7'-6"
+70.0, -70.0	6'-5"
+80.0, -80.0	5'-8"
+90.0, -90.0	5'-0"
+90.0, -100.0	5'-0"
+90.0, -110.0	5'-0"
+90.0, -120.0	4'-9"
+90.0, -130.0	4'-4 1/2"

*** NOTE:**

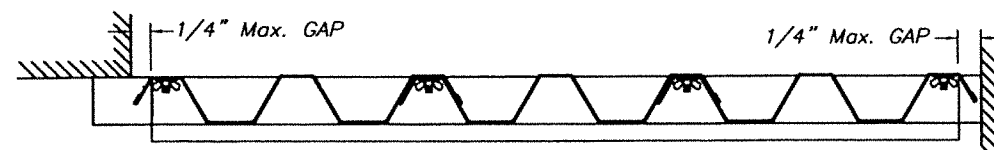
MAX. A.S.D. DESIGN PRESSURE RATING & MAXIMUM
PANEL LENGTH
FOR INTERNALLY REMOVABLE PANELS AS PER
MOUNTING INSTALLATIONS ON SHEET 7 OF 17 IS
+ 50.0, - 50.0 p.s.f. W/ 88" MAX. PANEL
LENGTH.

MAX. A.S.D. DESIGN PRESSURE RATING & MAXIMUM
PANEL LENGTH
FOR MOUNTING AS PER ALTERNATIVE #11 AND 14
ON SHEET 14A AND 15 OF 17, RESPECTIVELY, ARE
+50.0, -60.0 p.s.f. FOR 78" MAX. PANEL LENGTH,
AND +50.0, -50.0 p.s.f. FOR UP TO 108" PANEL
LENGTH.



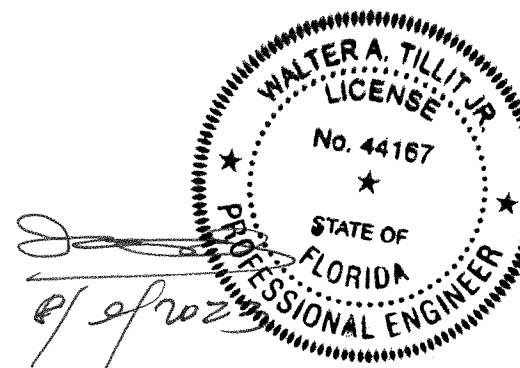
**STORM PANEL
TYPICAL ELEVATION**

N. T. S.



SECTION A-A

N. T. S.



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**0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)**

EASTERN METAL SUPPLY, INC
4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561)209-8263
FAX: (561)841-1716

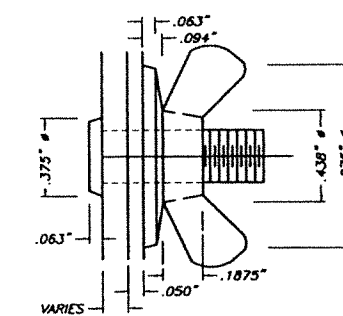
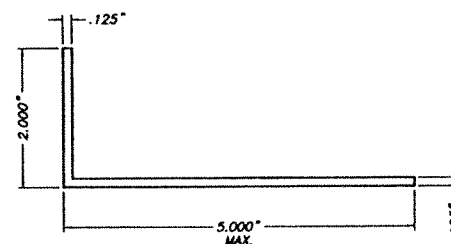
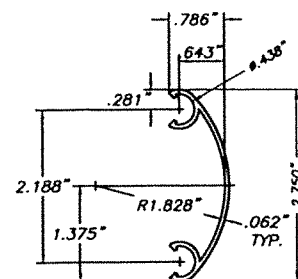
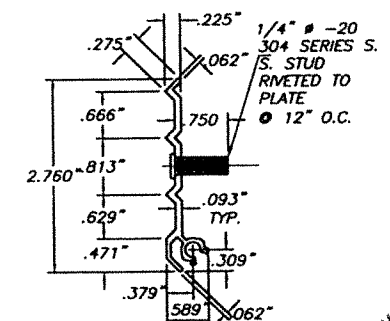
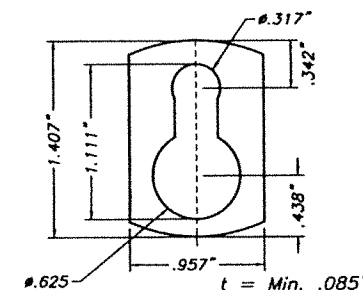
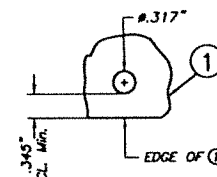
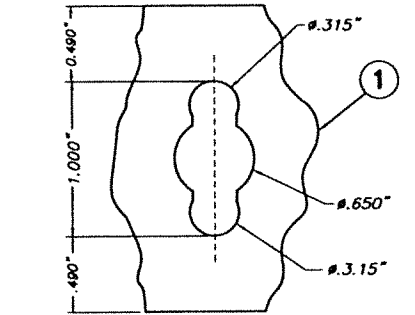
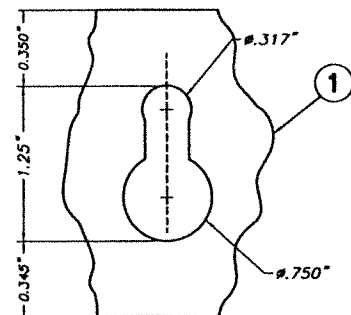
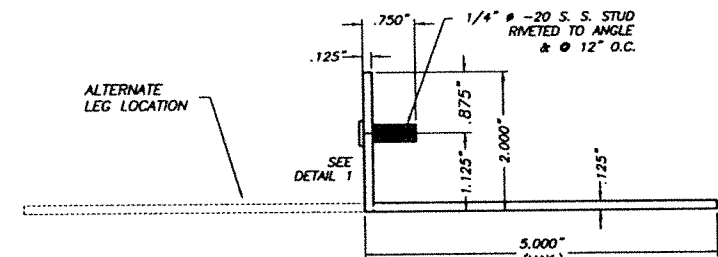
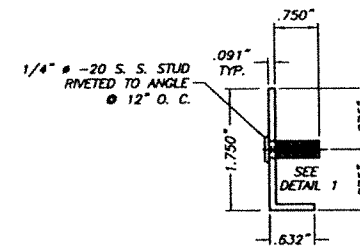
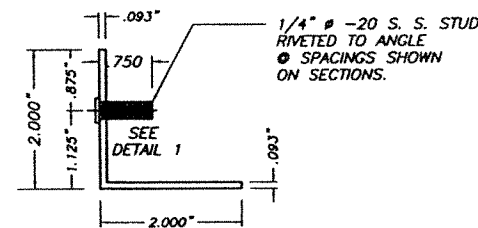
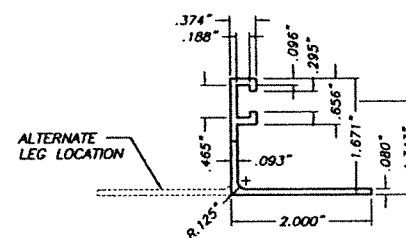
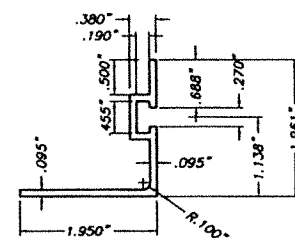
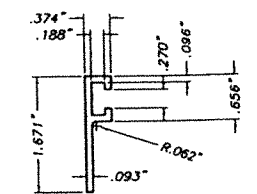
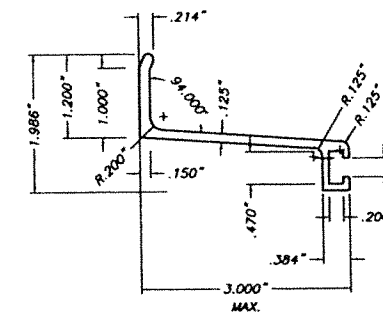
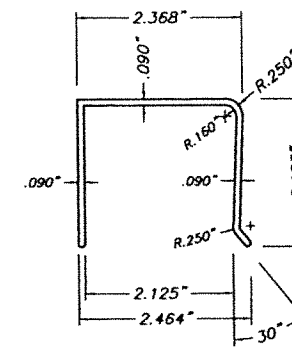
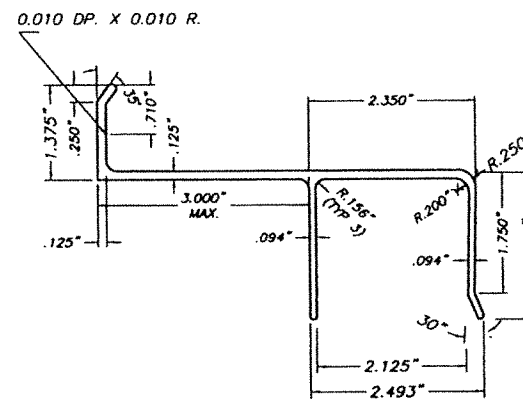
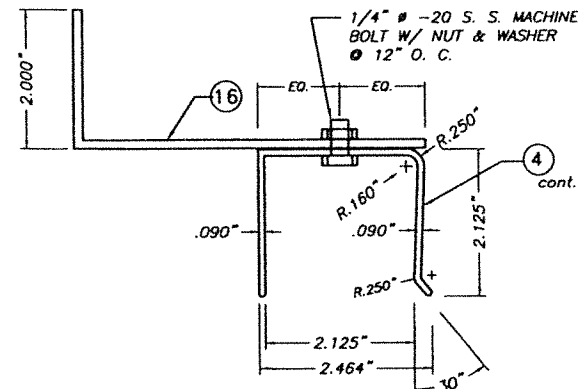
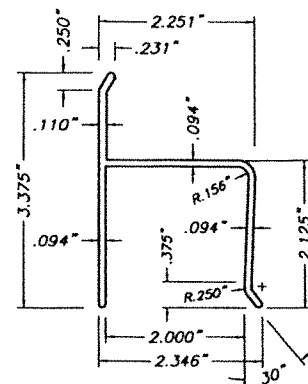
REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		

Y.M.
DRAWN BY:

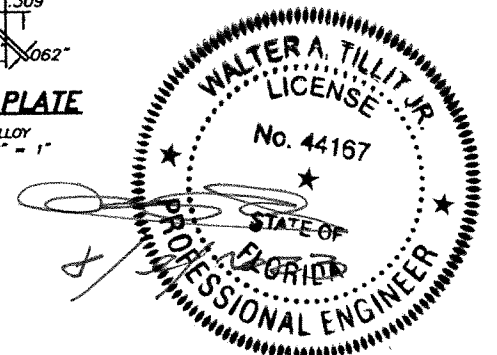
8/9/2023
DATE:

23-164
DRAWING No

SHEET 2 OF 17



COMPONENTS



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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TILLIT TESTING & ENGINEERING COMPANY

6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
 Phone : (305)871-1530 . Fax : (305)871-1531
 CA-0006719

WALTER A. TILLIT Jr., P.E.
 FLORIDA Lic. 44167

**0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)**

EASTERN METAL SUPPLY, INC

4268 WEST ROADS DRIVE
 WEST PALM BEACH, FL. 33407
 PHONE: (561)209-8263
 FAX: (561)841-1716

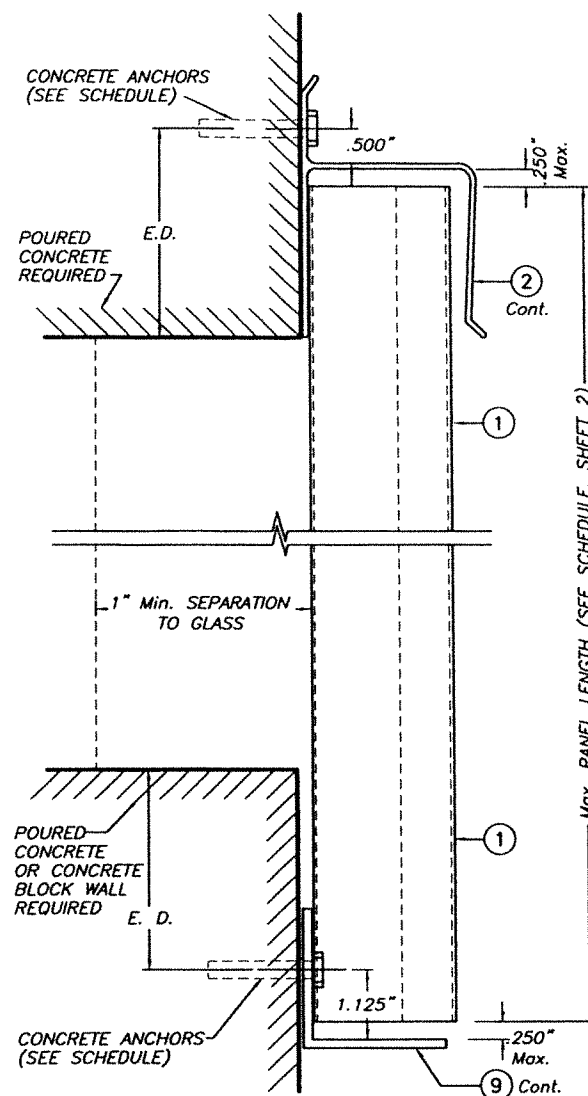
Y.M.
DRAWN BY:

8/9/2023
DATE:

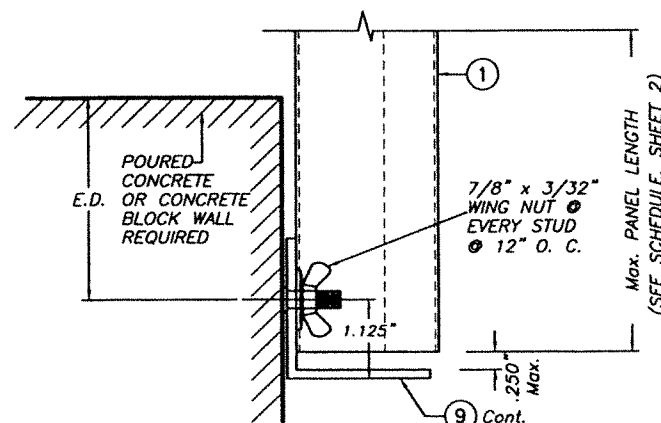
23-164
DRAWING No

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		

SHEET 3 OF 17



SECTION @ ANCHOR

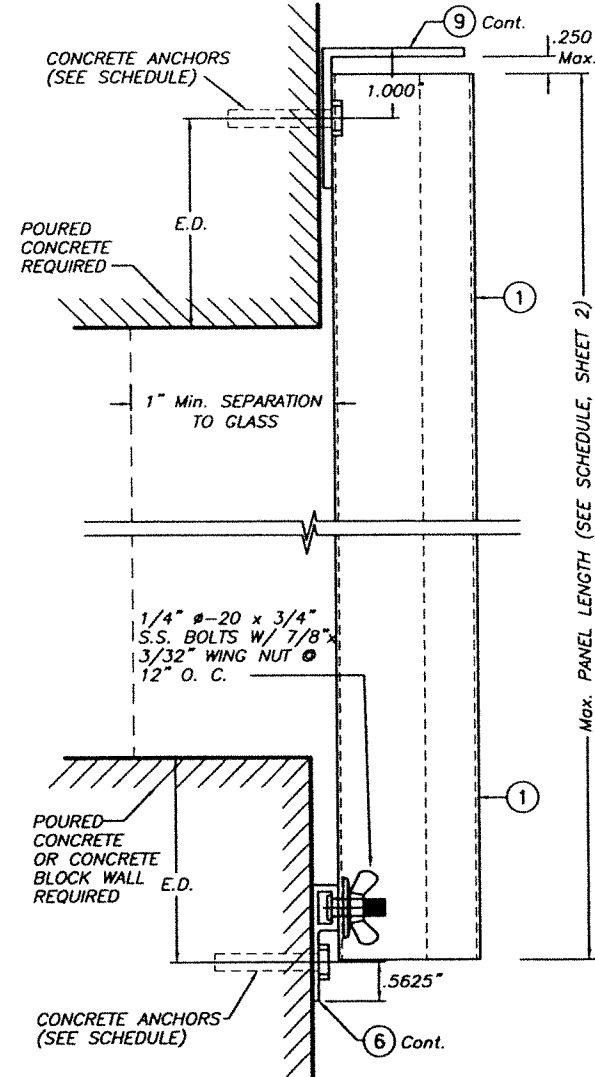


SECTION @ STUD

WALL MOUNTING INSTALLATION SECTION 1

SCALE : 1/2" = 1"

NOTE : DETAIL OF SECTION @ STUD VALID ALSO FOR WALL MOUNTING INSTALLATION - SECTION 2 (TOP)



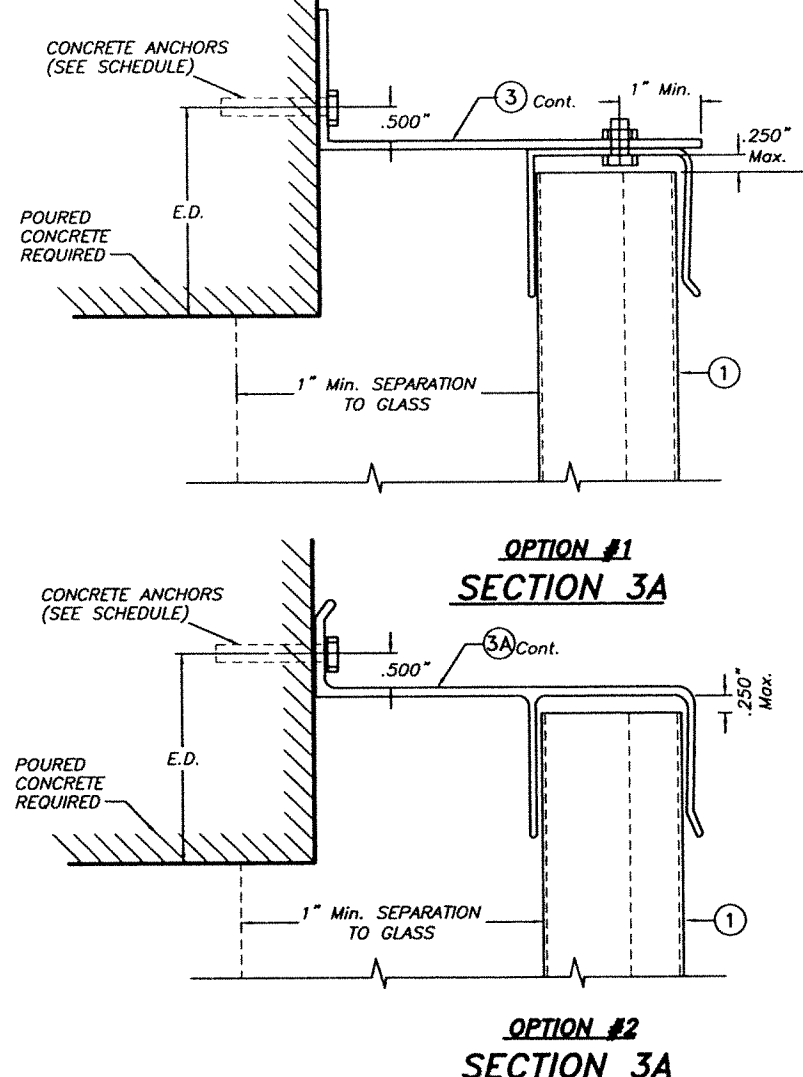
WALL MOUNTING INSTALLATION SECTION 2

SCALE : 1/2" = 1"

E. D. = EDGE DISTANCE (SEE SCHEDULE ON SHEETS 9 & 10 & 11)

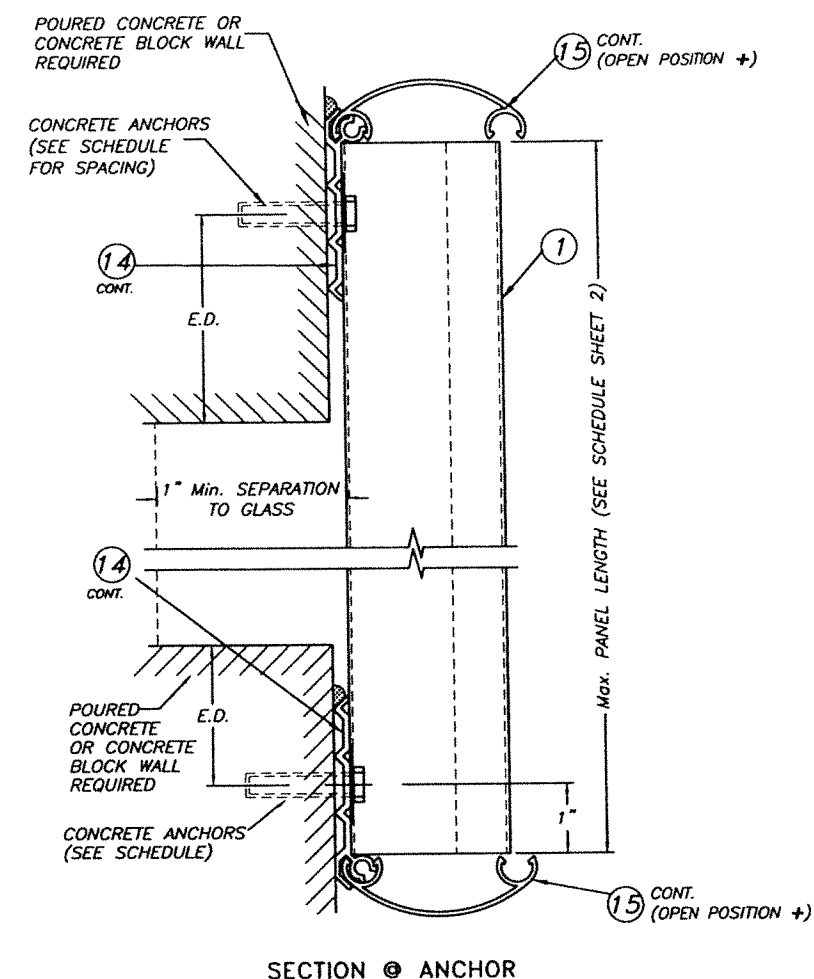
NOTE FOR COMBINATION OF SECTIONS :

WALL MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.



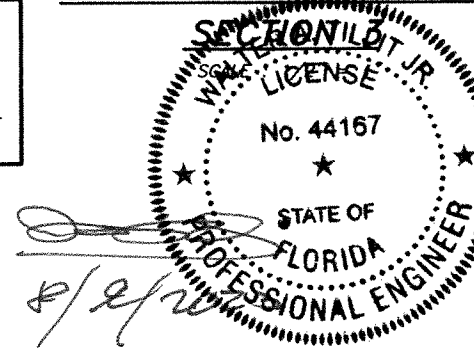
BUILD OUT INSTALLATION

* NOTE: SNAP CAP (13) TO REMAIN CLOSED AT NON HURRICANE CONDITIONS.



WALL MOUNTING INSTALLATION SECTION 4

SCALE : 1/2" = 1"



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FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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(2.00" DEEP)

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Y.M.

DRAWN BY:

8/9/2023

DATE:

23-164

DRAWING No

SHEET 4 OF 17

REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		

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REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		

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DRAWN BY:

8/9/2023

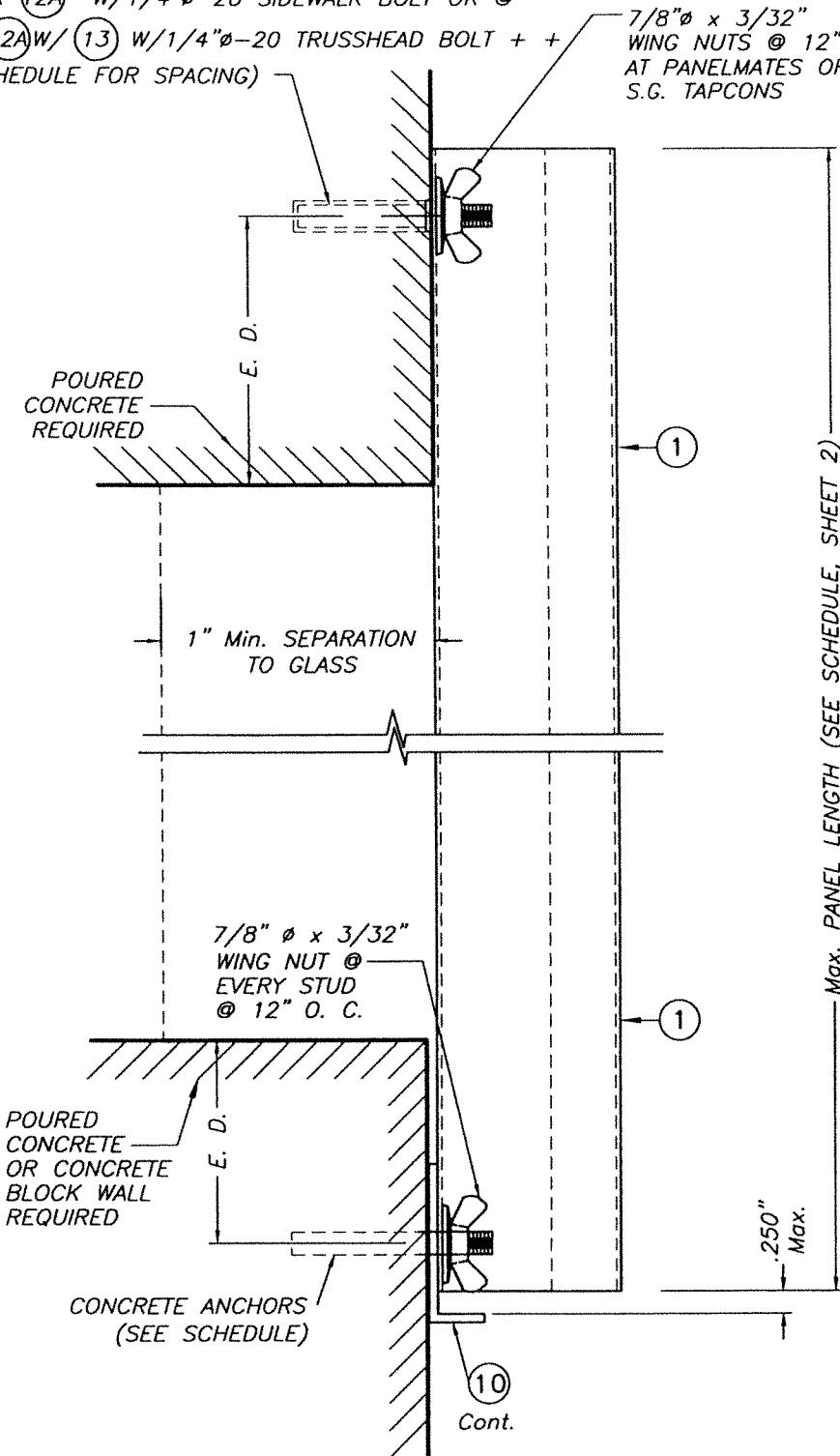
DATE:

23-164

DRAWING No

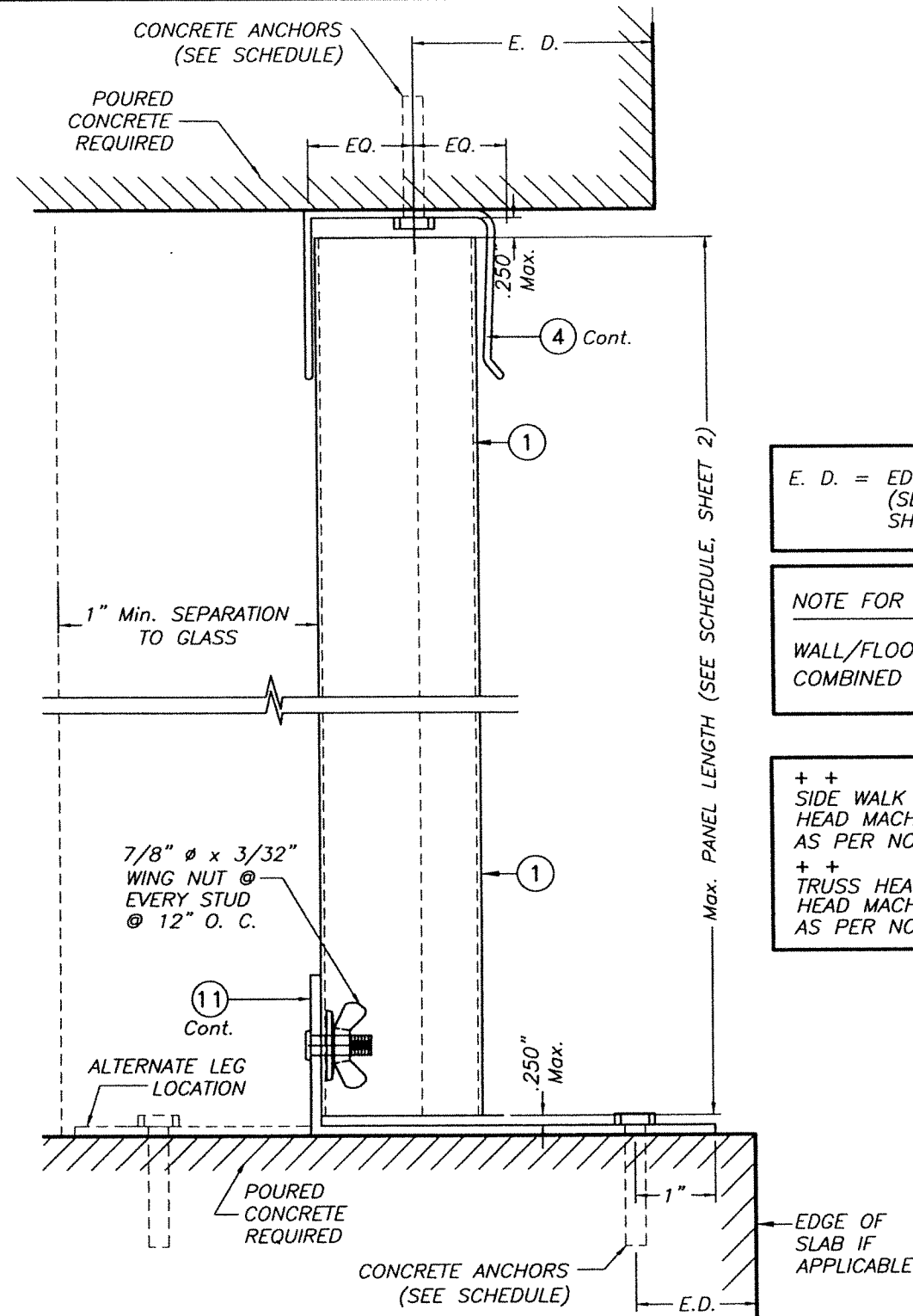
SHEET 5 OF 17

SOLID SET OR ELCO male PANELMATE OR S.G. TAPCONS
 @ (12) OR (12A) W/1/4"-20 SIDEWALK BOLT OR @
 (12) OR (12A)W/(13) W/1/4"-20 TRUSSHEAD BOLT + +
 (SEE SCHEDULE FOR SPACING)



WALL MOUNTING INSTALLATION SECTION 9

SCALE : 1/2" = 1"



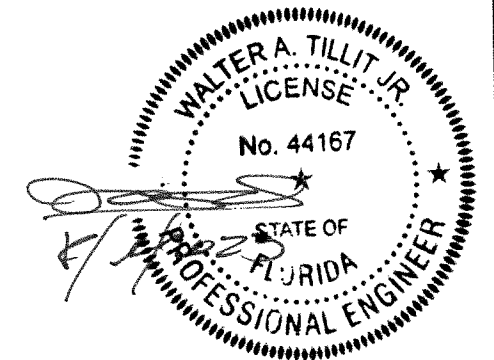
CEILING & FLOOR MOUNTING INSTALLATION SECTION 10

SCALE : 1/2" = 1"

E. D. = EDGE DISTANCE
 (SEE SCHEDULE ON
 SHEETS 9 & 10 & 11)

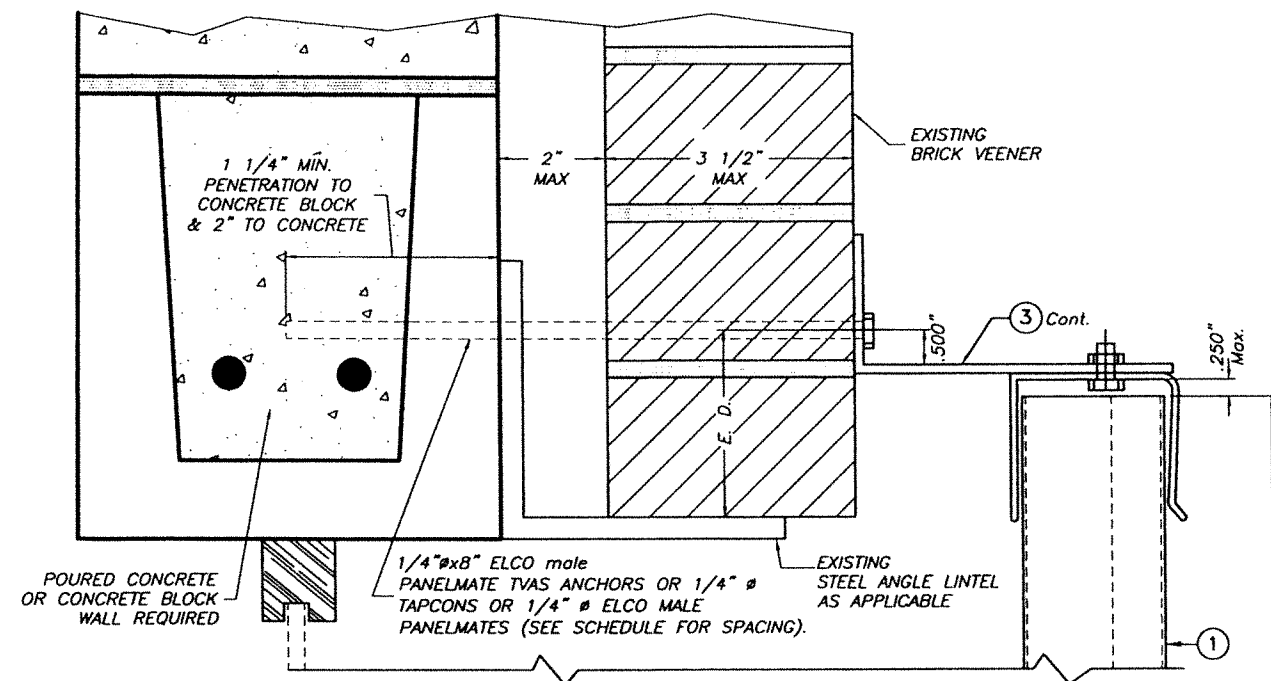
NOTE FOR COMBINATION OF SECTIONS :
 WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE
 COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

+ +
 SIDE WALK BOLTS ARE 3/4"Øx3/32"THICK
 HEAD MACHINE SCREW W/LENGTH
 AS PER NOTES A.2 & B.2 (SHEET 1)
 + +
 TRUSS HEAD BOLTS ARE 1/2"Øx1/8"THICK
 HEAD MACHINE SCREW W/LENGTH
 AS PER NOTES A.2 & B.2 (SHEET 1)

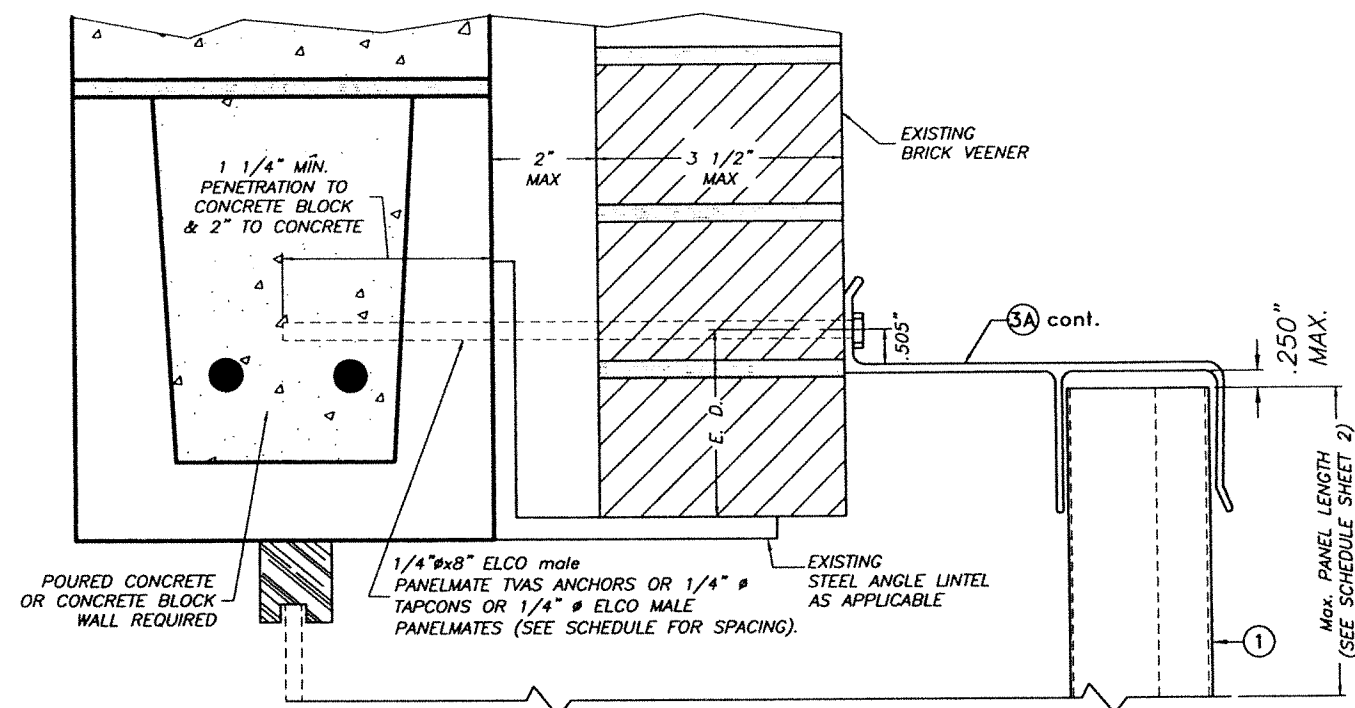


FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

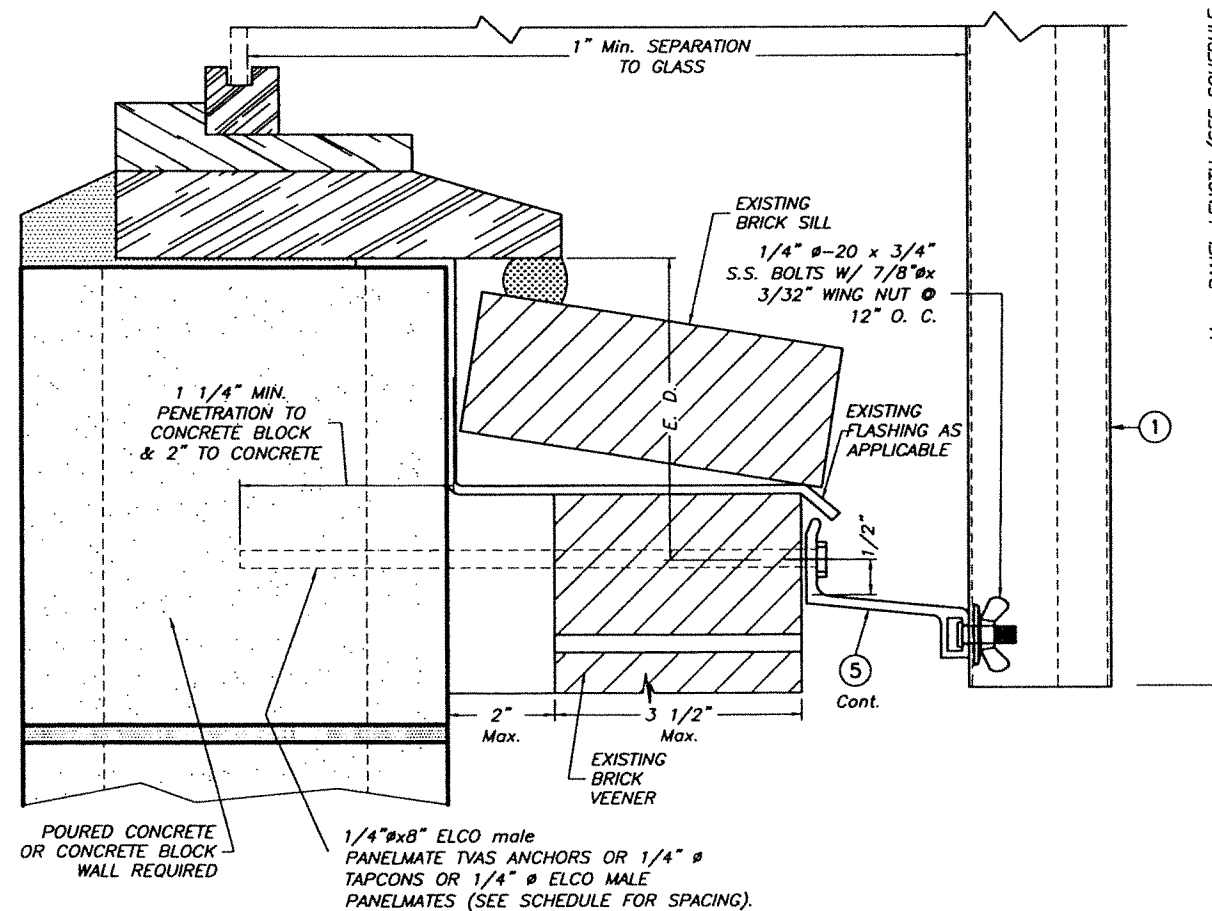
© 2023 TILTECO, INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)		Y.M. DRAWN BY:	
TILTECO INC.		EASTERN METAL SUPPLY, INC		8/9/2023 DATE:	
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone : (305)871-1530 Fax : (305)871-1531 CA-0006719		4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263 FAX: (561)841-1716		23-164 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		
WALTER A. TILLIT Jr., P.E. FLORIDA Lic. 44167				SHEET 6 OF 17	



OPTION #1
SECTION 11A



OPTION #2
SECTION 11A



BUILD OUT INSTALLATION
SECTION 11

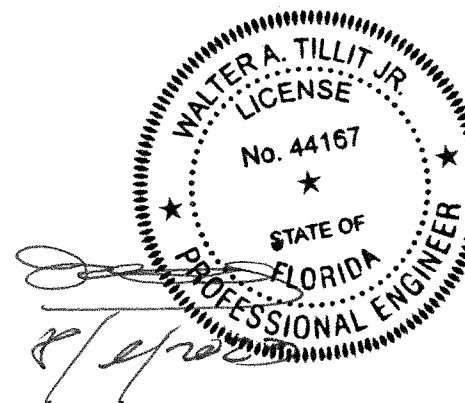
SCALE : 3/8" = 1"

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON
SHEETS 9 & 10 & 11)

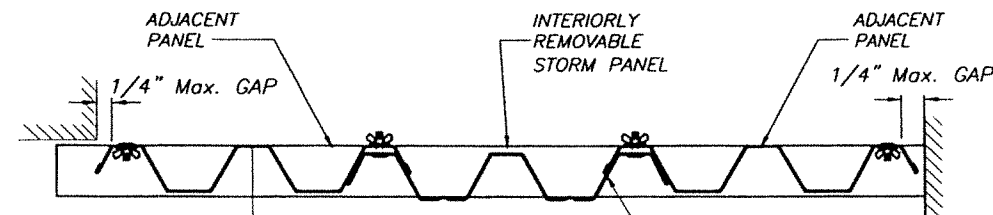
NOTE FOR COMBINATION OF SECTIONS :

WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE
COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

++
SIDE WALK BOLTS ARE 3/4" x 3/32" THICK
HEAD MACHINE SCREW W/LENGTH
AS PER NOTES A.2 & B.2 (SHEET 1)
++
TRUSS HEAD BOLTS ARE 1/2" x 1/8" THICK
HEAD MACHINE SCREW W/LENGTH
AS PER NOTES A.2 & B.2 (SHEET 1)

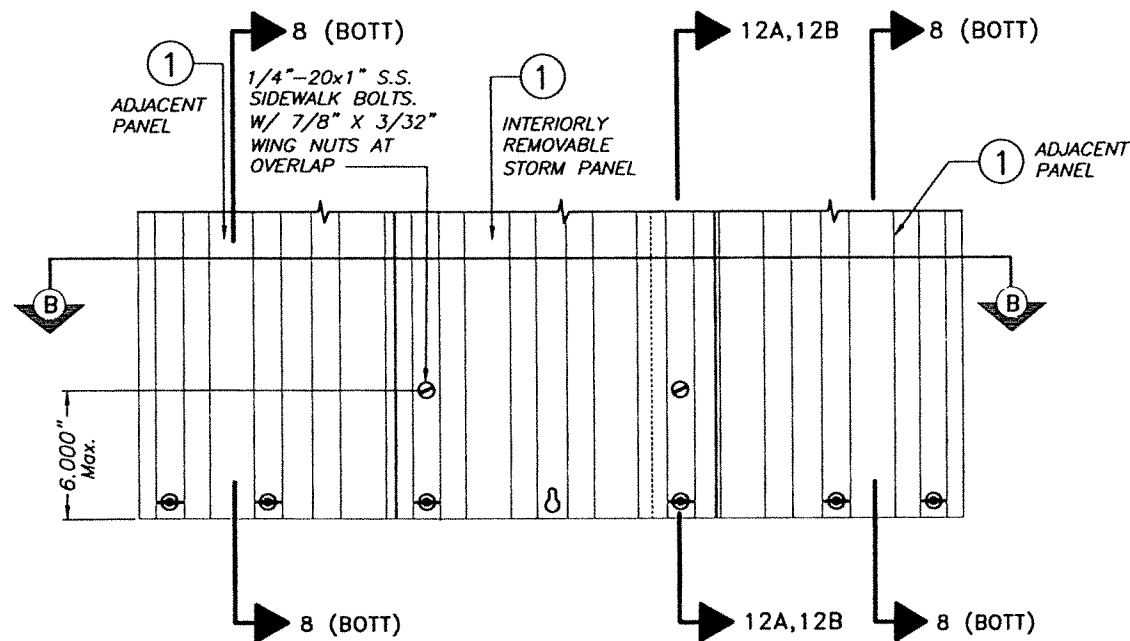


FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)					
© 2023 TILTECO, INC.			0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)		
TILTECO INC.			EASTERN METAL SUPPLY, INC		
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone : (305)871-1530 Fax : (305)871-1531 CA-0006719			4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263 FAX: (561)841-1716		
REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		
					Y.M. DRAWN BY: 8/9/2023 DATE: 23-164 DRAWING No SHEET 6A OF 17



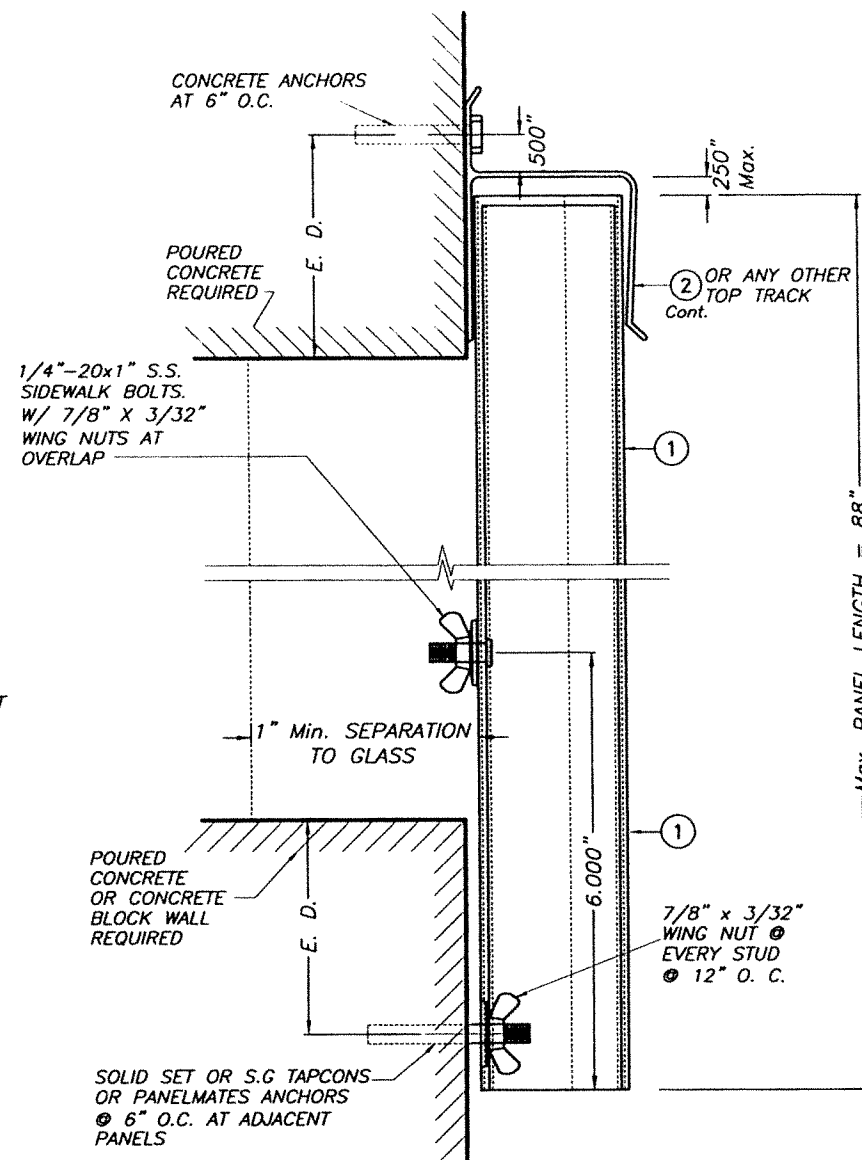
SECTION B-B

SCALE : 1 1/2" = 1"



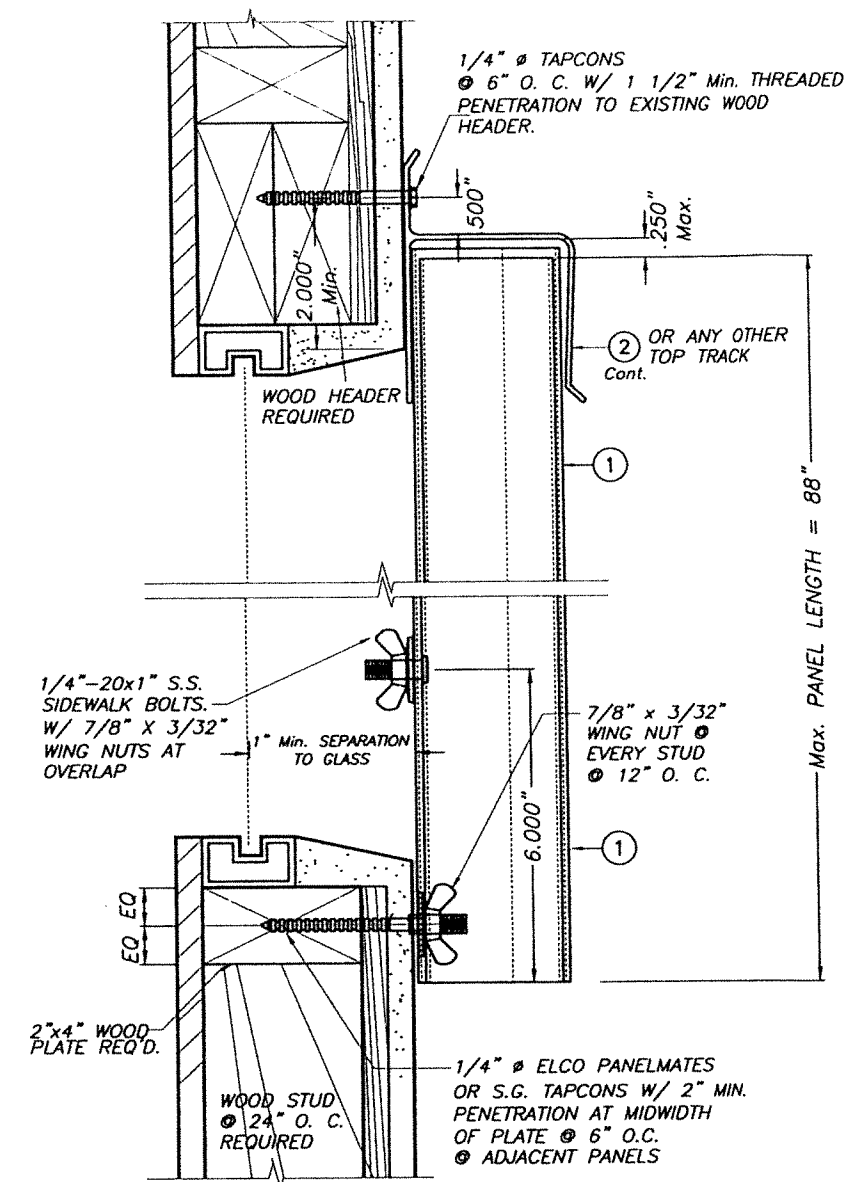
INTERIORLY REMOVABLE STORM PANEL PARTIAL ELEVATION

SCALE : 1 1/2" = 1"



WALL MOUNTING INSTALLATION SECTION 12A

SCALE : 1/2" = 1"

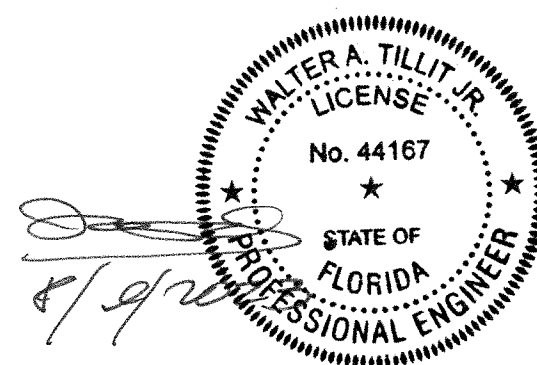


WALL MOUNTING INSTALLATION SECTION 12B

SCALE : 1/2" = 1"

INTERIORLY REMOVABLE STORM PANEL SECTIONS

MAX. A.S.D DESIGN PRESSURE RATING = +50.0, -50.0 p.s.f.



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CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. 44167

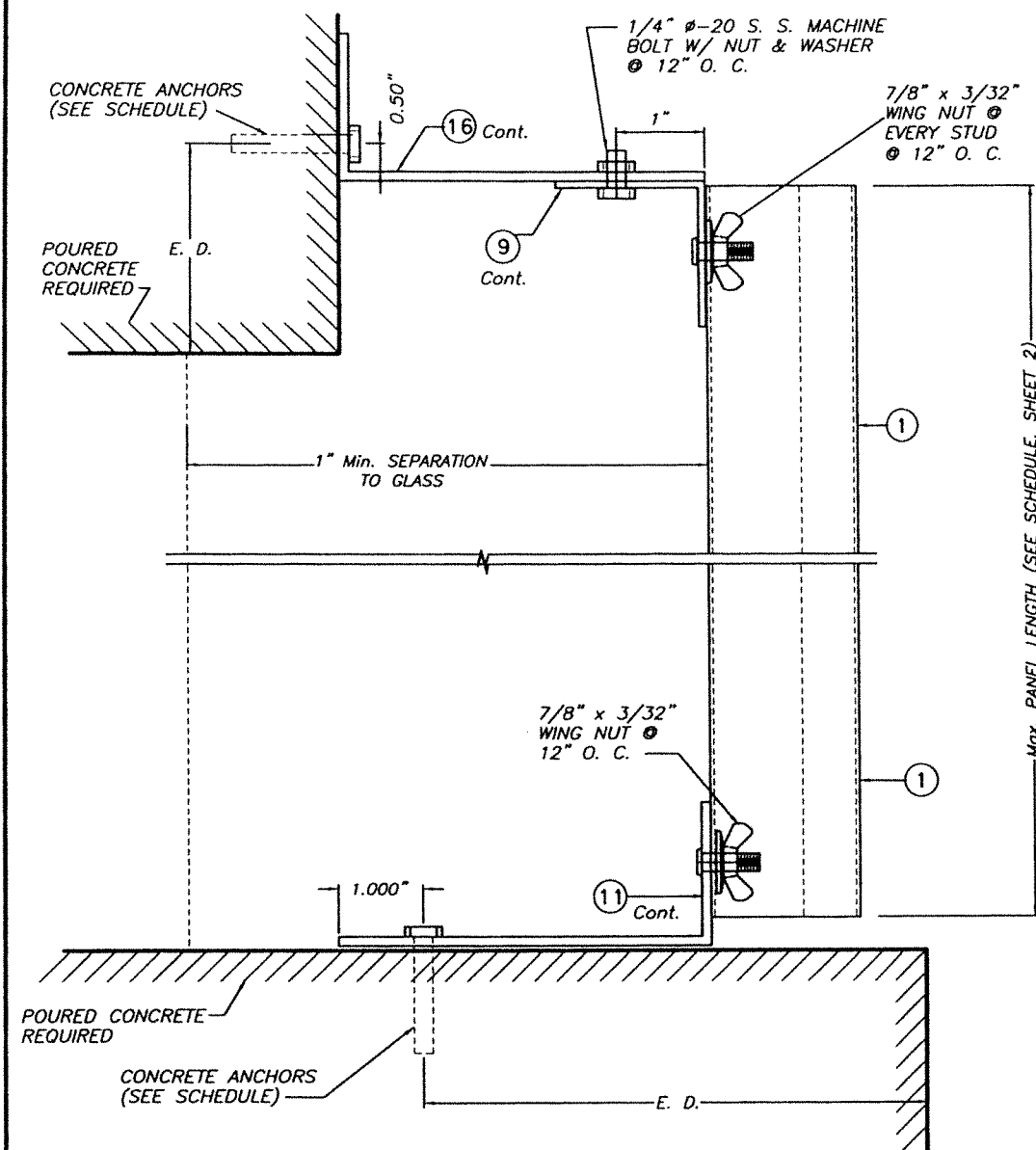
0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)

EASTERN METAL SUPPLY, INC

4268 WEST ROADS DRIVE
WEST PALM BEACH, FL. 33407
PHONE: (561)209-8263
FAX: (561)841-1716

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		

Y.M.
DRAWN BY:
8/9/2023
DATE:
23-164
DRAWING No
SHEET 7 OF 17



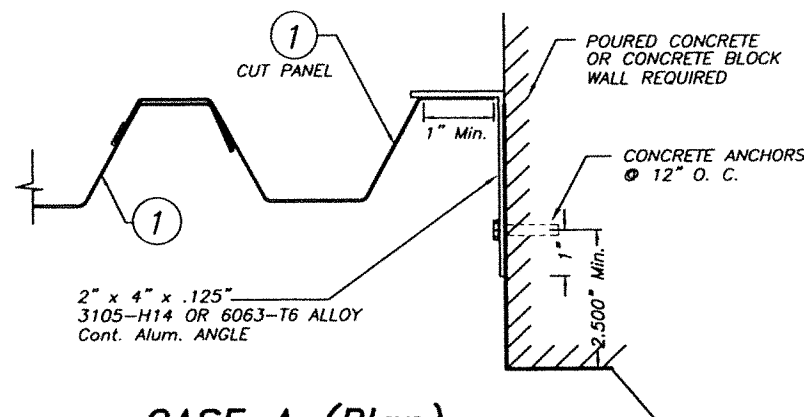
CEILING & FLOOR MOUNTING INSTALLATION - SECTION 13

SCALE: 1/2" = 1"

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON
SHEETS 9, 10 & 11)

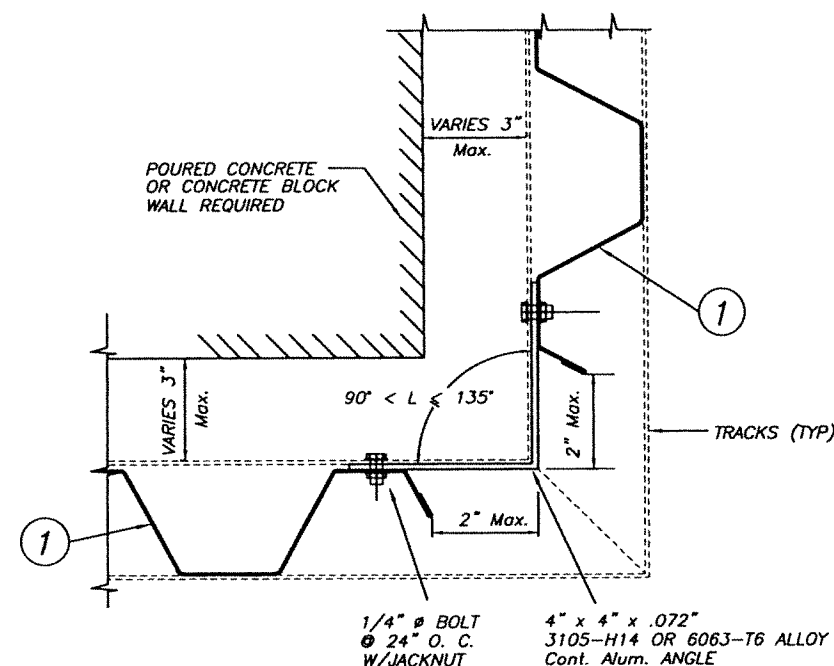
NOTE FOR COMBINATION OF SECTIONS:

WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE
COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.



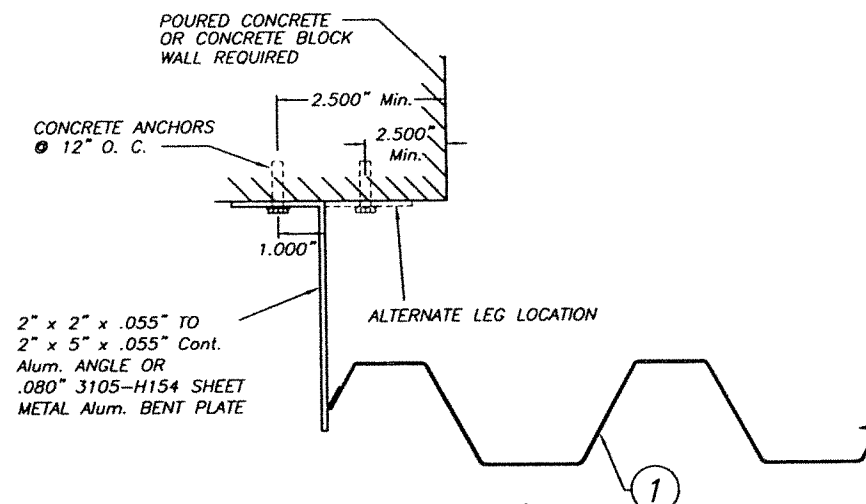
CASE A (Plan)

SCALE: 1/4" = 1"



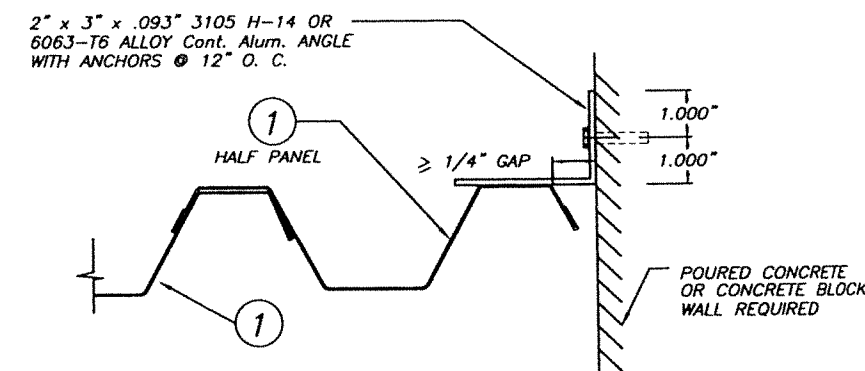
CASE B (Plan)

SCALE: 1/4" = 1"



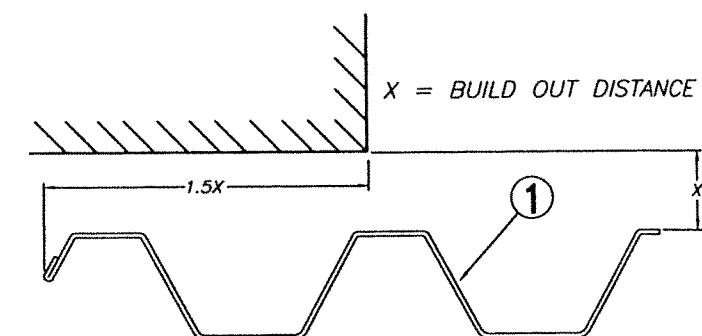
CASE C (Plan)

SCALE: 1/4" = 1"



CASE D (Plan)

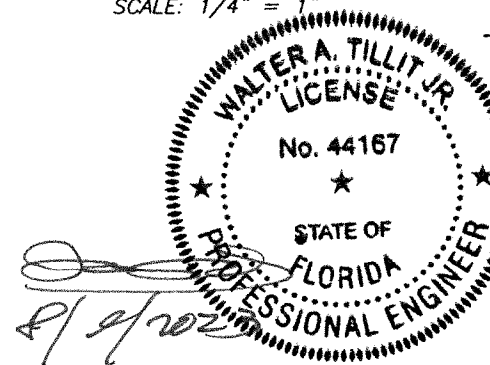
SCALE: 1/4" = 1"



CASE E (Plan)

SCALE: 1/4" = 1"

END CLOSURES DETAILS



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Phone: (305)871-1530 Fax: (305)871-1531
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

EASTERN METAL SUPPLY, INC

4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561)209-8263
FAX: (561)841-1716

Y.M.
DRAWN BY:

8/9/2023
DATE:

23-164

DRAWING No

SHEET 8 OF 17

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING SCHEDULE FOR INSTALLATIONS IN CONCRETE AND CONCRETE BLOCK STRUCTURES

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2" **										APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS		SOLID SET		S.G. TAPCON		PANELMATES		PANELMATE TVAS			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+40.0, -40.0 OR LESS	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	1 (TOP)	8'-0" OR LESS
	12"	11"	12"	12"	12"	12"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	2 (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	2 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	3 (BOTTOM)	
	12"	11"	12"	12"	12"	12"	12"	12"	12"	12"	4 (TOP)	
	12"	11"	12"	12"	12"	12"	12"	12"	12"	12"	4 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	5 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	6 (TOP)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	6 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	7 (TOP)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	7 (BOTTOM)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	8 (TOP)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	8 (BOTTOM)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	9 (TOP)	
	12"	11"	12"	12"	12"	12"	12"	12"	12"	12"	9 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	10 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	11A (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	11 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	13 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2" **										APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS		SOLID SET		S.G.TAPCON		PANELMATES		PANELMATE TVAS			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+40.0, -40.0 OR LESS	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	1 (TOP)	> 8'-0" UP TO 13'-0" *
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	2 (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	2 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	3 (BOTTOM)	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	4 (TOP)	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	4 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)	
	9"	N/A	11"	N/A	12"	N/A	12"	N/A	N/A	N/A	5 (BOTTOM)	
	9"	N/A	11 1/2"	N/A	12"	N/A	12"	N/A	N/A	N/A	6 (TOP)	
	9"	N/A	11"	N/A	12"	N/A	12"	N/A	N/A	N/A	6 (BOTTOM)	
	9"	N/A	11"	N/A	12"	N/A	12"	N/A	N/A	N/A	7 (TOP)	
	9"	N/A	11"	N/A	12"	N/A	12"	N/A	N/A	N/A	7 (BOTTOM)	
	N/A	N/A	12"*	12"*	12"*	12"*	12"*	12"*	12"*	12"*	8 (TOP)*	
	N/A	N/A	12"*	12"*	12"*	12"*	12"*	12"*	12"*	12"*	8 (BOTTOM)*	
	N/A	N/A	12"*	12"*	12"*	12"*	12"*	12"*	12"*	12"*	9 (TOP)*	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	9 (BOTTOM)	
	9"	N/A	11 1/2"	N/A	12"	N/A	12"	N/A	N/A	N/A	10 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	11A (TOP)	
	9"	9"	9"	9"	9"	9"	9"	9"	9"	9"	11 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	13 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	6"	N/A	13 (BOTTOM)	

* USE 6" OC FOR PANEL LENGTHS LARGER THAN 10' - 0" AND USE 12" OC AS SHOWN ON SCHEDULE FOR PANELS LENGTHS EQUAL OR SHORTER THAN 10' - 0

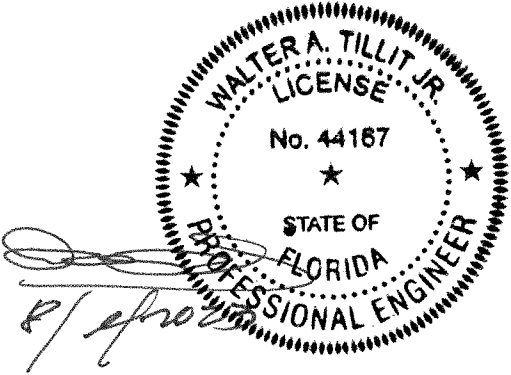
** MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3 1/2" EDGE DISTANCE. FOR E. D. LESS THAN 3 1/2", REDUCE ANCHOR SPACING BY MULTIPLYING SPACING SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS. (NOTE: Min. E. D. FOR SOLIDSET ANCHORS IS 3") FOR THIS OPERATION TO BE POSSIBLE, REDUCED SPACING OBTAINED USING FACTOR SHALL NOT BE LESS THAN MINIMUM SPACING INDICATED FOR EACH ANCHOR TYPE AT ANCHORS LEGEND.

ACTUAL E. D.	FACTOR		
	TAPCON (REGULAR)	S.G. TAPCON, PANELMATE OR PANELMATE TVAS	SOLID SET
3"	-	.86	.75
2 1/2"	-	.71	.50
2"	-	.50	-
1 1/2"	.35	-	-

ANCHORS LEGEND

ANCHOR TYPE	Min. ANCHOR SPACING
TAPCON (REGULAR OR S.G.) PANELMATE OR PANELMATE TVAS	3"
SOLID SET	3"

E. D. = EDGE DISTANCE



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TILTECO INC.

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FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)

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REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		

Y.M.
DRAWN BY:

8/9/2023
DATE:

23-164
DRAWING No

SHEET 9 OF 17

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR
SPACING SCHEDULE FOR INSTALLATIONS IN CONCRETE AND CONCRETE BLOCK STRUCTURES

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2"*										APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS		SOLID SET		S.G.TAPCON		PANELMATES		PANELMATE TVAS			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+40.0, -40.0 UP TO +60.0, -60.0	12"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	1 (TOP)	8'-0" OR LESS
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	2 (TOP)	
	9"	7"	9"	9"	9"	9"	9"	9"	9"	9"	2 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)	
	9"	7"	9"	9"	9"	9"	9"	9"	9"	9"	3 (BOTTOM)	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	4 (TOP)	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	4 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	5 (BOTTOM)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	6 (TOP)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	6 (BOTTOM)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	7 (TOP)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	7 (BOTTOM)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	8 (TOP)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	8 (BOTTOM)	
	N/A	N/A	12"	12"	12"	12"	12"	12"	12"	12"	9 (TOP)	
	12"	7"	12"	12"	12"	12"	12"	12"	12"	12"	9 (BOTTOM)	
	10"	N/A	12"	N/A	12"	N/A	12"	N/A	N/A	N/A	10 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	10 (BOTTOM)	
	9"	7"	N/A	N/A	N/A	N/A	9"	7"	9"	7"	11A (TOP)	
	9"	7"	N/A	N/A	N/A	N/A	9"	7"	9"	7"	11 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (BOTTOM)	

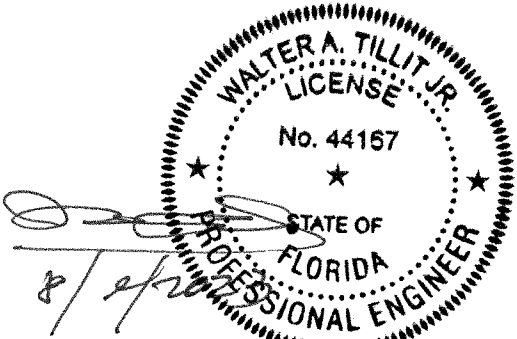
MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2"										APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS		SOLID SET		S.G.TAPCON		PANELMATES		PANELMATE TVAS			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+60.0, -60.0 UP TO +80.0, -80.0	11"	N/A	11"	N/A	11"	N/A	11"	N/A	11"	N/A	1 (TOP)	9'-0" OR LESS
	11"	4"	11"	11"	11"	11"	11"	7"	11"	7"	1 (BOTTOM)	
	11"	N/A	11"	N/A	11"	N/A	11"	N/A	11"	N/A	2 (TOP)	
	8"	4"	9"	9"	9"	9"	9"	7"	9"	7"	2 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)	
	8"	4"	9"	9"	9"	9"	9"	7"	9"	7"	3 (BOTTOM)	
	11"	4"	11"	11"	11"	11"	11"	7"	11"	7"	4 (TOP)	
	11"	4"	11"	11"	11"	11"	11"	7"	11"	7"	4 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)	
	5"	8"	7"	N/A	9"	N/A	8"	N/A	N/A	N/A	5 (BOTTOM)	
	9"	N/A	10"	N/A	12"	N/A	11"	N/A	N/A	N/A	6 (TOP)	
	8"	N/A	7"	N/A	9"	N/A	8"	N/A	N/A	N/A	6 (BOTTOM)	
	5"	N/A	7"	N/A	9"	N/A	8"	N/A	N/A	N/A	7 (TOP)	
	5"	N/A	7"	N/A	9"	N/A	8"	N/A	N/A	N/A	7 (BOTTOM)	
	N/A	N/A	12"	12"	12"	12"	12"	6"	12"	6"	8 (TOP)	
	N/A	N/A	12"	12"	12"	12"	12"	6"	12"	6"	8 (BOTTOM)	
	N/A	N/A	12"	12"	12"	12"	12"	6"	12"	6"	9 (TOP)	
	11"	4"	11"	11"	11"	11"	11"	7"	11"	7"	9 (BOTTOM)	
	9"	N/A	10"	N/A	12"	N/A	11"	N/A	N/A	N/A	10 (TOP)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	10 (BOTTOM)	
	8"	4"	N/A	N/A	N/A	N/A	9"	7"	9"	7"	11A (TOP)	
	8"	4"	N/A	N/A	N/A	N/A	9"	7"	9"	7"	11 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (TOP)	
	6"	N/A	12"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (BOTTOM)	

ANCHORS LEGEND

ANCHOR TYPE	Min. ANCHOR SPACING
TAPCON (REGULAR OR S.G.) PANELMATE OR PANELMATE TVAS	3"
SOLID SET	3"

**MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3 1/2" EDGE DISTANCE. FOR E.D. LESS THAN 3 1/2",
REDUCE ANCHOR SPACING BY MULTIPLYING SPACING SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS.
(NOTE: Min. E.D. FOR SOLIDSET ANCHORS IS 3")
FOR THIS OPERATION TO BE POSSIBLE, REDUCED SPACING OBTAINED USING FACTOR SHALL NOT BE
LESS THAN MINIMUM SPACING INDICATED FOR EACH ANCHOR TYPE AT ANCHORS LEGEND.

ACTUAL E. D.	FACTOR		
	TAPCON (REGULAR)	S.G. TAPCON, PANELMATE OR PANELMATE TVAS	SOLID SET
3"	-	.86	.75
2 1/2"	-	.71	.50
2"	-	.50	-
1 1/2"	.35	-	-



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TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33168
Phone : (305)871-1530 • Fax : (305)871-1531
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)
EASTERN METAL SUPPLY, INC
4268 WEST ROADS DRIVE
WEST PALM BEACH, FL. 33407
PHONE: (561)209-8263
FAX: (561)841-1716

Y.M.
DRAWN BY:

8/9/2023
DATE:

23-164
DRAWING No.

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		

SHEET 10 OF 17

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR
SPACING SCHEDULE FOR INSTALLATIONS IN CONCRETE AND CONCRETE BLOCK STRUCTURES

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2" **										APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS		SOLID SET		S.G. TAPCON		PANELMATES		PANELMATE TVAS			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+40.0, -40.0 UP TO +60.0, -60.0	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	1 (TOP)	>8'-0" UP TO 12'-6"
	12"	4 1/2"	12"	12"	12"	12"	12"	8 1/2"	12"	8 1/2"	1 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	12"	N/A	12"	N/A	2 (TOP)	
	9"	4 1/2"	9"	9"	9"	9"	9"	8 1/2"	9"	8 1/2"	2 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)	
	9"	4 1/2"	9"	9"	9"	9"	9"	8 1/2"	9"	8 1/2"	3 (BOTTOM)	
	12"	4 1/2"	12"	12"	12"	12"	12"	8 1/2"	12"	8 1/2"	4 (TOP)	
	12"	4 1/2"	12"	12"	12"	12"	12"	8 1/2"	12"	8 1/2"	4 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)	
	6 1/2"	N/A	7 1/2"	N/A	8"	N/A	7 1/2"	N/A	N/A	N/A	5 (BOTTOM)	
	9"	N/A	9 1/2"	N/A	10"	N/A	9 1/2"	N/A	N/A	N/A	6 (TOP)	
	6 1/2"	N/A	7 1/2"	N/A	8"	N/A	7 1/2"	N/A	N/A	N/A	6 (BOTTOM)	
	6"	N/A	6 1/2"	N/A	7"	N/A	6 1/2"	N/A	N/A	N/A	7 (TOP)	
	6"	N/A	6 1/2"	N/A	7"	N/A	6 1/2"	N/A	N/A	N/A	7 (BOTTOM)	
	N/A	N/A	12" *	12" *	12" *	12" *	12" *	6" *	12" *	6" *	8 (TOP) *	
	N/A	N/A	12" *	12" *	12" *	12" *	12" *	6" *	12" *	6" *	8 (BOTTOM) *	
	N/A	N/A	12" *	12" *	12" *	12" *	12" *	6" *	12" *	6" *	9 (TOP) *	
	12"	4 1/2"	12"	12"	12"	12"	12"	8 1/2"	12"	8 1/2"	9 (BOTTOM)	
	9"	N/A	9 1/2"	N/A	10"	N/A	9 1/2"	N/A	N/A	N/A	10 (TOP)	
	6"	N/A	6 "	N/A	6"	N/A	6"	N/A	N/A	N/A	10 (BOTTOM)	
	9"	4 1/2"	N/A	N/A	N/A	N/A	9"	4 1/2"	9"	4 1/2"	11A (TOP)	
	9"	4 1/2"	N/A	N/A	N/A	N/A	9"	4 1/2"	9"	4 1/2"	11 (BOTTOM)	
	6"	N/A	6 "	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (TOP)	
	6"	N/A	6 "	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2" **										APPLICABLE TO SECTIONS # * ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS		SOLID SET		S.G.TAPCON		PANELMATES		PANELMATE TVAS			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+90.0, -90.0 UP TO +100.0, -130.0	8 1/2"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	1 (TOP)	7'-0" OR LESS
	9"	7"	9"	9"	9"	9"	9"	7"	9"	7"	1 (BOTTOM)	
	9"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	2 (TOP)	
	9"	4"	9"	9"	9"	9"	9"	7"	9"	9"	2 (BOTTOM)	
	8"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	3A (TOP)	
	9"	4"	9"	9"	9"	9"	9"	7"	9"	9"	3 (BOTTOM)	
	9"	7"	9"	9"	9"	9"	9"	7"	9"	7"	4 (TOP)	
	9"	7"	9"	9"	9"	9"	9"	7"	9"	7"	4 (BOTTOM)	
	8"	N/A	9"	N/A	9"	N/A	9"	N/A	9"	N/A	5A (TOP)	
	5"	N/A	6"	N/A	7"	N/A	7"	N/A	N/A	N/A	5 (BOTTOM)	
	7"	N/A	8"	N/A	10"	N/A	8"	N/A	N/A	N/A	6 (TOP)	
	5"	N/A	6"	N/A	7"	N/A	7"	N/A	N/A	N/A	6 (BOTTOM)	
	5"	N/A	6"	N/A	7"	N/A	7"	N/A	N/A	N/A	7 (TOP)	
	5"	N/A	6"	N/A	7"	N/A	7"	N/A	N/A	N/A	7 (BOTTOM)	
	N/A	N/A	12"	6"	12"	6"	12"	6"	12"	6"	8 (TOP)	
	N/A	N/A	12"	6"	12"	6"	12"	6"	12"	6"	8 (BOTTOM)	
	N/A	N/A	12"	6"	12"	6"	12"	6"	12"	6"	9 (TOP)	
	9"	7"	9"	9"	9"	9"	9"	7"	9"	7"	9 (BOTTOM)	
	7"	N/A	8"	N/A	10"	N/A	8"	N/A	N/A	N/A	10 (TOP)	
	5"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	10 (BOTTOM)	
	5"	4"	N/A	N/A	N/A	N/A	7"	7"	7"	7"	11A (TOP)	
	5"	4"	N/A	N/A	N/A	N/A	7"	7"	7"	7"	11 (BOTTOM)	
	6"	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (TOP)	
	5	N/A	6"	N/A	6"	N/A	6"	N/A	N/A	N/A	13 (BOTTOM)	

* USE 6" OC FOR PANEL LENGTHS LARGER THAN 10'-0" AND USE 12" AS SHOWN ON SCHEDULE FOR PANELS LENGTHS EQUAL OR SHORTER THAN 10'-0"

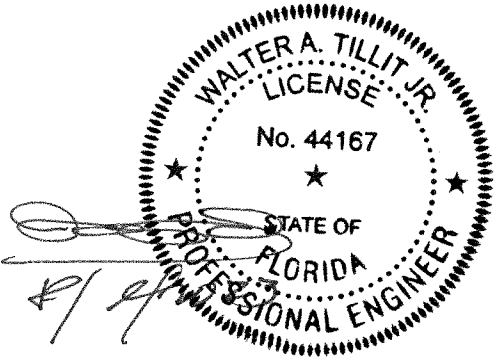
ANCHORS LEGEND

ANCHOR TYPE	Min. ANCHOR SPACING
TAPCON (REGULAR OR S.G.) PANELMATE OR PANELMATE TVAS	3"
SOLID SET	3"

E. D. = EDGE DISTANCE

**MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3 1/2" EDGE DISTANCE. FOR E.D. LESS THAN 3 1/2",
REDUCE ANCHOR SPACING BY MULTIPLYING SPACING SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS.
(NOTE: Min. E.D. FOR SOLIDSET ANCHORS IS 3")
FOR THIS OPERATION TO BE POSSIBLE, REDUCED SPACING OBTAINED USING FACTOR SHALL NOT BE
LESS THAN MINIMUM SPACING INDICATED FOR EACH ANCHOR TYPE AT ANCHORS LEGEND.

ACTUAL E. D.	FACTOR		
	TAPCON (REGULAR)	S.G. TAPCON, PANELMATE OR PANELMATE TVAS	SOLID SET
3"	-	.86	.75
2 1/2"	-	.71	.50
2"	-	.50	-
1 1/2"	.35	-	-



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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
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

EASTERN METAL SUPPLY, INC

4268 WEST ROADS DRIVE
WEST PALM BEACH, FL. 33407
PHONE: (561)209-8263
FAX: (561)841-1716

Y.M.
DRAWN BY:

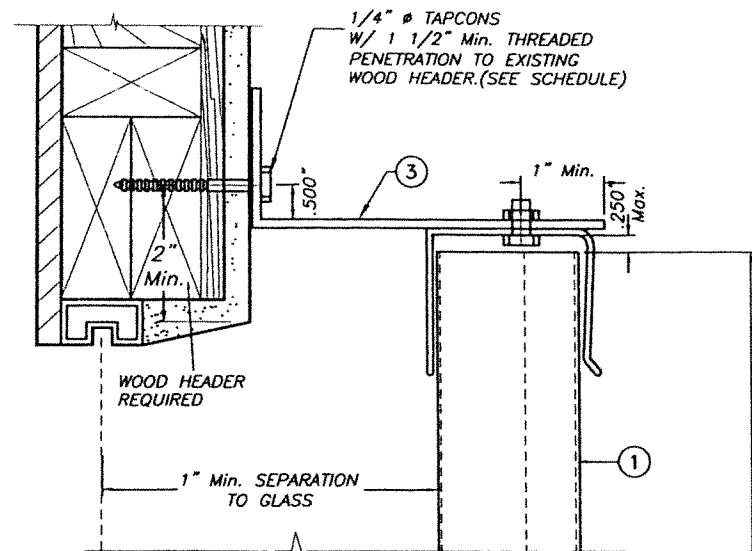
8/9/2023
DATE:

23-164

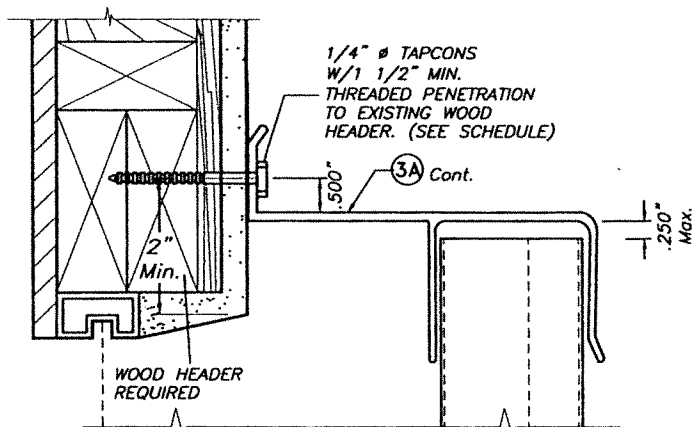
DRAWING No

SHEET 11 OF 17

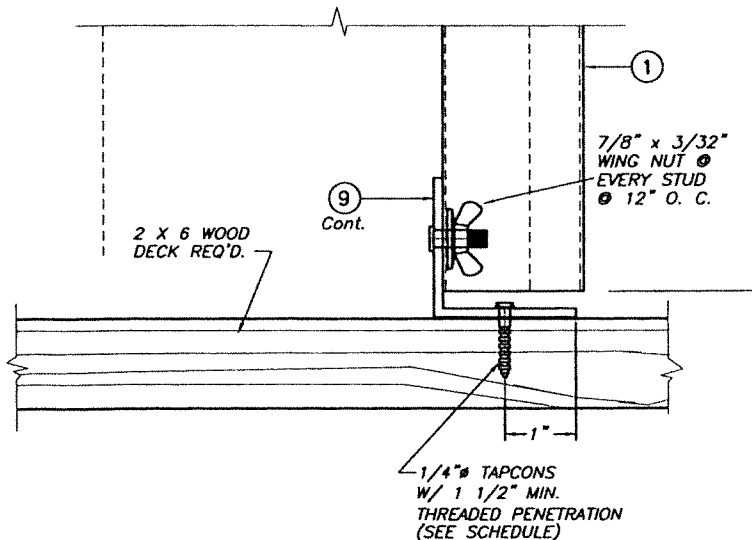
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1	OLD 20-183	8/9/23	3		
2			4		



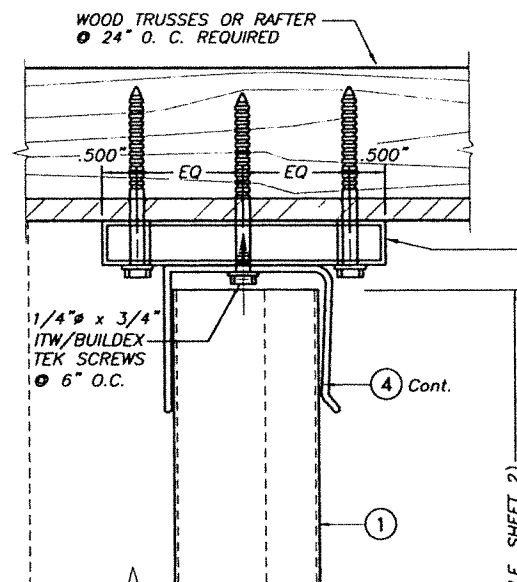
OPTION #1
ALTERNATIVE 5A



OPTION #2
ALTERNATIVE 5A

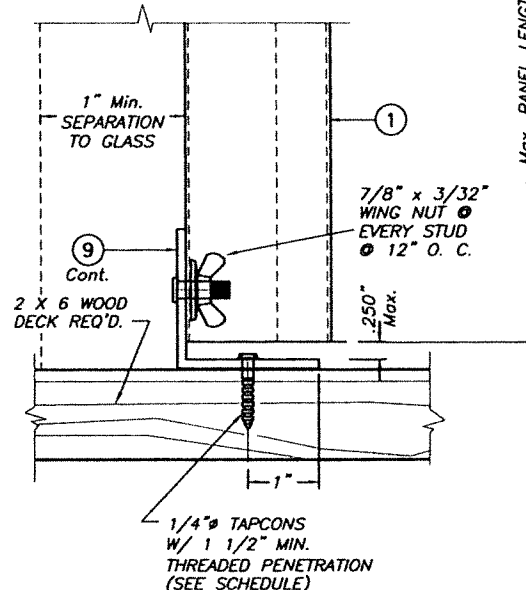


ALTERNATIVE 5
SCALE : 1/2" = 1"



ALTERNATIVE 6A

SCALE : 1/2" = 1"
(LIMITED TO +60.0, -66.0 p.s.f. DESIGN LOAD
AND UP TO 9'-0" Max. PANEL LENGTH)

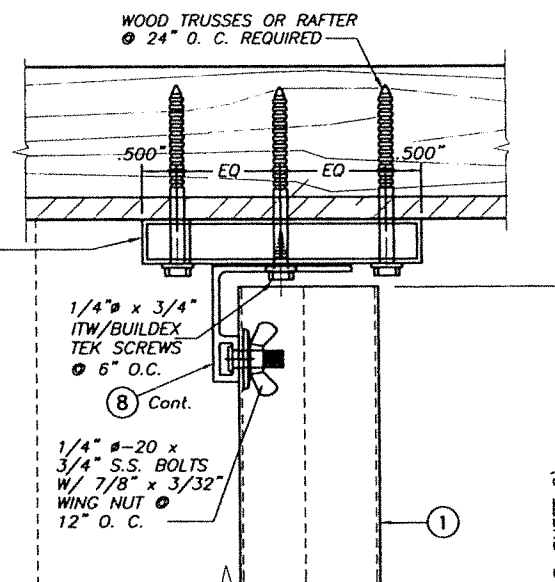


ALTERNATIVE 6
SCALE : 1/2" = 1"

NOTES:

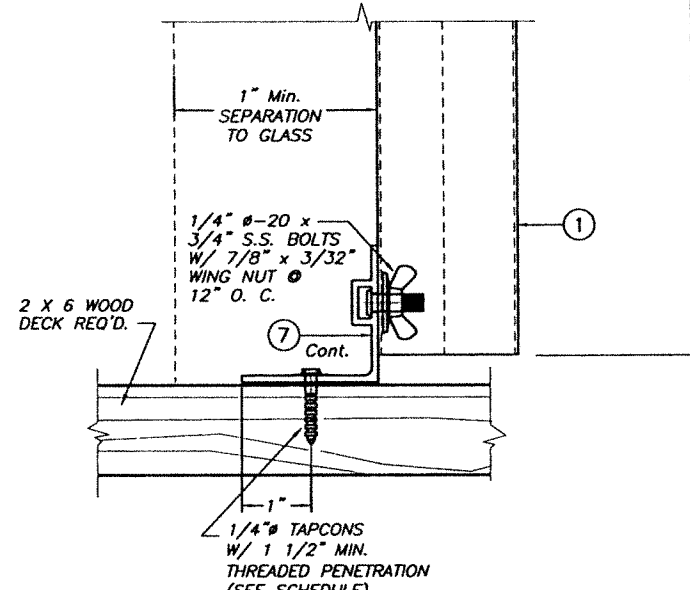
1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND PANEL'S LENGTHS AS PER SCHEDULES ON SHEET 2 (EXCEPT AS NOTED)
2. SEE ANCHOR SCHEDULE ON SHEET 16 & 17.
3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

1" x 4" x 1/8"
Min. (6063-T6)
Alum. TUBE W/
(3) 5/16" x
LAG SCREWS TO
EACH JOIST.
LOCATE SCREW
AT MIDWIDTH OF
EXISTING WOOD
MEMBER (2" Min.
NOMINAL WIDTH)
W/ 2" Min.
THREADED
PENETRATION.

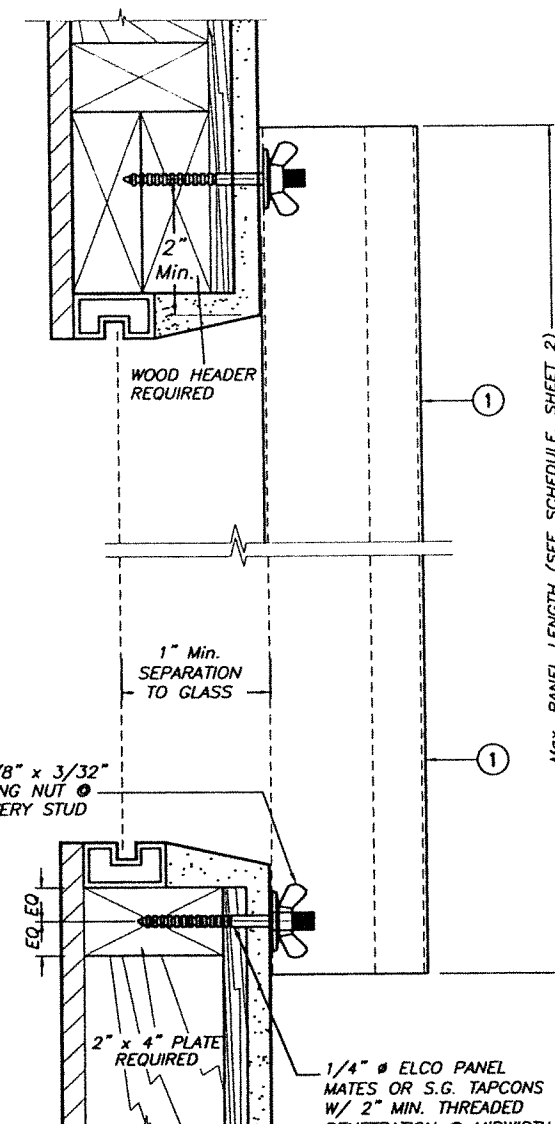


ALTERNATIVE 7A

SCALE : 1/2" = 1"
(LIMITED TO +60.0, -66.0 p.s.f. DESIGN LOAD
AND UP TO 9'-0" Max. PANEL LENGTH)



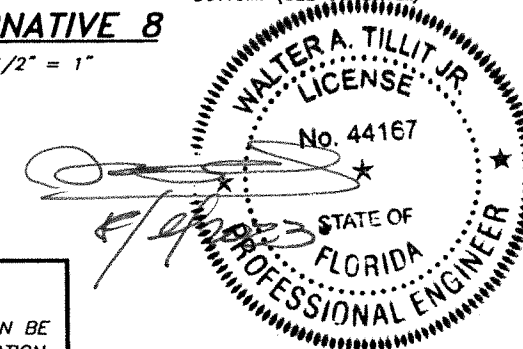
ALTERNATIVE 7
SCALE : 1/2" = 1"



ALTERNATIVE 8
SCALE : 1/2" = 1"

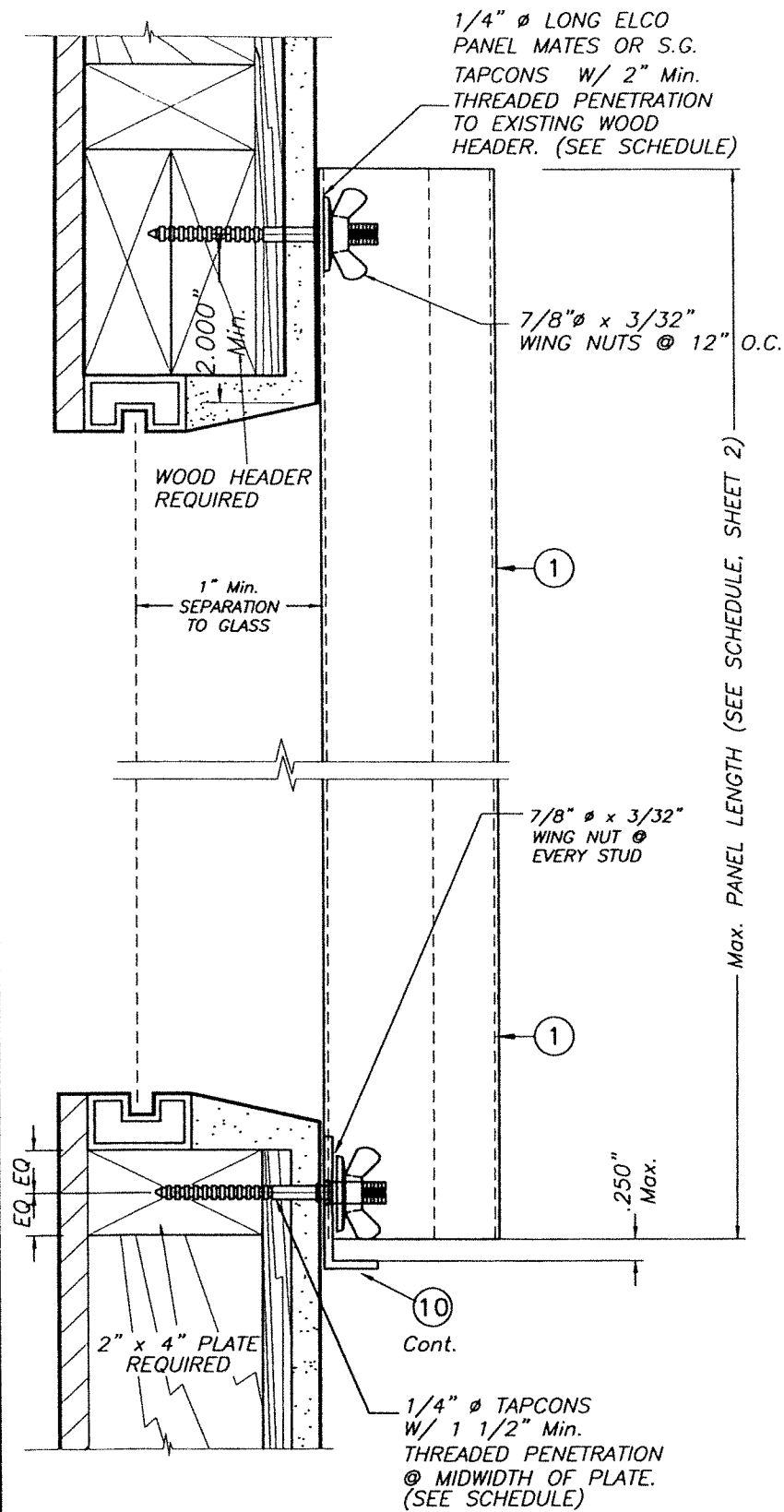
NOTE FOR COMBINATION OF SECTIONS :

WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE
COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.



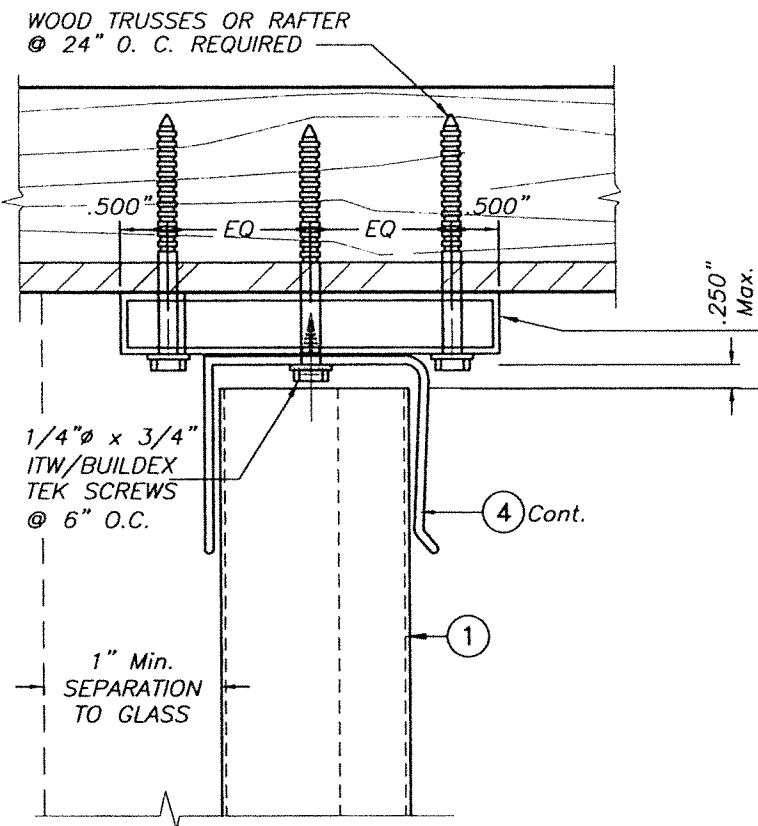
FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

© 2023 TILTECO, INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)		Y.M. DRAWN BY:	
TILTECO INC.		EASTERN METAL SUPPLY, INC		8/9/2023 DATE:	
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone : (305)871-1530 . Fax : (305)871-1531 CA-0006719 WALTER A. TILLIT Jr., P.E. FLORIDA Lic. 44167		4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (561)209-8263 FAX: (561)841-1716		23-164 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		



ALTERNATIVE 9

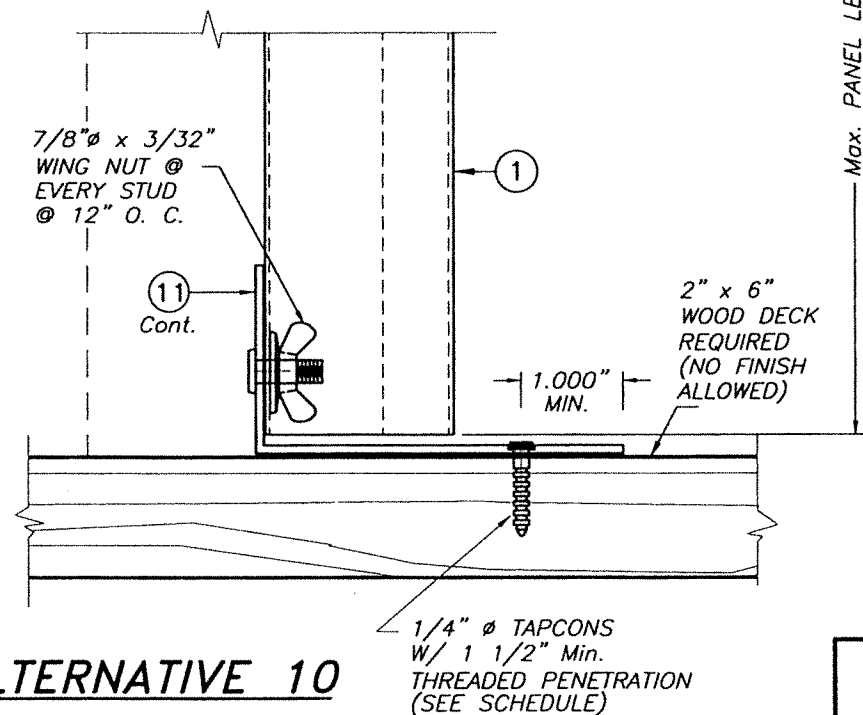
SCALE : 1/2" = 1"



ALTERNATIVE 10A

SCALE : 1/2" = 1"

(LIMITED TO +60.0, -66.0 p.s.f. DESIGN LOAD
AND UP TO 9'-0" Max. PANEL LENGTH)



ALTERNATIVE 10

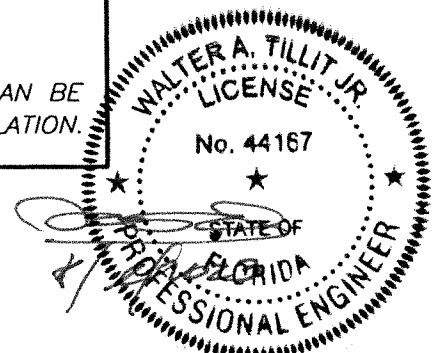
SCALE : 1/2" = 1"

NOTES:

1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING & PANEL'S LENGTHS AS PER SCHEDULES ON SHEET 2 (EXCEPT AS NOTED)
2. SEE ANCHOR SCHEDULE ON SHEET 16 & 17.
3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

NOTE FOR COMBINATION OF SECTIONS :

WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE
COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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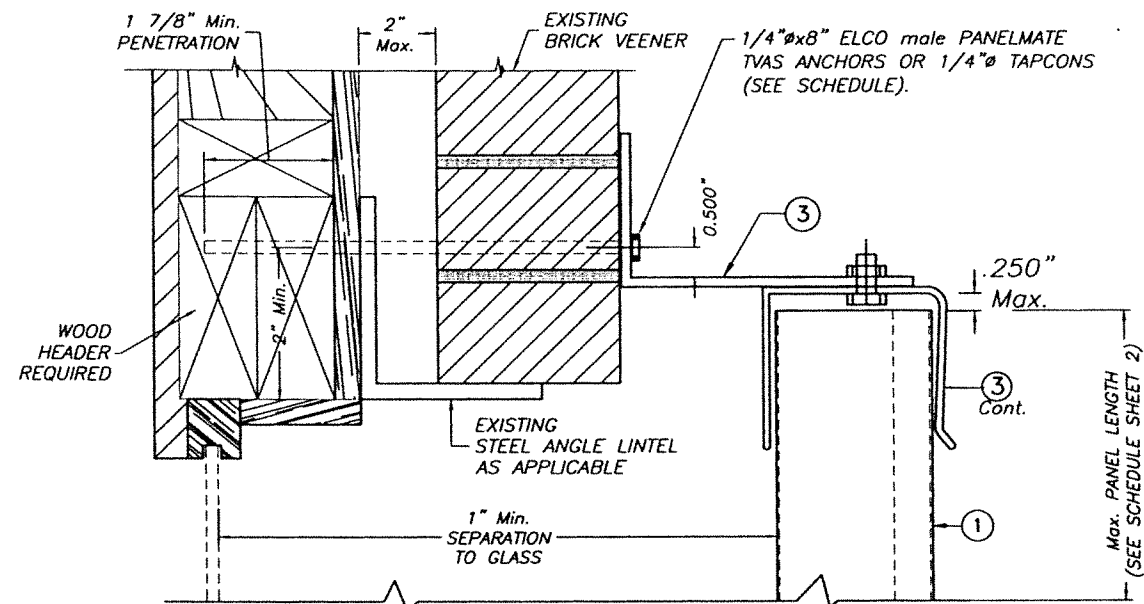
TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 . Fax : (305)871-1531
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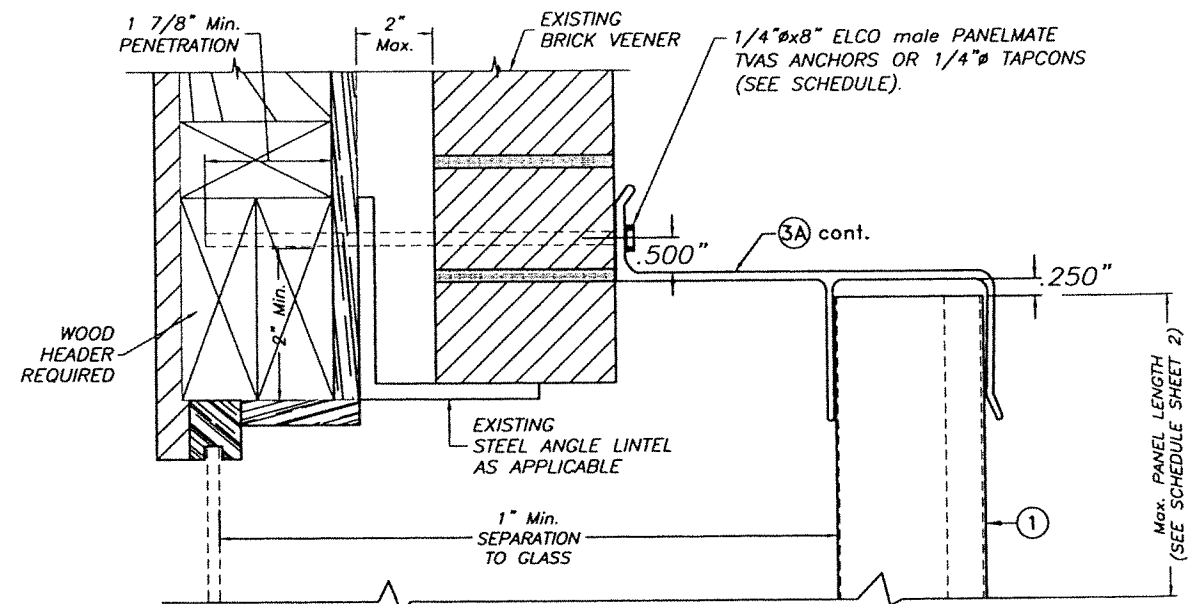
0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP)				Y.M. DRAWN BY:	
EASTERN METAL SUPPLY, INC				8/9/2023 DATE:	
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263 FAX: (561)841-1716				23-164 DRAWING No	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		

SHEET 14 OF 17

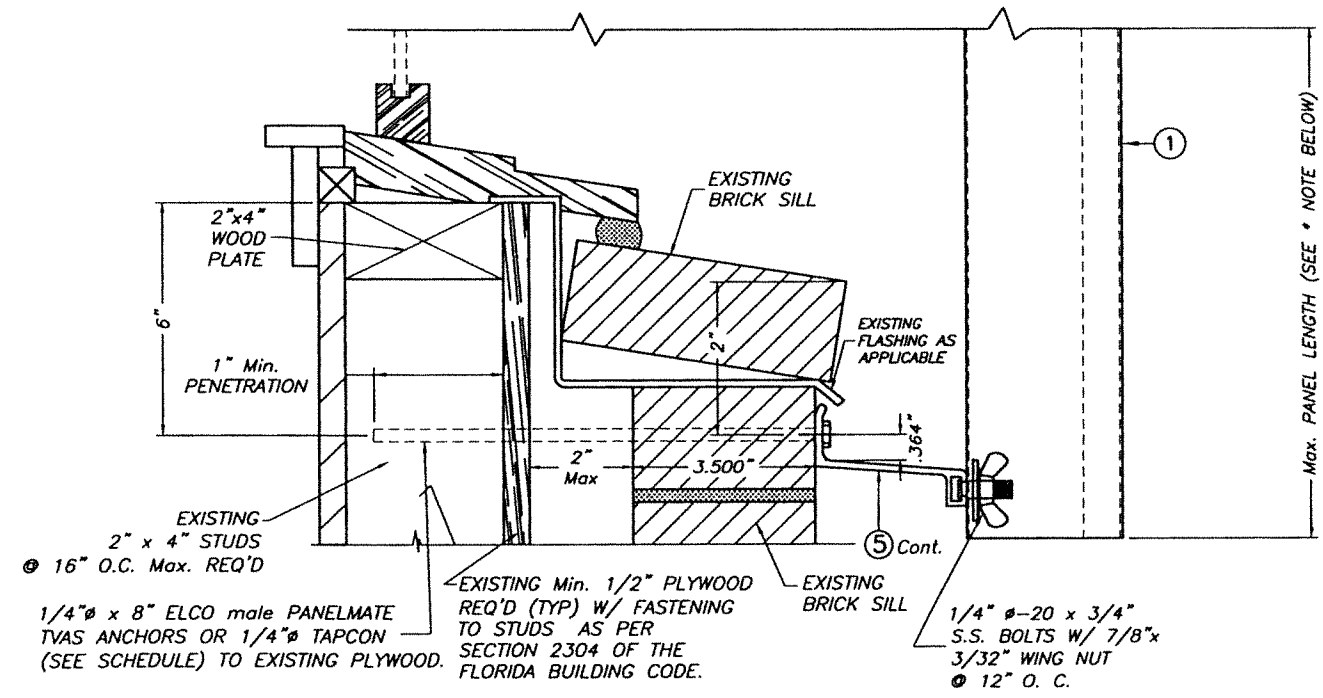
INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS



OPTION #1
ALTERNATIVE 11A



OPTION #2
ALTERNATIVE 11A

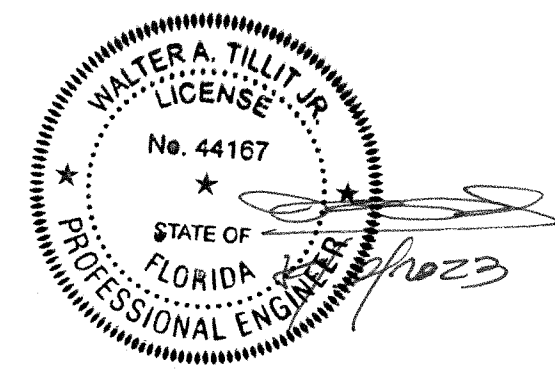


ALTERNATIVE 11
BUILD-OUT INSTALLATION
SCALE : 1/2" = 1"

* VALID FOR MAX. A.S.D DESIGN PRESSURE RATING +50.0, -60.0 p.s.f. FOR UP TO 78" PANELS LENGTHS, AND FOR +50.0, -50.0 p.s.f., FOR PANEL LENGTHS GREATER THAN 78" UP TO 108"

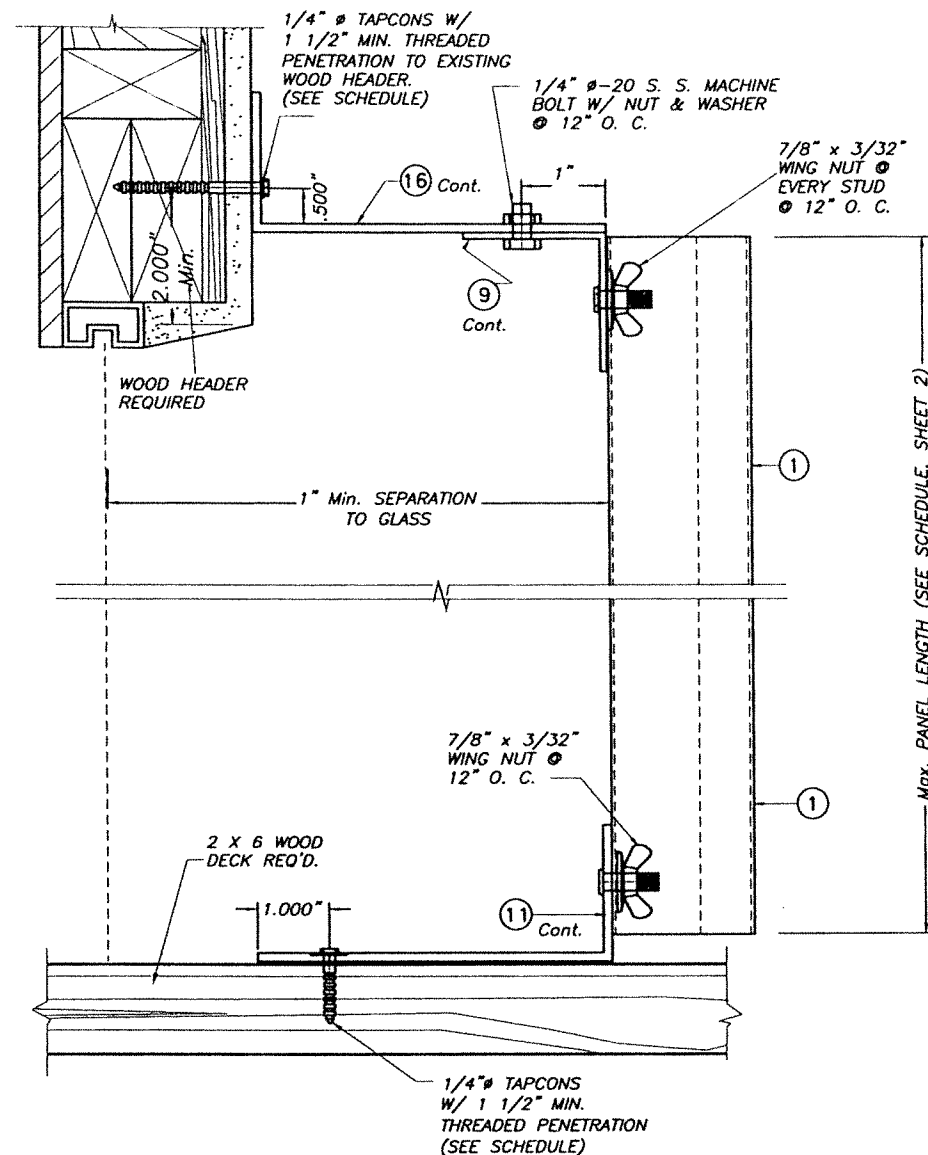
- NOTES:**
1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND PANEL'S LENGTHS AS PER SCHEDULES ON SHEET 2 (EXCEPT AS NOTED)
 2. SEE ANCHOR SCHEDULE ON SHEET 16 & 17.
 3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

NOTE FOR COMBINATION OF SECTIONS :
WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.



INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

© 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 CA-0006719 WALTER A. TILLIT Jr., P.E. FLORIDA Lic. 44167		0.050" BERTHA ALUMINUM STORM PANEL (2.00" DEEP) EASTERN METAL SUPPLY, INC 4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263 FAX: (561)841-1716	Y.M. DRAWN BY: 8/9/2023 DATE: 23-164 DRAWING No SHEET 14A OF 17		
REV. NO	DESCRIPTION	DATE	REV. NO	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		



ALTERNATIVE 13

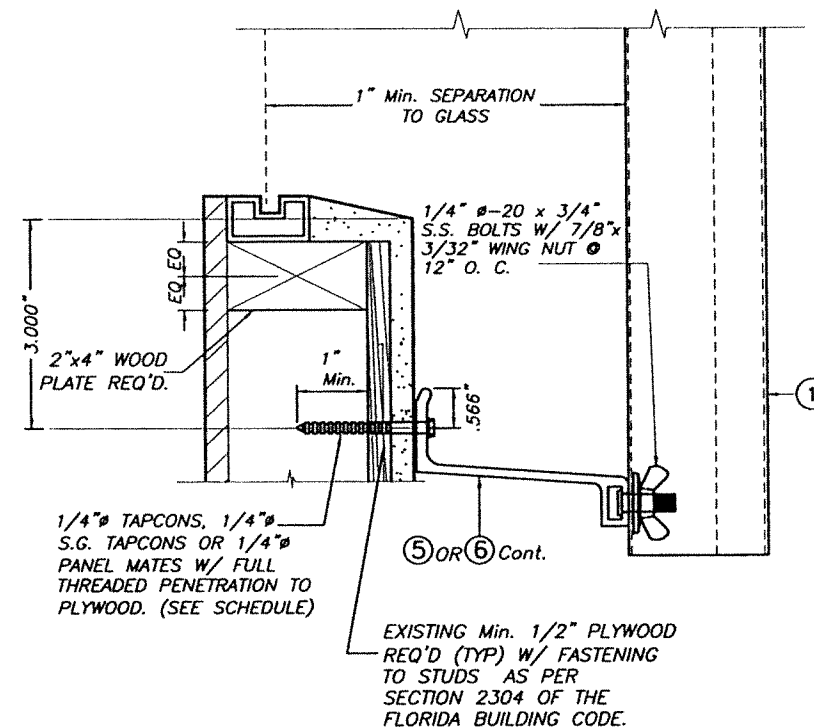
SCALE : 1/2" = 1"

NOTES:

1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND PANEL'S LENGTHS AS PER SCHEDULES ON SHEET 2
2. SEE ANCHOR SCHEDULE ON SHEET 16 & 17.
3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

NOTE FOR COMBINATION OF SECTIONS :

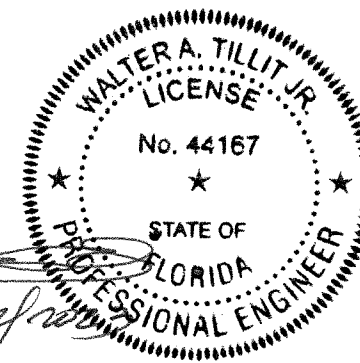
WALL MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.



ALTERNATIVE 14

SCALE : 1/2" = 1"

- * VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING +50.0, -60.0 p.s.f. FOR UP TO 78" PANELS LENGTHS, AND FOR +50.0, -50.0 p.s.f., FOR PANEL LENGTHS GREATER THAN 78" UP TO 108"



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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WALTER A. TILLIT Jr., P.E.
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**0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)**

EASTERN METAL SUPPLY, INC

4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561)209-8263
FAX: (561)841-1716

Y.M.
DRAWN BY:

8/9/2023
DATE:

23-164

DRAWING No

REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-183	8/9/23	3		
2			4		

SHEET 15 OF 17

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR
SPACING SCHEDULE FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE TVAS		
+40.0, -40.0 OR LESS	12"	N/A	N/A	1 (TOP)	8'-0" OR LESS
	12"	N/A	N/A	1 (BOTTOM)	
	12"	N/A	N/A	2 (TOP)	
	9"	N/A	N/A	2 (BOTTOM)	
	9"	N/A	N/A	3A (TOP)	
	9"	N/A	N/A	3 (BOTTOM)	
	12"	N/A	N/A	4 (TOP)	
	12"	N/A	N/A	4 (BOTTOM)	
	9"	N/A	N/A	5A (TOP)	
	9"	N/A	N/A	5 (BOTTOM)	
	9"	N/A	N/A	6 (BOTTOM)	
	8 1/2"	N/A	N/A	7 (BOTTOM)	
	N/A	12"	12"	8 (TOP)	
	N/A	12"	12"	8 (BOTTOM)	
	N/A	12"	12"	9 (TOP)	
	12"	N/A	N/A	9 (BOTTOM)	
	6"	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	11A (TOP)	
	4"	N/A	4"	11 (BOTTOM)	
	6"	N/A	N/A	13 (TOP)	
	6"	N/A	N/A	13 (BOTTOM)	
	4"	4"	4"	14 (BOTTOM)	

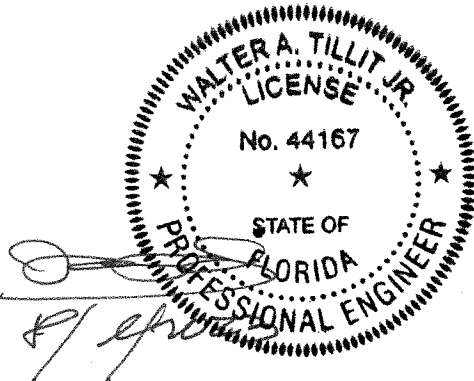
MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE TVAS		
+40.0, -40.0 OR LESS	12"	N/A	N/A	1 (TOP)	>8'-0" UP TO 13'-0" *
	12"	N/A	N/A	1 (BOTTOM)	
	12"	N/A	N/A	2 (TOP)	
	9"	N/A	N/A	2 (BOTTOM)	
	9"	N/A	N/A	3A (TOP)	
	9"	N/A	N/A	3 (BOTTOM)	
	12"	N/A	N/A	4 (TOP)	
	12"	N/A	N/A	4 (BOTTOM)	
	9"	N/A	N/A	5A (TOP)	
	5 1/2"	N/A	N/A	5 (BOTTOM)	
	5 1/2"	N/A	N/A	6 (BOTTOM)	
	5 "	N/A	N/A	7 (BOTTOM)	
	N/A	12"	12"	8 (TOP) *	
	N/A	12"	12"	8 (BOTTOM) *	
	N/A	12"	12"	9 (TOP)	
	12"	N/A	N/A	9 (BOTTOM)	
	5 1/2"	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	11A (TOP)	
	4" **	N/A	4" **	11 (BOTTOM) **	
	6"	N/A	N/A	13 (TOP)	
	5 1/2"	N/A	N/A	13 (BOTTOM)	
	4" **	4" **	4" **	14 (BOTTOM)**	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE TVAS		
+40.0, -40.0 UP TO +60.0, -60.0	12"	N/A	N/A	1 (TOP)	8'-0" OR LESS
	12"	N/A	N/A	1 (BOTTOM)	
	12"	N/A	N/A	2 (TOP)	
	9"	N/A	N/A	2 (BOTTOM)	
	9"	N/A	N/A	3A (TOP)	
	9"	N/A	N/A	3 (BOTTOM)	
	12"	N/A	N/A	4 (TOP)	
	12"	N/A	N/A	4 (BOTTOM)	
	9"	N/A	N/A	5A (TOP)	
	8"	N/A	N/A	5 (BOTTOM)	
	8"	N/A	N/A	6 (BOTTOM)	
	5 1/2"	N/A	N/A	7 (BOTTOM)	
	N/A	12"	12"	8 (TOP)	
	N/A	12"	12"	8 (BOTTOM)	
	N/A	12"	12"	9 (TOP)	
	12"	N/A	N/A	9 (BOTTOM)	
	6"	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	11A (TOP)	
	4" *	N/A	4" *	11 (BOTTOM) *	
	6"	N/A	N/A	13 (TOP)	
	6"	N/A	N/A	13 (BOTTOM)	
	4" *	4" *	4" *	14 (BOTTOM) *	

* USE 6" OC SPACING FOR PANEL LENGTHS LARGER THAN 10' - 0" AND USE 12" OC
AS SHOWN ON SCHEDULE FOR PANELS LENGTHS EQUAL OR SHORTER THAN 10' - 0"

** VALID ONLY FOR UP TO 108" PANELS LENGTHS.

* VALID ONLY FOR UP TO +50.0, -60.0 p.s.f. MAX. A.S.D. DESIGN PRESSURE
RATING WITH 78" Max. PANEL LENGTHS OR FOR UP TO +50.0, -50.0 p.s.f.
MAX. A.S.D. DESIGN PRESSURE RATING WITH 96" Max. PANEL LENGTHS.



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CA-0006719

WALTER A. TILLIT Jr., P.E.

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FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.050" BERTHA ALUMINUM STORM PANEL
(2.00" DEEP)

EASTERN METAL SUPPLY, INC

4268 WEST ROADS DRIVE

WEST PALM BEACH, FL 33407

PHONE: (561)209-8263

FAX: (561)841-1716

REV. NO. DESCRIPTION DATE REV. NO. DESCRIPTION DATE

1 OLD 20-183 8/9/23 3

2 4

Y.M.
DRAWN BY:

8/9/2023
DATE:

23-164
DRAWING No

SHEET 16 OF 17

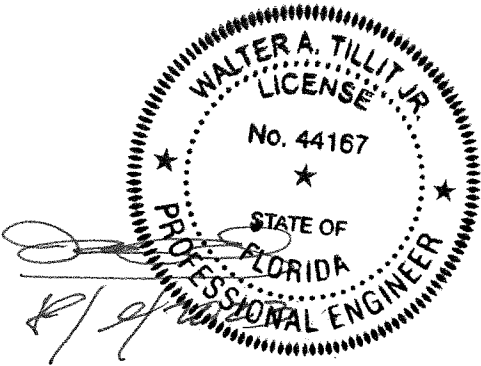
MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR
SPACING SCHEDULE FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE TVAS		
+60.0, -60.0 UP TO +80.0, -90.0	11"	N/A	N/A	1 (TOP)	9'-0" OR LESS
	11"	N/A	N/A	1 (BOTTOM)	
	11"	N/A	N/A	2 (TOP)	
	9"	N/A	N/A	2 (BOTTOM)	
	9"	N/A	N/A	3A (TOP)	
	9"	N/A	N/A	3 (BOTTOM)	
	11"	N/A	N/A	4 (TOP)	
	11"	N/A	N/A	4 (BOTTOM)	
	9"	N/A	N/A	5A (TOP)	
	3 1/2"	N/A	N/A	5 (BOTTOM)	
	3 1/2"	N/A	N/A	6 (BOTTOM)	
	3 1/2"	N/A	N/A	7 (BOTTOM)	
	N/A	12"	6"	8 (TOP)	
	N/A	12"	6"	8 (BOTTOM)	
	N/A	12"	6"	9 (TOP)	
	11"	N/A	N/A	9 (BOTTOM)	
	3 1/2"	N/A	N/A	10 (BOTTOM)	
	9"	N/A	9"	11A (TOP)	
	N/A	N/A	N/A	11 (BOTTOM)	
	6"	N/A	N/A	13 (TOP)	
	3 1/2"	N/A	N/A	13 (BOTTOM)	
	N/A	N/A	N/A	14 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE TVAS		
+40.0, -40.0 UP TO +60.0, -60.0	12"	N/A	N/A	1 (TOP)	>8'-0" UP TO 12'-6"
	12"	N/A	N/A	1 (BOTTOM)	
	12"	N/A	N/A	2 (TOP)	
	12"	N/A	N/A	2 (BOTTOM)	
	12"	N/A	N/A	3A (TOP)	
	12"	N/A	N/A	3 (BOTTOM)	
	12"	N/A	N/A	4 (TOP)	
	12"	N/A	N/A	4 (BOTTOM)	
	12"	N/A	N/A	5A (TOP)	
	4"	N/A	N/A	5 (BOTTOM)	
	4"	N/A	N/A	6 (BOTTOM)	
	3 1/2"	N/A	N/A	7 (BOTTOM)	
	N/A	12" *	6" *	8 (TOP) *	
	N/A	12" *	6" *	8 (BOTTOM) *	
	N/A	12"	6"	9 (TOP)	
	12"	N/A	N/A	9 (BOTTOM)	
	4"	N/A	N/A	10 (BOTTOM)	
	12"	N/A	10 1/2"	11A (TOP)	
	4" **	N/A	4" **	11 (BOTTOM) **	
	12"	N/A	N/A	13 (TOP)	
	4"	N/A	N/A	13 (BOTTOM)	
	4" **	4" **	4" **	14 (BOTTOM) **	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	PANELMATES OR PANELMATE TVAS		
+90.0, -90.0 UP TO +100.0, -130.0	8 1/2"	N/A	N/A	1 (TOP)	7'-0" OR LESS
	9"	N/A	N/A	1 (BOTTOM)	
	9"	N/A	N/A	2 (TOP)	
	9"	N/A	N/A	2 (BOTTOM)	
	8"	N/A	N/A	3A (TOP)	
	9"	N/A	N/A	3 (BOTTOM)	
	9"	N/A	N/A	4 (TOP)	
	9"	N/A	N/A	4 (BOTTOM)	
	8"	N/A	N/A	5A (TOP)	
	3"	N/A	N/A	5 (BOTTOM)	
	3"	N/A	N/A	6 (BOTTOM)	
	3"	N/A	N/A	7 (BOTTOM)	
	N/A	12"	6"	8 (TOP)	
	N/A	12"	6"	8 (BOTTOM)	
	N/A	12"	6"	9 (TOP)	
	9"	N/A	N/A	9 (BOTTOM)	
	3"	N/A	N/A	10 (BOTTOM)	
	5"	N/A	6"	11A (TOP)	
	N/A	N/A	N/A	11 (BOTTOM)	
	6"	N/A	N/A	13 (TOP)	
	3"	N/A	N/A	13 (BOTTOM)	
	N/A	N/A	N/A	14 (BOTTOM)	

* USE 6" OC SPACING FOR PANEL LENGTHS LARGER THAN 10' - 0" AND USE 12" OC
AS SHOWN ON SCHEDULE FOR PANELS LENGTHS EQUAL OR SHORTER THAN 10' - 0"
** VALID ONLY FOR UP TO +50.0, -50.0 p.s.f. MAX. A.S.D. DESIGN PRESSURE
RATING WITH 108" Max. PANEL LENGTHS.



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