



**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](http://www.miamidade.gov)

**NOTICE OF ACCEPTANCE (NOA)**

**Southern Metal Products, LLC**  
450 West McNab Road  
Ft. Lauderdale, Florida 33309

**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: 0.038" (min.) Galvanized Steel Storm Panel Shutter**

**APPROVAL DOCUMENT:** Drawing No. 05-424, titled " 20 ga. Steel Storm Panel ", sheets 1 through 8 of 8, prepared by Thornton Tomasetti, dated August 31, 2005, last revision #1 dated November 02, 2006, signed and sealed by J. W. 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 # 03-0423.02 and consists of this page 1, evidence submitted pages E-1, E-2, E-3, & E-4 as well as approval document mentioned above

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



*Helmy A. Makar*  
12/14/2006

**NOA No 05-1013.02**  
**Expiration Date: 07/31/2008**  
**Approval Date: 12/14/2006**

**Southern Metal Products, LLC**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVALS**

**A. DRAWINGS**

1. *Drawing No. 95-701, All Broward Hurricane Panel Co., 20 Ga.. Steel Storm Panels, Sheets 1 through 7 of 7, prepared by Knezevich & Associates, dated 1/30/96 with Revision No. 5, dated 6/27/97, signed and sealed by V.J. Knezevich, P.E.*

**B. TESTS**

1. *Test reports on 1) Uniform Static Air Pressure Test, SFBC PA 202-94  
2) Large Missile Impact Test, SFBC PA 201-94  
3) Cyclic Loading Test, per SFBC PA 203-94  
along with installation diagram of 20 Ga.. galvanized steel storm panels, prepared by Construction Testing Corporation, Test Report No. CTC-96-002, dated February 8, 1996, signed and sealed by Christopher G. Tyson, P.E.*
2. *Test reports on 1) Uniform Static Air Pressure Test, SFBC PA 202-94  
2) Large Missile Impact Test, SFBC PA 201-94  
3) Cyclic Loading Test, per SFBC PA 203-94  
along with installation diagram of additional mounting conditions for 20 Ga.. galvanized steel storm panels, prepared by Construction Testing Corporation, Test Report No. CTC-96-029, dated July 18, 1996, signed and sealed by Christopher G. Tyson, P.E.*

**C. CALCULATIONS**

1. *Comparative Analysis and Anchor analysis & 12 additional details, All Broward Hurricane Panel Co., dated February 22, 1996, Pages 1 through 50, KA Drawing No. 95-701, prepared by Knezevich & Associates, Inc., signed and sealed by V.J. Knezevich, P.E.*
2. *Comparative Analysis and Anchor analysis & additional details, All Broward Hurricane Panel Co., dated August 5, 1996, Pages 1 through 28, KA Drawing No. 95-701, prepared by Knezevich & Associates, Inc., signed and sealed by V.J. Knezevich, P.E.*
3. *Revised calculations, All Broward Hurricane Panel Co., dated June 27, 1997, Pages 1 through 6, prepared by Knezevich & Associates, Inc., signed and sealed by V.J. Knezevich, P.E.*

**D. MATERIAL CERTIFICATION**

1. *Mill Certified Inspection Report issued by Bethlehem Steel Corp. dated 6/23/95 with chemical treatment and spec. for 20 Ga. grade 50 galvanized steel per ASTM A653-94.*



Helmy A. Makar, P. E., M.S.  
Product Control Examiner  
NOA No 05-1013.02  
Expiration Date: 07/31/2008  
Approval Date: 12/14/2006

**Southern Metal Products, LLC**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

2. *Certified Tensile Test Report Number QCM 6AM-120, prepared by QC Metallurgical, Inc., dated January 22, 1996, tested as per ASTM E8-93, for steel storm panel sample #CTC-96-002, signed and sealed by Frank Grate, P.E.*
3. *Certified Tensile Test Report Number QCM 6GM-1844, prepared by QC Metallurgical, Inc., dated August 6, 1996, tested as per ASTM E8-93, for steel storm panel sample, signed and sealed by Frank Grate, P.E.*

**2. EVIDENCE SUBMITTED UNDER APPROVAL 98-0120.01**

**A. DRAWINGS**

1. *Drawing No. 95-701, All Broward Hurricane Panel Co., 20 ga. Steel Storm Panels, sheets 1 through 7 of 7, prepared by Knezevich & Associates, dated 1/30/96 with Revision No. 7, dated 05/01/98, signed and sealed by V.J. Knezevich, P.E.*

**B. TESTS**

1. *Test reports on 1) Large Missile Impact Test, SFBC PA 201-94  
2) Cyclic Loading Test, per SFBC PA 203-94  
along with installation diagram of 20 Ga.. galvanized steel storm panels, prepared by Construction Testing Corporation, Test Report No. CTC-96-061, dated November 22, 1997, signed and sealed by Yamil Kuri, P.E.*

**C. CALCULATIONS**

1. *Anchor calculations, All Broward Hurricane Panel Co., dated December 16, 1997, Pages 1 through 6, KA Drawing No. 95-701, prepared by Knezevich & Associates, Inc., signed and sealed by V.J. Knezevich, P.E.*

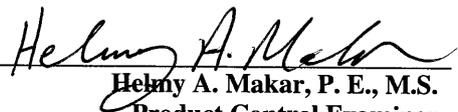
**D. MATERIAL CERTIFICATION**

1. *Certified Tensile Test Report Number CTL-845C, prepared by Certified Testing Laboratories, dated December 1, 1997, tested as per ASTM E8-93, for steel storm panel sample #CTC-96-061, signed and sealed by Ramesh Patel, P.E.*

**3. EVIDENCE SUBMITTED UNDER APPROVAL #98-0713.01**

**A. DRAWINGS**

1. *Drawing No. 98-128, All Broward Hurricane Panel Co., 20 ga. Steel Storm Panels, sheets 1 through 7 of 7, prepared by Knezevich & Associates, dated 06/23/98 with Revision No. 2, dated 10/20/98, signed and sealed by V.J. Knezevich, P.E.*

  
Helmy A. Makar, P. E., M.S.

Product Control Examiner  
NOA No 05-1013.02  
Expiration Date: 07/31/2008  
Approval Date: 12/14/2006

**Southern Metal Products, LLC**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**B. TESTS**

1. *Test reports on 1) Large Missile Impact Test, SFBC PA 201-94, 2) Cyclic Loading Test, per SFBC PA 203-94 along with installation diagram of 20 Ga. galvanized steel storm panels, prepared by Construction Testing Corporation, Test Report No. CTC-98-020, dated May 27, 1998, signed and sealed by Christopher G. Tyson, P.E.*

**C. CALCULATIONS**

1. *Comparative Analysis and Anchor calculations, All Broward Hurricane Panel Co., Pages 1 through 8, prepared by Knezevich & Associates, Inc., signed and sealed by V.J. Knezevich, P.E. on July 8, 1998.*
2. *Comparative Analysis, All Broward Hurricane Panel Co., Pages 1 through 3, prepared by Knezevich & Associates, Inc., signed & sealed by V.J. Knezevich, P.E. on Oct. 20, 1998.*

**D. MATERIAL CERTIFICATION**

1. *Mill Certified Inspection Report issued by American Douglas Metals, Inc., dated 10/28/98, for Galvanized Structural Grade 50 (D) G-60 20 Gauge x 18" x coil .*
2. *Certified Tensile Test Report Number CTL-499D, prepared by Certified Testing Laboratories, dated June 1, 1998, for steel storm panel sample #CTC-98-020, signed and sealed by Ramesh Patel, P.E.*

**4. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 00-0426.06**

**A. DRAWINGS**

1. *None.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*

**D. MATERIAL CERTIFICATION**

1. *None.*

**5. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 03-0423.02**

**A. DRAWINGS**

1. *Drawing No. 03-269, titled " 20 ga. Steel Storm Panel ", sheets 1 through 7 of 7, prepared by Knezevich & Associates, Inc., dated April 18, 2003, last revision #0 dated April 18, 2003 signed and sealed V. J. Knezevich, P.E.*



**Helmy A. Makar, P. E., M.S.**  
**Product Control Examiner**  
**NOA No 05-1013.02**  
**Expiration Date: 07/31/2008**  
**Approval Date: 12/14/2006**

**Southern Metal Products, LLC**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*

**D. MATERIAL CERTIFICATIONS**

1. *None.*

**E. STATEMENTS**

1. *None.*

**6. NEW EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. *Drawing No. 05-424, titled " 20 ga. Steel Storm Panel ", sheets 1 through 8 of 8, prepared by Thornton Tomasetti, dated August 31, 2005, last revision #1 dated November 02, 2006, signed and sealed by J. W. Knezevich, P.E.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *Revised anchor calculations, Southern Metal Products, LLC, dated August 03, 2005, Pages 1 through 53, prepared by Thornton-Tomasetti Group, signed and sealed by J. W. Knezevich, P.E.*

**D. QUALITY ASSURANCE**

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

**E. MATERIAL CERTIFICATION**

1. *None.*

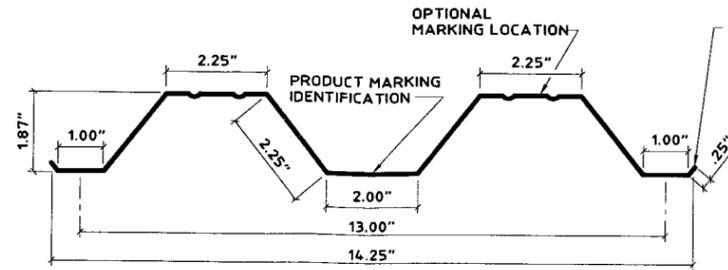


Helmy A. Makar, P. E., M.S.  
Product Control Examiner  
NOA No 05-1013.02  
Expiration Date: 07/31/2008  
Approval Date: 12/14/2006

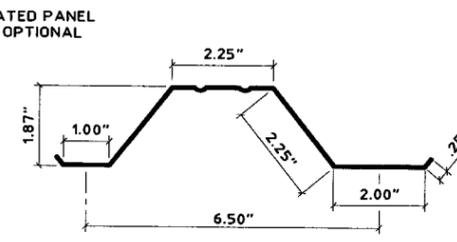
**GENERAL NOTES:**

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.
  2. AN ALLOWABLE STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. EXCEPT FOR WOOD ANCHOR ANALYSIS, A LOAD DURATION FACTOR (CD = 1.6) HAS BEEN USED PER THE PROVISIONS OF CHAPTER 16 OF THE FLORIDA BUILDING CODE (FBC) AND THE NATIONAL DESIGN STANDARD (NDS) FOR WIND LOADS AND LOAD COMBINATIONS WITH WIND.
  3. DETERMINE THE POSITIVE AND NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH ASCE 7-02, A DIRECTIONALITY FACTOR OF  $K_d = 0.85$  SHALL BE USED.
  4. THESE APPROVAL DOCUMENTS ARE GENERIC AND DO NOT INCLUDE INFORMATION FOR SITE-SPECIFIC APPLICATION OF THIS SHUTTER SYSTEM.
  5. THESE APPROVAL DOCUMENTS 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
- WHEN THE SITE CONDITION DEVIATIONS OCCUR WITHIN THE HIGH VELOCITY HURRICANE ZONE AREAS ONLY OPTION "B" SHALL BE ACCEPTED BY THE BUILDING OFFICIAL.
9. 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:
 

**BHPCO**  
**FORT LAUDERDALE, FLORIDA**  
**MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED**
  10. ALL BOLTS AND WASHERS SHALL BE GALVANIZED OR STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 KSI.
  11. STORM PANELS SHALL BE 20 GAUGE STEEL ( $t = .038"$ ) CONFORMING TO ASTM A653-94, HIGH STRENGTH LOW ALLOY, TYPE 2 GRADE 50, GALV. IN ACCORDANCE WITH ASTM G60.
  12. ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, U.O.N
  13. PANELS SHALL BE FASTENED AT MID SPAN W/ 1/4"-20 x 1" BOLTS WITH DIE CAST ALUMINUM WASHERED WING NUTS OR JACK NUTS (SEE TYPICAL ELEVATION 8). FOR SPANS LESS THAN 33", OVERLAP FASTENERS ARE NOT REQUIRED.
  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.
  15. AT LEAST ONE WARNING NOTE PER OPENING SHALL BE PLACED IN A CONSPICUOUS LOCATION ON ANY OF THE COMPONENTS OF THE STORM PANEL SYSTEM ADVISING THE HOME OWNER OR TENANT THAT THE STORM PANELS WILL NOT OFFER HURRICANE PROTECTION UNLESS ALL REINFORCING BOLTS ARE PROPERLY INSTALLED WHEN REQUIRED. WARNING LABEL SHALL BE FASTENED WITH PERMANENT ADHESIVE OR MECHANICALLY.

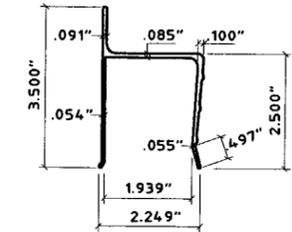


**FULL PANEL**



**HALF PANEL**

ONE HALF PANEL PER OPENING MAY BE USED AS REQUIRED TO COVER OPENING.

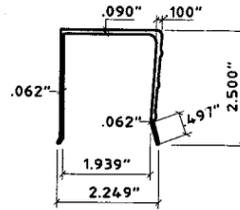


**"h" HEADER**

SCALE: 3" = 1'-0"

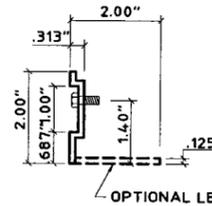
**1 STORM PANEL**

SCALE: 3" = 1'-0"



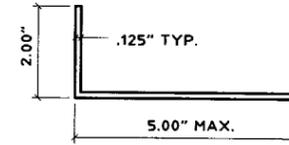
**3 "U" HEADER**

SCALE: 3" = 1'-0"



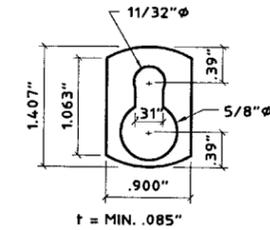
**4 "SEA" ANGLE**

SCALE: 3" = 1'-0"



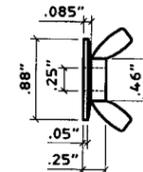
**5 ANGLE**

SCALE: 3" = 1'-0"



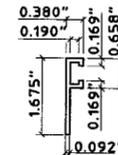
**6 "KEYHOLE" WASHER**

SCALE: 3" = 1'-0"  
3003-H14 ALUMINUM ALLOY



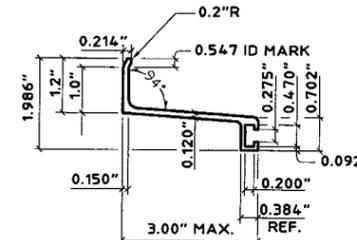
**7 WINGNUT**

SCALE: HALF SIZE



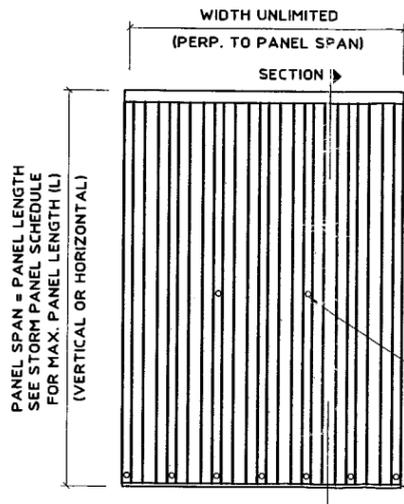
**9 "F" - TRACK**

SCALE: 3" = 1'-0"



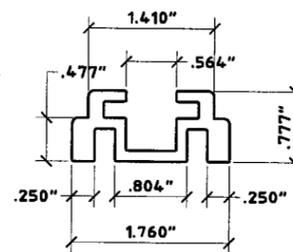
**10 EXTENDED "F" - TRACK**

SCALE: 3" = 1'-0"



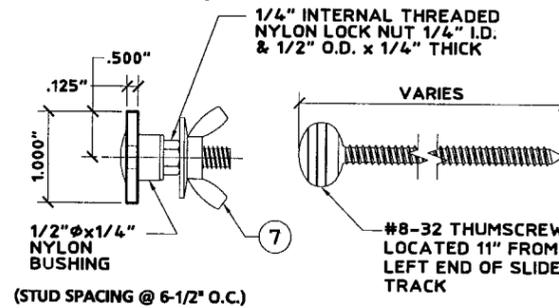
**8 TYPICAL ELEVATION**

FOR ALL INSTALLATIONS SEE TABLE 2, PAGE 6 OF 7, FOR REQUIRED SEPARATION FROM GLASS.



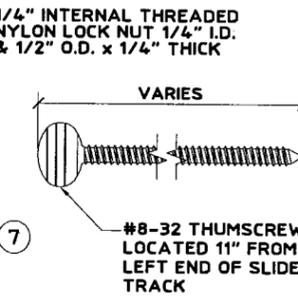
**11 SLIDE TRACK**

SCALE: HALF SIZE



**12 STUDDED STRAP**

SCALE: HALF SIZE



**13 THUMBSCREW**

SCALE: HALF SIZE

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No 05-1013.02  
Expiration Date 07/31/2008

By *Heather A. Miller*  
Miami Dade Product Control  
Division

**Thornton Tomasetti**  
330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
T 954.522.3690 • F 954.522.3691 • COA # 7519  
Website: www.thornton.com

Copyright © 2006 Thornton-Tomasetti, Inc.

20 GA. STEEL STORM PANEL

SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
A-BROWARD HURRICANE PANEL

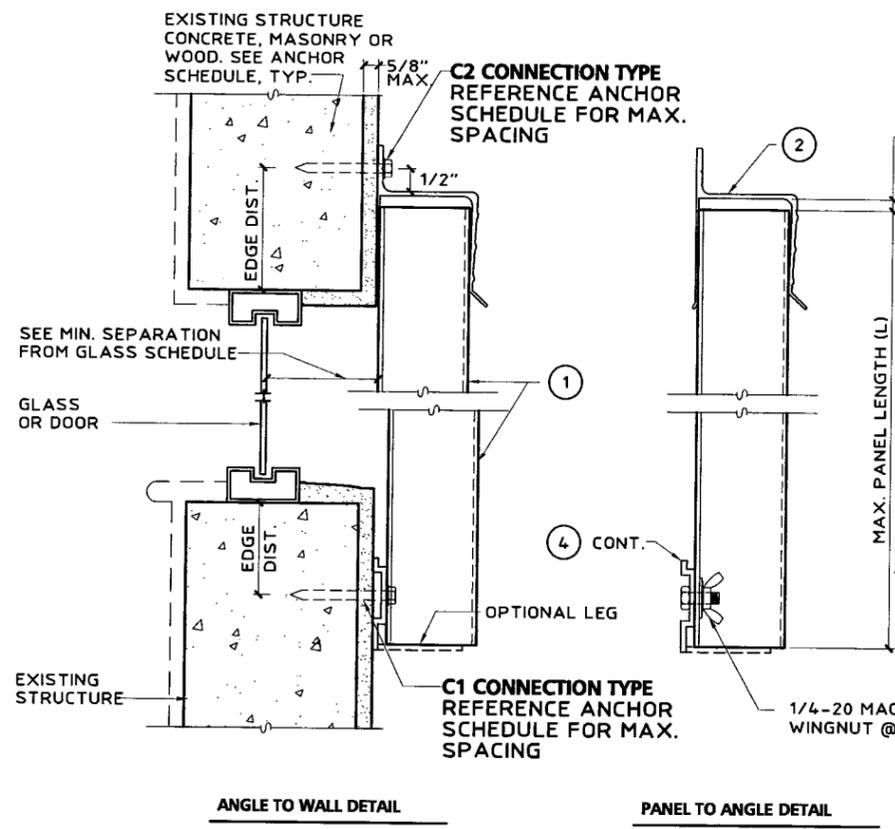
450 West McNab Road  
Ft. Lauderdale, FL 33309  
1-800-HURRICANE

J.W. Knezevich  
Professional Engineer  
FL License No.: PE 0041961

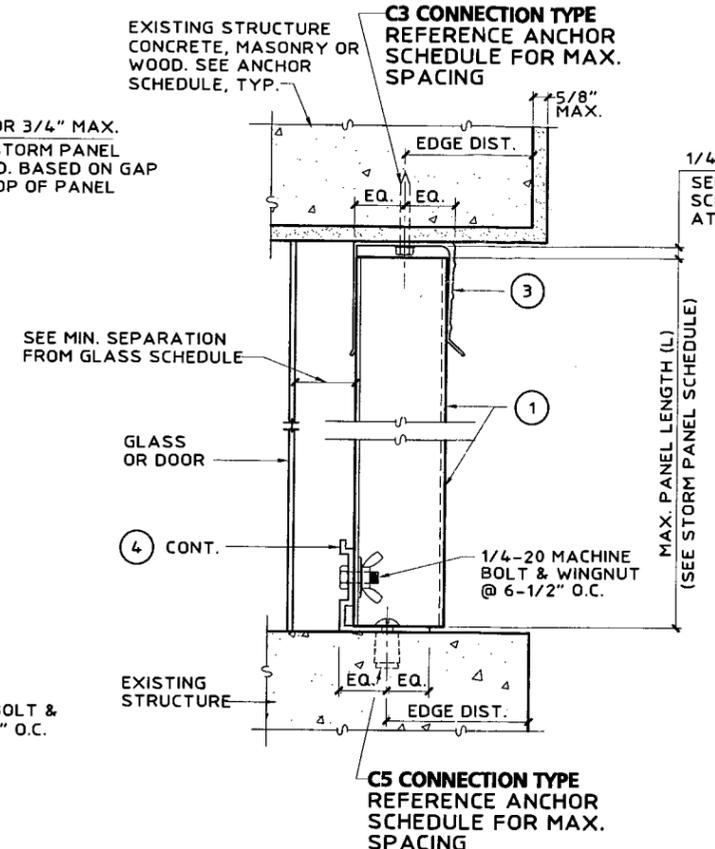
NOV 02 2006

no.	date	description
0	08/31/2005	ZL PREVIOUSLY DRAWING NO. 03-269
1	11/02/2006	NW NEW DETAILS AND BECC COMMENTS

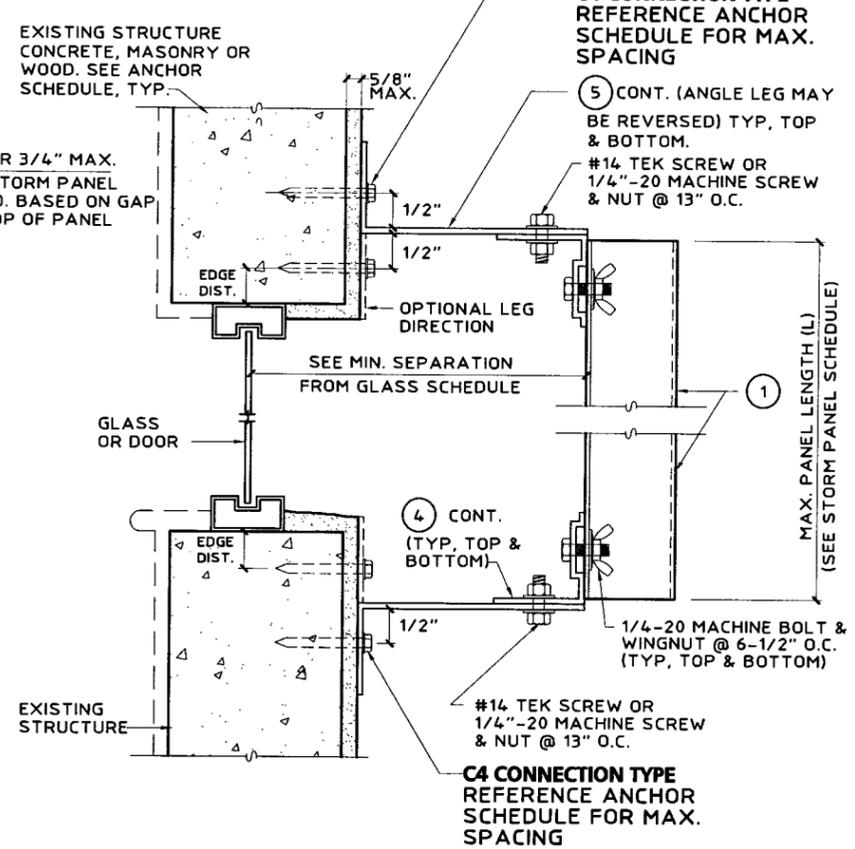
date	08/31/2005
scale	AS NOTED
drawn by	MCR
design by	NW
checked by	JWK
drawing no.	05-424
sheet	1 of 8



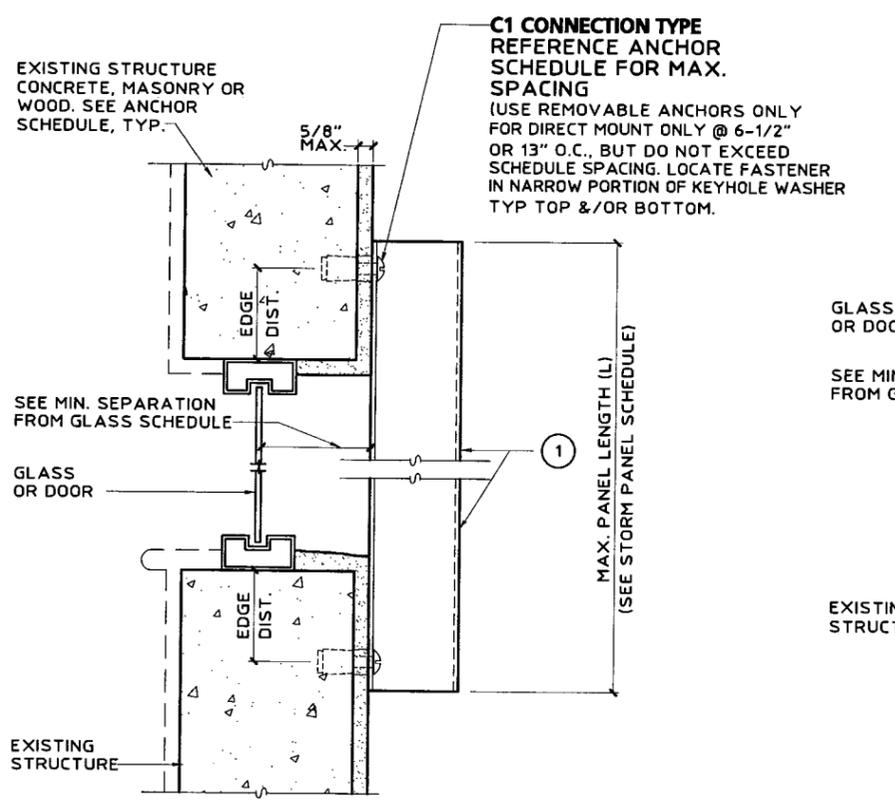
**A WALL MOUNT SECTION**  
SCALE: 3" = 1'-0"



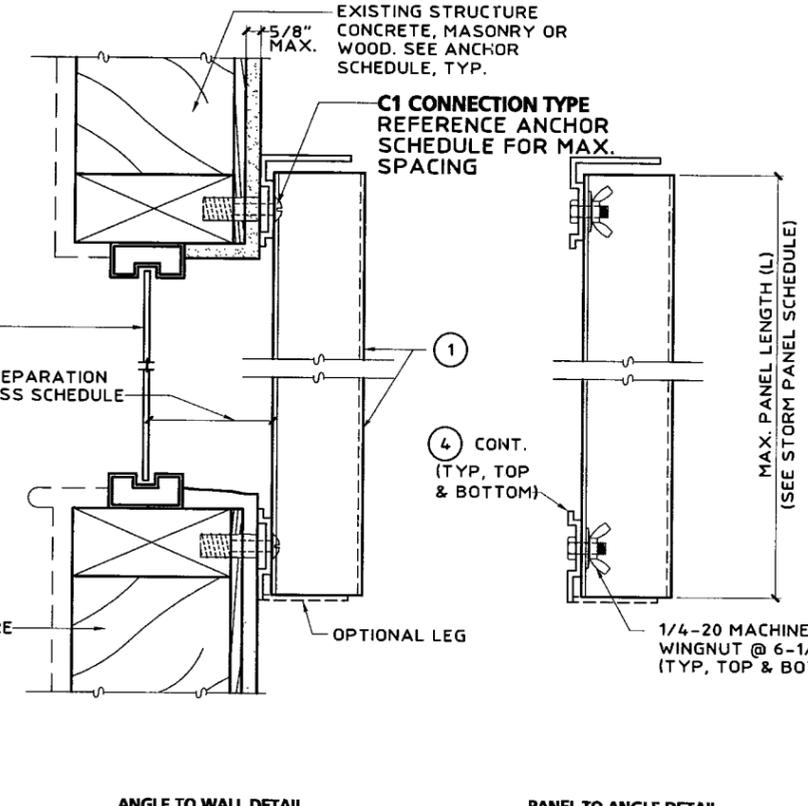
**B CEILING/INSIDE MOUNT SECTION**  
SCALE: 3" = 1'-0"



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



**D DIRECT MOUNT SECTION**  
SCALE: 3" = 1'-0"



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

**Thornton Tomasetti**  
330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
T 954.522.3690 • F 954.522.3691 • COA # 7519  
Website: www.ThorntonTomasetti.com  
Copyright © 2006 Thornton-Tomasetti, Inc.

**20 GA. STEEL STORM PANEL**  
SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
**ALBROWARD HURRICANE PANEL**  
450 West McNab Road  
Ft. Lauderdale, FL 33309  
1-800-HURRICANE

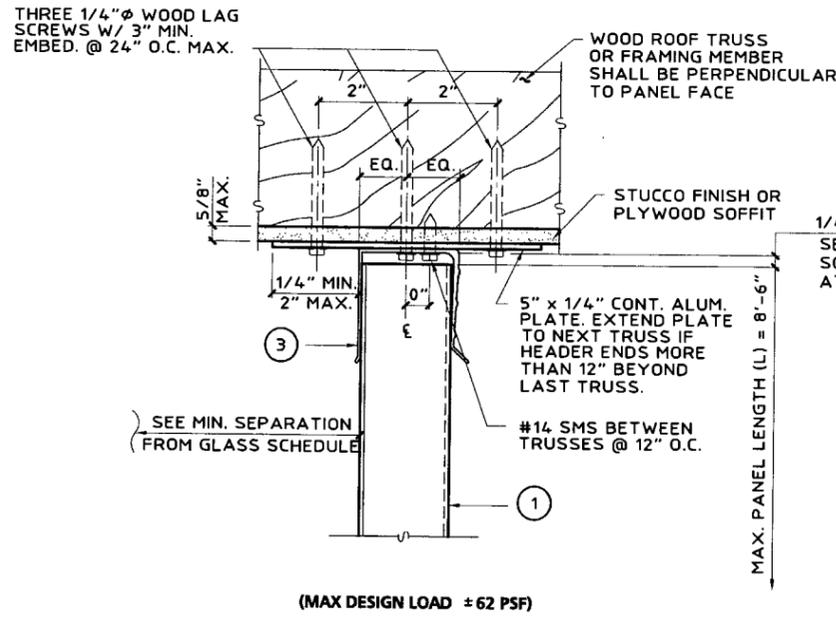
J.W. Knezevich  
Professional Engineer  
FL License No.: PE 0041961

NOV 02 2006

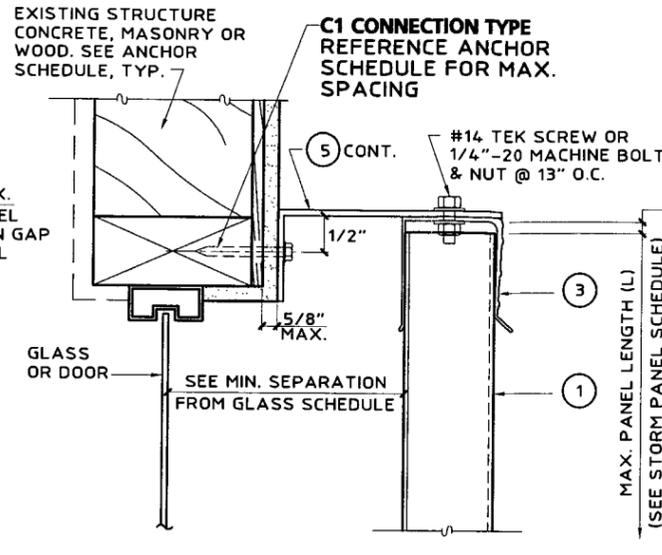
no.	date	by	description
0	08/31/2005	ZL	PREVIOUSLY DRAWING NO. 03-269
1	11/02/2006	NW	NEW DETAILS AND BECCO COMMENTS

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No 05-1013.02  
Expiration Date 07/31/2008  
By *Helmut A. Mehnert*  
Miami Dade Product Control  
Division

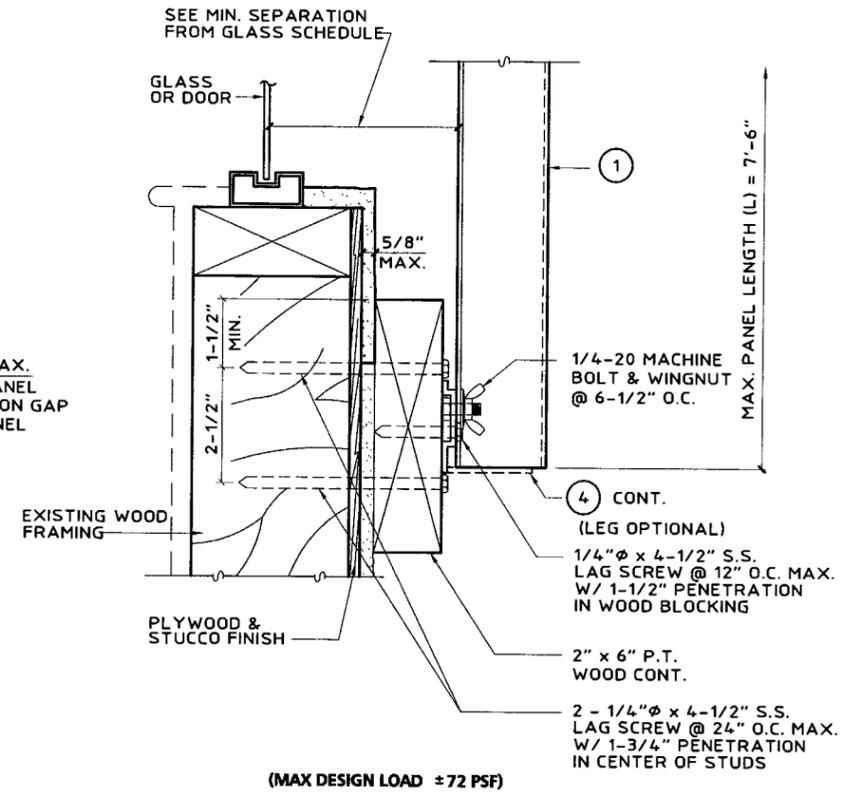
date 08/31/2005  
scale AS NOTED drawn by MCR  
design by NW checked by JWK  
drawing no. 05-424  
sheet 2 of 8



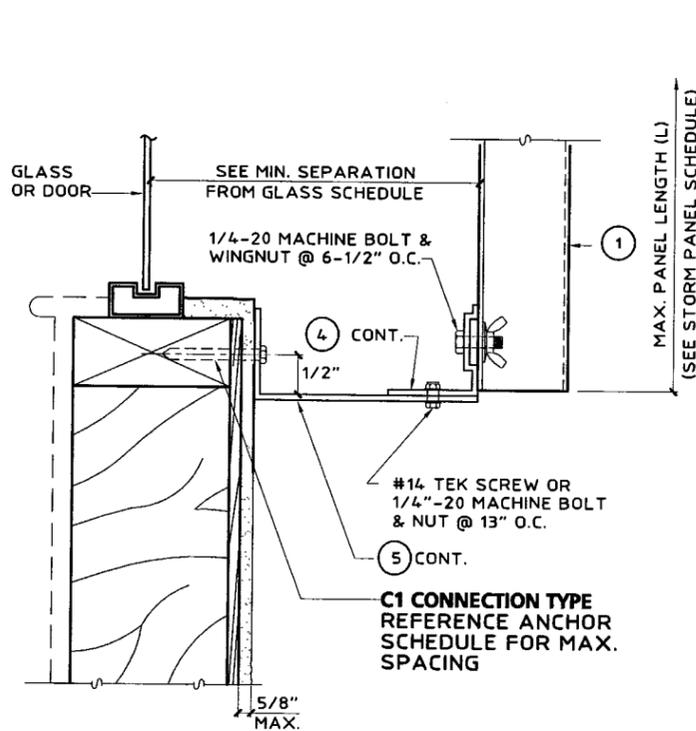
**F** SOFFIT CONNECTION DETAIL  
SCALE: 3" = 1'-0"



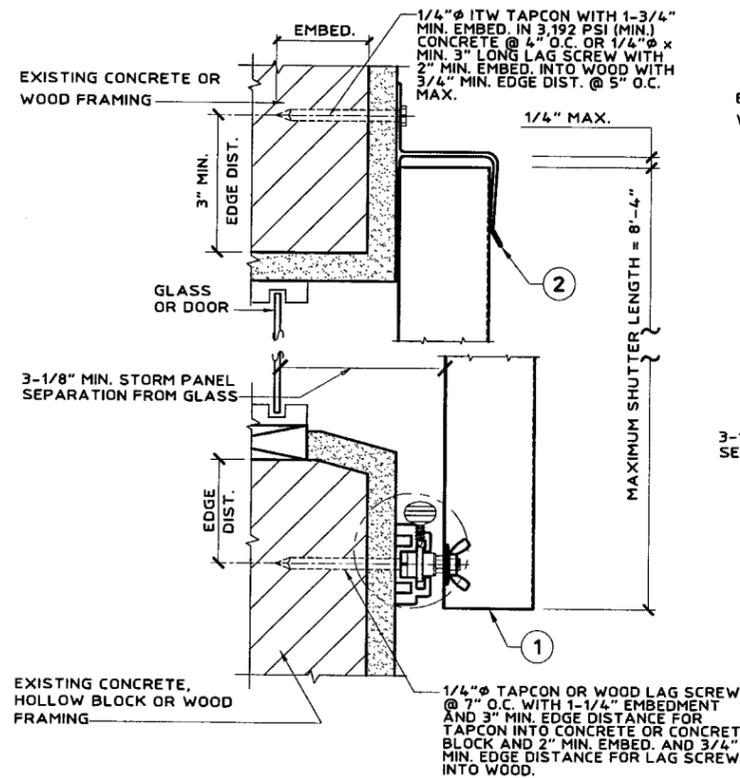
**G** BUILD-OUT SECTION  
SCALE: 3" = 1'-0"



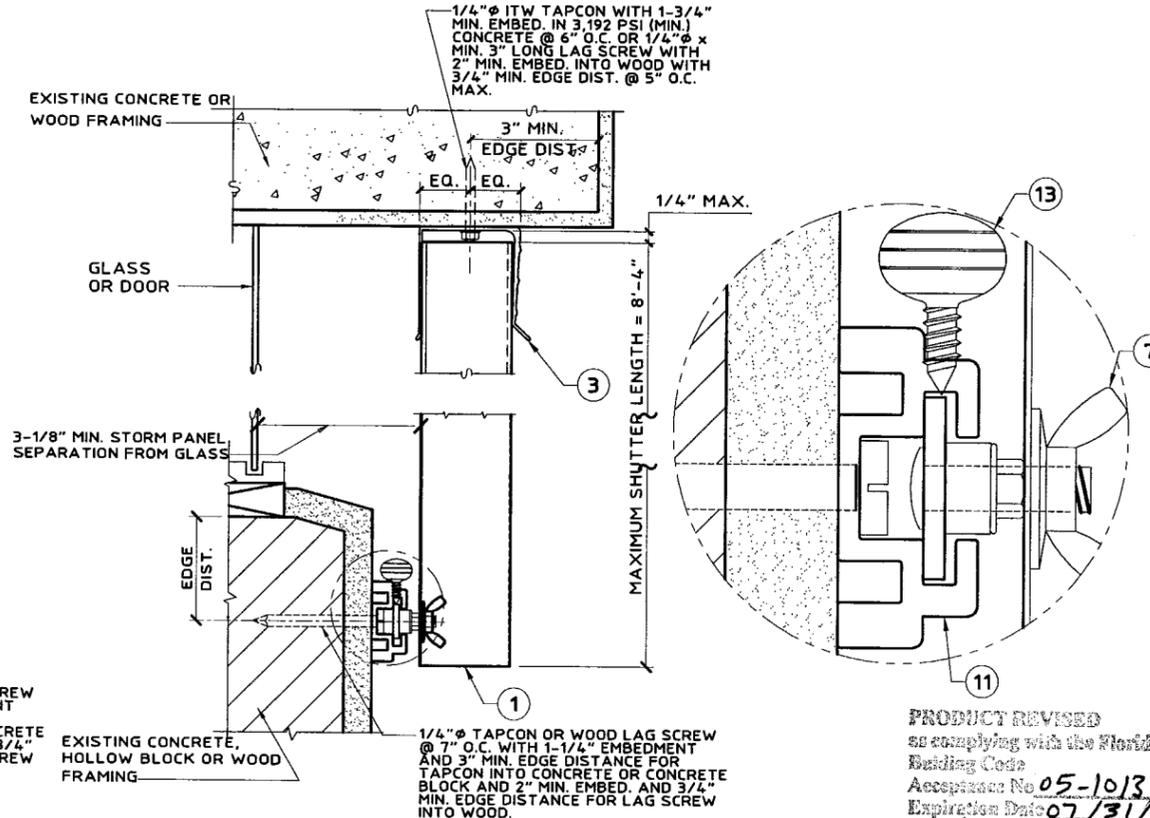
**H** ALT. WALL MOUNT SECTION  
SCALE: 3" = 1'-0"



**I** BUILD-OUT SECTION  
SCALE: 3" = 1'-0"



**W** INSIDE MOUNT  
SCALE: 3" = 1'-0"



**X** ALT. INSIDE MOUNT  
SCALE: 3" = 1'-0"

**Thornton Tomasetti**  
330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
T 954.522.3690 • F 954.522.3691 • COA # 7519  
Website: www.thorntontomasetti.com  
Copyright © 2006 Thornton-Tomasetti, Inc.

20 GA. STEEL STORM PANEL  
SOUTHERN METAL PRODUCTS, LLC • D.R.A.  
490 West McNab Road  
Ft. Lauderdale, FL 33309  
1-800-HURRICANE  
BROWARD HURRICANE PANEL

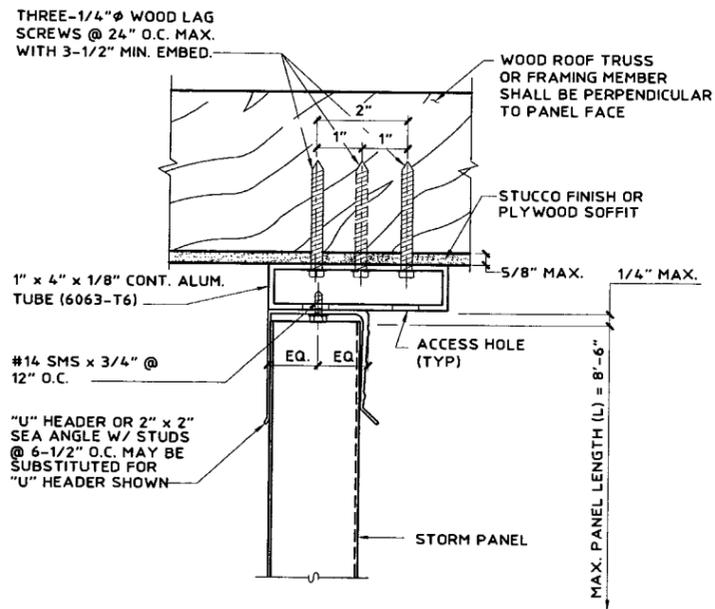
J.W. Knezevich  
Professional Engineer  
FL License No.: PE 0041961

NOV 02 2006

no.	date	by	description
0	08/31/2005	ZL	PREVIOUSLY DRAWING NO. 03-269
1	11/02/2006	NW	NEW DETAILS AND BECCO COMMENTS

date 08/31/2005  
scale AS NOTED  
design by NW  
checked by JWK  
drawing no. 05-424  
sheet 3 of 8

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No 05-1013.02  
Expiration Date 07/31/2008  
By Helmut A. Mohr  
Miami Dade Product Control  
Division



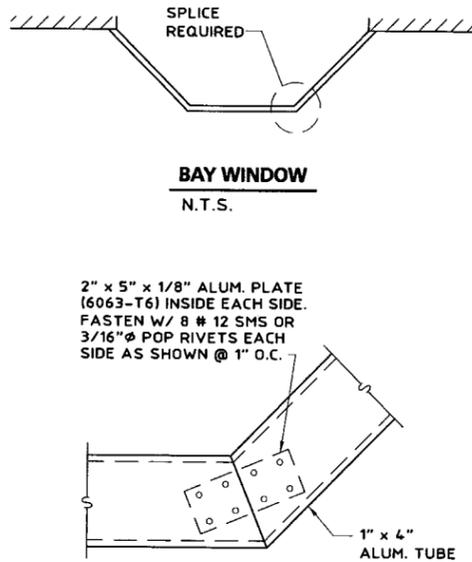
CONNECTION DETAIL (SECTION)

SCALE : 3" = 1'-0"

(MAX. DESIGN LOAD ±72 PSF)

**J SOFFIT CONNECTION DETAIL**

NOTE: FOR BAY WINDOWS, FASTEN AT A MAX. 24" SPACING. SPLICE AS SHOWN FOR CORNERS OF BAY WINDOW.

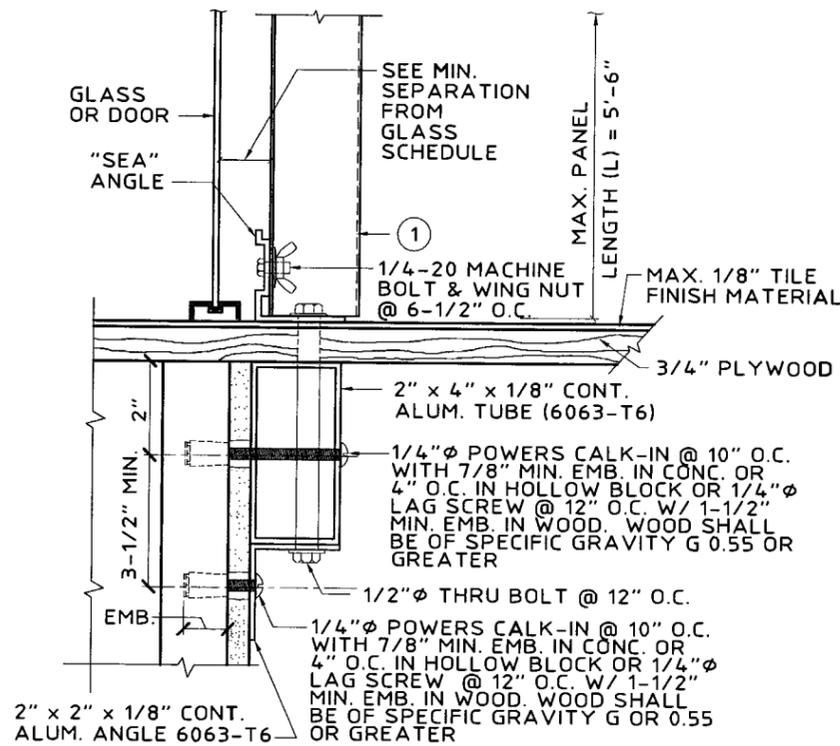


SPLICE DETAIL FOR BAY WINDOW APPLICATIONS

SCALE : 1-1/2" = 1'-0"

**K ANGLE BUILD-OUT**

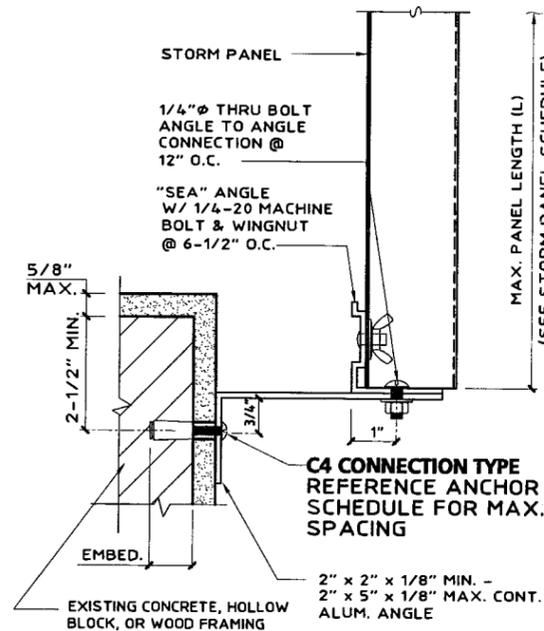
SCALE : 3" = 1'-0"



(MAX. DESIGN LOAD ±72 PSF)

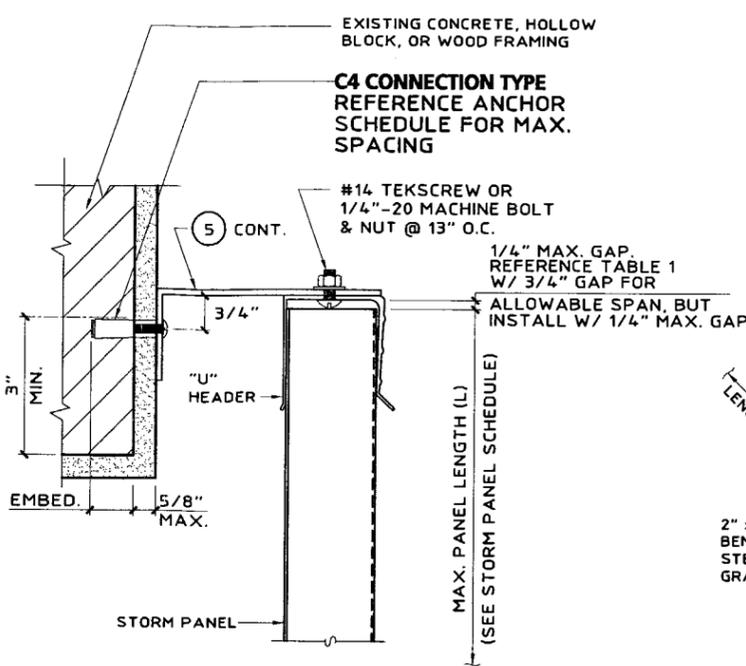
**M "PASS THRU" SECTION**

SCALE : 3" = 1'-0"



**O ANGLE BUILD-OUT**

SCALE : 3" = 1'-0"

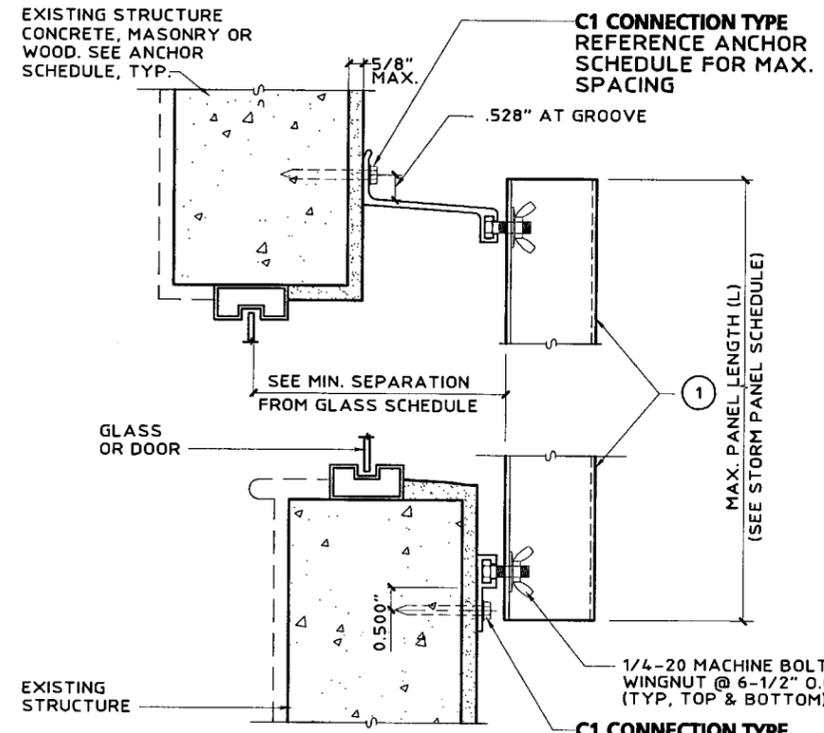


PLAN VIEW HORIZONTAL PANEL INSTALLATION

(MAX. DESIGN LOAD ±72 PSF)

**L BENT PLATE CONNECTION**

SCALE : 3" = 1'-0"



**V WALL MOUNT SECTION**

SCALE : 3" = 1'-0"

**Thornton Tomasetti**  
 330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
 T 954.522.3690 • F 954.522.3691 • COA # 7519  
 Website: www.ThorntonTomasetti.com

Copyright © 2006 Thornton-Tomasetti, Inc.

**20 GA. STEEL STORM PANEL**

SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
 450 West McNab Road  
 Ft. Lauderdale, FL 33309  
 1-800-HURRICANE

**BROWARD HURRICANE**

J.W. Knezevich  
 Professional Engineer  
 FL License No.: PE 0041961

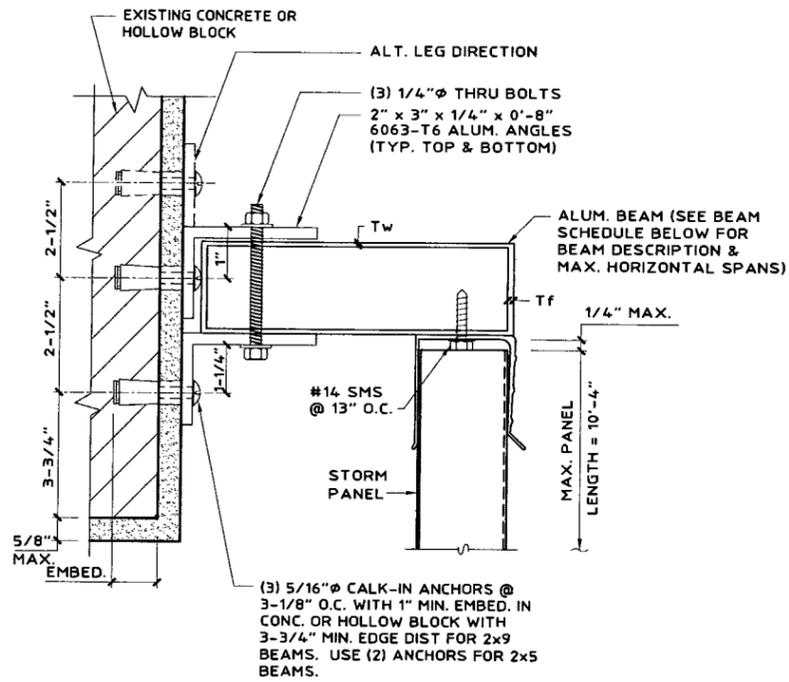
NOV 02 2006

no.	date	by	description
0	08/31/2005	ZL	PREVIOUSLY DRAWING NO. 03-269
1	11/02/2006	NW	NEW DETAILS AND BECC COMMENTS

PRODUCT REVISED  
 as complying with the Florida  
 Building Code  
 Acceptance No 05-1013.02  
 Expiration Date 07/31/2008

By *Helmut A. Mahr*  
 Miami Under Product Control  
 Division

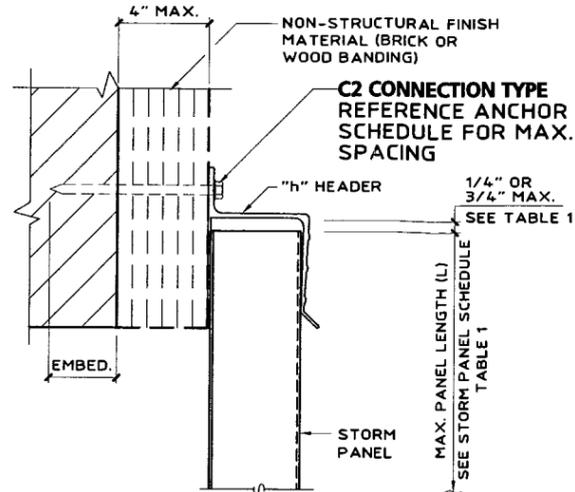
date	08/31/2005
scale	AS NOTED
drawn by	MCR
design by	NW
checked by	JWK
drawing no.	05-424
sheet	4 of 8



(MAX. DESIGN LOAD ±72 PSF)

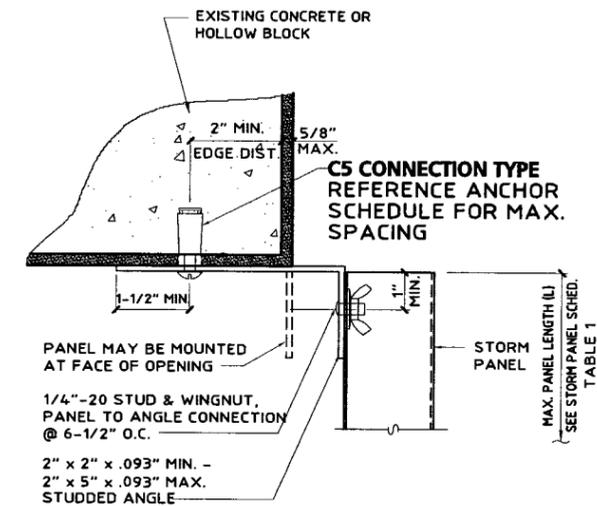
**P STORM PANEL SUPPORT BEAM**

SCALE : 3" = 1'-0"



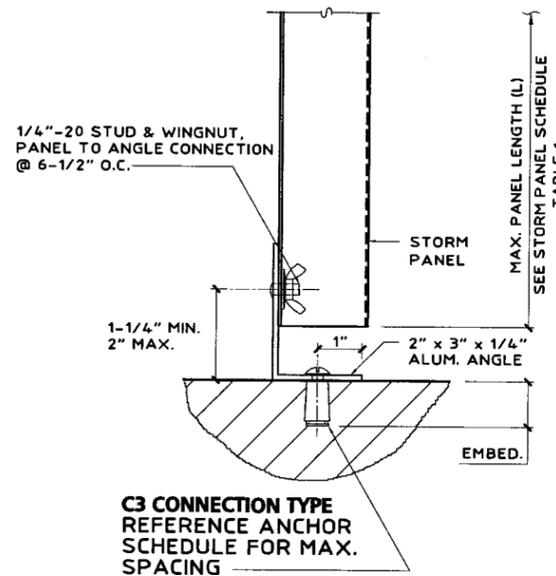
**Q WALL MOUNT**

SCALE : 3" = 1'-0"



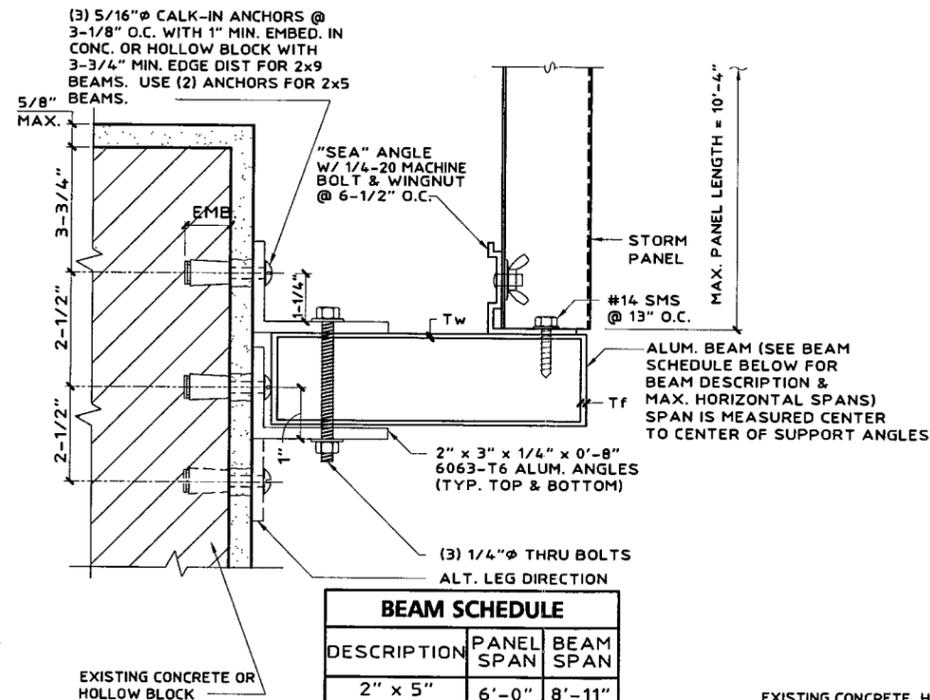
**R TRAP MOUNT**

SCALE : 3" = 1'-0"



**S FLOOR MOUNT**

SCALE : 3" = 1'-0"



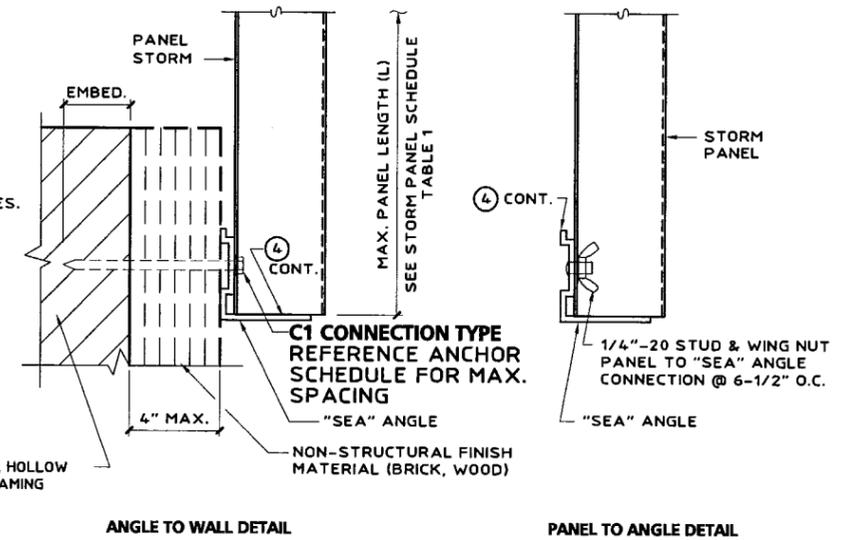
(MAX. DESIGN LOAD ±72 PSF)

**T STORM PANEL SUPPORT BEAM**

SCALE : 3" = 1'-0"

NOTE: THIS DETAIL MAY BE USED AT TOP OR BOTTOM OF PANEL.

BEAM SCHEDULE		
DESCRIPTION	PANEL SPAN	BEAM SPAN
2" x 5"	6'-0"	8'-11"
Tw = .125"	10'-4"	7'-5"
Tf = .125"		
2" x 9"	6'-0"	14'-10"
Tw = .072"	10'-4"	11'-6"
Tf = .224"		



**U WALL MOUNT**

SCALE : 3" = 1'-0"

**Thornton Tomasetti**  
 330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
 T 954.522.3690 • F 954.522.3691 • COA # 7519  
 Website: www.ThorntonTomasetti.com  
 Copyright © 2006 Thornton-Tomasetti, Inc.

**20 GA. STEEL STORM PANEL**  
 SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
 450 West McNab Road  
 Ft. Lauderdale, FL 33309  
 1-800-HURRICANE  
**BROWARD HURRICANE PANEL**

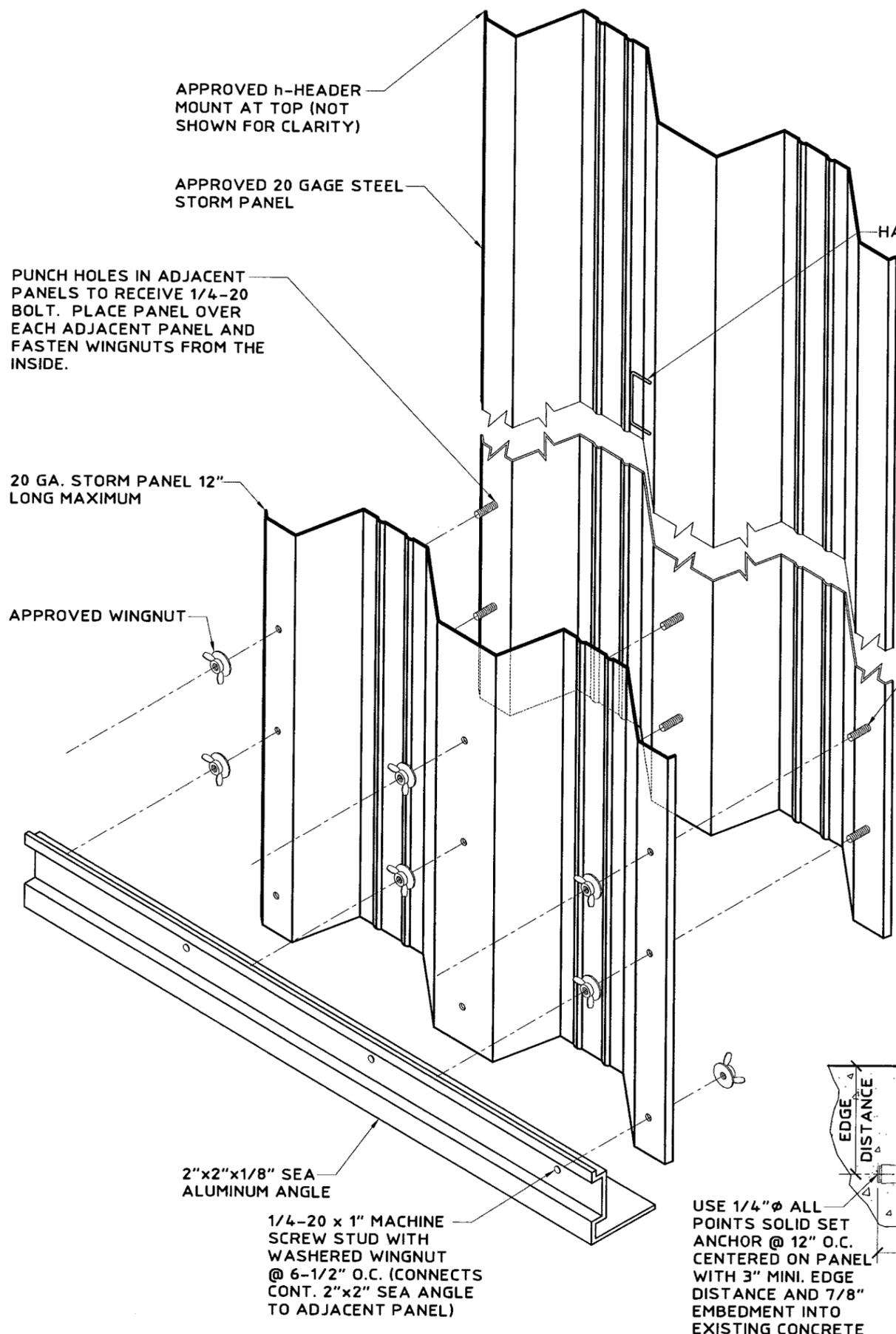
J.W. Knezevich  
 Professional Engineer  
 FL License No.: PE 0041961

NOV 02 2006

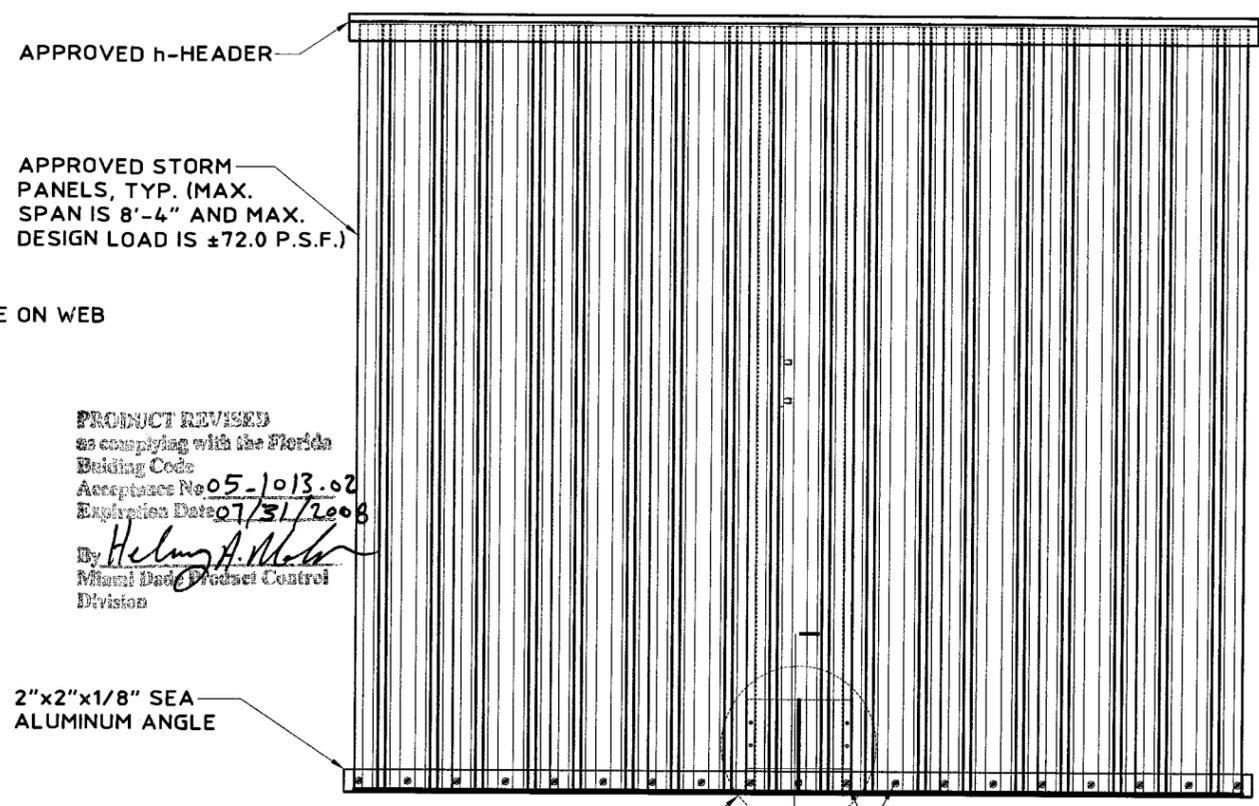
no.	date	by	description
0	08/31/2005	ZL	PREVIOUSLY DRAWING NO. 03-269
1	11/02/2006	NW	NEW DETAILS AND BECC COMMENTS

date 08/31/2005  
 scale AS NOTED  
 design by NW  
 checked by JWK  
 drawing no. 05-424  
 sheet 5 of 8

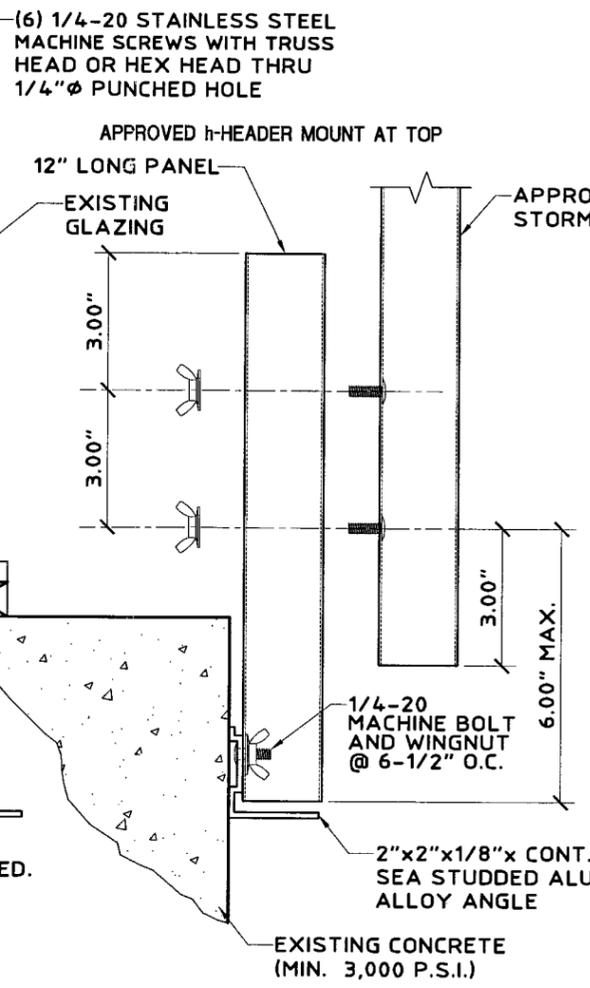
PRODUCT REVISED  
 as complying with the Florida  
 Building Code  
 Acceptance No. 05-1013.02  
 Expiration Date 07/31/2008  
 By Helmut A. Miller  
 Miami Design Product Control  
 Division



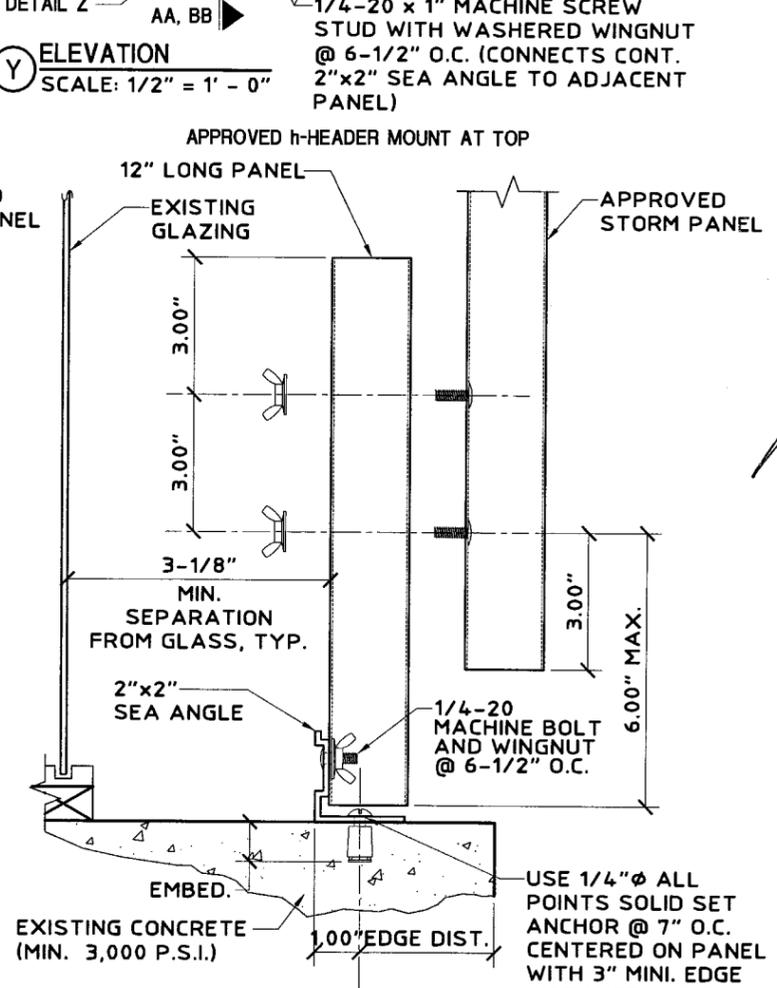
**Z** PANEL ASSEMBLY  
N.T.S.



PRODUCT REVISED  
in complying with the Florida  
Building Code  
Acceptance No 05-1013-02  
Expiration Date 07/31/2008  
By *Helmut A. Knezevich*  
Miami Dept. Product Control  
Division



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



**BB** FLOOR MOUNT SECTION  
SCALE: 3" = 1' - 0"

**Thornton Tomasetti**  
330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
T 954.522.3690 • F 954.522.3691 • COA # 7519  
Website: www.ThorntonTomasetti.com  
Copyright © 2006 Thornton-Tomasetti, Inc.

**20 GA. STEEL STORM PANEL**

SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
450 West McNab Road  
Ft. Lauderdale, FL 33309  
1-800-HURRICANE

**AL BROWARD HURRICANE PANEL**

J.W. Knezevich  
Professional Engineer  
FL License No.: PE 0041961

*JWK*  
NOV 02 2006

no.	date	description
0	08/31/2005	ZL PREVIOUSLY DRAWING NO. 03-269
1	11/02/2006	NW NEW DETAILS AND BECC COMMENTS

revisions

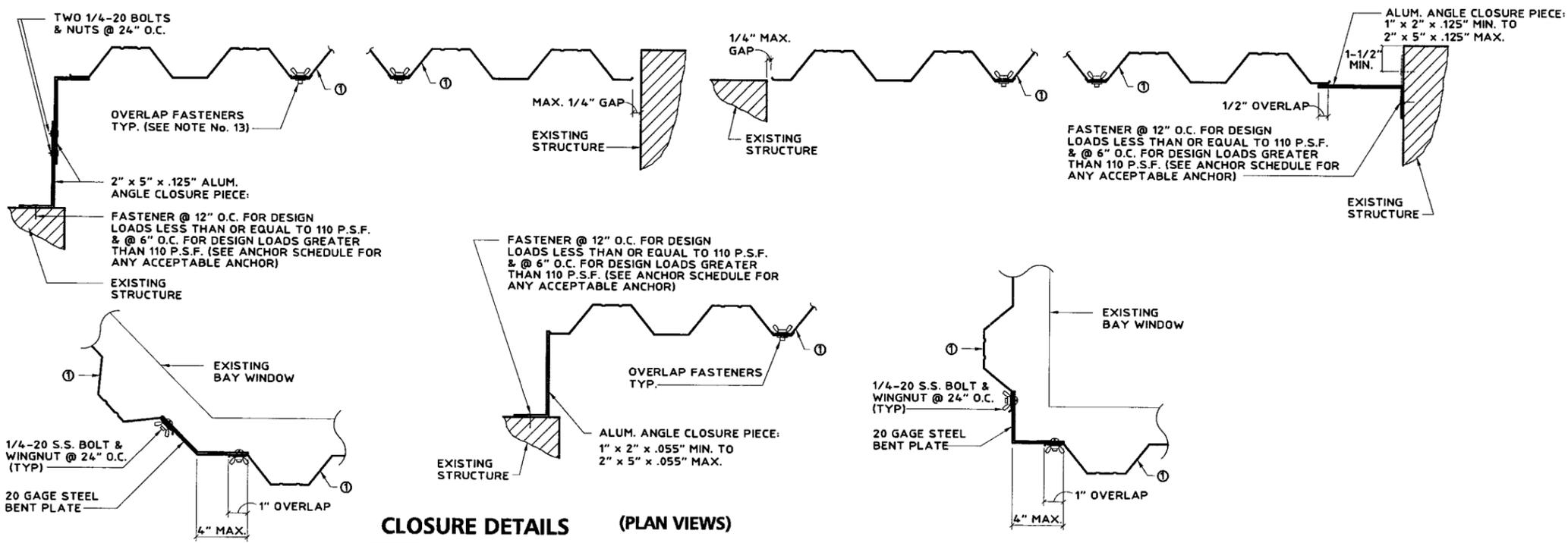
date 08/31/2005  
scale AS NOTED  
design by NW  
checked by JWK  
drawing no. 05-424  
sheet 6 of 8

TABLE 1 STORM PANEL SCHEDULE				
DESIGN LOAD W (PSF)	MOUNTINGS USING PIECE (4), (9) OR (10) TOP & BOTTOM		ANY MOUNTING CONDITIONS (MAX. 1/4" SPACE BETWEEN PANEL AND HEADER)	ANY MOUNTING CONDITIONS (MAX. 3/4" SPACE BETWEEN PANEL AND HEADER)
	(A) L max. (FT-IN)		(B) L max. (FT-IN)	(C) L max. (FT-IN)
	POS. LOAD	NEG. LOAD	POS. LOAD	NEG. LOAD
40.0	11 - 5	11 - 5	11 - 5	8 - 8
45.0	11 - 5	11 - 5	11 - 5	8 - 8
50.0	11 - 1	11 - 4	11 - 1	8 - 8
55.0	10 - 6	10 - 10	10 - 6	8 - 8
60.0	10 - 1	10 - 4	10 - 1	8 - 8
62.0	9 - 11	10 - 2	9 - 11	8 - 8
65.0	9 - 8	9 - 11	9 - 8	8 - 8
70.0	9 - 4	9 - 7	9 - 4	8 - 6
72.0	9 - 2	9 - 5	9 - 2	8 - 4
75.0	9 - 0	9 - 3	9 - 0	8 - 0
80.0	8 - 9	8 - 11	8 - 9	7 - 6
90.0	7 - 10	8 - 3	7 - 10	6 - 8
100.0	7 - 1	7 - 5	7 - 1	6 - 0
110.0	6 - 5	6 - 9	6 - 5	5 - 5
120.0	5 - 11	6 - 2	5 - 11	5 - 0
130.0	5 - 5	5 - 8	5 - 5	4 - 7
140.0	5 - 0	5 - 3	5 - 0	4 - 3
150.0	4 - 8	4 - 11	4 - 8	4 - 0
160.0	4 - 5	4 - 7	4 - 5	3 - 9
170.0	4 - 2	4 - 4	4 - 2	3 - 6
180.0	3' - 11	4 - 1	3' - 11	3 - 4
190.0	3 - 8	3 - 11	3 - 8	3 - 1
200.0	3 - 7	3 - 9	3 - 7	3 - 0
210.0	3 - 4	3 - 6	3 - 4	2 - 10

TABLE 2 MIN. SEPARATION FROM GLASS SCHEDULE			
POSITIVE DESIGN LOAD (W) (PSF)	ACTUAL SHUTTER SPAN (L) (FT - IN)	MINIMUM SEPARATION FOR INSTALLATIONS 30' OR LESS ABOVE GRADE (INCHES)	MINIMUM SEPARATION FOR INSTALLATIONS GREATER THAN 30' ABOVE GRADE (INCHES)
40.0	5 - 0	2-3/8	1-1/2
	8 - 8	2-3/8	1-3/4
	11 - 5	2-7/8	2-5/8
45.0	4 - 0	2-3/8	1-1/4
	8 - 8	2-3/8	1-3/4
	11 - 5	2-7/8	2-7/8
50.0	5 - 0	2-3/8	1-1/4
	8 - 8	2-3/8	1-7/8
	11 - 4	3	3
60.0	5 - 0	2-3/8	1-1/4
	8 - 8	2-3/8	1-7/8
	10 - 8	2-7/8	2-7/8
70.0	5 - 0	2-3/8	1-1/4
	8 - 8	2-3/8	2
	9 - 11	2-7/8	2-5/8
80.0	5 - 0	2-3/8	1-3/8
	8 - 8	2-3/8	2-1/8
	8 - 11	2-7/8	2-1/4
90.0	5 - 0	2-3/8	1-3/8
	8 - 3	2-3/8	2-1/8
	100.0	5 - 0	2-3/8
110.0	7 - 5	2-3/8	1-7/8
	5 - 0	2-3/8	1-3/8
	6 - 9	2-3/8	1-3/4
120.0	5 - 0	2-3/8	1-3/8
	6 - 2	2-3/8	1-5/8
	130.0	5 - 0	2-3/8
150.0	5 - 8	2-3/8	1-1/2
	4 - 11	2-3/8	1-3/8
	170.0	4 - 4	2-3/8
190.0	3 - 11	2-3/8	1-1/4
210.0	3 - 6	2-3/8	1-1/4

NOTES:

- ENTER TABLE 1 WITH THE OPENING'S POSITIVE AND NEGATIVE DESIGN LOADS TO DETERMINE MAX. PANEL LENGTH.
  - FOR COLUMN (A) REFERENCE THE ALLOWABLE SPANS AT BOTH THE POSITIVE AND NEGATIVE LOADS, AND CHOOSE THE SMALLER OF THE OBTAINED VALUES.
  - FOR COLUMNS (B) & (C) REFERENCE THE ALLOWABLE SPANS BASED ON THE HIGHER OF THE POSITIVE AND NEGATIVE LOADS.
- REFERENCE APPROPRIATE COLUMN IN STORM PANEL SCHEDULE BASED ON MOUNTING CONDITION IN FIELD.
  - COLUMN (A) MAY BE USED ONLY WHERE STUD ANGLE IS USED TOP AND BOTTOM.
  - COLUMN (B) MAY BE USED FOR ANY DETAILED CONDITIONS, INCLUDING DIRECT MOUNT. IF HEADER IS USED, MAX. GAP EQUALS 1/4".
  - COLUMN (C) MAY BE USED FOR ANY DETAILED CONDITIONS, IF HEADER IS USED, MAX. GAP EQUALS 3/4".
- ENTER TABLE 2 WITH POSITIVE DESIGN LOAD TO DETERMINE MIN. SEPARATION FROM GLASS.
- FOR DESIGN LOADS BETWEEN TABULATED VALUES, USE NEXT HIGHER LOAD OR LINEAR INTERPOLATION MAY BE USED TO DETERMINE ALLOWABLE PANEL LENGTH.



CLOSURE DETAILS (PLAN VIEWS)

SCALE: 1-1/2" = 1'-0"

**Thornton Tomasetti**  
 330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
 T 954.522.3690 • F 954.522.3691 • COA # 7519  
 Website: www.ThorntonTomasetti.com  
 Copyright © 2006 Thornton-Tomasetti, Inc.

20 GA. STEEL STORM PANEL  
 SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
**ALBROWARD** 450 West McNab Road  
 Ft. Lauderdale, FL 33309  
 1-800-HURRICANE  
**HURRICANE** P A N E L

J.W. Knezevich  
 Professional Engineer  
 FL License No.: PE 0041961

NOV 02 2006

no.	date	description
0	08/31/2005	ZL PREVIOUSLY DRAWING NO. 03-269
1	11/02/2006	NW NEW DETAILS AND BECC COMMENTS

PRODUCT REVIEWED as complying with the Florida Building Code  
 Acceptance No. 05-1013.02  
 Expiration Date: 07/31/2008  
 By: *Helmut A. Meier*  
 Miami Dade Product Control Division

date 08/31/2005  
 scale AS NOTED  
 design by NW  
 drawing no. 05-424  
 sheet 7 of 8

### ANCHOR SCHEDULE

FASTENER MAXIMUM SPACING (INCHES) REQUIRED FOR VARIOUS DESIGN LOADS AND SPANS

EXIST. STRUC.	ANCHOR TYPE	LOAD (W) P.S.F. MAX. (SEE NOTE 1)	MIN. 2" EDGE DISTANCE															MIN. 3" EDGE DISTANCE																		
			SPANS UP TO 6'-0" (SEE NOTE 1)					SPANS UP TO 8'-8" (SEE NOTE 1)					SPANS UP TO 11'-3" (SEE NOTE 1)					SPANS UP TO 6'-0" (SEE NOTE 1)					SPANS UP TO 8'-8" (SEE NOTE 1)					SPANS UP TO 11'-3" (SEE NOTE 1)								
			CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)								
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5				
CONCRETE		56.0	13	13	10	13	11	13	6	7	13	8	13	3	5	11	6	13	13	11	13	13	13	6	8	13	9	13	4	6	12	7				
		62.0	13	11	9	13	10	13	5	6	13	7	13	3	4	9	5	13	11	10	13	12	13	5	7	13	8	13	3	5	9	6.5				
		72.0	13	7	7	13	9	13	3	5	12	6	13	3	4	8	5	13	8	9	13	11	13	4	6	12	7	13	3	5	8	6				
		105.0	13	3	5	11	6	13	3	4	8	5	13	3	4	8	5	13	4	6	12	7	13	3	5	8	6	13	3	5	8	6				
		210.0	13	3	4	8	5	13	3	4	8	5	13	3	4	8	5	13	3	5	8	6	13	3	5	8	6	13	3	5	8	6				
	*	56.0	13	11	10	13	12	13	4	7	13	8	13					5	8	6.5	13	13	13	13	13	6	9	13	11	13	3	6.5	11	8		
		62.0	13	8	9	13	11	13	3	6	13	7	13					4	7	6	13	11	11	13	13	5	8	13	10	13	3	6	9	7		
		72.0	13	6	7	13	9	13	3	5	9	6.5	13					4	6	5	13	7	10	13	12	13	3	7	11	8	13		5	7	7	
		105.0	13	3	5	9	6.5	13										4	6	5	13													5	7	7
		210.0	13															4	6	5	13													5	7	7
	*	56.0	13	11	9	13	11	13	4	6	13	7	13	3	4	9	5	13	13	11	13	13	13	6	8	13	9	13	3	6	11	7				
		62.0	13	8	8	13	10	13	4	5	13	7	13					4	7	5	13	11	10	13	12	13	5	7	13	8	13	3	5	9	6.5	
72.0		13	6	7	13	8	13	3	4	9	6	13					4	6	5	13	7	8	13	10	13	3	6	11	7	13		5	7	6		
105.0		13	3	4	9	6	13										4	6	5	13	3	6	11	7	13		5	7	6	13		5	7	6		
210.0		13															4	6	5	13													5	7	6	
HOLLOW CONCRETE BLOCK		56.0	11	4	4	11	5	8																												
		62.0	10	3	3	10	4	7																												
		72.0	9			3	9	4	6																											
		105.0	6				3		5																											
	210.0	5					5																													
	*	56.0	13	9	7	13	9	13	3	5	13	6	13					3	7	4	13	10	9	13	11	13	4	6.5	13	8	13		4	8	6	
		62.0	13	7	6.5	13	8	13	3	4	11	5	12					3	5	4	13	7	8	13	10	13	3	5	12	7	13		4	6.5	5	
		72.0	13	5	5	13	7	13										3	5	4	13	5	7	13	9	13		5	8	6	12		4	5	5	
		105.0	13			3	7	4	11									3	5	4	13								4	5	5	12		4	5	5
		210.0	11			3	5	4	11									3	5	4	12								4	5	5	12		4	5	5
	*	56.0	13	7	5	13	6.5	12										5	3	13	7	6	13	7	12		4	12	5	9		3	5	4		
		62.0	13	5	5	13	6	11										4	3	13	5	5	13	6.5	11		3	8	4	8		4	3			
72.0		13	3	4	13	5	10										3	3	13	3	4	13	5	10		3	5	4	8		3	3				
105.0		10			3	5	3	8									3	3	10								3	3	8		3	3				
210.0		8			3	3	8										3	3	8								3	3	8		3	3				

### ANCHOR SCHEDULE

FASTENER MAXIMUM SPACING (INCHES) REQUIRED FOR VARIOUS DESIGN LOADS AND SPANS

EXIST. STRUC.	ANCHOR TYPE	LOAD (W) P.S.F. MAX. (SEE NOTE 1)	MIN. 3/4" EDGE DISTANCE																														
			SPANS UP TO 6'-0" (SEE NOTE 1)					SPANS UP TO 8'-8" (SEE NOTE 1)					SPANS UP TO 11'-3" (SEE NOTE 1)																				
			CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)					CONNECTION TYPE (SEE NOTE 3)																				
			C1	C2	C3	C4	C5	C1	C2	C3	C4	C5	C1	C2	C3	C4	C5																
WOOD		56.0	13	13	10	13	11	13	8	7	13	8	13	5	5	13	6	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	
		62.0	13	13	9	13	10	13	7	6.5	13	7	13	4	4	12	5	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	
		72.0	13	10	8	13	9	13	5	5	13	6	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	
		105.0	13	5	5	13	6	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	
		210.0	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	13	4	4	11	5	
	*	56.0	13	5																													
		62.0	13	4																													
		72.0	11																														
		105.0	7																														
		210.0	6.5																														
	*	56.0	13	12	8	13	10	13	5	6	13	7	13	3	4	9	5	13	4	5	13	6.5	13										
		62.0	13	9	8	13	9	13	4	5	13	6.5	13					4	5	13	6.5	13											
72.0		13	6.5	6.5	13	8	13	3	4	10	5	13					3	4	10	5	13												
105.0		13	3	4	9	5	13										3	6.5	4	13													
210.0		13			3	6.5	4	13									3	6.5	4	13													

**ANCHOR NOTES:**

- SPANS AND LOADS SHOWN HERE ARE FOR DETERMINING ANCHOR SPACING ONLY. ALLOWABLE STORM PANEL SPANS FOR SPECIFIC LOADS MUST BE LIMITED TO THOSE SHOWN IN TABLE 1.
- ENTER ANCHOR SCHEDULE BASED ON THE EXISTING STRUCTURE MATERIAL, ANCHOR TYPE AND EDGE DISTANCE. SELECT DESIGN LOAD GREATER THAN OR EQUAL TO NEGATIVE DESIGN LOAD ON SHUTTER AND SELECT SPAN GREATER THAN OR EQUAL TO SHUTTER SPAN.
- SEE MOUNTING SECTION DETAILS FOR IDENTIFICATION OF CONNECTION TYPE.
- EXISTING STRUCTURE MAY BE CONCRETE, HOLLOW BLOCK OR WOOD FRAMING. REFERENCE ANCHOR SCHEDULE FOR PROPER ANCHOR TYPE BASED ON TYPE OF EXISTING STRUCTURE.
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
- MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES WALL FINISH OR STUCCO.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, WOOD FRAMING CONDITIONS VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD. FASTENING TO PLYWOOD IS ACCEPTABLE ONLY FOR SIDE CLOSURE PIECES.
- WHERE LAG SCREWS FASTEN TO NARROW FACE OF STUD FRAMING, FASTENER SHALL BE LOCATED IN CENTER OF NOMINAL 2" x 4" (MIN.) WOOD STUD. 3/4" EDGE DISTANCE IS ACCEPTABLE FOR WOOD FRAMING. WOOD STUD SHALL BE "SOUTHERN PINE" G=0.55 OR GREATER DENSITY. LAG SCREWS SHALL HAVE PHILLIPS PAN HEAD OR HEX HEAD.
- MACHINE SCREWS SHALL HAVE MINIMUM OF 1/2" ENGAGEMENT OF THREADS IN BASE (ANCHOR AND MAY HAVE EITHER A PAN HEAD, TRUSS HEAD, OR WAFER HEAD (SIDEWALK BOLT), U.O.N.
- DESIGNATES ANCHOR CONDITIONS WHICH ARE NOT ACCEPTABLE USES.
- \* DESIGNATES ANCHORS WHICH ARE REMOVABLE BY REMOVING MACHINE SCREW, NUT OR WASHERED WINGNUT.

PRODUCT REVISED  
 as complying with the Florida  
 Building Code  
 Acceptance No 05-1013.02  
 Expiration Date 07/31/2008  
 By *Helmut A. Mader*  
 Miami Dade Product Control  
 Division

**Thornton Tomasetti**  
 330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
 T 954.522.3690 • F 954.522.3691 • COA # 7519  
 Website: www.ThorntonTomasetti.com

Copyright © 2006 Thornton-Tomasetti, Inc.

20 GA. STEEL STORM PANEL

SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
  
 450 West McNabb Road  
 Ft. Lauderdale, FL 33309  
 1-800-HURRICANE

J.W. Knezevich  
 Professional Engineer  
 FL License No.: PE 0041961

NOV 02 2006

no	date	description
0	08/31/2005	ZL
1	11/02/2006	NW

revisions

date 08/31/2005

scale AS NOTED drawn by MCR

design by NW checked by JWK

drawing no. 05-424

sheet 8 of 8