



**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**

**NOTICE OF ACCEPTANCE (NOA)**

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

**Southern Metals 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: 0.063" Aluminum Storm Panels Shutter**

**APPROVAL DOCUMENT:** Drawing No. 05-423, titled "0.063" Aluminum Storm Panels ", sheets 1 through 6 of 6, prepared by Thornton-Tomasetti Group, dated August 31, 2005, last revision #1 dated August 31, 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 # 03-1218.01 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.**



*Helmy A. Makar*  
 09/21/2006

**NOA No 05-1013.04**  
**Expiration Date: 01/08/2009**  
**Approval Date: 09/21/2006**  
**Page 1**

**Southern Metals Products, LLC**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVALS**

**A. TESTS:**

1. Test report on: 1) Uniform Static Air Pressure test Loading, per PA 202-94  
2) Large Missile Impact Test, per PA 201-94, and  
3) Cyclic Loading Wind Pressure Test, per PA 203-94  
of 3 specimens, 8'-0" high, 0.063" aluminum storm panels, prepared by Construction Research Laboratory Inc., Report No. S1017, dated 07/29/94, signed and sealed by Vipin Tolat, P.E.
2. Test report on: 1) Large Missile Impact Test, per PA 201-94, and  
2) Cyclic Loading Wind Pressure Test, per PA 203-94  
of 1 specimen, 8'-0" high, 0.063" aluminum storm panels, prepared by Construction Research Laboratory Inc., Report No. S1017A, dated 10/03/94, signed and sealed by Vipin Tolat, P.E.
3. Test report on: 1) Large Missile Impact Test, per PA 201-94, and  
2) Cyclic Loading Wind Pressure Test, per PA 203-94  
(Addendum to Test Report No. S1017A) of 8'-0" high, 0.063" aluminum storm panels, prepared by Construction Research Laboratory Inc., Report No. S1017B, dated 10/13/94, signed and sealed by Vipin Tolat, P.E.

**B. DRAWINGS:**

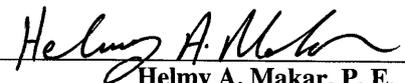
1. Drawing No. 94-118.2 All Broward Hurricane Panel Co., 0.063" Aluminum Storm Panels, Sheets 1, 2 and 3 of 3, prepared by Knezevich & Associates, Inc., dated 07/20/94, with revision No. 8 dated 03/07/95, signed and sealed by V.J. Knezevich, P.E.

**C. MATERIAL CERTIFICATION**

1. Mill Certified Inspection Report Coil #5938-H dated 07/18/94 for Aluminum Alloy 5052-H32 by American Douglas Metals.
2. Certified Tensile Test Report No. 94-321 issued by ATEC Associates, Inc. dated 09/28/94 for Aluminum sample S1017-A, tested per ASTM E8-92, signed and sealed by Peter G. Read, P.E.

**D. CALCULATIONS:**

1. Anchor analysis dated 10/17/94, page 1, prepared by Knezevich and Associates Inc., signed and sealed by V.J. Knezevich, P.E.



Helmy A. Makar, P. E.  
Product Control Examiner  
NOA No 05-1013.04  
Expiration Date: 01/08/2009  
Approval Date: 09/21/2006

**All Broward Hurricane Panel**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #98-0225.01**

**A. DRAWINGS:**

1. Drawings prepared by Knezevich & Associates, Inc. titled "0.063" Aluminum Storm Panel" Drawing No. 96-538, dated 09/03/97, revised 03/25/98, sheets 1 through 6 of 6, signed and sealed by V. J. Knezevich, P.E.

**B. TESTS:**

1. Test report on: 1) Uniform Static Air Pressure test Loading, per PA 202-94  
2) Large Missile Impact Test, per PA 201-94, and  
3) Cyclic Loading Wind Pressure Test, per PA 203-94  
of aluminum storm panels, prepared by Construction Testing Corporation, Report No. 96-047, dated 07/11/97, signed and sealed by Christopher G. Tyson, P.E.
2. Test report on: 1) Uniform Static Air Pressure test Loading, per PA 202-94  
2) Large Missile Impact Test, per PA 201-94, and  
3) Cyclic Loading Wind Pressure Test, per PA 203-94  
of aluminum storm panels, prepared by Construction Testing Corporation, Report No. 97-032, dated 07/11/97, signed and sealed by Christopher G. Tyson, P.E.

**C. CALCULATIONS:**

1. Comparative analysis and details, 0.063" Aluminum Storm Panels, dated 08/07/97, pages 1 through 41, prepared by Knezevich and Associates Inc., signed and sealed by V.J. Knezevich, P.E.

**D. Material certification:**

1. Mill Certified Inspection Report #02A-00311, dated 09/08/95 for Aluminum Alloy 5052-H32 by Sameco.
2. Certified Tensile Test Report No. CTL #900B, issued by Certified Testing Laboratories dated 11/08/96 for Aluminum sample CTC-96-047, tested per ASTM E8-92, signed and sealed by Ramesh Patel, P.E.
3. Certified Tensile Test Report No. CTL #532C, issued by Certified Testing Laboratories dated 07/23/97 for Aluminum sample CTC-97-032, tested per ASTM E8-92, signed and sealed by Ramesh Patel, P.E.

**3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #00-0721.04**

**A. DRAWINGS**

1. None.

**B. TESTS**

1. None.



Helmy A. Makar, P. E.  
Product Control Examiner  
NOA No 05-1013.04  
Expiration Date: 01/08/2009  
Approval Date: 09/21/2006

**All Broward Hurricane Panel**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**C. CALCULATIONS**

1. *None.*

**D. MATERIAL CERTIFICATIONS**

1. *None.*

**E. OTHERS**

1. *Letter from All Broward Hurricane Panel Company, dated June 26, 2000, signed by Mr. Alfred Roettger, certifies that the product has not changed.*
2. *Letter from Knezevich & Associates, Inc., dated June 30, 2000, signed and sealed by John W. Knezevich., P.E., certify that he is still in the engineering business.*

**4. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 03-1218.01**

**A. DRAWINGS:**

1. *Drawing No. 03-341, titled " 0.063" Aluminum Storm Panel ", sheets 1 through 6 of 6, prepared by Knezevich & Associates, Inc., dated December 15, 2003 last revision #1 dated January 9, 2004, signed and sealed by V. J. Knezevich, P.E.*

**B. TESTS:**

1. *None.*

**C. CALCULATIONS:**

1. *Anchor analysis, dated December 15, 2003, Pages 1 thru 43, prepared by Knezevich & Associates, Inc., signed and sealed by V. J. Knezevich, P.E.*
2. *Anchor analysis, dated January 9, 2004, Pages 1 thru 44, prepared by Knezevich & Associates, Inc., signed and sealed by V. J. 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.  
Product Control Examiner  
NOA No 05-1013.04  
Expiration Date: 01/08/2009  
Approval Date: 09/21/2006

**All Broward Hurricane Panel**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**5. NEW EVIDENCE SUBMITTED**

**A. DRAWINGS:**

1. *Drawing No. 05-423, titled " 0.063" Aluminum Storm Panels ", sheets 1 through 6 of 6, prepared by Thornton-Tomasetti Group, dated August 31, 2005, last revision #1 dated August 31, 2006, signed and sealed by J.W. Knezevich, P.E.*

**B. TESTS:**

1. *None.*

**C. CALCULATIONS:**

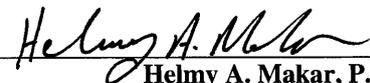
1. *Anchor analysis, dated July 27, 2005, Pages 1 thru 44, prepared by Thornton-Tomasetti Group, signed and sealed by J.W. Knezevich, P.E.*

**D. QUALITY ASSURANCE**

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

**E. MATERIAL CERTIFICATION:**

1. *None.*



---

Helmy A. Makar, P. E.  
Product Control Examiner  
NOA No 05-1013.04  
Expiration Date: 01/08/2009  
Approval Date: 09/21/2006

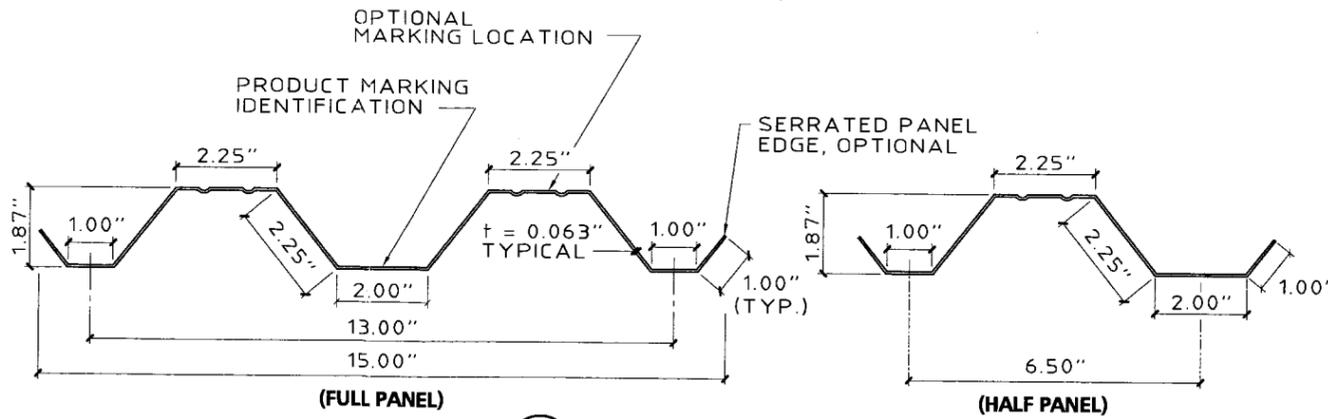
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**GENERAL NOTES:**

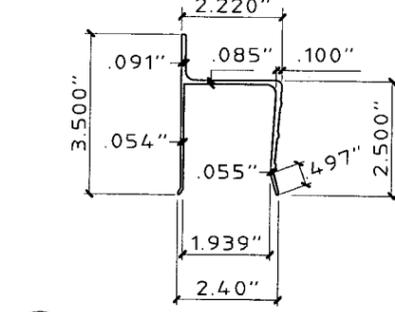
- THESE APPROVAL DOCUMENTS REPRESENT A SHUTTER SYSTEM ANALYZED WITH THE PROVISION SET FOR THE ISSUANCE OF A NOTICE OF ACCEPTANCE (NOA) BY MIAMI-DADE COUNTY PRODUCT CONTROL DIVISION FOR THE HIGH VELOCITY HURRICANE ZONE (HVHZ) OF THE FLORIDA BUILDING CODE (FBC) 2004 EDITION.
- AN ALLOWABLE STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT, EXCEPT FOR WOOD ANCHOR ANALYSIS. A LOAD DURATION FACTOR (CD = 1.33) 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.
- 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 CALCULATION IN ACCORDANCE WITH ASCE 7-02 A DIRECTIONALITY FACTOR OF  $K_d = 0.85$  SHALL BE USE.
- THESE APPROVAL DOCUMENTS ARE GENERIC AND DO NOT INCLUDE INFORMATION FOR SITE-SPECIFIC APPLICATION OF THIS SHUTTER SYSTEM.
- USE OF THESE APPROVAL DOCUMENTS SHALL COMPLY WITH CHAPTER 61G15-23 OF THE FLORIDA ADMINISTRATIVE CODE.
- 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.
- ANY MODIFICATIONS OR ADDITIONS TO THESE APPROVAL DOCUMENTS WILL VOID THE APPROVAL DOCUMENTS.
- WHEN THE SITE CONDITIONS DEVIATE FROM THESE APPROVAL DOCUMENTS, THE BUILDING OFFICIAL MAY SELECT ONE OF THE FOLLOWING OPTIONS:
  - 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.
  - 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.
- 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:
 

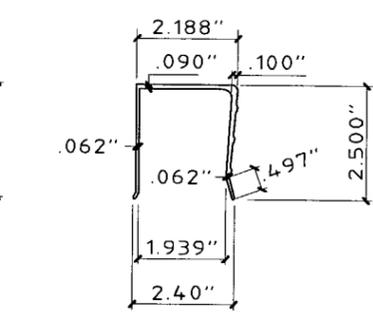
**B H P C O**  
**FORT LAUDERDALE, FLORIDA**  
**MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED**
- ALL BOLTS AND WASHERS SHALL BE GALVANIZED OR STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 KSI.
- STORM PANELS SHALL BE 5052-H32 ALUMINUM ALLOY. MINIMUM THICKNESS 0.063" WITH A MINIMUM  $F_y = 23$  KSI (BEFORE ROLLING).
- ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, U.O.N
- 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.



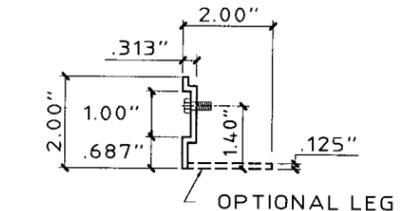
**1 STORM PANEL**  
 SCALE : 3" = 1'-0"  
 ONE HALF PANEL PER OPENING MAY BE USED AS REQUIRED TO COVER OPENING.



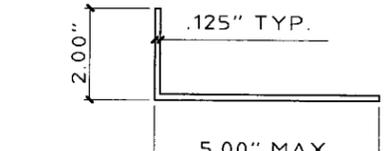
**2 "h" HEADER**  
 SCALE : 3" = 1'-0"



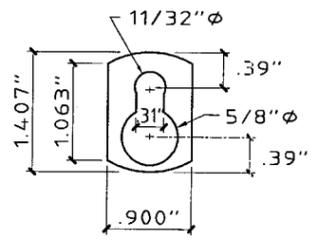
**3 "U" HEADER**  
 SCALE : 3" = 1'-0"



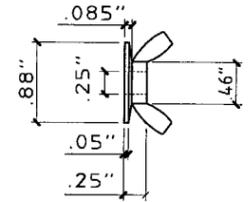
**4 "SEA" ANGLE**  
 SCALE : 3" = 1'-0"



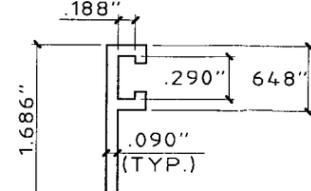
**5 ANGLE**  
 SCALE : 3" = 1'-0"



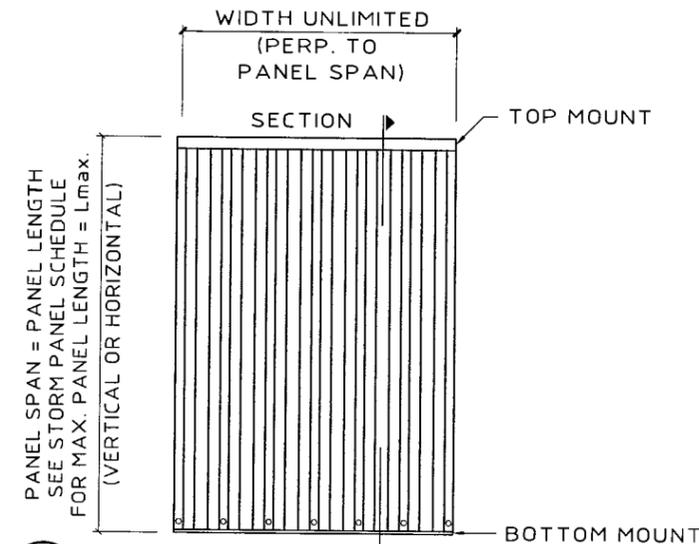
**6 "KEYHOLE" WASHER**  
 SCALE : 3" = 1'-0"  
 3003-H14 ALUMINUM ALLOY



**7 WINGNUT**  
 SCALE : 3" = 1'-0"  
 ZAMAC 3 ALLOY



**8 "F" TRACK**  
 SCALE : HALF SIZE



**9 TYPICAL ELEVATION**  
 FOR ALL INSTALLATIONS SEE TABLE 2, PAGE 5 OF 6, FOR REQUIRED SEPARATION FROM GLASS.

PRODUCT REVISED  
 as complying with the Florida  
 Building Code  
 Acceptance No. **05-1013.04**  
 Expiration Date **01/08/2009**  
 By *Heather A. Miller*  
 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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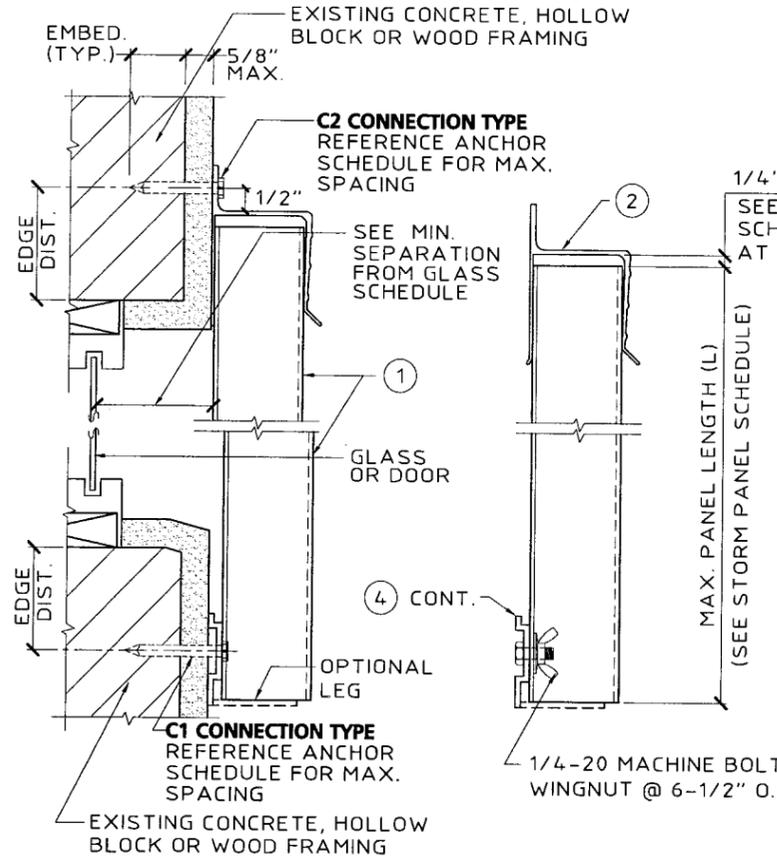
**0.063" ALUMINUM STORM PANELS**  
 SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
**ALBROWARD**  
 650 West McRob Road  
 Ft. Lauderdale, FL 33309  
 1-800-HURRICANE  
**HURRICANE** P A N E L

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

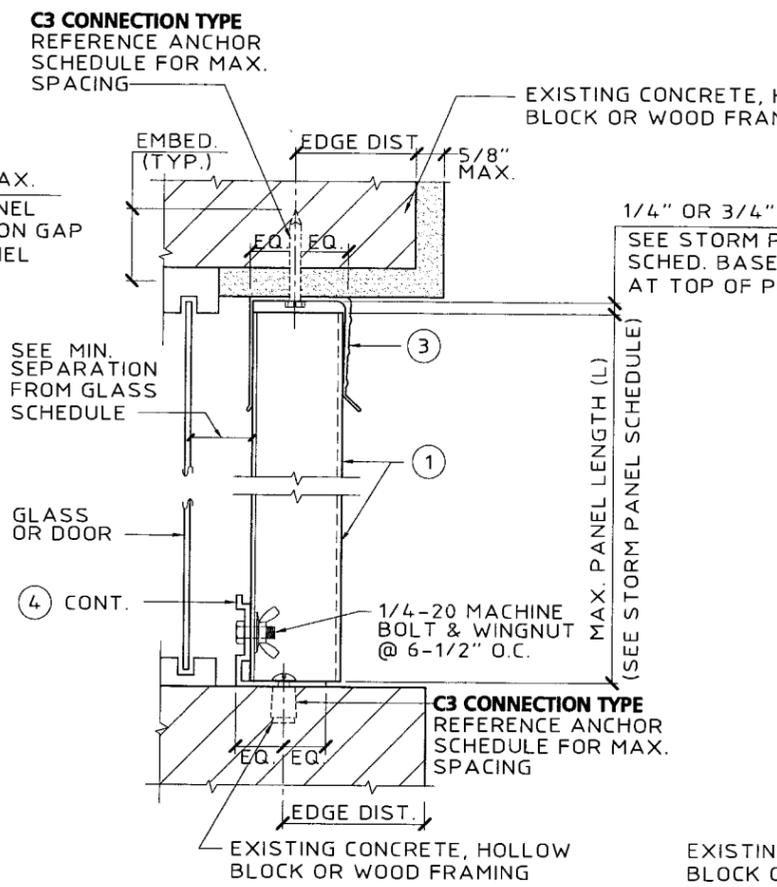
*[Signature]*  
 AUG 31 2006

no.	date	description
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1	08/31/06/NW	BCCO COMMENTS

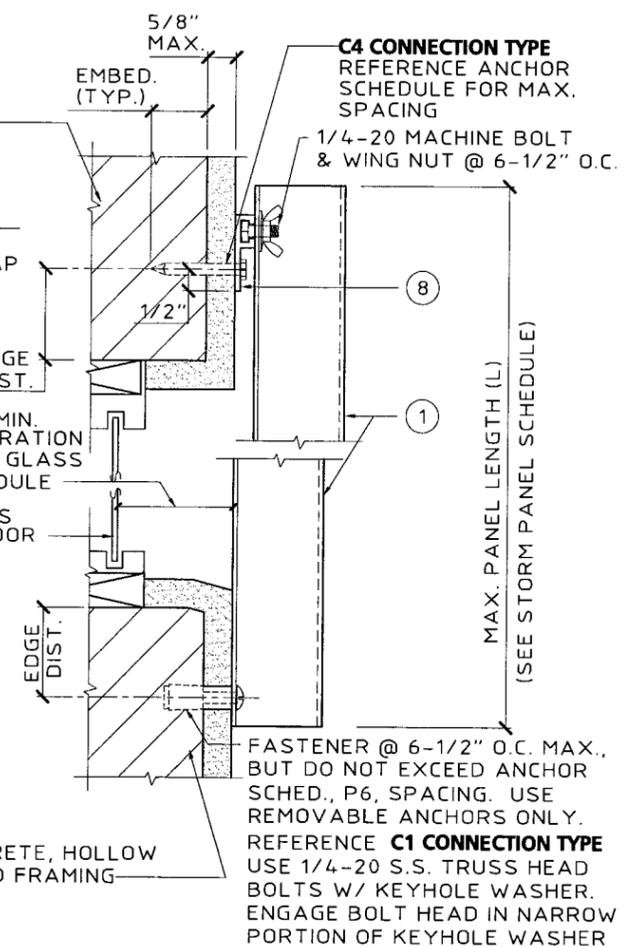
date 08/31/2005  
 scale AS NOTED drawn by MCR  
 design by VJK checked by VJK  
 drawing no. 05-423  
 sheet 1 of 6



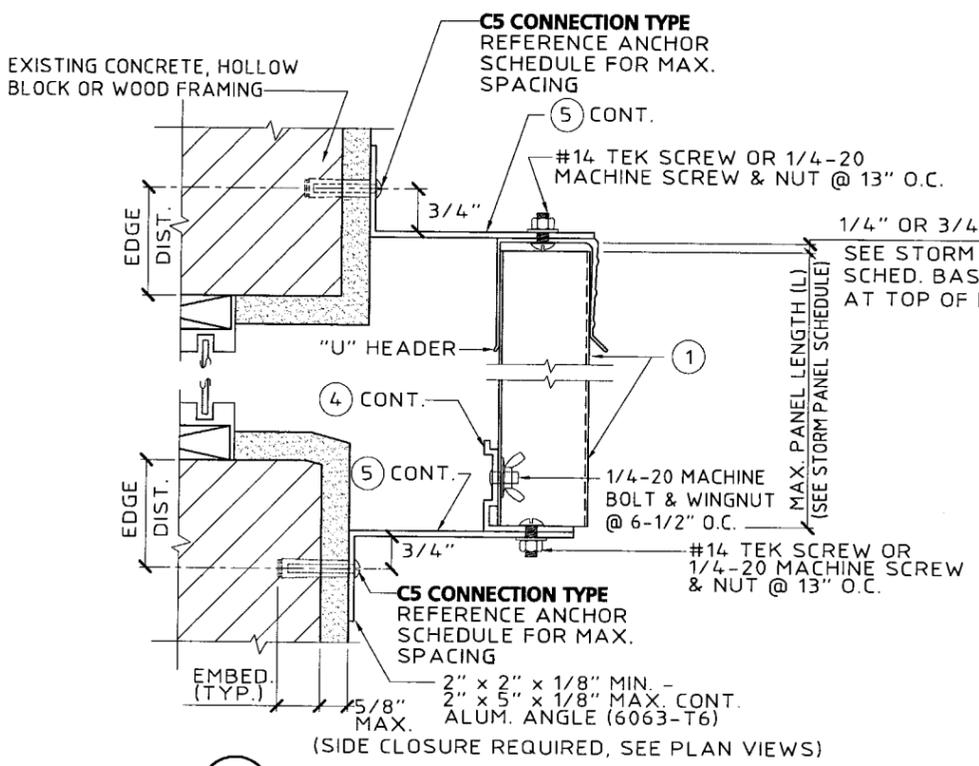
**A WALL MOUNT SECTION**  
SCALE: 3" = 1'-0"



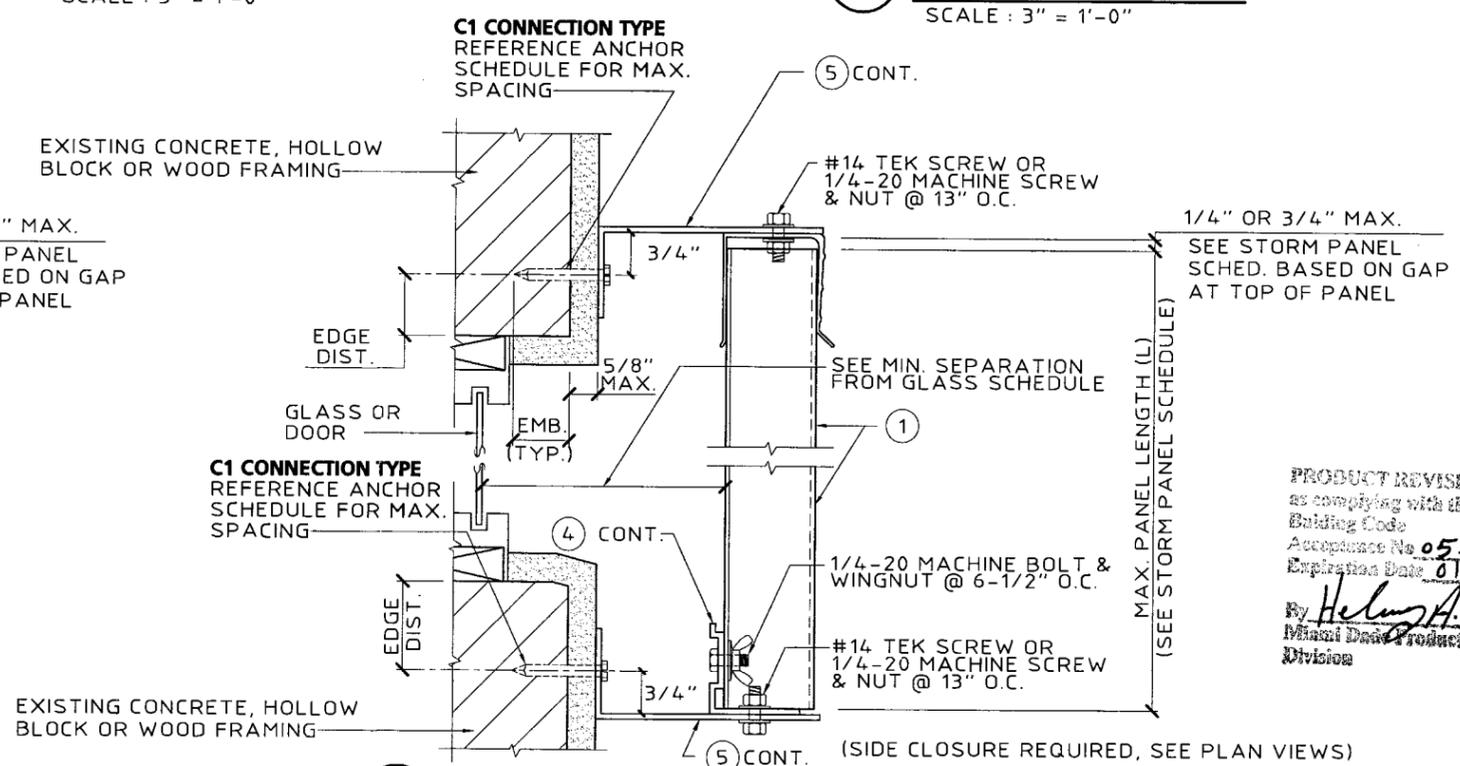
**B CEILING/INSIDE MOUNT SECTION**  
SCALE: 3" = 1'-0"



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



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



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

**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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**0.063" ALUMINUM STORM PANELS**  
SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
450 West McNab Road  
Ft. Lauderdale, FL 33309  
1-800-HURRICANE  
**ALBROWARD HURRICANE PANEL**

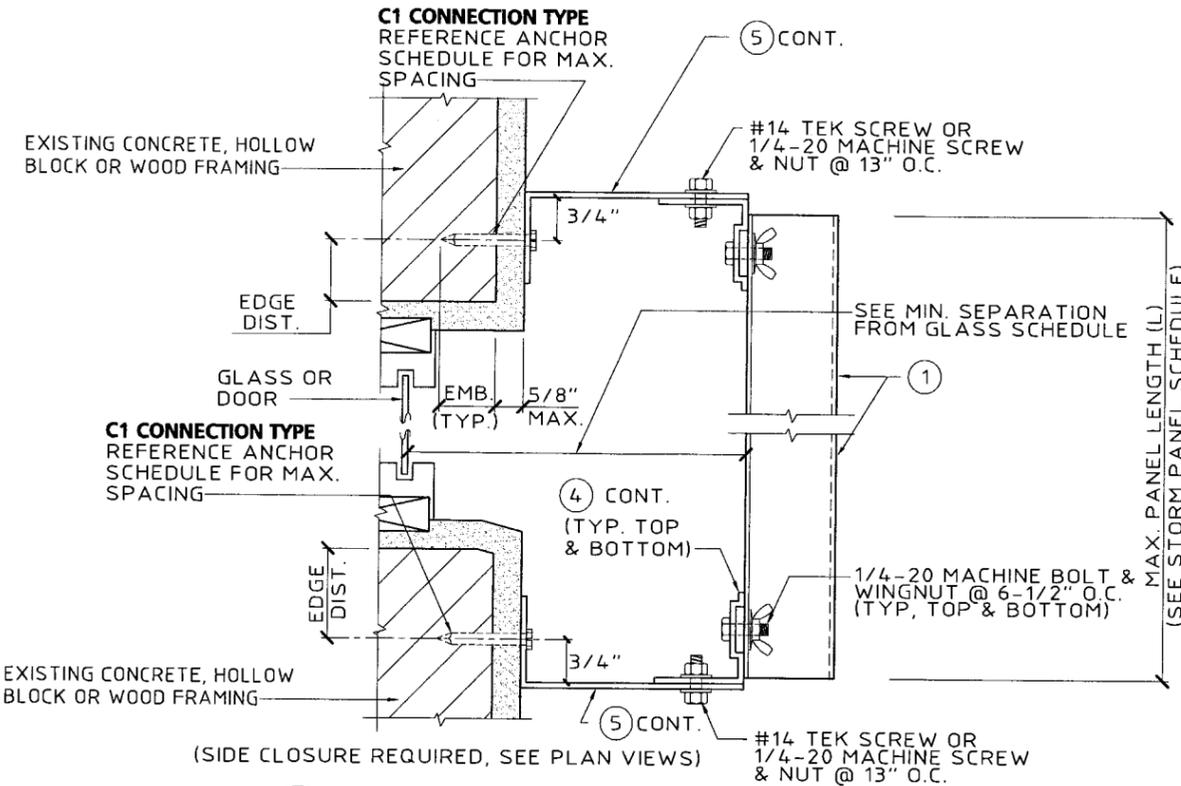
**J. W. Knezevich**  
Professional Engineer  
FL License No.: PE 0041961

*JWK*  
AUG 31 2006

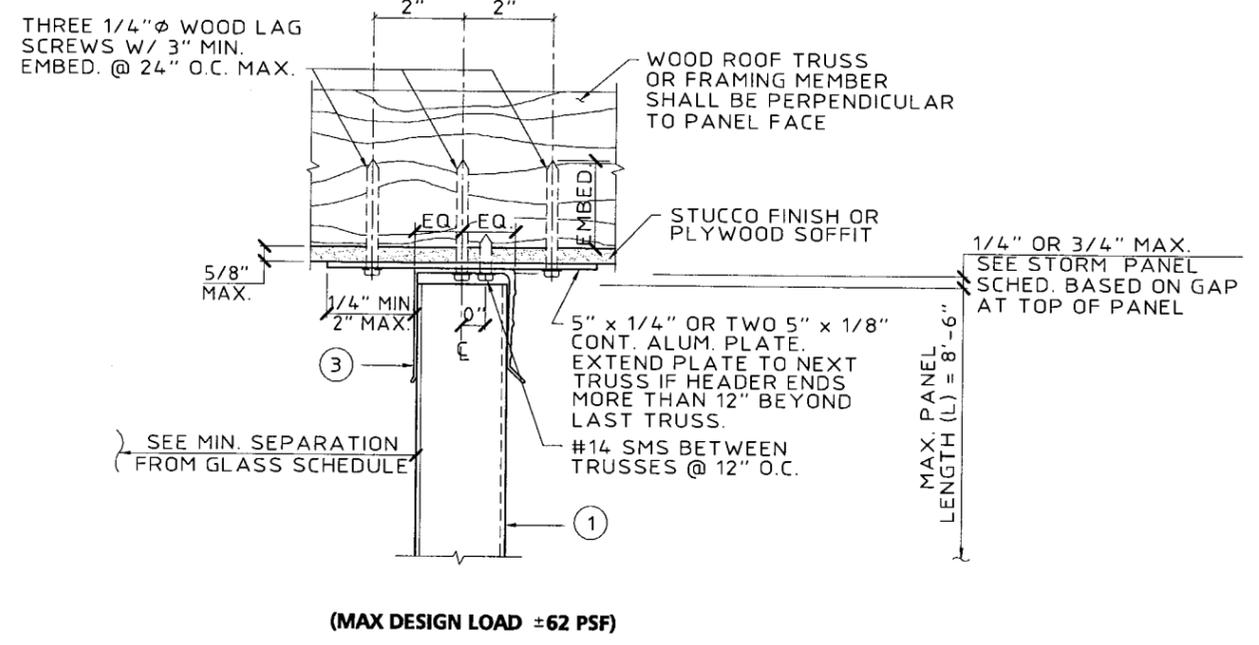
revisions	
no.	description
0	PREVIOUSLY DRAWING NO. 05-423
1	BCCO COMMENTS

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. 05-1013.04  
Expiration Date 01/08/2009  
By *Helmut H. Nader*  
Miami Design Product Control  
Division

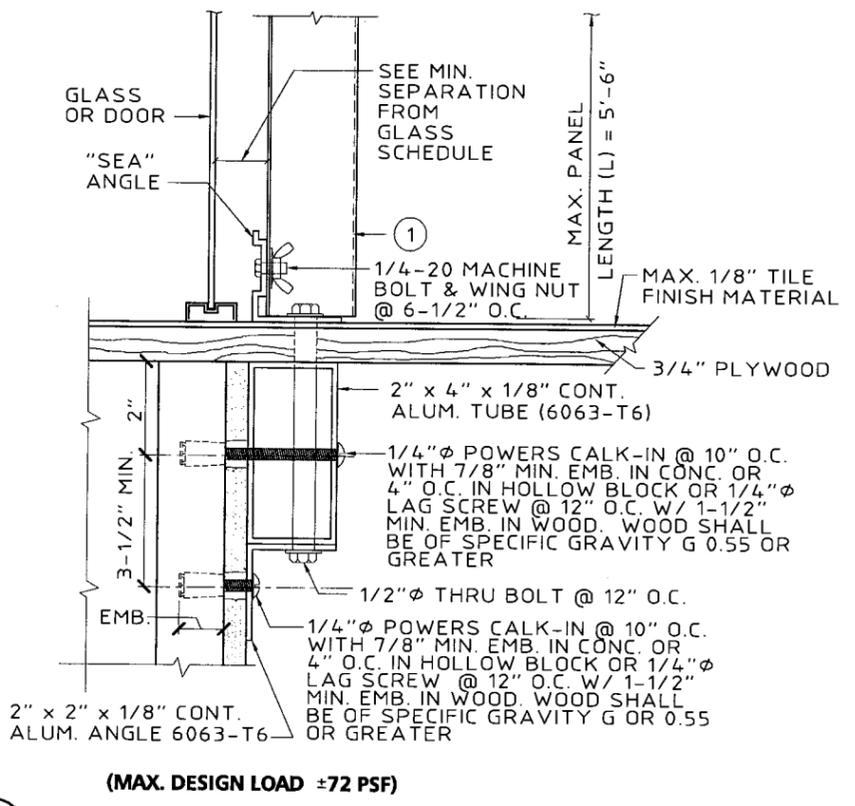
date	08/31/2005
scale	AS NOTED
design by	VJK
checked by	VJK
drawn by	MCR
drawing no.	05-423
sheet	2 of 6



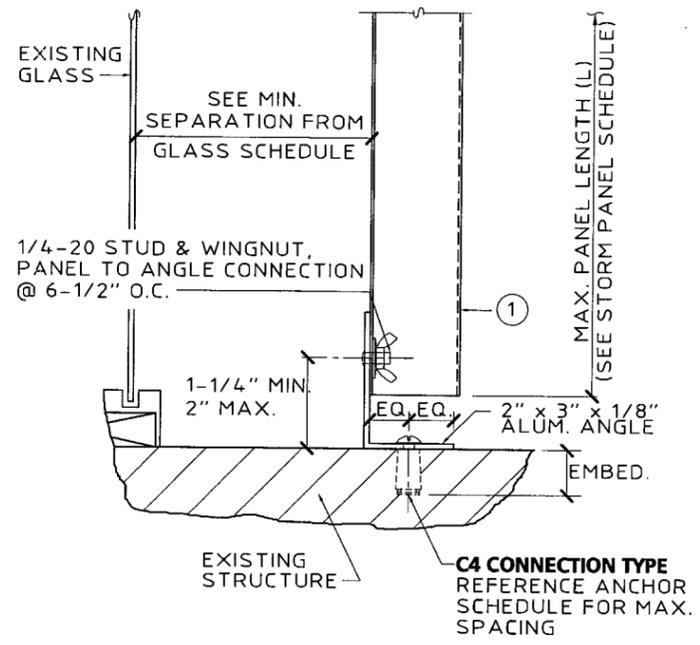
**F ANGLE BUILD-OUT SECTION**  
SCALE : 3" = 1'-0"



**G SOFFIT CONNECTION SECTION**  
SCALE : 3" = 1'-0"



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



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

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. 05-1013.04  
Expiration Date 01/08/2009  
By Helmy A. Matar  
Miami Dade Product Control  
Division

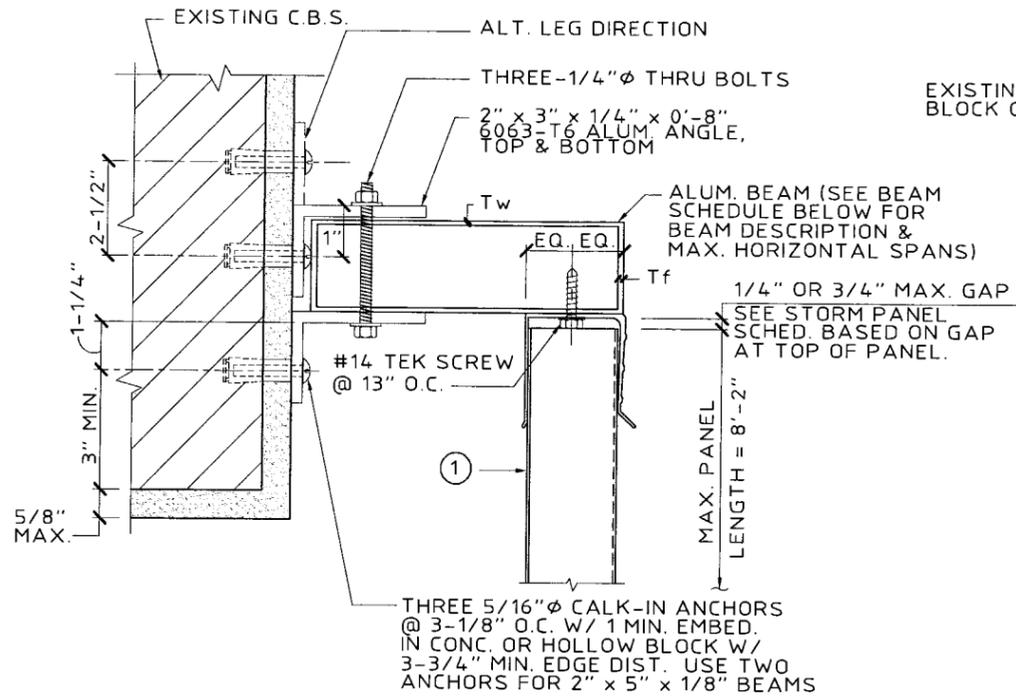
**Thornton-Tomasetti Group**  
330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
Tel. (954) 522-3690 • Fax (954) 522-3691 • COA # 7519  
Website: www.TheTTGroup.com  
Copyright © 2005 Thornton-Tomasetti Group, Inc.

**0.063" ALUMINUM STORM PANELS**  
SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
**AL-BROWARD HURRICANE**  
450 West McNab Road  
Ft. Lauderdale, FL 33309  
1-800-HURRICANE  
PANEL

J. W. Knezevich  
Professional Engineer  
FL License No.: PE 0041961  
AUG 31 2006

no.	date	description
0	08/31/05 NW	PREVIOUSLY DRAWING NO. 03-341
1	08/31/05 NW	REVISIONS

date 08/31/2005  
scale AS NOTED  
design by VJK  
checked by VJK  
drawing no. 05-423  
sheet 3 of 6



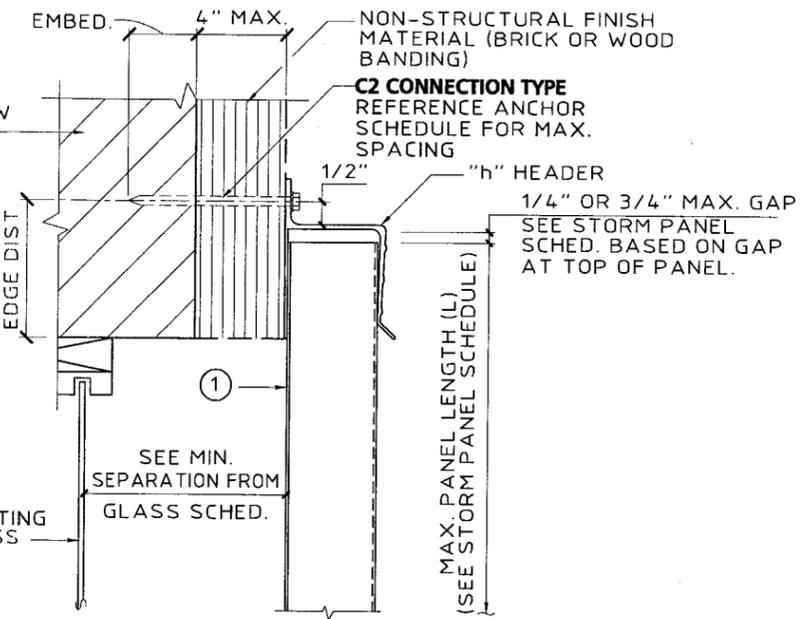
(SIDE CLOSURE REQUIRED, SEE PLAN VIEWS)

(MAX. DESIGN LOAD ±72 PSF)

**J TOP BEAM SUPPORT SECTION**

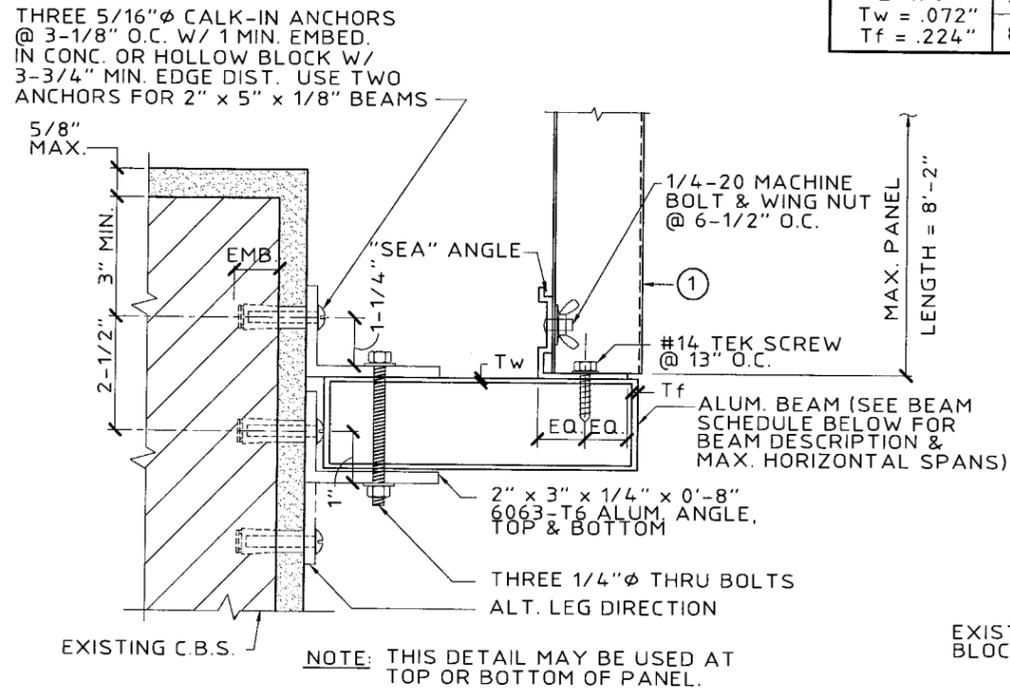
SCALE : 3" = 1'-0"

BEAM SCHEDULE		
DESCRIPTION	PANEL SPAN	BEAM SPAN
2" x 5" Tw = .125" Tf = .125"	5'-0"	9'-5"
	8'-2"	8'-0"
2" x 9" Tw = .072" Tf = .224"	5'-0"	15'-11"
	8'-2"	12'-10"



**K WALL MOUNT SECTION**

SCALE : 3" = 1'-0"

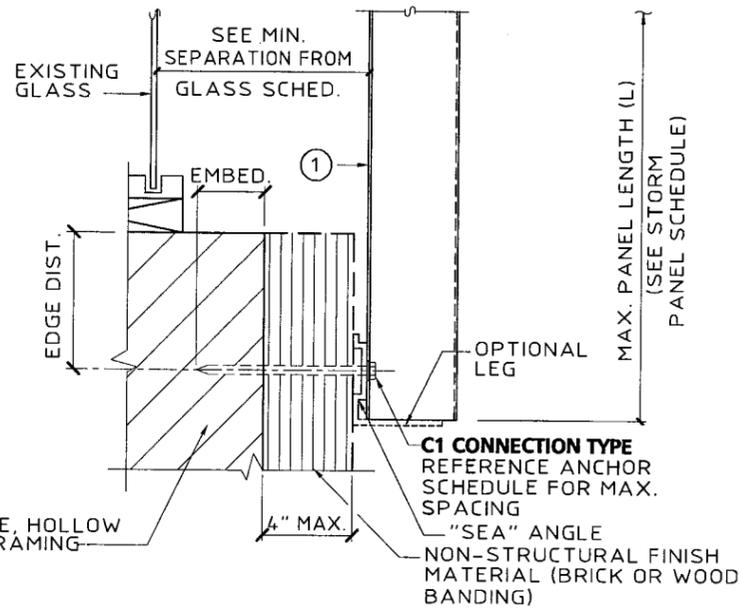


(SIDE CLOSURE REQUIRED, SEE PLAN VIEWS)

(MAX. DESIGN LOAD ±72 PSF)

**L BOTTOM BEAM SUPPORT SECTION**

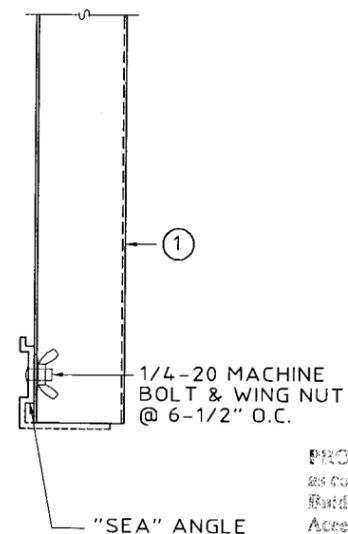
SCALE : 3" = 1'-0"



(ANGLE TO WALL DETAIL)

**M WALL MOUNT SECTION**

SCALE : 3" = 1'-0"



(PANEL TO ANGLE DETAIL)

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. 05-1013.04  
Expiration Date 01/08/2009  
By Helmut A. Knezevich  
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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**0.063" ALUMINUM STORM PANELS**  
SOUTHERN METAL PRODUCTS, LLC - D.B.A.  
**ALBROWARD**  
150 West McNab Road  
Ft. Lauderdale, FL 33309  
1-800-HURRICANE  
**HURRICANE** PANEL

**J. W. Knezevich**  
Professional Engineer  
FL License No.: PE 0041961  
AUG 31 2006

revisions	
no.	description
0	10/31/05/NW PREVIOUSLY DRAWING NO. 03-341
1	10/31/06/NW BECC COMMENTS

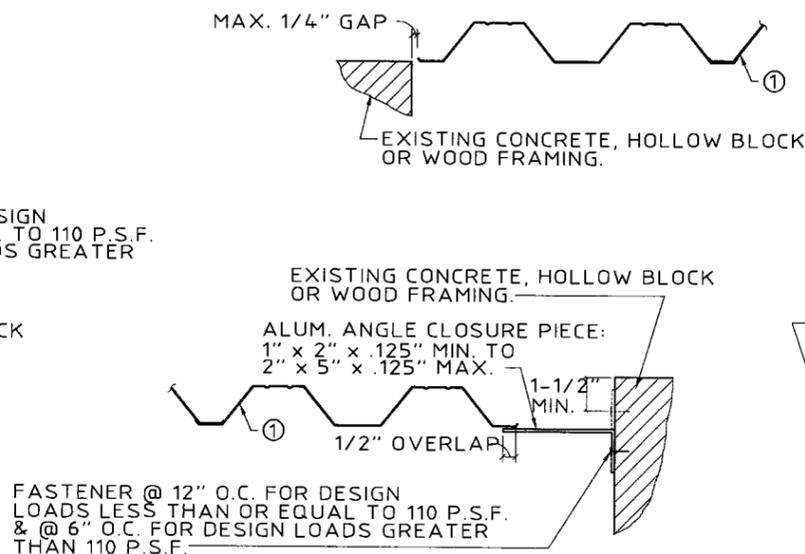
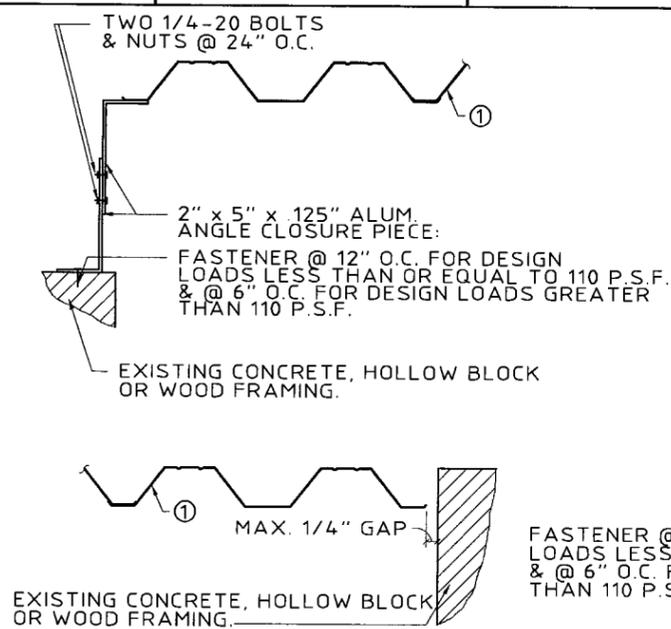
date 08/31/2005  
scale AS NOTED  
design by VJK  
checked by VJK  
drawing no. 05-423  
sheet 4 of 6

DESIGN LOAD W (PSF)	STORM PANEL SCHEDULE	
	ALL MOUNTING CONDITIONS (MAX. 1/4" SPACE BETWEEN PANEL & HEADER)	ALL MOUNTING CONDITIONS (MAX. 3/4" SPACE BETWEEN PANEL & HEADER)
	(A) L max. (FT - IN)	(B) L max. (FT - IN)
30.0	10 - 9	10 - 9
40.0	10 - 5	10 - 5
45.0	10 - 2	10 - 2
50.0	9 - 11	9 - 11
55.0	9 - 8	9 - 8
60.0	9 - 5	9 - 5
62.0	9 - 4	9 - 4
65.0	9 - 3	9 - 2
70.0	9 - 1	8 - 6
72.0	9 - 0	8 - 4
75.0	8 - 11	8 - 0
80.0	8 - 9	7 - 6
90.0	8 - 0	6 - 8
100.0	7 - 2	6 - 0
110.0	6 - 6	5 - 5
120.0	6 - 0	5 - 0
130.0	5 - 6	4 - 7
140.0	5 - 1	4 - 3
150.0	4 - 9	4 - 0
160.0	4 - 6	3 - 9
170.0	4 - 2	3 - 6
180.0	4 - 0	3 - 4
190.0	3 - 9	3 - 1
200.0	3 - 7	3 - 0

NOTES:

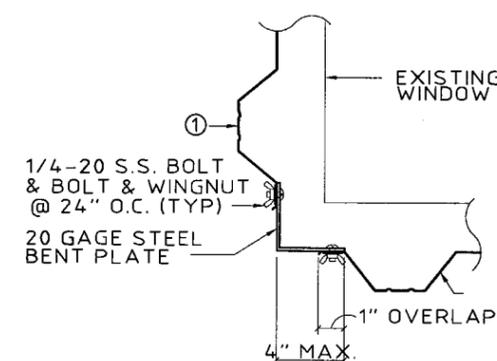
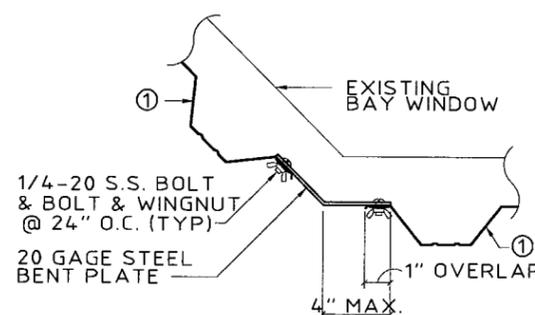
- REFERENCE APPROPRIATE SPAN TABLE BASED ON MOUNTING CONDITION IN FIELD.  
- COLUMN (A) MAY BE USED FOR ANY DETAILED CONDITIONS, INCLUDING DIRECT MOUNT. IF HEADER IS USED, MAX. GAP EQUALS 1/4".  
- COLUMN (B) MAY BE USED FOR ANY DETAILED CONDITIONS, IF HEADER IS USED, MAX. GAP EQUALS 3/4".
- FOR DESIGN LOADS BETWEEN TABULATED VALUES, USE NEXT HIGHER LOAD OR LINEAR INTERPOLATION MAY BE USED TO DETERMINE ALLOWABLE SPANS.
- ENTER TABLE 1 WITH NEGATIVE DESIGN LOAD TO DETERMINE MAX. ALLOWABLE STORM PANEL SPAN.
- ENTER TABLE 2 WITH POSITIVE DESIGN LOAD TO DETERMINE MIN. STORM PANEL SEPARATION FROM GLASS.

POSITIVE DESIGN LOAD W (PSF)	SEPARATION FROM GLASS SCHEDULE		
	ACTUAL STORM PANEL SPAN (FT. - IN.)	MINIMUM SEPARATION FOR INSTALLATIONS LESS THAN 30' ABOVE GRADE (INCHES)	MINIMUM SEPARATION FOR INSTALLATIONS GREATER THAN 30' ABOVE GRADE (INCHES)
35.0	6 - 0	3	1-1/2
	8 - 8		2
	10 - 10		3
40.0	6 - 0	3	1-1/2
	8 - 8		2-1/8
	10 - 5		3
50.0	6 - 0	3	1-5/8
	8 - 8		2-1/4
	9 - 11		3
60.0	6 - 0	3	1-5/8
	8 - 8		2-1/2
	9 - 5		3
70.0	6 - 0	3	1-5/8
	8 - 8		2-3/4
	9 - 1		3
80.0	6 - 0	3	1-3/4
	8 - 8		2-7/8
	8 - 9		3
90.0	6 - 0	3	1-3/4
	8 - 0		2-5/8
100.0	6 - 0	3	1-3/4
	7 - 2		2-1/4



CLOSURE DETAILS (PLAN VIEWS)

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



PRODUCT REVISED as complying with the Florida Building Code Acceptance No. 05-1013-04 Expiration Date 01/08/2009

By *Helmut A. Decker*  
Miami Data Project Control Division

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1-800-HURRICANE  
PANEL

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

*Jan 3*  
AUG 31 2006

no.	date	by	description
0	08/31/05	NW	PREVIOUSLY DRAWING NO. 03-241
1	08/31/06	NW	BECC COMMENTS

date 08/31/2005  
scale AS NOTED drawn by MCR  
design by VJK checked by VJK  
drawing no. 05-423  
sheet 5 of 6

### 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"					SPANS UP TO 8'-8"					SPANS UP TO 10'-9"					SPANS UP TO 6'-0"					SPANS UP TO 8'-8"					SPANS UP TO 10'-9"				
			(SEE NOTE 1)					(SEE NOTE 1)					(SEE NOTE 1)					(SEE NOTE 1)					(SEE NOTE 1)					(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		48.0	13	13	12	11	13	13	7	8	8	13	13	4	6.5	6.5	13	13	13	13	13	13	7	10	9	13	13	5	8	7	13	
		62.0	13	9	9	9	13	13	4	6.5	6	13	13	3	5	5	8	13	9	11	10	13	13	4	7	7	13	13	3	6	5	8
		72.0	13	6.5	8	7	13	13	3	5	5	9	13	4	4	7	13	4	7	7	13	13	3	6.5	6	10	13	3	5	5	7	
		92.0	13	4	6.5	6	13	13	4	4	7	13	4	4	7	13	4	7	7	13	13	3	5	5	7	13	3	5	5	7		
	200.0	13	4	4	7	13	4	4	7	13	4	4	7	13	3	5	5	7	13	3	5	5	7	13	3	5	5	7				
		48.0	13	13	12	11	13	13	5	8	8	13	13	3	7	6.5	11	13	13	13	13	13	7	11	10	13	13	4	9	8	13	
		62.0	13	7	9	9	13	13	3	6.5	6	10	13	5	5	6	13	9	12	11	13	13	4	8	8	13	13	3	7	6.5	8	
		72.0	13	5	8	7	13	13	5	5	7	13	5	4	5	13	6.5	10	10	13	13	3	7	7	9	13	6.5	6	7			
		92.0	13	3	6.5	6	10	13	5	4	5	13	5	4	5	13	4	8	7	12	13	6.5	6	7	13	6.5	6	7				
	200.0	13	5	4	5	13	5	4	5	13	5	4	5	13	6.5	6	7	13	6.5	6	7	13	6.5	6	7							
		48.0	13	13	11	10	13	13	5	7	7	13	13	3	6	5	12	13	13	13	13	13	7	9	9	13	13	4	7	7	13	
		62.0	13	7	8	8	13	13	3	6	5	11	13	4	4	6	13	9	11	10	13	13	4	7	7	13	13	3	6	5	8	
72.0		13	5	7	7	13	13	5	4	7	13	4	4	5	13	6.5	9	8	13	13	3	6.5	6	9	13	5	5	7				
92.0		13	3	6	5	10	13	4	4	5	13	4	4	5	13	4	7	7	12	13	5	5	7	13	5	5	7					
200.0	13	4	4	5	13	4	4	5	13	4	4	5	13	5	5	7	13	5	5	7	13	5	5	7								
HOLLOW CONCRETE BLOCK		48.0	13	5	5	4	13	9	3	3	9	7	4	13	6	6	5	13	11	4	4	11	9	3	3	5						
		62.0	10	4	3	10	7	4	5	12	3	4	4	12	8	3	3	4	6.5	3	3	4	6.5	3	3	5						
		72.0	9	3	3	9	6	5	5	10	10	4	3	10	7	3	3	4	6	6	6	6	6	6	6	6	6	6	6	6	6	
		92.0	7	3	3	9	6	5	5	10	10	4	3	10	7	3	3	4	6	6	6	6	6	6	6	6	6	6	6	6	6	
	200.0	5	3	3	9	6	5	5	10	10	4	3	10	7	3	3	4	6	6	6	6	6	6	6	6	6	6	6	6	6		
		48.0	13	11	9	8	13	13	4	6	6	13	13	3	5	4	10	13	13	11	10	13	13	5	8	7	13	13	3	6.5	6	11
		62.0	13	5	7	6.5	13	13	3	4	4	9	12	3	3	5	13	6.5	9	8	13	13	3	6	5	10	13	5	4	5		
		72.0	13	4	6	5	13	13	4	4	6	11	3	3	4	13	4	7	7	13	13	5	5	6.5	13	4	4	5				
		92.0	13	4	4	8	11	3	3	4	11	3	3	4	13	3	6	5	9	13	4	4	5	13	4	4	5					
	200.0	11	3	3	4	11	3	3	4	11	3	3	4	13	4	4	5	13	4	4	5	13	4	4	5							
		48.0	13	8	7	6.5	13	13	3	4	4	13	12	3	3	7	13	8	7	7	13	13	3	5	4	13	12	4	3	7		
		62.0	13	4	5	5	13	11	3	3	6.5	9	3	3	3	13	4	5	5	13	11	4	3	6.5	9	3	3	3				
72.0		13	3	4	4	13	10	3	3	4	8	3	13	3	5	4	13	10	3	3	4	8	3	3	4	8	3	3	3			
92.0		11	3	3	6	8	3	8	3	11	4	3	6	8	3	8	3	8	3	8	3	8	3	8	3	8	3	8	3	8		
200.0	8	3	3	6	8	3	8	3	11	4	3	6	8	3	8	3	8	3	8	3	8	3	8	3	8	3	8	3	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. 3/4" EDGE DISTANCE																													
			SPANS UP TO 6'-0"					SPANS UP TO 8'-8"					SPANS UP TO 10'-9"																			
			(SEE NOTE 1)					(SEE NOTE 1)					(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		48.0	13	13	12	12	13	13	10	8	8	13	13	6.5	7	6.5	13	13	6.5	7	6.5	13	13	4	5	5	11					
		62.0	13	12	9	9	13	13	6	6.5	6.5	13	13	4	5	5	13	13	4	5	4	9	13	4	5	4	9					
		72.0	13	9	8	8	13	13	5	5	5	13	13	4	5	4	9	13	4	5	4	9	13	4	5	4	9					
		92.0	13	6	6.5	6	13	13	4	5	4	9	13	4	5	4	9	13	4	5	4	9	13	4	5	4	9					
	200.0	13	4	5	4	9	13	4	5	4	9	13	4	5	4	9	13	4	5	4	9	13	4	5	4	9						
		48.0	13	6.5	13	11	13	11	9	11	9	5	11	9	5	11	9	5	11	9	5	11	9	5	11	9	5	11	9	5	11	
		62.0	13	3	13	9	13	9	5	7	5	7	5	7	5	7	5	7	5	7	5	7	5	7	5	7	5	7	5	7	5	7
		72.0	11	13	11	7	13	11	7	13	11	7	13	11	7	13	11	7	13	11	7	13	11	7	13	11	7	13	11	7	13	
		92.0	8	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	
	200.0	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13	4	6.5	13		
		48.0	13	13	10	10	13	13	6	7	7	13	13	4	6	5	11	13	3	5	5	11	13	3	4	6	5	12				
		62.0	13	7	8	8	13	13	3	5	5	11	13	4	4	6	13	9	11	10	13	13	4	7	7	13	13	3	6	5	8	
72.0		13	5	7	7	13	13	5	4	7	13	4	4	5	13	6.5	9	8	13	13	3	6.5	6	9	13	5	5	7				
92.0		13	3	6	5	10	13	4	4	5	13	4	4	5	13	4	7	7	12	13	5	5	7	13	5	5	7					
200.0	13	4	4	5	13	4	4	5	13	4	4	5	13	5	5	7	13	5	5	7	13	5	5	7								

#### 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  
 Approval No. 05-1013-04  
 Expiration Date 01/08/2009  
 By *Heather A. M...*  
 Metal Data Product Control  
 Division

**Thornton-Tomasetti Group**  
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 1-800-HURRICANE

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

*[Signature]*  
 AUG 31 2006

no.	date	by	description
0	08/31/05	NW	PREVIOUSLY DRAWING NO. 03-341
1	08/31/06	NW	BCCG COMMENTS

date: 08/31/2005  
 scale: AS NOTED  
 design by: VJK  
 checked by: VJK  
 drawing no. 05-423  
 sheet 6 of 6