



MIAMI-DADE COUNTY
BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

www.miamidade.gov

NOTICE OF ACCEPTANCE (NOA)

J M Steel Corporation
1050 North Steel Circle
Huger, SC 29450

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: 0.050" Aluminum Storm Panels Shutter

APPROVAL DOCUMENT: Drawing No. 06-323, titled "0.050" Aluminum Storm Panel ", sheets 1 through 5 of 5, prepared by Thornton-Tomasetti Group, dated March 13, 2006, last revision #0 dated March 13, 2006, signed and sealed by V. J. Knezevich, P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Division.

MISSILE IMPACT RATING: Large and Small Missile Impact

LABELING: Each panel shall bear a permanent label with the manufacturer's name or logo, city, state and the following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA # 04-1221.04 and consists of this page 1, evidence submitted pages E-1 & E-2 as well as approval document mentioned above.

The submitted documentation was reviewed by **Helmy A. Makar, P.E.**



Helmy A. Makar
07/20/2006

NOA No 05-1006.04
Expiration Date: 03/31/2010
Approval Date: 07/20/2006

J M Steel Corporation

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 04-1221.04

A. DRAWINGS

1. *Drawing No. 04-323, titled " 0.050" Aluminum Storm Panel ", sheets 1 through 5 of 5, prepared by Thornton-Tomasetti Group, dated December 16, 2004, last revision #1 dated March 02, 2005, signed and sealed by V. J. Knezevich, P.E.*

B. TESTS

1. *Test report on Uniform Static Air Pressure Test, Large Missile Impact Test, and Cyclic Wind Pressure Test of 0.050" Aluminum Storm Panels Shutter, prepared by Construction Testing Corporation, Report No. 04-016 FBC, dated October 31, 2004, signed and sealed by Yamil G. Kuri, P.E.*

C. CALCULATIONS

1. *0.050" Aluminum Storm Panels Calculations, Sheets 1 through 58 of 58, by The Thornton-Tomasetti Group, Inc. dated December 16, 2004, signed and sealed by V. J. Knezevich, P.E.*

D. QUALITY ASSURANCE

1. *By Miami-Dade County Building Code Compliance Office.*

E. MATERIAL CERTIFICATIONS

1. *Tensile Test Report from Certified Testing Laboratories, Job No. CTL-1191 dated October 26, 2004 for 0.050" Aluminum Storm Panel, tested per ASTM E8-93, signed and sealed by Ramesh Patel, P.E.*

2. NEW EVIDENCE SUBMITTED

A. DRAWINGS

1. *Drawing No. 06-323, titled " 0.050" Aluminum Storm Panel ", sheets 1 through 5 of 5, prepared by Thornton-Tomasetti Group, dated March 13, 2006, last revision #0 dated March 13, 2006, signed and sealed by V. J. Knezevich, P.E.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *0.050" Aluminum Storm Panels Calculations, Sheets 1 through 4 of 4, by The Thornton-Tomasetti Group, dated September 16, 2005, signed and sealed by V. J. Knezevich, P.E.*



Helmy A. Makar, P. E.
Product Control Examiner
NOA No 05-1006.04
Expiration Date: 03/31/2010
Approval Date: 07/20/2006

J M Steel Corporation

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

D. QUALITY ASSURANCE

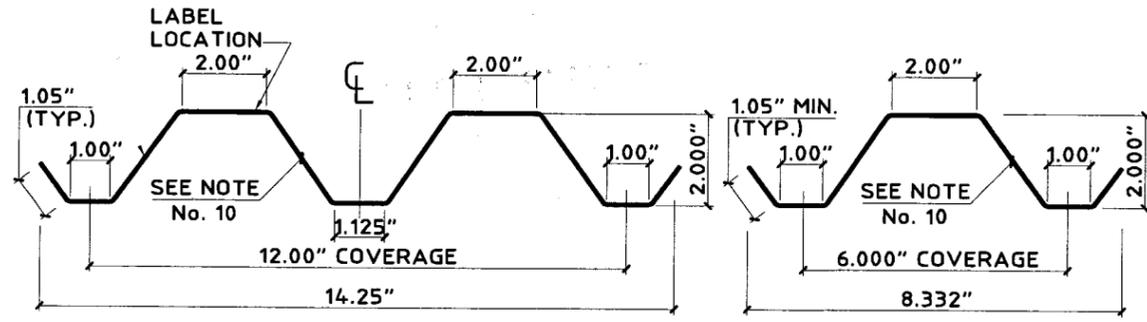
1. *By Miami-Dade County Building Code Compliance Office.*

E. MATERIAL CERTIFICATIONS

1. *None.*



Helmy A. Makar, P. E.
Product Control Examiner
NOA No 05-1006.04
Expiration Date: 03/31/2010
Approval Date: 07/20/2006



1 STORM PANEL
SCALE: 3" = 1'-0"

1a HALF STORM PANEL
SCALE: 3" = 1'-0"

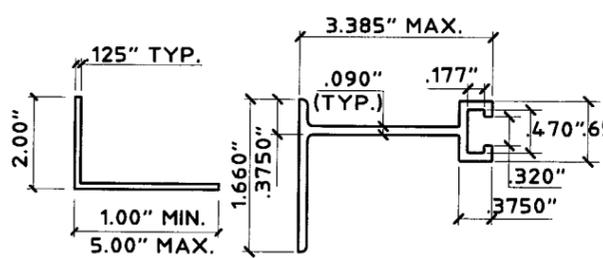
2 "h" HEADER
SCALE: 3" = 1'-0"

3 "U" HEADER
SCALE: 3" = 1'-0"

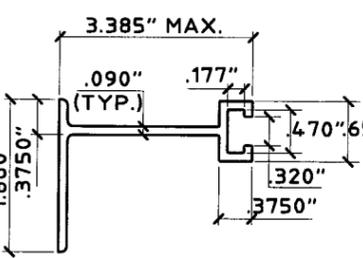
3a BUILD-OUT "U" HEADER
SCALE: 3" = 1'-0"

4 STUD ANGLE
SCALE: 3" = 1'-0"

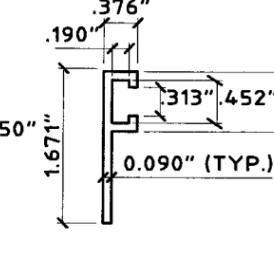
5 STUD ANGLE
SCALE: 3" = 1'-0"



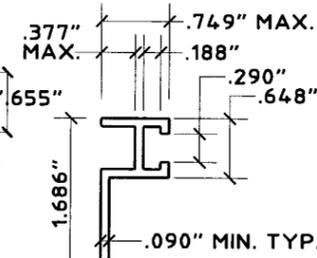
6 ANGLE
SCALE: 3" = 1'-0"



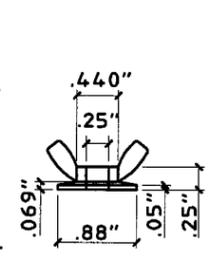
7 BUILD-OUT F-TRACK
SCALE: HALF SIZE



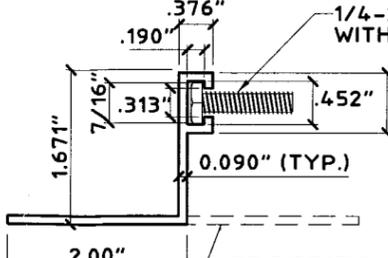
8 "F" TRACK
SCALE: HALF SIZE



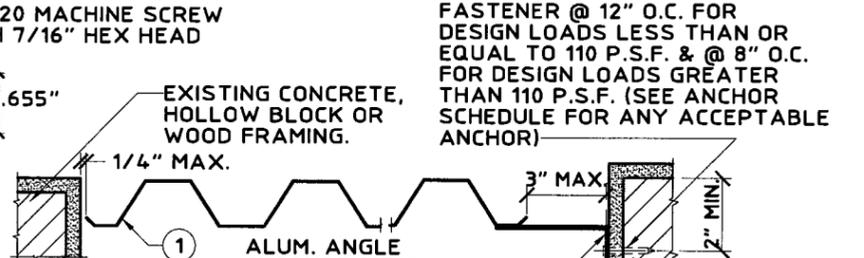
8a BF-TRACK
SCALE: HALF SIZE



9 WING NUT
SCALE: HALF SIZE



10 "F" ANGLE - TRACK
SCALE: HALF SIZE

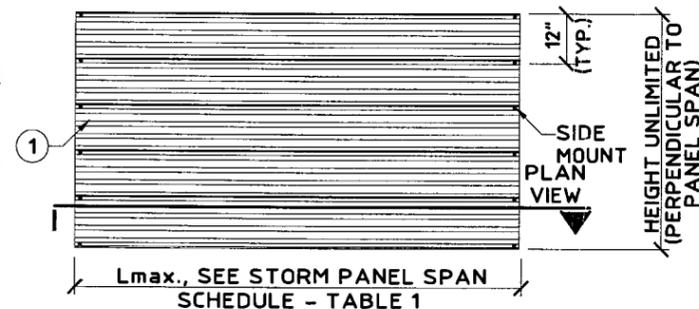


4 STUD ANGLE
SCALE: 3" = 1'-0"

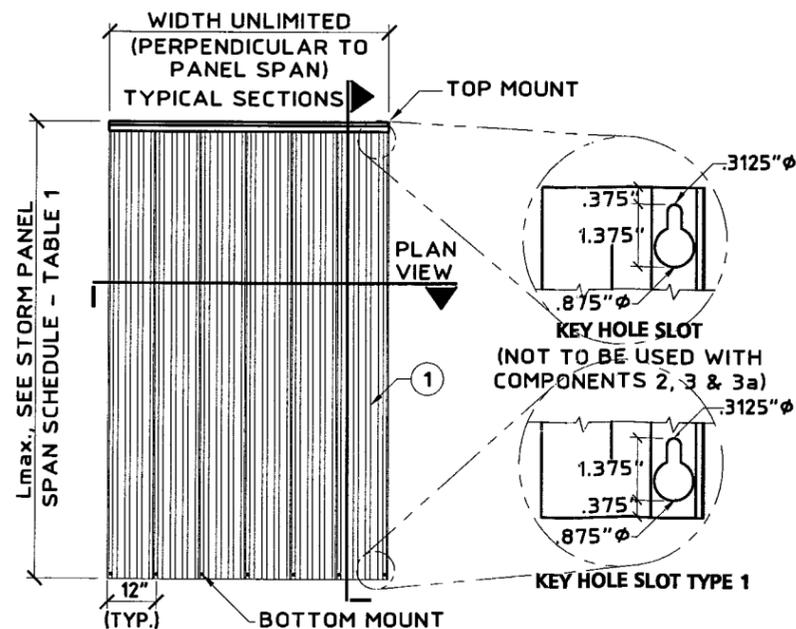
5 STUD ANGLE
SCALE: 3" = 1'-0"

GENERAL NOTES:

1. THESE APPROVAL DOCUMENTS REPRESENT A SHUTTER SYSTEM ANALYZED WITH THE PROVISION SET FOR THE ISSUANCE OF A NOTICE OF ACCEPTANCE (NOA) BY MIAMI-DADE COUNTY PRODUCT CONTROL DIVISION FOR THE HIGH VELOCITY HURRICANE ZONE (HVHZ) OF THE FLORIDA BUILDING CODE 2004 WITH 2005 SUPPLEMENT.
2. NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS PRODUCT. WIND LOAD DURATION FACTOR $C_d = 1.6$ WAS USED FOR WOOD SCREW DESIGN.
3. DETERMINE THE POSITIVE AND NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY.
4. THESE APPROVAL DOCUMENTS ARE GENERIC AND DO NOT INCLUDE INFORMATION FOR SITE-SPECIFIC APPLICATION OF THIS SHUTTER SYSTEM.
5. USE OF THESE APPROVAL DOCUMENTS SHALL COMPLY WITH CHAPTER 61G15-23 OF THE FLORIDA ADMINISTRATIVE CODE.
6. THESE APPROVAL DOCUMENTS ARE SUITABLE TO BE APPLIED BY THE CONTRACTOR PROVIDED THE CONTRACTOR DOES NOT DEVIATE FROM THE CONDITIONS DETAILED HEREIN AND THE CONTRACTOR VERIFIES THAT THE EXISTING STRUCTURE DOES NOT DEVIATE IN EITHER FORM OR MATERIAL FROM THE STRUCTURAL SUBSTRATES DETAILED HEREIN.
7. ANY MODIFICATIONS OR ADDITIONS TO THESE APPROVAL DOCUMENTS WILL VOID THE APPROVAL DOCUMENTS.
8. WHEN THE SITE CONDITIONS DEVIATE FROM THESE APPROVAL DOCUMENTS, THE BUILDING OFFICIAL MAY ELECT ONE OF THE FOLLOWING OPTIONS:
A) REQUIRE THAT SITE SPECIFIC DOCUMENTS BE PREPARED, SIGNED, DATED AND SEALED BY A LICENSED ENGINEER OR REGISTERED ARCHITECT, WHICH DETAIL AND JUSTIFY THE DEVIATION. SAID DOCUMENTS SHALL BE SUBMITTED TO THE PRODUCT ENGINEER FOR REVIEW AS A CONDITION TO THE BUILDING OFFICIAL GRANTING HIS/HER APPROVAL.
B) REQUIRE THAT A ONE-TIME SITE SPECIFIC APPROVAL BE APPLIED FOR AND SECURED FROM THE MIAMI-DADE COUNTY PRODUCT CONTROL DIVISION.
9. WHEN THE SITE CONDITION DEVIATIONS OCCUR WITHIN THE HIGH VELOCITY HURRICANE ZONE AREAS ONLY OPTION "B" SHALL BE ACCEPTED BY THE BUILDING OFFICIAL.
10. PRODUCT MARKINGS SHALL BE WITHIN 12" OF ONE END OF THE PANEL WITH A MINIMUM OF ONE MARKING PER PANEL AND SHALL BE PERMANENTLY LABELED AS FOLLOWS:
**JM STEEL CORPORATION
HUGER, SOUTH CAROLINA
MIAMI-DADE COUNTY PRODUCT APPROVED**
11. STORM PANELS SHALL BE 3004-H34 ALUMINUM ALLOY, WITH THE FOLLOWING MIN. THICKNESS AND MECHANICAL PROPERTIES: NOMINAL 0.050" MIN $F_y = 25.0$ K.S.I.
12. ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, U.O.N.
13. ALL BOLTS AND WASHERS SHALL BE GALVANIZED OR STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 K.S.I., U.O.N.
14. TOP & BOTTOM DETAILS SHOWN MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED HORIZONTALLY WHERE APPLICABLE, EXCEPT FOR "h" AND "U" HEADER MOUNTING CONDITIONS.

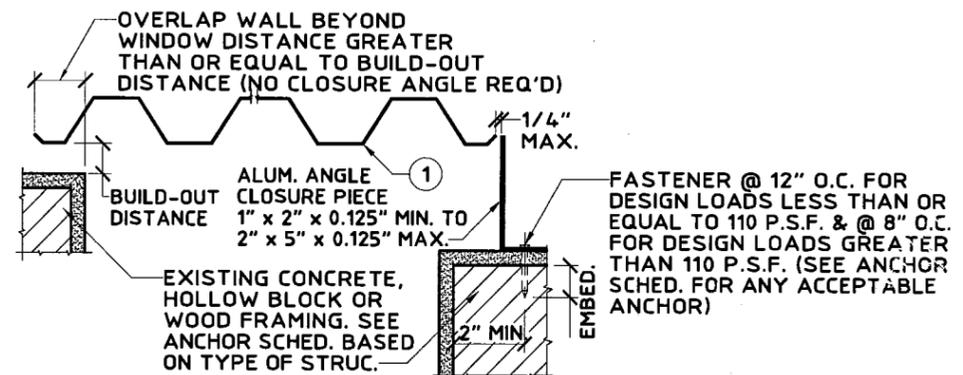


TYPICAL HORIZONTAL ELEVATION
SCALE: 1/4" = 1' - 0"

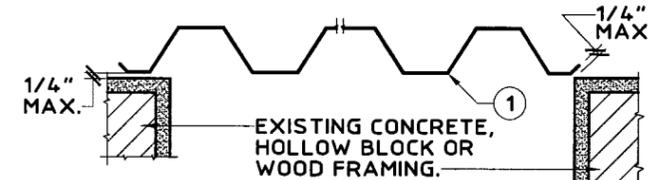


TYPICAL VERTICAL ELEVATION
SCALE: 1/4" = 1' - 0"

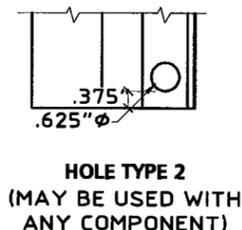
TRAP MOUNT CLOSURE DETAIL (PLAN)
SCALE: 1-1/2" = 1'-0"



BUILD-OUT MOUNT CLOSURE DETAIL (PLAN)
SCALE: 1-1/2" = 1'-0"



WALL MOUNT CLOSURE DETAIL (PLAN)
SCALE: 1-1/2" = 1'-0"



HOLE TYPE 2
(MAY BE USED WITH ANY COMPONENT)

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 05-1006.04
Expiration Date 03/31/2010
By *Helmut A. M...*
Miami Dade Product Control
Division

Thornton-Tomasetti Group
330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301
Tel. (954) 522-3690 • Fax (954) 522-3691 • COA # 7519
Website: www.TheTTGroup.com
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0.050" ALUMINUM STORM PANEL
JM Steel Corporation
1050 North Steel Circle
Huger, SC 29450
(770) 231-1335
(412) 963-9071
Jenmar Corporation

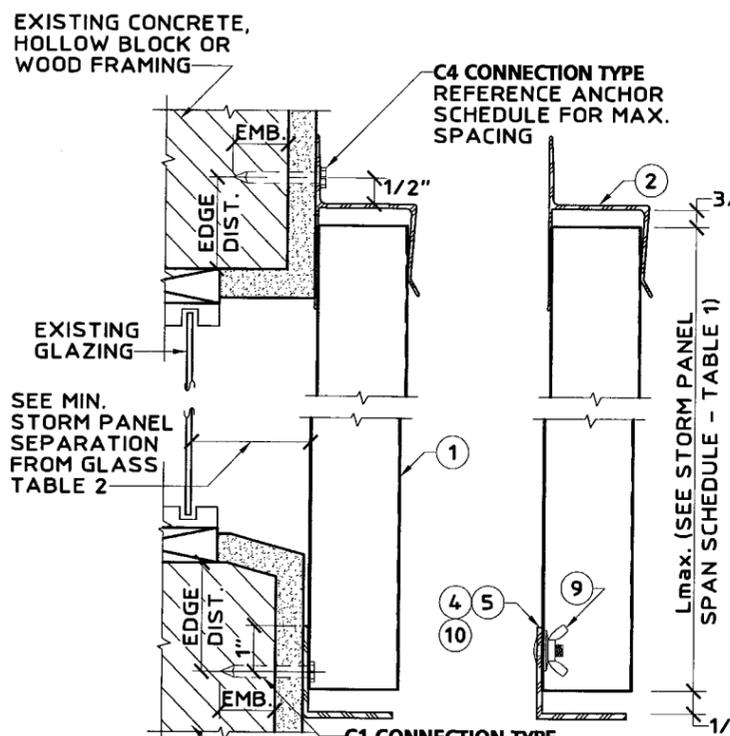
V.J. Knezevich
Professional Engineer
FL License No. PE 0010983
MAR 13 2006

no.	date	by	description
0	03/13/06	VJK	PREVIOUSLY DRAWING NO. 05-470

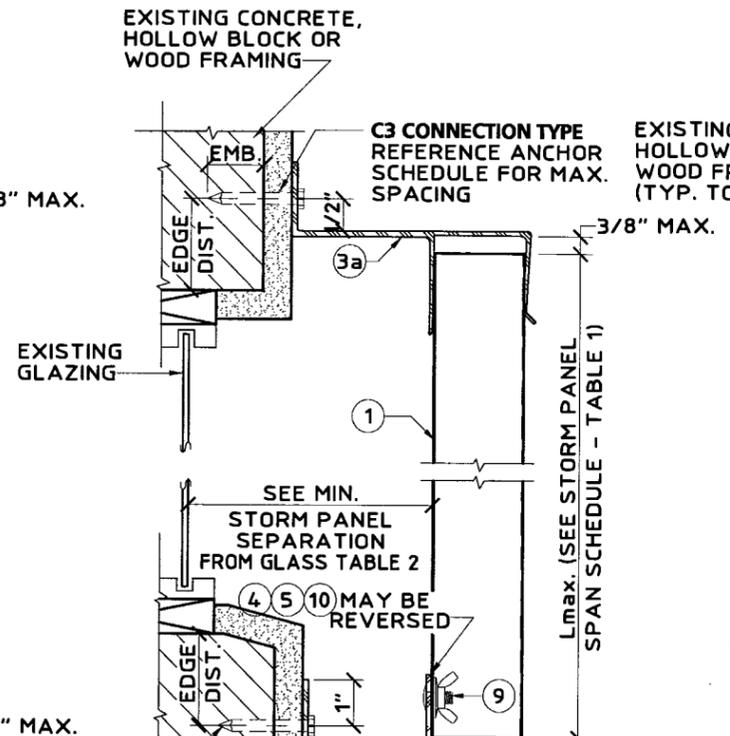
revisions

date 03/13/2006
scale AS NOTED
design by VJK
checked by VJK
drawing no. 06-323
sheet 1 of 5

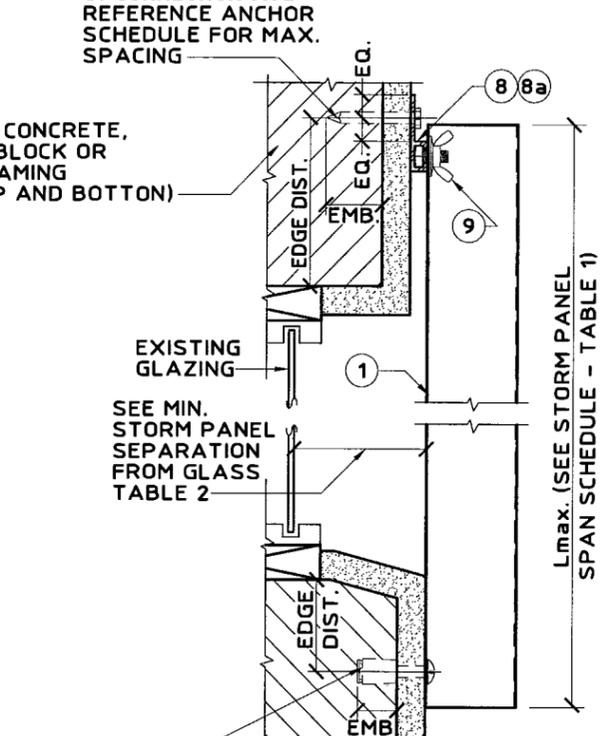
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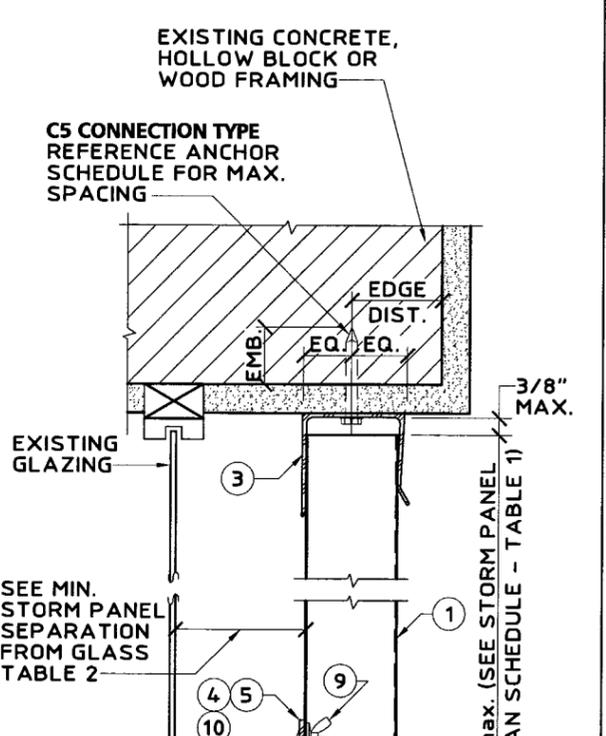
A WALL MOUNT SECTION
SCALE: 3" = 1' - 0"



B BUILD-OUT MOUNT SECTION
SCALE: 3" = 1' - 0"



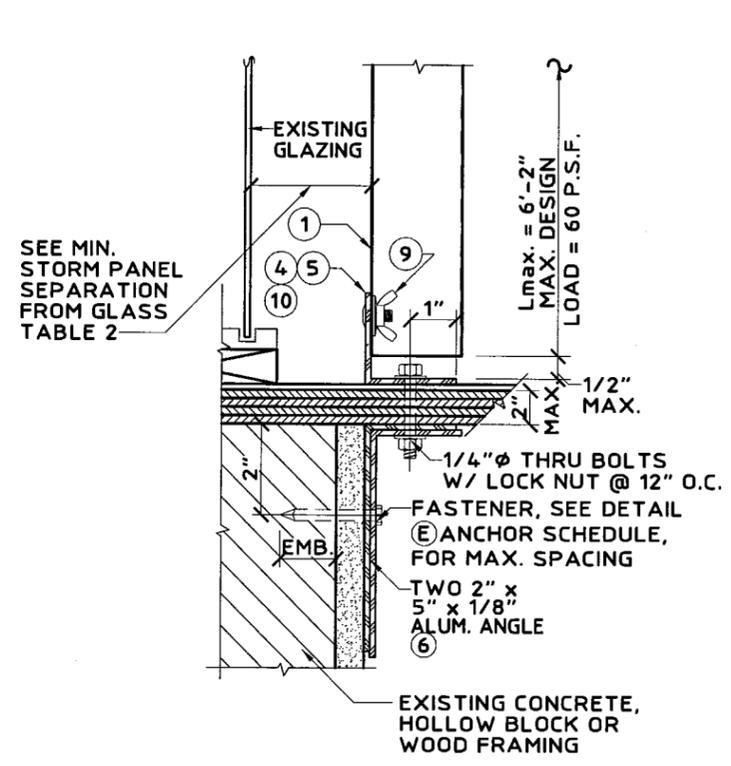
C 'F' TRACK/DIRECT MOUNT SECTION
SCALE: 3" = 1' - 0"



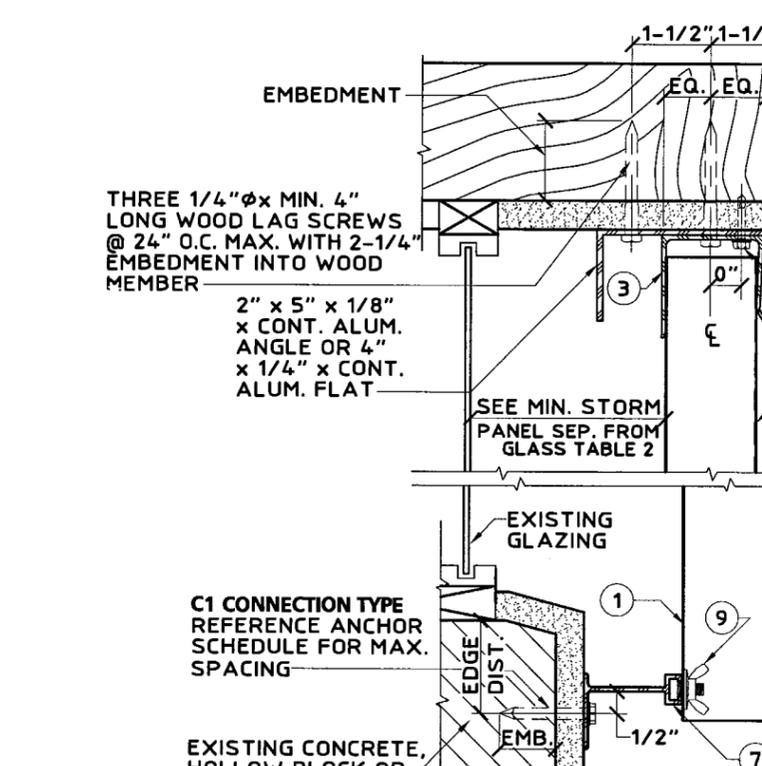
D CEILING/FLOOR MOUNT SECTION
SCALE: 3" = 1' - 0"

DETAIL (E) ("PASS THRU" SEC.) ANCHOR SCHEDULE

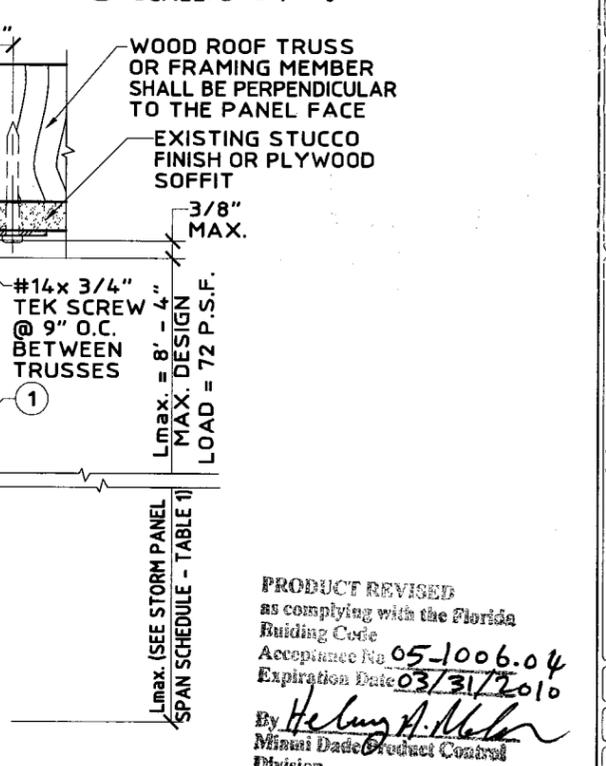
FASTENER TYPE	CONC.	BLOCK	WOOD
1/4" ϕ ITW TAPCON WITH 1-3/4" MIN. EMBEDMENT AND 2-1/2" MINIMUM EDGE DISTANCE	12"	4"	N/A
1/4" ϕ ELCO TEXTRON TAPCON W/ 1-1/2" MIN. EMBED. IN CONC. OR 1-1/4" EMBED. IN BLOCK AND 2" MIN. EDGE DISTANCE	7"	4"	N/A
1/4" ϕ ITW MAXI SET TAPCON WITH 1-1/4" MIN. EMBEDMENT AND 2" MINIMUM EDGE DISTANCE	5"	3"	N/A
1/4" ϕ x MIN. 2-1/2" LONG WOOD LAG SCREW WITH MIN. 1-3/4" EMBED. SHEAR PARALLEL OR PERP. TO WOOD GRAIN	N/A	N/A	12"



E "PASS THRU" SECTION
SCALE: 3" = 1' - 0"



F CEILING MOUNT / BUILD OUT SECTION
SCALE: 3" = 1' - 0"



PRODUCT REVISED
 as complying with the Florida Building Code
 Acceptance No. **05-1006.04**
 Expiration Date **03/31/2010**
 By *Helmut A. Nelson*
 Miami Dade Product Control Division

Thornton-Tomasetti Group

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0.050" ALUMINUM STORM PANEL

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V.J. Knezevich
 Professional Engineer
 FL License No. PE 0010983

MAR 18 2006

no.	date	by	description
0	03/13/06	VJK	PREVIOUSLY DRAWING NO. 05-470

date: 03/13/2006
 scale: AS NOTED
 design by: VJK
 drawing no. **06-323**
 sheet 2 of 5

TABLE 2	MINIMUM STORM PANEL SEPARATION FROM GLASS			
	POSITIVE DESIGN LOAD (W) (P.S.F.)	POSITIVE DESIGN LOAD (W) (P.S.F.)	MIN. SEP. FOR ALL INSTALLATIONS LESS THAN 30' ABOVE GRADE (INCHES)	MIN. SEP. FOR ALL INSTALLATIONS GREATER THAN 30' ABOVE GRADE (INCHES)
19.5	3' - 0"	3' - 0"	3-1/2"	1"
	5' - 0"	3' - 0"	3-1/2"	1"
	7' - 0"	3' - 0"	3-1/2"	1-1/4"
	8' - 8"	3' - 0"	3-1/2"	1-1/2"
	10' - 6"	3' - 0"	4-3/8"	2-1/8"
30.0	12' - 0"	3' - 0"	5-7/8"	2-3/4"
	3' - 0"	5' - 0"	3-1/2"	1"
	5' - 0"	5' - 0"	3-1/2"	1-1/8"
	7' - 0"	5' - 0"	3-1/2"	1-3/8"
	8' - 8"	5' - 0"	3-1/2"	1-3/4"
40.0	10' - 6"	5' - 0"	4-3/8"	2-3/4"
	10' - 9"	7' - 0"	5-7/8"	2-3/4"
	3' - 0"	7' - 0"	3-1/2"	1"
	5' - 0"	7' - 0"	3-1/2"	1-1/8"
	7' - 0"	7' - 0"	3-1/2"	1-1/2"
60.0	8' - 8"	7' - 0"	3-1/2"	1-1/2"
	10' - 0"	8' - 8"	3-1/2"	2-1/8"
	3' - 0"	8' - 10"	4-3/8"	2-3/4"
	5' - 0"	3' - 0"	3-1/2"	1"
	7' - 0"	3' - 0"	3-1/2"	1-1/4"
80.0	6' - 9"	5' - 0"	3-1/2"	1-3/4"
	3' - 0"	5' - 0"	3-1/2"	1"
	4' - 6"	5' - 0"	3-1/2"	1-1/4"
120.0	3' - 0"	3' - 0"	3-1/2"	1"
	3' - 7"	3' - 0"	3-1/2"	1-1/8"
150.0	3' - 0"	3' - 0"	3-1/2"	1"
	3' - 7"	3' - 0"	3-1/2"	1-1/8"

TABLE 2 NOTE:
 1. ENTER TABLE 2 WITH POSITIVE DESIGN LOAD TO DETERMINE MIN. STORM SHUTTER SEPARATION FROM GLASS.

TABLE 1	STORM PANEL MAX. SPAN SCHEDULE	
	DESIGN LOAD W (P.S.F.)	ALL MOUNTING CONDITIONS
		ANCHOR SPACING 12 IN O.C. L MAX. (FT-IN)
19.5	12' - 0"	
25.0	11' - 3"	
30.0	10' - 9"	
33.0	10' - 6"	
35.0	10' - 4"	
40.0	10' - 0"	
45.0	9' - 8"	
50.0	9' - 5"	
55.0	9' - 2"	
60.0	8' - 10"	
62.0	8' - 8"	
65.0	8' - 3"	
70.0	7' - 8"	
75.0	7' - 2"	
80.0	6' - 9"	
85.0	6' - 4"	
90.0	6' - 0"	
95.0	5' - 8"	
100.0	5' - 4"	
108.0	5' - 0"	
115.0	4' - 8"	
120.0	4' - 6"	
130.0	4' - 1"	
140.0	3' - 10"	
150.0	3' - 7"	

TABLE 1 NOTES:
 1. TABLE 1 IS APPLICABLE FOR BOTH POSITIVE AND NEGATIVE LOADS.
 2. FOR DESIGN LOADS BETWEEN TABULATED VALUES. USE NEXT HIGHER LOAD OR LINEAR INTERPOLATION MAY BE USED TO DETERMINE ALLOWABLE SPANS.

PRODUCT REVISED
 as complying with the Florida Building Code
 Acceptance No. 05-1006-04
 Expiration Date 03/31/2010
 By Herlany A. Miller
 Miami Dade Product Control Division

Thornton-Tomasetti Group

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Jenmar Corporation

V.J. Knezevich
 Professional Engineer
 FL License No. 770010983

[Signature]
MAR 13 2006

no.	date	by	description
0	03/13/06	VJK	PREVIOUSLY DRAWING NO. 05-479

date	03/13/2006
scale	AS NOTED
drawn by	MCR
design by	VJK
checked by	VJK
drawing no.	06-323
sheet 5 of 5	