HUNKER DOWN SYSTEMS.COM

YOUR ROOF WILL STAY PUT IN A STORM

March 13th 2007

DCA07-DEC-050

FILING AND ACKNOWLEDGEMENT
FILED, on this date, with the designated Clerk, receipt of which is hereby acknowledged.

Paula P. Ford 3/16/07
Paula P. Ford
Commission Clerk
Date

Florida Department of Community Affairs
Building Code and Standards
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

Attn: Mr. Mo Madani or Mr. Joe Bigelow.

Gentlemen:

This is our formal application for a Declaratory Statement on Rule 9B-72 regarding the necessity of Product Approval in connection with our "roof decking anchoring system". Our system can be used for the anchoring of the decks of roofs and other elements of homes and buildings, as well as a method to anchor and secure other parts of the structure such as concrete slab walls, drywalls, exterior and interior plaques of any type and many other uses.

Our product is mainly used for securing and anchoring decking of the roofs of buildings or houses; in other words to secure (attach) the plywood sheets to the trusses of the roofs.

Our system allows securing the decking in a house so that it may resist 146 miles per hour of wind at the corners of the roofs. The static air pressure test that was performed in a laboratory showed that plywood sheets secured in our method will withstand wind uplift of 121 pounds per square foot. Attached please find a copy of the said test which was performed at the lab of Hurricane Engineering and Testing, Inc. (HETI) at Doral, Florida.

These tests are usually done by taking the experiment to the failure point. In our case the test did not reach the failure or collapse point because the Director of the Lab felt that the explosion of the compressed air could cause damages in the Lab that were unwarranted. In fact the result was that the experiment had carried over

8370 WEST FLAGLER STREET, SUITE 110 •
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the mark that was expected and the system had performed more than efficiently.

With the laboratory results of the static air tests, the wind load calculations were made and these determined that the system makes a roof to securely hold at the Corners of the roof in 146 miles per hour; and it can resist lots more in the perimeter and a lot more at the field [center] of the roof. Attached please find copy of the Wind Load Calculations done by Dario Gonzalez, P.E.

Our product has been tested and it is something that can be use in addition to nails or instead of the same as it performs at least as good as the best nails or most likely better. Our Product is an anchoring system that exceeds any and all specifications of Code that exist for nails for attaching the decking of roofs. No nail can equal, or even come close to, the results of our anchoring system.

Our product and system is not covered by any part of the Florida Building Code. This is perhaps because this is a new and original idea that is patent pending before the United States Patent Office Trademark and Patent Office.

The benefits for the Florida Consumer are great as the use of our anchoring system will mitigate damages to the roof of houses and buildings to the point where they may mitigate or even entirely eliminate damages from hurricanes winds. The reduction of insurance premium rates and damages will be huge.

We have designed the system to provide a simple, but extremely effective and secure, means of maintaining the integrity of the structural envelope of the building or house. We can provide specifications, designs, usage guides and installations manuals to local officials. Common sense shows to any observer that the performance of our anchoring system will far exceed that of any nail.

However, in spite of the clear benefits and ample testing that our system has had, we have had reluctance on the part of local code officials and county authorities to issue building permits with the use of our anchoring system. Wherefore, we request that you may issue a Declaratory Statement making our anchoring system exempt from the need of a building permit or other requirement by Code Officials in our State.

Respectfully submitted,

Alfonso E. Oviedo-Reyes

President Hunker Down Systems.com

Hunker Down Systems: Its elements and how it works

The drawings that are attached explain the concept of the anchoring system for the decking of roofs in the manner that we have designed.

The elements that constitute the anchoring system are the following: A number of plates made preferably of metal with two perforations that allow the passage of a cable or band, also preferably made of metal, that tie the plywood sheets of the Decking to the beams of the trusses of the building. The plywood has to have holes perforated in it to allow the passage of the cables or steel bands that will wrap around the beam of the truss.

The drawings show how the steel bands have two rings hanging below the beam. These metal rings are later connected by a steel cable that links the rings to the columns on each end of the truss. The cable is tensioned by turnbuckles to give the trusses a further strengthening. The steel cables cross each other as one cable runs along the beam [as in the drawing Figure Dos] and the other cable runs across the different beams forming a square grid of cables in the attic of the building or home.

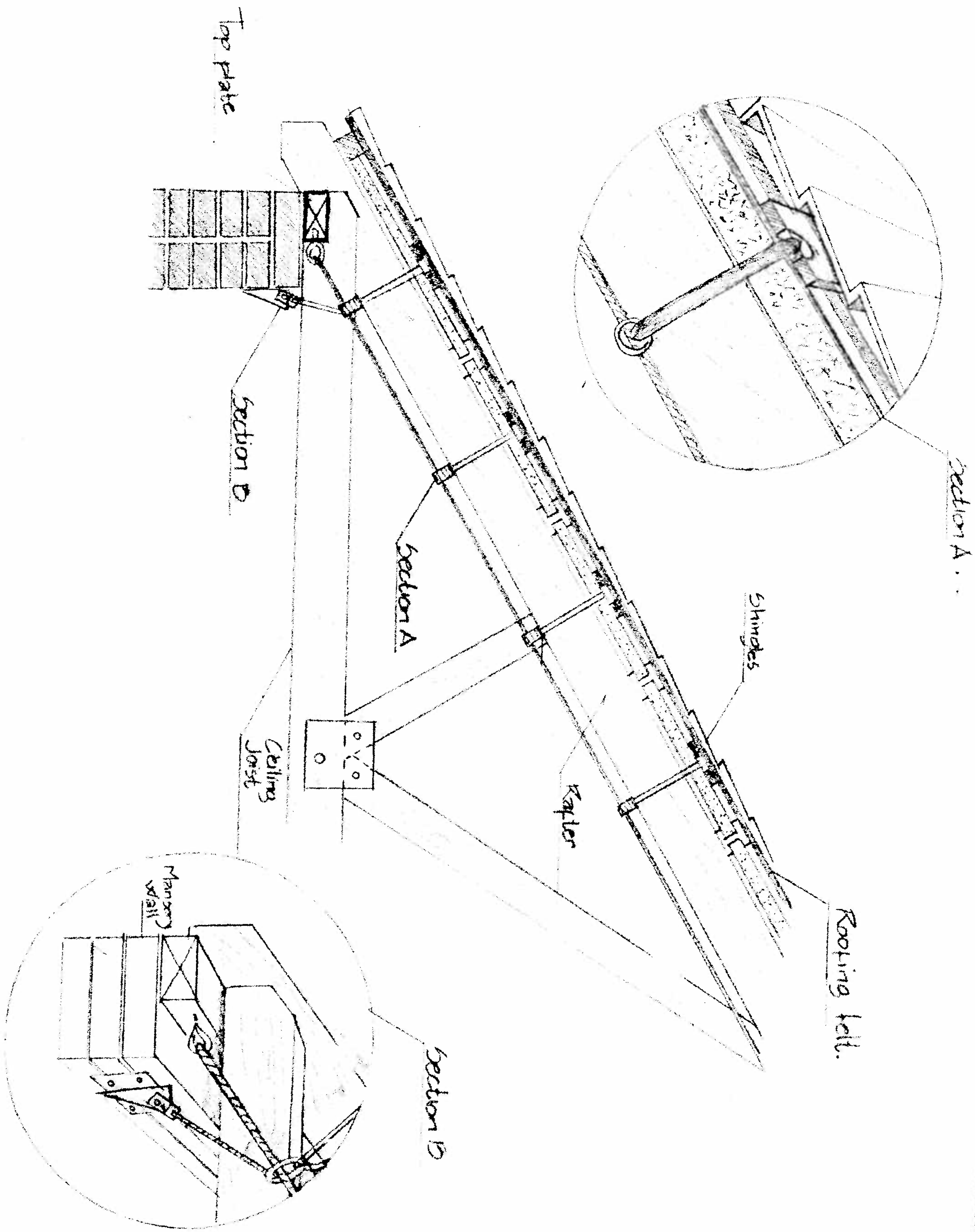
Depending on the shape of the roofs the cables that run across will also tie down the gables of the roof with the same method and will also link the gable to the columns and through them to the very foundations of the building.

This is by far a more complete system that supersedes any system that has heretofore been used or designed to secure the decking of roofs. In fact, our anchoring or tie down system generates a "structural super nail" that prevents the plywood sheets from flying off even under a Category 4 Hurricane.

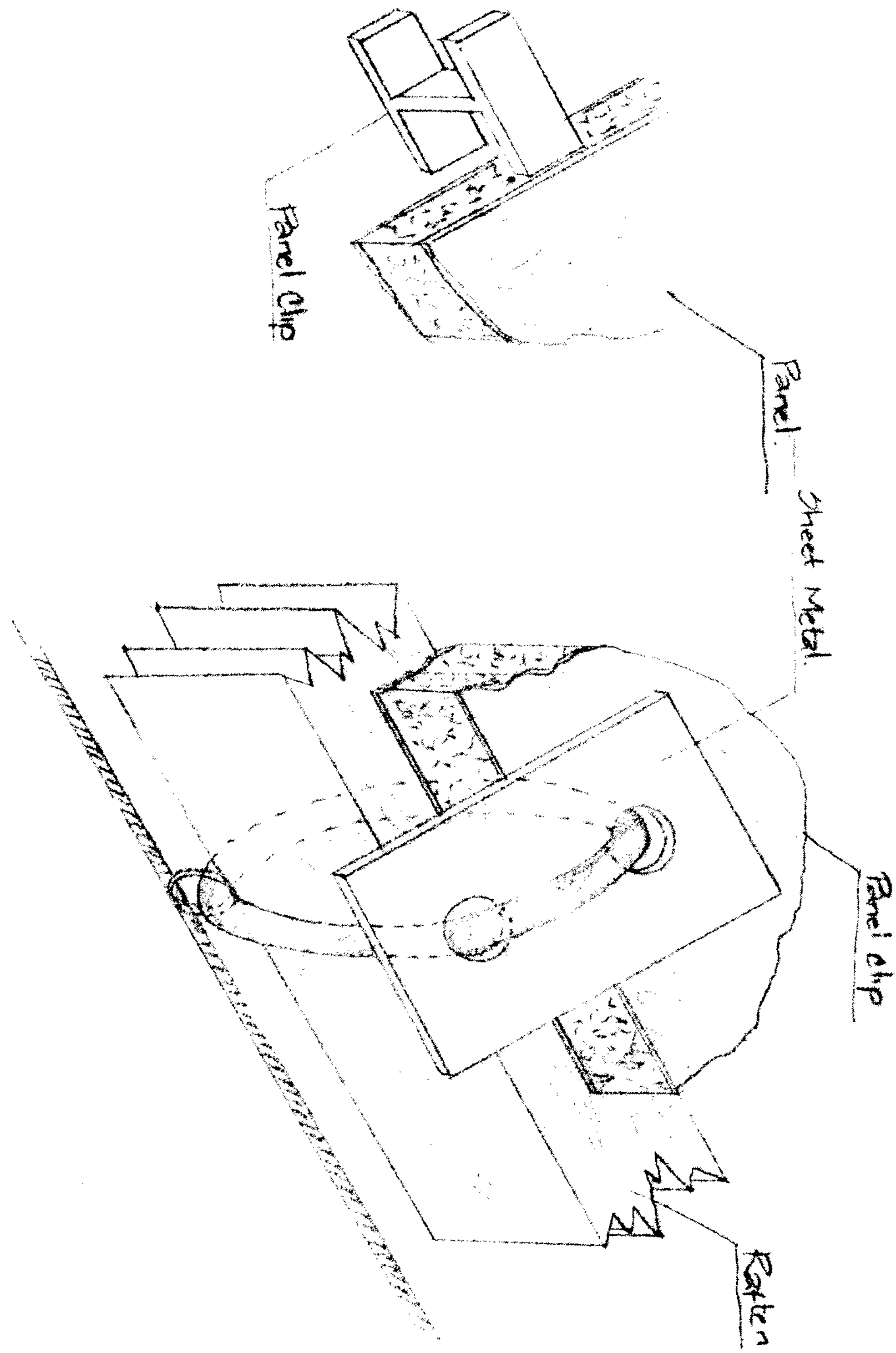
Because of that greatly increased resistance of the roof to the winds is that we designed the linkage of the metal bands that wrap around the beams of the trusses to the very foundations of the building in order to create a structural envelope that will make a simple and common roof perform like a bunker of resistance. In great part this is possible because of the nature of the plywood.

Because plywood is a composite, it is far more resistant and flexible than wood. It will break at very much higher pressures than wood. That is what makes possible this new and far stronger roofing method.

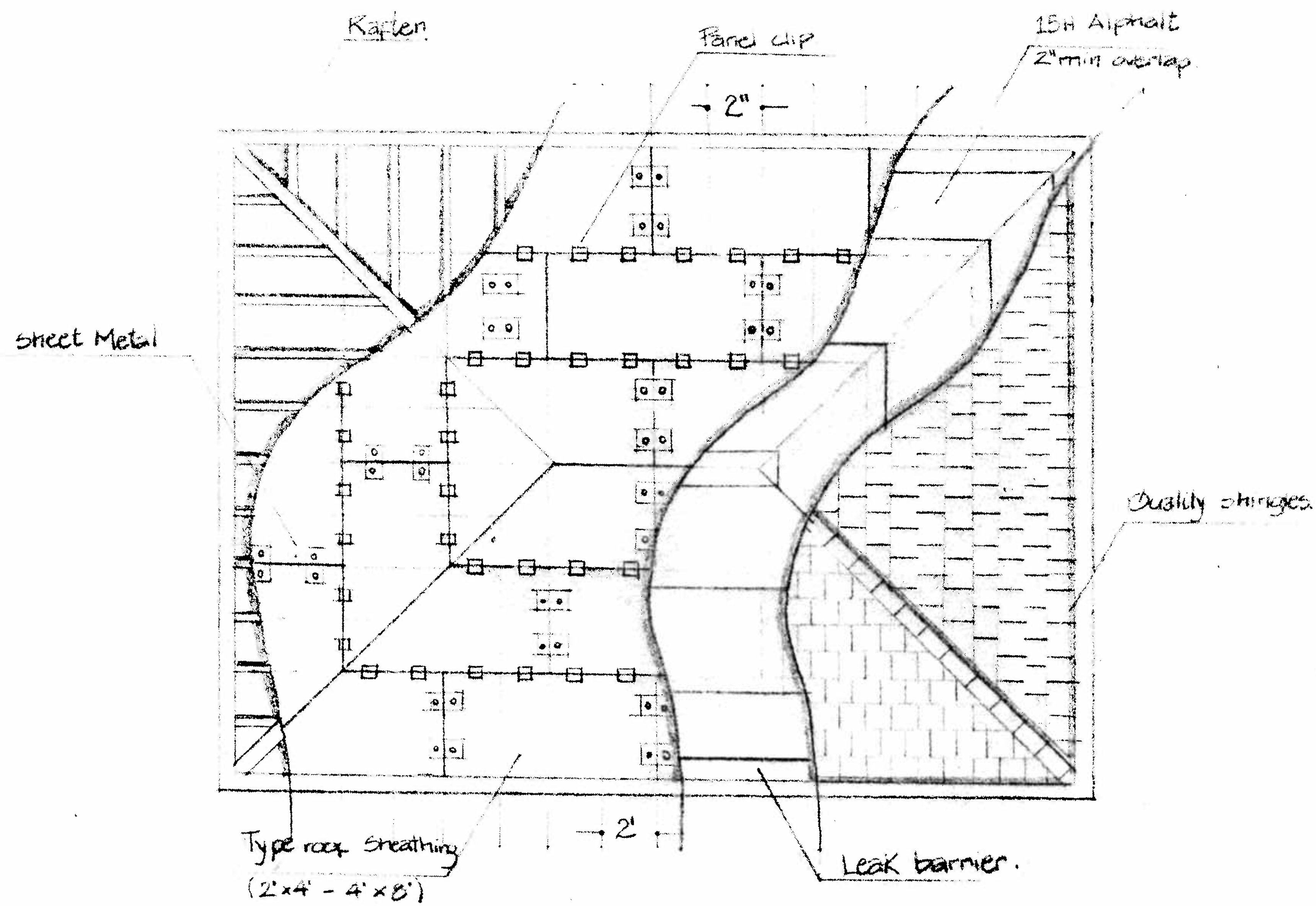
We feel that by using this anchoring method we provide the roofs of houses with the equivalent of "shutters for the roofs". The use of our anchoring devise and system to firmly lock in place the decking of the roof effectively prevents the entry of significant amounts of water into the building thereby reducing the damage that would otherwise be sustained. If any water leaks in, it will be in minimal amounts; not in the amounts that would enter if the decking of the roof would fly off.



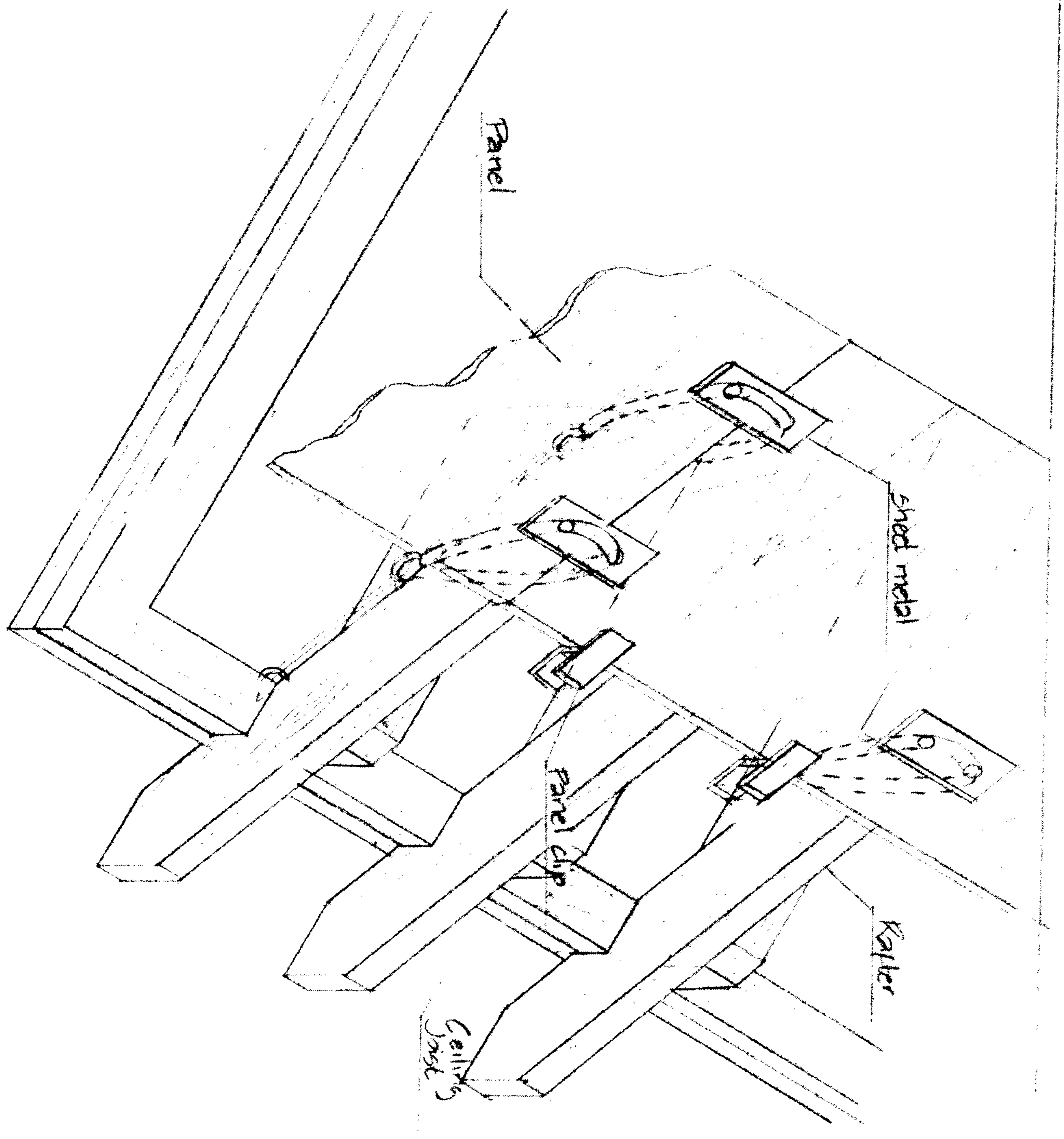
Projec:	Date:	Drawing: Section.	2
By Alfonso Oviedo	Approval check:		



Projec:	Date:	Drawing Ceiling Plant	3
By: Alfonso Quieck	Approval check,		



Project:
By Alonso Cnedo
Date:
Approval check:
Drawing Ceiling Plant
1



Project:	Date:	Drawing: Structural System	4
By: Alfonso Oviedo	Approval check:		

WIND02 v2-14

Detailed Wind Load Design (Method 2) per ASCE 7-02

Customer:	Alfonso Reyes	**Project Address:**	Miami-Dade County
Description:	For all slopes between 2:12 & 7:12	Date:	Sept. 19,2006

User Input Data		
Structure Type	Building	
Basic Wind Speed (V)	146	mph
Struc Category (I, II, III, or IV)	II	
Exposure (B, C, or D)	C	
Struc Nat Frequency (n1)	1	Hz
Slope of Roof	2.0	:12
Slope of Roof (Theta)	9.5	Deg
Type of Roof	Gabled	
Kd (Directonality Factor)	0.85	
Eave Height (Eht)	20.00	ft
Ridge Height (RHt)	30.00	ft
Mean Roof Height (Ht)	25.00	ft
Width Perp. To Wind Dir (B)	100.00	ft
Width Paral. To Wind Dir (L)	60.00	ft

Calculated Parameters	
Type of Structure	
Height/Least Horizontal Dim	0.42
Flexible Structure	No

Calculated Parameters		
Importance Factor	1	
Hurricane Prone Region (V>100 mph)		
Table 6-2 Values		
Alpha =	9.500	
zg =	900.000	
At =	0.105	
Bt =	1.000	
Bm =	0.650	
Cc =	0.200	
l =	500.00	ft
Epsilon =	0.200	
Zmin =	15.00	ft

Gust Factor Category I: Rigid Structures - Simplified Method			
Gust1	For rigid structures (Nat Freq > 1 Hz) use 0.85	0.85	
Gust Factor Category II: Rigid Structures - Complete Analysis			
Zm	0.6 * Ht	15.00	ft
Izm	Cc * (33/z)^0.167	0.2281	
Lzm	l*(zm/33)^Epsilon	427.06	ft
Q	(1/(1+0.63*((Min(B,L)+Ht)/Lzm)^0.63))^0.5	0.9025	
Gust2	0.925*((1+1.7*Izm*3.4*Q)/(1+1.7*3.4*Izm))	0.8737	
Gust Factor Summary			
G	Since this is not a flexible structure the lessor of Gust1 or Gust2 are used	0.85	

WIND02 v2-14

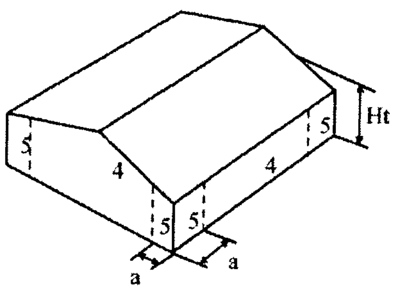
Detailed Wind Load Design (Method 2) per ASCE 7-02

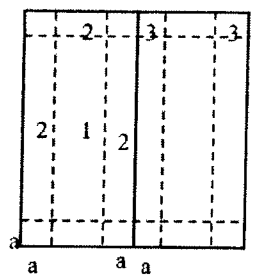
Fig 6-5 Internal Pressure Coefficients for Buildings, Gcpi

Condition	Gcpi	
	Max +	Max -
Open Buildings	0.00	0.00
Partially Enclosed Buildings	0.55	-0.55
Enclosed Buildings	0.18	-0.18
Enclosed Buildings	**0.18**	**-0.18**

Figure 6-11 - External Pressure Coefficients, GCp

Loads on Components and Cladding for Buildings w/ Ht <= 60 ft





Gabled Roof
7 < Theta <= 45

a = 6 ==> 6.00 ft

Double Click on any data entry line to receive a help Screen

Component	Width (ft)	Span (ft)	Area (ft^2)	Zone	GCp		Wind Press (lb/ft^2)	
					Max	Min	Max	Min
Field	2	5	10.00	1	0.50	-0.90	29.81	-47.35
Perimeter	2	5	10.00	2	0.50	-1.70	29.81	-82.43
Corner	2	5	10.00	3	0.50	-2.60	29.81	-121.89

Note: * Enter Zone 1 through 5, or 1H through 3H for overhangs.

Reviewed by:
[signature]
SEP 19 2006

Dario Gonzalez, P.E.
Lic.# 34876

WIND02 v2-14

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User Input Data		
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Basic Wind Speed (V)	146	mph
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Exposure (B, C, or D)	C	
Struc Nat Frequency (n1)	1	Hz
Slope of Roof	2.0	:12
Slope of Roof (Theta)	9.5	Deg
Type of Roof	Gabled	
Kd (Directonality Factor)	0.85	
Eave Height (Eht)	20.00	ft
Ridge Height (RHt)	30.00	ft
Mean Roof Height (Ht)	25.00	ft
Width Perp. To Wind Dir (B)	100.00	ft
Width Paral. To Wind Dir (L)	60.00	ft

Calculated Parameters	
Type of Structure	
Height/Least Horizontal Dim	0.42
Flexible Structure	No

Calculated Parameters		
Importance Factor	1	
Hurricane Prone Region (V>100 mph)		
Table 6-2 Values		
Alpha =	9.500	
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Q	(1/(1+0.63*((Min(B,L)+Ht)/Lzm)^0.63))^0.5	0.9025	
Gust2	0.925*((1+1.7*Izm*3.4*Q)/(1+1.7*3.4*Izm))	0.8737	
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9/19/2006

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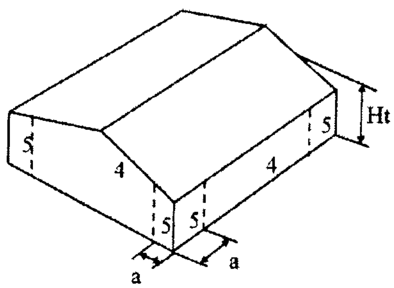
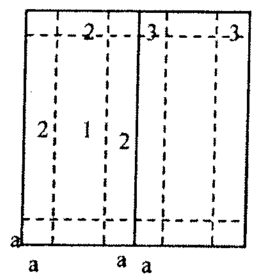
Enclosed Buildings	**0.18**	**-0.18**

Figure 6-11 - External Pressure Coefficients, GCp

Loads on Components and Cladding for Buildings w/ Ht <= 60 ft





Gabled Roof
7 < Theta <= 45

a = 6 ==> 6.00 ft

Double Click on any data entry line to receive a help Screen

Component	Width (ft)	Span (ft)	Area (ft^2)	Zone	GCp		Wind Press (lb/ft^2)	
					Max	Min	Max	Min
Field	2	5	10.00	1	0.50	-0.90	29.81	-47.35
Perimeter	2	5	10.00	2	0.50	-1.70	29.81	-82.43
Corner	2	5	10.00	3	0.50	-2.60	29.81	-121.89

Note: * Enter Zone 1 through 5, or 1H through 3H for overhangs.

Reviewed by:

Dario Gonzalez, P.E.
9 2006
Lic.# 34876

HURRICANE ENGINEERING & TESTING INC.

Computer Controlled Product Testing & Design,
..................Wind Load Analysis

Uniform Static Air Pressure Test

(R&D Test)

December 13, 2005

REPORT NUMBER: **HETI-05-2052**

MANUFACTURER: Alfonso Oviedo Reyes
8370 W. Flagler Street, Suite #110, Miami, FL 33144

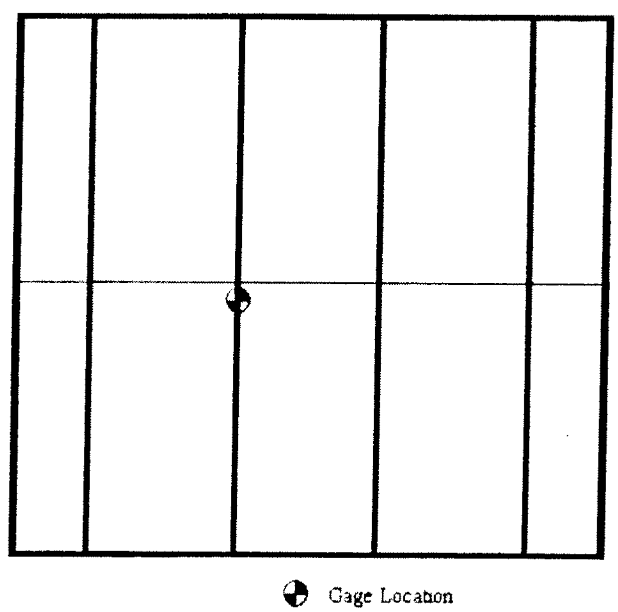
TEST LOCATION: Hurricane Engineering & Testing Inc.
6120 NW 97th Avenue, Miami, Florida, 33178

FBPE Certificate of Authorization Number: 6905
LAB. CERTIFICATION No.: 04-0816.01 (MIAMI-DADE COUNTY, FLORIDA)
FBC ORGANIZATION No: TST1691

PRODUCT DESCRIPTION: Roof Plywood Anchor System

PRODUCT OPENING SIZE: 96" w x 96" h thick

TEST WITNESSED BY: Syed Waqar Ali, Ph. D. (HETI)
Dr. Nasreen K. Ali, E.I. (HETI)
Mrs. Ivonne, Ghia, P.E. (HETI)

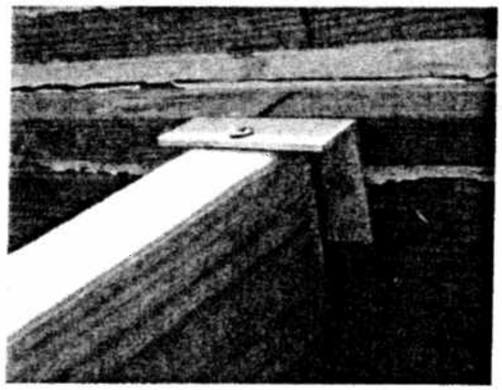


Construction Details

PRODUCT ½" thick Roof Plywood Anchor System

Test Description:

A new method of anchoring roof plywood was compared to conventional nailed plywood construction. A mockup of roof system was constructed using 2x4 SYP #2 wood studs simulating top member of roof trusses. The 2x4 were placed on 24" o.c. and were firmly attached to the 2x12 SYP PT wood opening constructed for the purpose of this test. Air pressure was applied to the bottom side of the plywood to see the uplift characteristics. The test method used in this test was as per ASTM E 330.



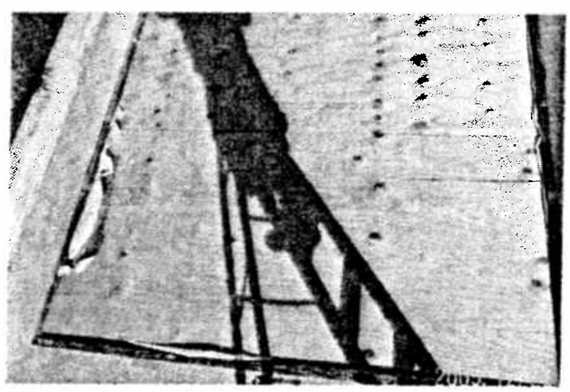
Dimensions of Test Units and Materials

- Opening size 96" w x 96" h
- Configuration Fixed
- Stud Material & Spacing 2x4 Southern Yellow Pine Grade 2, (3) at 12" from end and 24" o.c.

Plywood Attachment

Sample 1

Two 48" x 96" ½" CDX plywood were attached to the (4) wood studs using (72) 2 3/8" x 0.113" Hot Dipped Galvanized Ring Shank Nails at 1" from end of each sheet of plywood and 6" o.c. in the field.

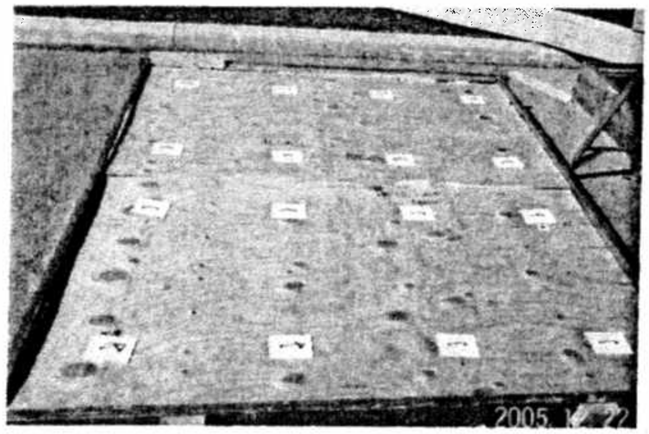


Sample 2

Two 48" x 96" ½" CDX plywood were attached to the (4) wood studs using (72) 2 3/8" x 0.113" Hot Dipped Galvanized Ring Shank Nails at 1" from end of each sheet of plywood and 6" o.c. in the field. In addition each sheet of plywood was attached to the wood studs using (16) 3/16" multi-strand galvanized steel wire straps with Galvanized Wire Rope Clips/Clamps. A 4" x 6"x 1/8" aluminum plate with two 1/2" diameter holes; 2 ½" apart was placed on top of the plywood, holes were further drilled into the plywood and the galvanized steel wire was threaded through the holes and tied underneath the wood studs. The straps were installed 9" from end of plywood.

Sample 3

Two 48" x 96" ½" CDX plywood were attached to the (4) wood studs using (16) 3/16" multi-strand galvanized steel wire straps with Galvanized Wire Rope Clips/Clamps. A 4" x 6"x 1/8" aluminum plate with two 1/2" diameter holes 2 ½" apart was placed on top of the plywood, holes were further drilled into the plywood and the galvanized steel wire was threaded through the holes and tied underneath the wood studs. The straps were installed 9" from end of plywood



Uniform Static Air Pressure Test Results

Sample 1: (Negative Pressure only)

Pressure (psf)	Deflection (inches)	Set (inches)	Recovery (%)	Duration (seconds)
Negative Load				
-20	0.41	0.00	100	30
-35	0.77	0.00	100	30
-50	1.12	0.00	100	30
At 100 psf the one wood stud failed about 24" from end				

Sample 2: (Negative Pressure only)

Pressure (psf)	Deflection (inches)	Set (inches)	Recovery (%)	Duration (seconds)
-25	0.64	0.00	100	30
-50	1.27	0.00	100	30
At 86 psf the one wood stud failed about 28" from end				

Nails failed and resulting in sudden load transfer to the straps, which caused the failure.

Sample 3: (Negative Pressure only)

Pressure (psf)	Deflection (inches)	Set (inches)	Recovery (%)	Duration (seconds)
-25	0.56	0.00	100	30
-50	0.94	0.00	100	30
-115	Gage removed no deflection data			30
-121	gage removed no deflection data			30

plywood deflected at the center of straps forming a hump resulting in loss of pressure.

Conclusion

The samples were tested per test protocol ASTM E 330. One sample of each configuration was test to determine performance characteristics of the attachment system.

NOTE: The above results were obtained using the designated test methods, which indicates compliance with the performance requirements of the referenced specifications. This report does not constitute certification of the specimens tested.

STATEMENT OF INDEPENDENCE

The Hurricane Engineering & Testing, Inc., does not have, nor does it intend to acquire or will acquire, a financial interest in any company manufacturing or distributing products tested or labeled by the Hurricane Engineering & Testing, Inc. Hurricane Engineering & Testing, Inc., is not owned, operated or controlled by any company manufacturing or distributing products it tests or labels.

Dr. Nasreen K. Ali
Vice President

Mrs. Ivonne, Ghia, P.E.
Resident Engineer

WIND02 v2-14

Detailed Wind Load Design (Method 2) per ASCE 7-02

Customer:	Alfonso Reyes	**Project Address:**	Miami-Dade County
Description:	For all slopes between 2:12 & 7:12	Date:	Sept. 19,2006

User Input Data

Structure Type	Building	
Basic Wind Speed (V)	146	mph
Struc Category (I, II, III, or IV)	II	
Exposure (B, C, or D)	C	
Struc Nat Frequency (n1)	1	Hz
Slope of Roof	3.0	:12
Slope of Roof (Theta)	14.0	Deg
Type of Roof	Gabled	
Kd (Directonality Factor)	0.85	
Eave Height (Eht)	30.00	ft
Ridge Height (RHt)	40.00	ft
Mean Roof Height (Ht)	35.00	ft
Width Perp. To Wind Dir (B)	100.00	ft
Width Paral. To Wind Dir (L)	60.00	ft

Calculated Parameters

Type of Structure

Height/Least Horizontal Dim	0.58
Flexible Structure	No

Calculated Parameters

Importance Factor	1	

Hurricane Prone Region (V>100 mph)

Table 6-2 Values

Alpha =	9.500	
zg =	900.000	
At =	0.105	
Bt =	1.000	
Bm =	0.650	
Cc =	0.200	
l =	500.00	ft
Epsilon =	0.200	
Zmin =	15.00	ft

Gust Factor Category I: Rigid Structures - Simplified Method

Gust1	For rigid structures (Nat Freq > 1 Hz) use 0.85	0.85	

Gust Factor Category II: Rigid Structures - Complete Analysis

Zm	0.6 * Ht	21.00	ft
Izm	Cc * (33/z)^0.167	0.2157	
Lzm	l*(zm/33)^Epsilon	456.78	ft
Q	(1/(1+0.63*((Min(B,L)+Ht)/Lzm)^0.63))^0.5	0.9001	
Gust2	0.925*((1+1.7*Izm*3.4*Q)/(1+1.7*3.4*Izm))	0.8737	

Gust Factor Summary

G	Since this is not a flexible structure the lessor of Gust1 or Gust2 are used	0.85	

WIND02 v2-14

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Fig 6-5 Internal Pressure Coefficients for Buildings, Gcpi

Condition	Gcpi	
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Figure 6-11 - External Pressure Coefficients, GCp

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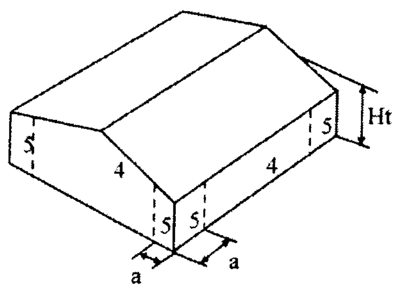

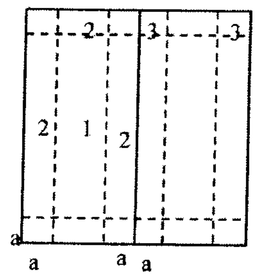

Gabled Roof
7 < Theta <= 45

a = 6 ==> 6.00 ft

Double Click on any data entry line to receive a help Screen

Component	Width (ft)	Span (ft)	Area (ft^2)	Zone	GCp		Wind Press (lb/ft^2)	
					Max	Min	Max	Min
Field	2	5	10.00	1	0.50	-0.90	32.00	-50.83
Perimeter	2	5	10.00	2	0.50	-1.70	32.00	-88.48
Corner	2	5	10.00	3	0.50	-2.60	32.00	-130.84

Note: * Enter Zone 1 through 5, or 1H through 3H for overhangs.

Reviewed by:

[signature]

SEP 1 9 2006

Dario Gonzalez, P.E. Lic.# 34876

WIND02 v2-14

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Width Paral. To Wind Dir (L)	60.00	ft

Calculated Parameters	
Type of Structure	
Height/Least Horizontal Dim	0.58
Flexible Structure	No

Calculated Parameters		
Importance Factor	1	
Hurricane Prone Region (V>100 mph)		
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Alpha =	9.500	
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l =	500.00	ft
Epsilon =	0.200	
Zmin =	15.00	ft

Gust Factor Category I: Rigid Structures - Simplified Method			
Gust1	For rigid structures (Nat Freq > 1 Hz) use 0.85	0.85	
Gust Factor Category II: Rigid Structures - Complete Analysis			
Zm	0.6 * Ht	21.00	ft
Izm	Cc * (33/z)^0.167	0.2157	
Lzm	l*(zm/33)^Epsilon	456.78	ft
Q	(1/(1+0.63*((Min(B,L)+Ht)/Lzm)^0.63))^0.5	0.9001	
Gust2	0.925*((1+1.7*Izm*3.4*Q)/(1+1.7*3.4*Izm))	0.8737	
Gust Factor Summary			
G	Since this is not a flexible structure the lessor of Gust1 or Gust2 are used	0.85	

WIND02 v2-14

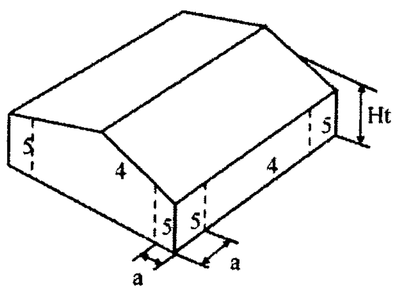
Detailed Wind Load Design (Method 2) per ASCE 7-02

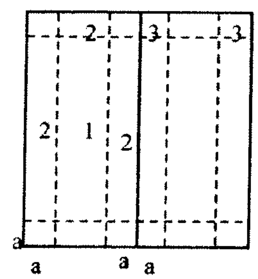
Fig 6-5 Internal Pressure Coefficients for Buildings, Gcpi

Condition	Gcpi	
	Max +	Max -
Open Buildings	0.00	0.00
Partially Enclosed Buildings	0.55	-0.55
Enclosed Buildings	0.18	-0.18
Enclosed Buildings	**0.18**	**-0.18**

Figure 6-11 - External Pressure Coefficients, GCp

Loads on Components and Cladding for Buildings w/ Ht <= 60 ft





Gabled Roof
7 < Theta <= 45

a = 6 ==> 6.00 ft

Double Click on any data entry line to receive a help Screen

Component	Width (ft)	Span (ft)	Area (ft^2)	Zone	GCp		Wind Press (lb/ft^2)	
					Max	Min	Max	Min
Field	2	5	10.00	1	0.50	-0.90	32.00	-50.83
Perimeter	2	5	10.00	2	0.50	-1.70	32.00	-88.48
Corner	2	5	10.00	3	0.50	-2.60	32.00	-130.84

Note: * Enter Zone 1 through 5, or 1H through 3H for overhangs.

Reviewed by:

SEP 19 2006

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