Schafer Engineering LLC

14952 Main St. Alachua FL 32615

Prepared for:

JASON ELIXSON CONSTRUCTION
THE GRAHAM RESIDENCE
COLUMBIA COUNTY

By:

Schafer Engineering, LLC

386-462-1340 / 352-375-6329

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SCHAFER ENGINEERING LLC

Trusses: Pre-engineered with manufacturer's required bracing system installed.
Roof sheathing: Type OSB Size 7/16 Fastener type nails 8d/.113 Ring Shank

Interior zone spacing: Interior 6 in. Periphery 4 in.
Edge and end zone spacing: Interior 6 in. Periphery 4 in.

Top double pl: Type Spruce Grade #1 #2 Size 2 x 4 Nail spacing 10 in.

Studs: Type Spruce Grade #1 #2 Size 2 x 4
Interior stud spacing 16 in. Composite (yes or no) Y
End stud spacing 16 in. Composite (yes or no) Y

Shearwall siding: Type OSB Thickness 7/16 in.
53' — Trans: Fastener 8d / 131 Spacing: Int 8 in. Edge 4 in.
50' — Long: Fastener 8d / 131 Spacing: Int 8 in. Edge 4 in.

Allowable unit shear on shearwalls: 314 **pounds per linear foot**
Unit shear transferred from diaphragm: Trans: 112 Long: 141

Wall tension transferred by: Siding nails 8d/131 @ 4 O.C. edges

Foundation anchor bolts: Concrete strength 3000 psi Size 1/2 in. Shape L
Washer 2" Embedment 7 in. Location of first anchor bolt from corner 8 in.

Anchor Bolts @ 48" O.C. Model A307 Loc. from corner 8 in.

Type of foundation: 1 #5 rebar continuous required in bond beam.
Floor slab 4 in. CMU: Size 8 x 16 in. Height 24 in. Reinf. # 5 at 72 in.
Monolithic footing: Depth 20 in. Bottom width 12 in. Reinf. 2 # 5 bars

Footing: Width 20 in. Depth 10 in. Reinforcing 2 # 5 bars
Interior Footings: 16" W X 10" D

Porch Columns: 9X4X8' SYP #2 PT @ 16'0"C. MAX. **Column Fasteners:** Simpson CBS44/CC44 or equal

Special Comments: Install ceiling diaphragm on open porches using same Grade material, nail sizes, & nail patterns as roof sheathing.

NOTE:

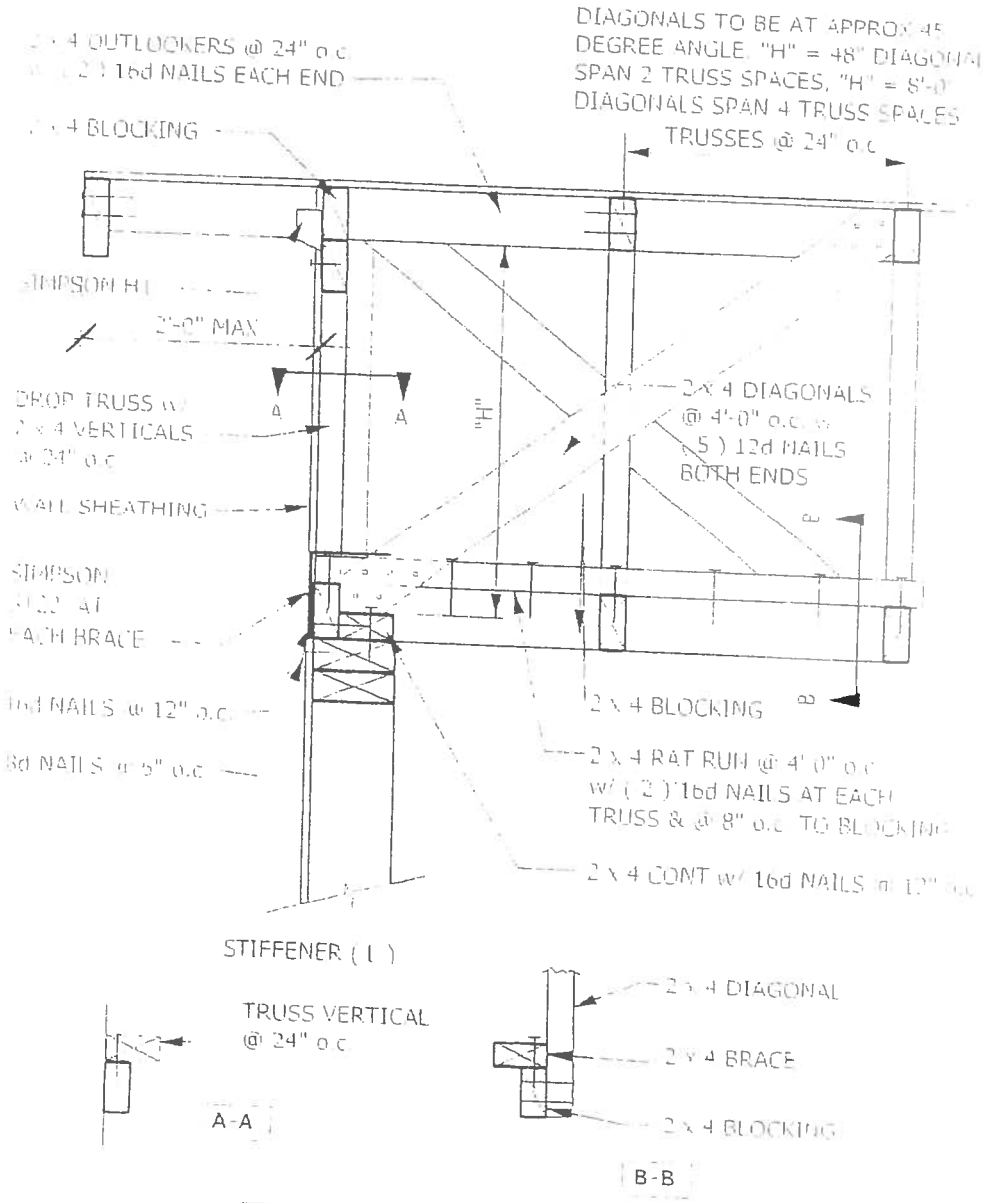
1. Balloon frame ALL gable ends unless this summary is accompanied by Gable End Wall Brace detail.
2. All trusses must bear on exterior walls & porch beams.
3. All walls to be nailed with same nailing pattern as shear walls.
4. This is a wind load only, NOT a structural analysis.
5. This wind load is not valid without a raised, embossed seal.
6. It is assumed that ideal soil conditions and pad preparations are provided.
7. Fiber mesh or WWM may be used in concrete slab.
8. Trusses must be anchored and supported in accordance to the truss engineering.
9. Wind design and analysis valid for one use only, no copies permitted.
10. The foundation is for minimum design use and may be increased.
11. All headers over 12 feet to be pre-engineered.

11-28-07

48984
7104 NW 42nd Ln
Gainesville FL

SCHAFER ENGINEERING, LLC

7104 N. W. 42ND LANE
GAINESVILLE, FLORIDA 32606



TYPICAL GABLE END BRACING

11-28-07

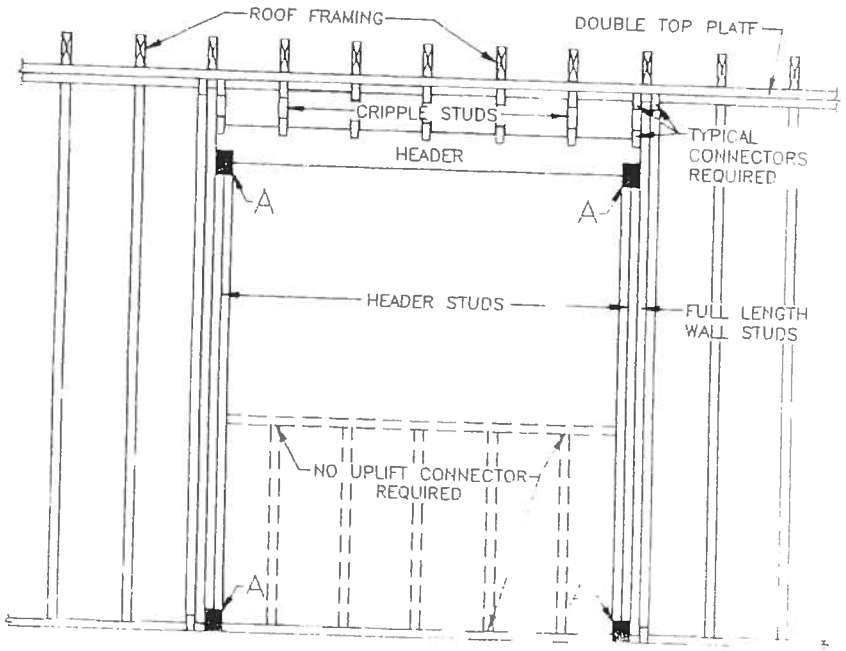
48984
7104 NW 42nd Ln
Gainesville FL

Unsupported Wall Height	Stud Spacing	Maximum Header Span (ft.)					
		3'	6'	9'	12'	15'	18'
		Number of Header Studs Supporting End of Header					
		1[1]	1	2	2	2	2
		Number of Full-Length Studs at Each End of Header					
10' or less	12 in.	2	2	3	3	3	3
	16 in.	2	2	3	3	3	3
	24 in.	1	2	2	2	2	2
greater than 10'	12 in.	2	2	3	4	5	5
	16 in.	2	2	3	3	4	4
	24 in.	1	2	2	2	3	3

1 The header stud shall not be required if the header is supported by a suitable framing anchor.

Uplift connection requirement at points A (top and bottom of header studs). Uplift load per bracing member above the header from Table 30[illegible]-1 or 30[illegible]A, as appropriate, multiplied by the number of framing members displaced divided by two.

NOTE: Uplift connection is required at each end of header and at bottom of header studs in addition to connectors at wall studs and at top and bottom of cripples.



TIE-DOWN TABLES

HEADERS				
Uplift Force Lbs	Top Connector **	Rating Lbs	Bottom Connector **	Rating Lbs
to 455	LSTA9	725	H3	455
to 910	LSTA12	905	2-H3	910
to 1265	LSTA18	1265	LTT19	1350
to 1750	2-LSTA12	1810	LTT20	1750
to 2530	2-LSTA18	2530	HD2A-2.5	2565
to 2865	3-LSTA18	3255	HD2A-3.5	2865
to 3700	3-LSTA24	3880	HD5A-3	3700

Total uplift for each truss resting on the header and divide by 2 to determine the uplift force.
Use proper bolt anchors sufficient to support required load.

TRUSSES/GIRDERS		
Uplift Force Lbs	Top Connector **	Bottom Connector **
to 500	H2.5	N/A
501-1049	H10	N/A
1050-1350	TS22	LTT19
1351-1750	2-TS22	LTT20
1751-2570	2-TS22	HD2A
2571-3665	3-TS22	HD5A
3666-5260	2-MST148	HTT22
5261-8300	2-MST48	HD10A

Two 12d common toenails are required per truss/rafter per bearing point into plate.
Use proper bolt anchors.
Strap rafters to truss or at each end with minimum uplift resistance of 450# each end.
Strap ridge beam at each end with minimum uplift resistance of 1000#.
It is the contractors' responsibility to provide a continuous load path from truss/rafter/ridge beam to foundation.

	Top Connector **	Rating Lbs	Bottom Connector **	Rating
BEAM SEATS	LSTA18*	1200	LTT19*	1250
POSTS (max 17' spacing)	2-LSTA18	2400	ABU44	2300

*or per truss engineering
Use proper bolt anchors
All beams to be sheathed or strapped to Double Top Plate when applicable.

CRIPPLES	Sheathing nailing alone adequate w/8d nails @ 3" O.C.

STUDS
Wall sheathing nailing Adequate exterior walls bottom w/8d nails.
Use SP1 & SP2 @32" O.C. on all interior non-sheathed bearing walls.
Interior anchor bolts to be ½" x 8" A307 or ½" x 7" wedge anchor or equivalent.

** Equivalent Simpson hardware, or other manufacturer, may be substituted for any of the hardware specified on this page as long as it meets the required load capacities/uplift resistance.

NOTE:

1. For nailing into SPF members, multiply table values by .86
2. See truss engineering for anchor tie-down values.

ASCE 7-02

11/28/07

Wind Load Design per ASCE 7-02

User Input Data		
Structure Type	Building	
Basic Wind Speed (V)	110	mph
Structural Category	II	
Exposure	B	
Struc Nat Frequency (n1)	1	Hz
Slope of Roof (Theta)	26.6	Deg
Type of Roof	Gabled	
Eave Height (Eht)	8.00	ft
Ridge Height (RHt)	21.74	ft
Mean Roof Height (Ht)	15.81	ft
Width Perp. to Wind (B)	52.00	ft
Width Parallel to Wind (L)	54.00	ft
Damping Ratio (beta)	0.01	

Red values should be changed only through "Main Menu"

Calculated Parameters		
Importance Factor	1	
Hurricane Prone Region (V>100 mph)		
Table C6-4 Values		
Alpha =	7.000	
zg =	1200.000	
At =	0.143	
Bt =	0.840	
Am =	0.250	
Bm =	0.450	
Cc =	0.300	
l =	320.00	ft
Epsilon =	0.333	
Zmin =	30.00	ft

Calculated Parameters	
Type of Structure	
Height/Least Horizontal Dim	0.30
Flexible Structure	No

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	Zmin	30.00	ft
Izm	Cc * (33/z)^0.167	0.3048	
Lzm	l*(zm/33)^Epsilon	309.99	ft
Q	(1/(1+0.63*((B+Ht)/Lzm)^0.63))^0.5	0.8974	
Gust2	0.925*((1+1.7*Izm*3.4*Q)/(1+1.7*3.4*Izm))	0.8644	
Gust Factor Category III: Flexible or Dynamically Sensitive Structures			
Vhref	V*(5280/3600)	161.33	ft/s
Vzm	bm*(zm/33)^Am*Vhref	70.89	ft/s
NF1	NatFreq*Lzm/Vzm	4.37	Hz
Rn	(7.47*NF1)/(1+10.302*NF1)^1.667	0.0552	
Nh	4.6*NatFreq*Ht/Vzm	1.03	
Nb	4.6*NatFreq*B/Vzm	3.37	
Nd	15.4*NatFreq*Depth/Vzm	11.73	
Rh	1/Nh-(1/(2*Nh^2)*(1-Exp(-2*Nh)))	0.5607	
Rb	1/Nb-(1/(2*Nb^2)*(1-Exp(-2*Nb)))	0.2525	
Rd	1/Nd-(1/(2*Nd^2)*(1-Exp(-2*Nd)))	0.0816	
RR	((1/Beta)*Rn*Rh*Rb*(0.53+0.47*Rd))^0.5	0.6663	
gg	+(2*LN(3600*n1))^0.5+0.577/(2*LN(3600*n1))^0.5	4.19	
Gust3	0.925*((1+1.7*Izm*(3.4^2*Q^2+GG^2*RR^2)^0.5)/(1+1.7*3.4*Izm))	1.05	

Gust Factor Summary			
Main Wind-force resisting system:		**Components and Cladding:**	
Gust Factor Category:	I	Gust Factor Category:	I
Gust Factor (G)	0.86	Gust Factor (G)	0.86

ASCE 7-02

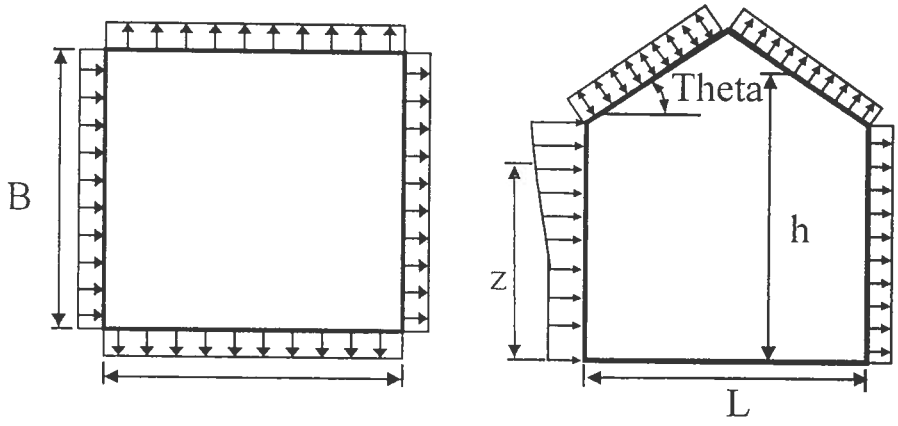
Wind Load Design per ASCE 7-02

6.5.12.2.1 Design Wind Pressure - Buildings of All Heights (Non-flexible)

Elev.	Kz	Kzt	Kd	qz	Pressure (lb/ft^2)	
					Windward Wall*	
ft			1.00	lb/ft^2	+GCpi	-GCpi
21.74	0.70	1.00	1.00	21.70	11.75	18.26
20	0.70	1.00	1.00	21.70	11.75	18.26
15.81	0.70	1.00	1.00	21.70	11.75	18.26
15	0.70	1.00	1.00	21.70	11.75	18.26

Figure 6-3 - External Pressure Coefficients, Cp

Loads on Main Wind-Force Resisting Systems



Variable	Formula	Value	Units
Kh	2.01*(Ht/zg)^(2/Alpha)	0.58	
Kht	Topographic factor (Fig 6-2)	1.00	
Qh	.00256*(V)^2*ImpFac*Kh*Kht*Kd	18.07	psf

Wall Pressure Coefficients, Cp	
Surface	Cp
Windward Wall (See Figure 6.5.12.2.1 for Pressures)	0.80

Roof Pressure Coefficients, Cp	
Roof Area (sq. ft.)	-
Reduction Factor	1.00

Description	Cp	Pressure (psf)	
		+GCpi	-GCpi
Leeward Walls (Wind Dir Parallel to 52 ft wall)	-0.49	-10.94	-4.44
Leeward Walls (Wind Dir Parallel to 54 ft wall)	-0.50	-11.06	-4.56
Side Walls	-0.70	-14.19	-7.68
Roof - Normal to Ridge (Theta>=10)			
Windward - Max Negative	-0.21	-6.56	-0.05
Windward - Max Positive	0.28	1.17	7.67
Leeward Normal to Ridge	-0.60	-12.63	-6.12
Overhang Top	-0.21	-3.31	-3.31
Overhang Bottom	0.80	0.69	0.69
Roof - Parallel to Ridge (All Theta)			
Dist from Windward Edge: 0 ft to 7.905 ft	-0.90	-17.31	-10.81

ASCE 7-02

Wind Load Design per ASCE 7-02

Dist from Windward Edge: 7.905 ft to 15.81 ft	-0.90	-17.31	-10.81
Dist from Windward Edge: 15.81 ft to 31.62 ft	-0.50	-11.06	-4.56
Dist from Windward Edge: > 31.62 ft	-0.30	-7.94	-1.43

* Horizontal distance from windward edge

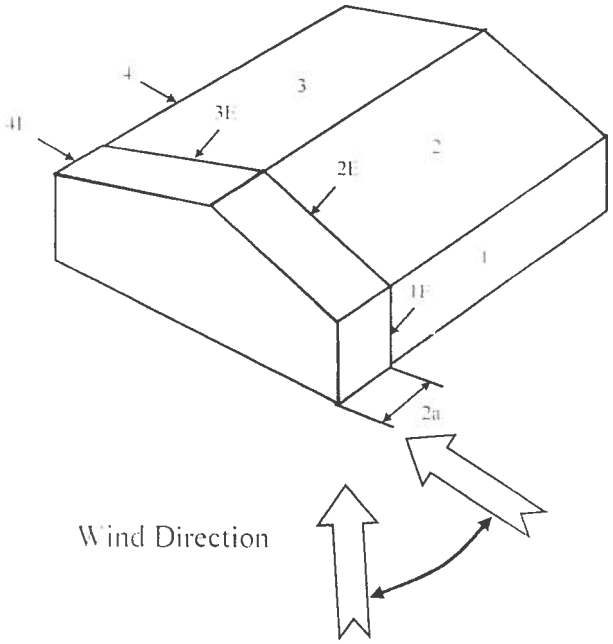
Figure 6-4 - External Pressure Coefficients, GCpf

Loads on Main Wind-Force Resisting Systems w/ Ht <= 60 ft

Kh =	2.01*(Ht/zg)^(2/Alpha)	=	0.58
Kht =	Topographic factor (Fig 6-2)	=	1.00
Qh =	0.00256*(V)^2*ImpFac*Kh*Kht*Kd	=	18.07

Case A						
Surface	GCpf	+GCpi	-GCpi	qh (psf)	Min P (psf)	Max P (psf)
1	0.55	0.18	-0.18	21.70	8.03	15.84
2	-0.10	0.18	-0.18	21.70	-5.99	1.82
3	-0.45	0.18	-0.18	21.70	-13.61	-5.79
4	-0.39	0.18	-0.18	21.70	-12.38	-4.57
5	0.00	0.18	-0.18	21.70	-3.91	3.91
6	0.00	0.18	-0.18	21.70	-3.91	3.91
1E	0.73	0.18	-0.18	21.70	11.88	19.69
2E	-0.19	0.18	-0.18	21.70	-7.93	-0.12
3E	-0.58	0.18	-0.18	21.70	-16.59	-8.78
4E	-0.53	0.18	-0.18	21.70	-15.50	-7.69
5E	0.00	0.18	-0.18	21.70	-3.91	3.91
6E	0.00	0.18	-0.18	21.70	-3.91	3.91

* p = qh * (GCpf - GCpi)



ASCE 7-02

Wind Load Design per ASCE 7-02

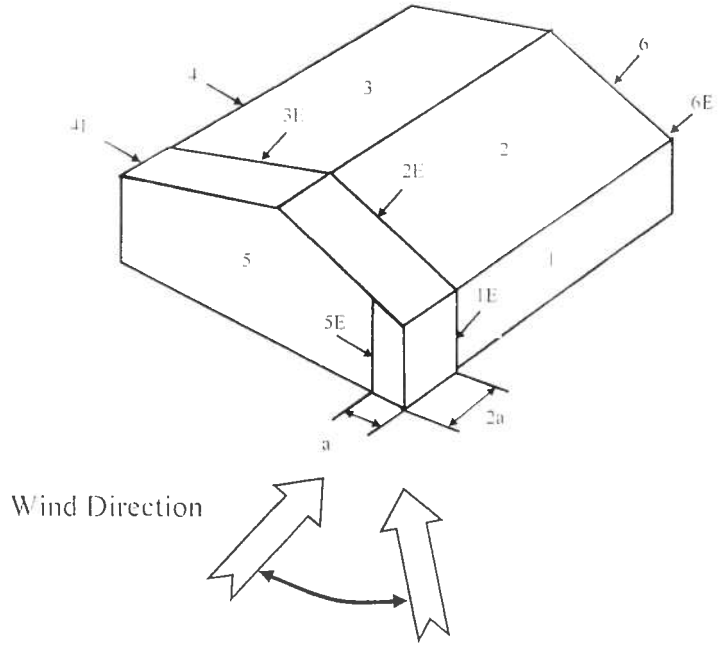
Figure 6-4 - External Pressure Coefficients, GCpf

Loads on Main Wind-Force Resisting Systems w/ Ht <= 60 ft

Kh =	2.01*(Ht/zg)^(2/Alpha)	=	0.58
Kht =	Topographic factor (Fig 6-2)	=	1.00
Qh =	0.00256*(V)^2*ImpFac*Kh*Kht*Kd	=	18.07

Case B						
Surface	GCpf	+GCpi	-GCpi	qh (psf)	Min P (psf)	Max P (psf)
1	-0.45	0.18	-0.18	21.70	-13.67	-5.86
2	-0.69	0.18	-0.18	21.70	-18.88	-11.07
3	-0.37	0.18	-0.18	21.70	-11.94	-4.12
4	-0.45	0.18	-0.18	21.70	-13.67	-5.86
5	0.40	0.18	-0.18	21.70	4.77	12.59
6	-0.29	0.18	-0.18	21.70	-10.20	-2.39
1E	-0.48	0.18	-0.18	21.70	-14.32	-6.51
2E	-1.07	0.18	-0.18	21.70	-27.13	-19.31
3E	-0.53	0.18	-0.18	21.70	-15.41	-7.60
4E	-0.48	0.18	-0.18	21.70	-14.32	-6.51
5E	0.61	0.18	-0.18	21.70	9.33	17.14
6E	-0.43	0.18	-0.18	21.70	-13.24	-5.43

* p = qh * (GCpf - GCpi)

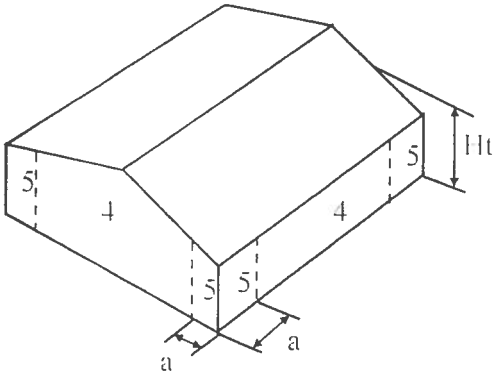


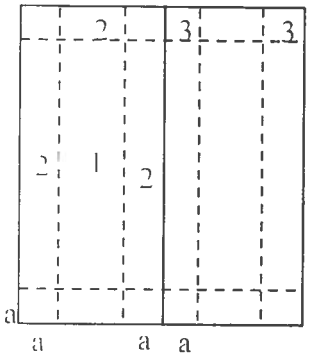
ASCE 7-02

Wind Load Design per ASCE 7-02

Figure 6-5 - External Pressure Coefficients, GCp

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





Gabled Roof

10 < Theta <= 45

a = 5.2 ==> 5.20 ft

Component	Width (ft)	Length (ft)	Area (ft^2)	Zone	GCp Max	GCp Min	Wind Press (lb/ft^2) Max	Wind Press (lb/ft^2) Min
	16	7	112.00	5	0.81	-1.03	17.98	-21.86
	0	0	0.00					
	0	0	0.00					
	0	0	0.00					
	0	0	0.00					
	0	0	0.00					
	0	0	0.00					
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	0	0	0.00					
	0	0	0.00					
	0	0	0.00					
	0	0	0.00					
	0	0	0.00					

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

Table 6-7 Internal Pressure Coefficients for Buildings, Gcpi

ASCE 7-02

Wind Load Design per ASCE 7-02

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**

Table 6-8 External Pressure Coefficients for Arched Roofs, Cp

r (Rise-to-Span Ratio) = 0.3

Condition	Variable	Cp		
		Windward Quarter	Center Half	Leeward Quarter
Roof on Elevated Structure	Cp	0.13	-1	-0.5
	P (+GCpi) - psf	-1.30	-18.88	-11.06
	P (-GCpi) -psf	5.21	-12.37	-4.56
Roof Springing from Ground	Cp	0.42	-1	-0.5
	P (+GCpi) - psf	3.31	-18.88	-11.06
	P (-GCpi) -psf	3.31	-18.88	-11.06

Table 6-9 Force Coefficients for Monoslope Roofs over Open Buildings, Cf

Variable	Description	Value	
L	Roof dimension normal to wind direction	54.00	ft
B	Roof dimension parallel to wind direction	52.00	ft
L/B	Ratio of L to B	1.038	
Theta	Slope of Roof	26.6	Deg
Cf	Force Coefficient	1.19	
X	Distance to center of pressure from windward edge	0.41	ft

PRODUCT APPROVAL SPECIFICATION SHEET

Location: **Project Name:**

As required by Florida Statute 553.842 and Florida Administrative Code 9B-72, please provide the information and the product approval number(s) on the building components listed below if they will be utilized on the construction project for which you are applying for a building permit on or after April 1, 2004. We recommend you contact your local product supplier should you not know the product approval number for any of the applicable listed products. More information about statewide product approval can be obtained at www.floridabuilding.org

Category/Subcategory	Manufacturer	Product Description	Approval Number(s)
A. EXTERIOR DOORS			FL 4242-R1
1. Swinging			
2. Sliding			
3. Sectional			
4. Roll up			
5. Automatic			
6. Other			
B. WINDOWS			
1. Single hung			FL 5108
2. Horizontal Slider			FL 5451
3. Casement			
4. Double Hung			
5. Fixed			FL 5418
6. Awning			
7. Pass -through			
8. Projected			
9. Mullion			
10. Wind Breaker			
11 Dual Action			
12. Other			
C. PANEL WALL			
1. Siding			FL 889-R2
2. Soffits			FL 4899
3. EIFS			
4. Storefronts			
5. Curtain walls			
6. Wall louver			
7. Glass block			FL 3820-R1
8. Membrane			
9. Greenhouse			
10. Other			
D. ROOFING PRODUCTS			
1. Asphalt Shingles			FL 586-R2,
2. Underlayments			FL 1814-R1
3. Roofing Fasteners			
4. Non-structural Metal Rf			
5. Built-Up Roofing			
6. Modified Bitumen			
7. Single Ply Roofing Sys			
8. Roofing Tiles			
9. Roofing Insulation			
10. Waterproofing			
11. Wood shingles /shakes			
12. Roofing Slate			

Category/Subcategory (cont.)	Manufacturer	Product Description	Approval Number(s)
13. Liquid Applied Roof Sys			
14. Cements-Adhesives – Coatings			FL. 1960-R1
15. Roof Tile Adhesive			
16. Spray Applied Polyurethane Roof			
17. Other			
E. SHUTTERS			
1. Accordion			
2. Bahama			
3. Storm Panels			
4. Colonial			
5. Roll-up			
6. Equipment			
7. Others			
F. SKYLIGHTS			FL 451-R1
1. Skylight			
2. Other			
G. STRUCTURAL COMPONENTS			
1. Wood connector/anchor			FL. 474-R1
2. Truss plates			FL 1008-R1
3. Engineered lumber			
4. Railing			
5. Coolers-freezers			
6. Concrete Admixtures			
7. Material			
8. Insulation Forms			
9. Plastics			
10. Deck-Roof			
11. Wall			
12. Sheds			
13. Other			
H. NEW EXTERIOR ENVELOPE PRODUCTS			
1.			
2.			

The products listed below did not demonstrate product approval at plan review. I understand that at the time of inspection of these products, the following information must be available to the inspector on the jobsite; 1) copy of the product approval, 2) the performance characteristics which the product was tested and certified to comply with, 3) copy of the applicable manufacturers installation requirements.

I understand these products may have to be removed if approval cannot be demonstrated during inspectio

Contractor or Contractor's Authorized Agent Signature

Print Name

Date

Location

Permit # (FOR STAFF USE ONLY)

Residential System Sizing Calculation

Summary

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

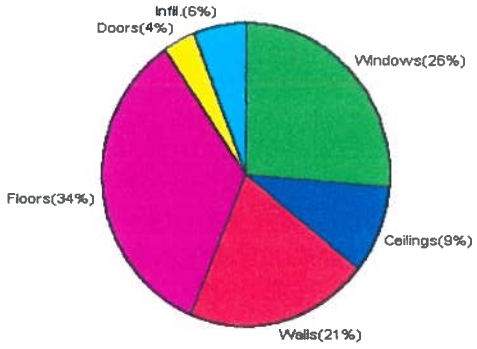
11/23/2007

Location for weather data: Gainesville - Defaults: Latitude(29) Altitude(152 ft.) Temp Range(M) Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(54gr.)					
Winter design temperature	33	F	Summer design temperature	92	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	17	F
Total heating load calculation	**21943**	**Btuh**	**Total cooling load calculation**	**16795**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	136.7	30000	Sensible (SHR = 0.75)	138.8	22500
Heat Pump + Auxiliary(0.0kW)	136.7	30000	Latent	1272.5	7500
			Total (Electric Heat Pump)	178.6	30000

WINTER CALCULATIONS

Winter Heating Load (for 1728 sqft)

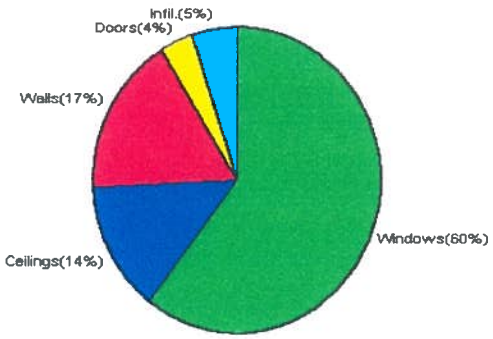
Load component			Load	
Window total	180	sqft	5794	Btuh
Wall total	1376	sqft	4519	Btuh
Door total	60	sqft	777	Btuh
Ceiling total	1728	sqft	2036	Btuh
Floor total	172	sqft	7510	Btuh
Infiltration	32	cfm	1307	Btuh
Duct loss			0	Btuh
Subtotal			**21943**	**Btuh**
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			**21943**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 1728 sqft)

Load component			Load	
Window total	180	sqft	10136	Btuh
Wall total	1376	sqft	2870	Btuh
Door total	60	sqft	588	Btuh
Ceiling total	1728	sqft	2311	Btuh
Floor total			0	Btuh
Infiltration	16	cfm	300	Btuh
Internal gain			0	Btuh
Duct gain			0	Btuh
Sens. Ventilation	0	cfm	0	Btuh
Total sensible gain			**16206**	**Btuh**
Latent gain(ducts)			0	Btuh
Latent gain(infiltration)			589	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			0	Btuh
Total latent gain			**589**	**Btuh**
TOTAL HEAT GAIN			**16795**	**Btuh**



Version 8
For Florida residences only

EnergyGauge® System Sizing
PREPARED BY: [redacted]
DATE: 11-23-07

Residential Window Diversity

MidSummer

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

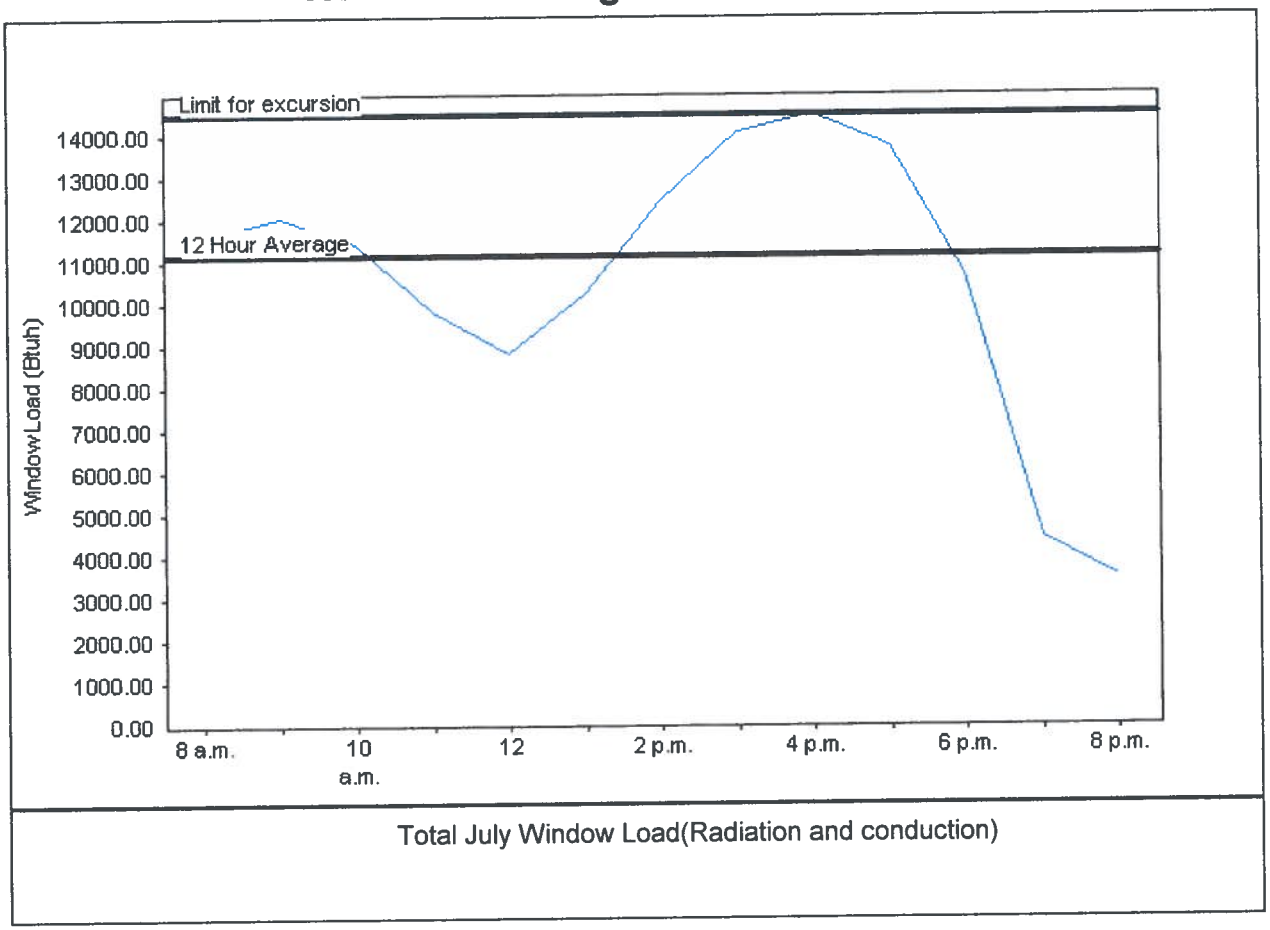
Code Only
Professional Version
Climate: North

11/23/2007

Weather data for: Gainesville - Defaults

Summer design temperature	92 F	Average window load for July	11131 Btu
Summer setpoint	75 F	Peak window load for July	14464 Btu
Summer temperature difference	17 F	Excusion limit(130% of Ave.)	14471 Btu
Latitude	29 North	Window excursion (July)	None

WINDOW Average and Peak Loads



Total July Window Load(Radiation and conduction)

The midsummer window load for this house does not exceed the window load excursion limit.

This house has adequate midsummer window diversity.

EnergyGauge® System Sizing for Florida residences only

PREPARED BY: _____

DATE: 11-23-07

System Sizing Calculations - Summer

Residential Load - Room by Room Component Details

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Summer Temperature Difference: 17.0 F

11/23/2007

This calculation is for Worst Case. The house has been rotated 90 degrees.

Component Loads for Zone #1: 1st Floor

	Type*		Overhang		Window Area(sqft)			HTM		Load
Window	Pn/SHGC/U/InSh/ExSh/IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
1	2, Clear, 0.87, B-M, N,H	E	0ft.	0ft.	75.0	0.0	75.0	21	62	4678 Btuh
2	2, Clear, 0.87, B-M, N,H	S	0ft.	0ft.	30.0	0.0	30.0	21	26	781 Btuh
3	2, Clear, 0.87, B-M, N,H	W	0ft.	0ft.	75.0	0.0	75.0	21	62	4678 Btuh
	Window Total				180 (sqft)					10136 Btuh

Walls	Type	R-Value/U-Value	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	13.0/0.09	1376.0	2.1	2870 Btuh
	Wall Total		1376 (sqft)		2870 Btuh
Doors	Type		Area (sqft)	HTM	Load
1	Insulated - Exterior		60.0	9.8	588 Btuh
	Door Total		60 (sqft)		588 Btuh
Ceilings	Type/Color/Surface	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/Light/Metal	30.0	1728.0	1.3	2311 Btuh
	Ceiling Total		1728 (sqft)		2311 Btuh
Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0.0	172 (ft(p))	0.0	0 Btuh
	Floor Total		172.0 (sqft)		0 Btuh
			Zone Envelope Subtotal:		15906 Btuh

Infiltration	Type	ACH	Volume(cuft)	wall area(sqft)	CFM=	Load
	SensibleNatural	0.07	13824	1376	16.1	300 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		0	X 230	+	0	0 Btuh
				Sensible Envelope Load:		16206 Btuh
Duct load	Average sealed, Supply(R6.0-Cond.), Return(R6.0-Cond)				(DGM of 0.000)	0 Btuh
				Sensible Zone Load		**16206 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

11/23/2007

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**16206 Btuh**
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	**16206 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**16206 Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	589 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (0 people @ 200 Btuh per person)	0 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**589 Btuh**
	TOTAL GAIN	**16795 Btuh**

EQUIPMENT

1. Central Unit	#	30000 Btuh

*Key: Window types (Pn - Number of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(U - Window U-Factor or 'DEF' for default)
(InSh - Interior shading device: none(N), Blinds(B), Draperies(D) or Roller Shades(R))
(ExSh - Exterior shading device: none(N) or numerical value)
(BS - Insect screen: none(N), Full(F) or Half(H))
(Ornt - compass orientation)

Version 8
For Florida residences only

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Summer Temperature Difference: 17.0 F

11/23/2007

This calculation is for Worst Case. The house has been rotated 90 degrees.

Component Loads for Whole House

	Type*		Overhang		Window Area(sqft)			HTM		Load
Window	Pn/SHGC/U/InSh/ExSh/IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
1	2, Clear, 0.87, B-M, N,H	E	0ft.	0ft.	75.0	0.0	75.0	21	62	4678 Btuh
2	2, Clear, 0.87, B-M, N,H	S	0ft.	0ft.	30.0	0.0	30.0	21	26	781 Btuh
3	2, Clear, 0.87, B-M, N,H	W	0ft.	0ft.	75.0	0.0	75.0	21	62	4678 Btuh
	Window Total				180 (sqft)					10136 Btuh

Walls	Type	R-Value/U-Value	Area(sqft)	HTM	Load
1	Frame - Wood - Ext	13.0/0.09	1376.0	2.1	2870 Btuh
	Wall Total		1376 (sqft)		2870 Btuh
Doors	Type		Area (sqft)	HTM	Load
1	Insulated - Exterior		60.0	9.8	588 Btuh
	Door Total		60 (sqft)		588 Btuh
Ceilings	Type/Color/Surface	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/Light/Metal	30.0	1728.0	1.3	2311 Btuh
	Ceiling Total		1728 (sqft)		2311 Btuh
Floors	Type	R-Value	Size	HTM	Load
1	Slab On Grade	0.0	172 (ft(p))	0.0	0 Btuh
	Floor Total		172.0 (sqft)		0 Btuh

				Envelope Subtotal:		15906 Btuh
Infiltration	Type	ACH	Volume(cuft)	wall area(sqft)	CFM=	Load
	SensibleNatural	0.07	13824	1376	32.3	300 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		0	X 230	+	0	0 Btuh
				Sensible Envelope Load:		16206 Btuh
Duct load				(DGM of 0.000)		0 Btuh
				Sensible Load All Zones		**16206 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

11/23/2007

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**16206 Btuh**
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	**16206 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**16206 Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	589 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (0 people @ 200 Btuh per person)	0 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**589 Btuh**
	TOTAL GAIN	**16795 Btuh**

EQUIPMENT

1. Central Unit	#	30000 Btuh

*Key: Window types (Pn - Number of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(U - Window U-Factor or 'DEF' for default)
(InSh - Interior shading device: none(N), Blinds(B), Draperies(D) or Roller Shades(R))
(ExSh - Exterior shading device: none(N) or numerical value)
(BS - Insect screen: none(N), Full(F) or Half(H))
(Ornt - compass orientation)

Version 8
For Florida residences only

System Sizing Calculations - Winter

Residential Load - Room by Room Component Details

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F
This calculation is for Worst Case. The house has been rotated 90 degrees.

11/23/2007

Component Loads for Zone #1: 1st Floor

Window	Panes/SHGC/Frame/U	Orientation	Area(sqft) X	HTM=	Load
1	2, Clear, Metal, 0.87	E	75.0	32.2	2414 Btuh
2	2, Clear, Metal, 0.87	S	30.0	32.2	966 Btuh
3	2, Clear, Metal, 0.87	W	75.0	32.2	2414 Btuh
	Window Total		180(sqft)		5794 Btuh
Walls	Type	R-Value	Area X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	1376	3.3	4519 Btuh
	Wall Total		1376		4519 Btuh
Doors	Type		Area X	HTM=	Load
1	Insulated - Exterior		60	12.9	777 Btuh
	Door Total		60		777Btuh
Ceilings	Type/Color/Surface	R-Value	Area X	HTM=	Load
1	Vented Attic/L/Meta	30.0	1728	1.2	2036 Btuh
	Ceiling Total		1728		2036Btuh
Floors	Type	R-Value	Size X	HTM=	Load
1	Slab On Grade	0	172.0 ft(p)	43.7	7510 Btuh
	Floor Total		172		7510 Btuh
			Zone Envelope Subtotal:		20636 Btuh
Infiltration	Type	ACH X	Volume(cuft)	walls(sqft)	CFM=
	Natural	0.14	13824	1376	32.3	1307 Btuh
Ductload	Average sealed, Supply(R6.0-Cond.), Return(R6.0-Cond)(DLM of 0.000)				0 Btuh
Zone #1			**Sensible Zone Subtotal**		**21943 Btuh**

WHOLE HOUSE TOTALS

	Subtotal Sensible	21943 Btuh
	Ventilation Sensible	0 Btuh
	Total Btuh Loss	21943 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

11/23/2007

EQUIPMENT		
1. Electric Heat Pump	#	30000 Btuh

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(Frame types - metal, wood or insulated metal)
(U - Window U-Factor or 'DEF' for default)
(HTM - ManualJ Heat Transfer Multiplier)
Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types)

Version 8
For Florida residences only

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F

11/23/2007

This calculation is for Worst Case. The house has been rotated 90 degrees.

Component Loads for Whole House

Window	Panes/SHGC/Frame/U	Orientation	Area(sqft) X	HTM=	Load
1	2, Clear, Metal, 0.87	E	75.0	32.2	2414 Btuh
2	2, Clear, Metal, 0.87	S	30.0	32.2	966 Btuh
3	2, Clear, Metal, 0.87	W	75.0	32.2	2414 Btuh
	Window Total		180(sqft)		5794 Btuh
Walls	Type	R-Value	Area X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	1376	3.3	4519 Btuh
	Wall Total		1376		4519 Btuh
Doors	Type		Area X	HTM=	Load
1	Insulated - Exterior		60	12.9	777 Btuh
	Door Total		60		777Btuh
Ceilings	Type/Color/Surface	R-Value	Area X	HTM=	Load
1	Vented Attic/L/Meta	30.0	1728	1.2	2036 Btuh
	Ceiling Total		1728		2036Btuh
Floors	Type	R-Value	Size X	HTM=	Load
1	Slab On Grade	0	172.0 ft(p)	43.7	7510 Btuh
	Floor Total		172		7510 Btuh
			Envelope Subtotal:		20636 Btuh

Infiltration	Type	ACH X	Volume(cuft)	walls(sqft)	CFM=	
	Natural	0.14	13824	1376	32.3	1307 Btuh
Ductload				(DLM of 0.000)		0 Btuh
All Zones			**Sensible Subtotal All Zones**			**21943 Btuh**

WHOLE HOUSE TOTALS

	Subtotal Sensible	21943 Btuh
	Ventilation Sensible	0 Btuh
	Total Btuh Loss	21943 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

11/23/2007

EQUIPMENT		
1. Electric Heat Pump	#	30000 Btuh

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(Frame types - metal, wood or insulated metal)
(U - Window U-Factor or 'DEF' for default)
(HTM - ManualJ Heat Transfer Multiplier)
Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types)

Version 8
For Florida residences only

ITW Building Components Group, Inc.

1950 Marley Drive Haines City, FL 33844
Florida Engineering Certificate of Authorization Number: 0 278
Florida Certificate of Product Approval # FL1999
 Document ID:1TCT8228Z0328081813

Truss Fabricator:	Anderson Truss Company
Job Identification:	7-343--Fill in later GRAHAM -- , **
Truss Count:	4
Model Code:	Florida Building Code 2004 and 2006 Supplement
Truss Criteria:	ANSI/TPI-2002(STD)/FBC
Engineering Software:	Alpine Software,Version 7.36.
Structural Engineer of Record:	The identity of the structural EOR did not exist as of
Address:	the seal date per section 61G15-31.003(5a) of the FAC
Minimum Design Loads:	Roof - 40.0 PSF @ 1.25 Duration
	Floor - N/A
	Wind - 110 MPH ASCE 7-02 -Closed

Notes:

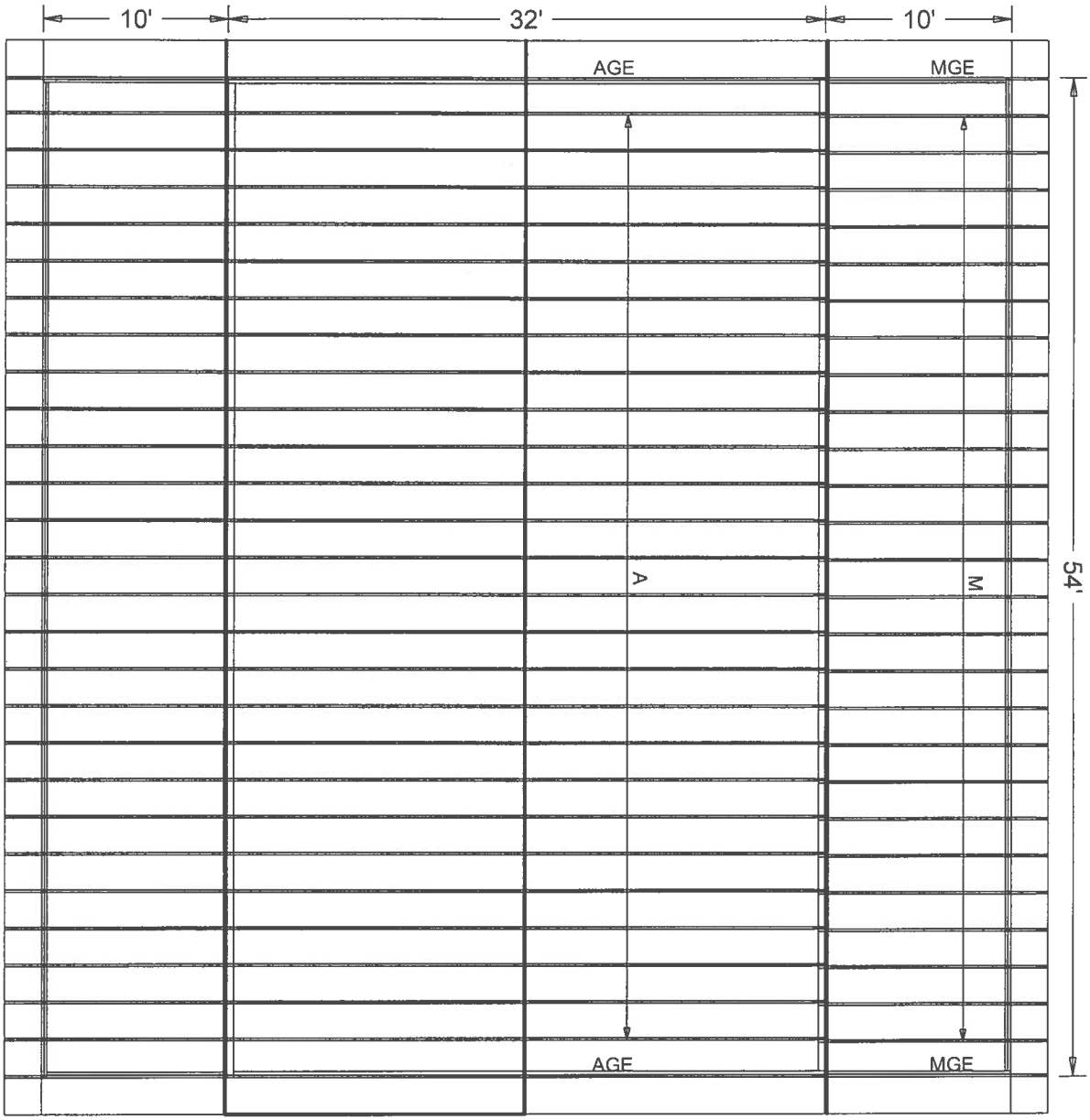
1. Determination as to the suitability of these truss components for the structure is the responsibility of the building designer/engineer of record, as defined in ANSI/TPI 1
2. The drawing date shown on this index sheet must match the date shown on the individual truss component drawing.
3. As shown on attached drawings; the drawing number is preceded by: HCUSR8228

Details: BRCLBSUB-A11015EE-GBLLETIN-

#	Ref	Description	Drawing#	Date
1	97981	--A	07331064	11/27/07
2	97982	--AGE	07331031	11/27/07
3	97983	--M	07331033	11/27/07
4	97984	--MGE	07331032	11/27/07

Seal Date: 11/28/2007

-Truss Design Engineer-
Doug Fleming
Florida License Number: 66648
1950 Marley Drive
Haines City, FL 33844



#7-343 John Graham 11/26/07

Roof Plane Sheathing Area = 3535 sq. ft
Gable Sheathing Area = 571 sq. ft
Total Sheathing Area = 4107 sq. ft
Fascia Material = 278 linear ft
Ridge Cap Material = 174 linear ft
Hip Ridge Material = 18 linear ft

JOB DESCRIPTION:: Fill in later
/: GRAHAM

JOB NO: 7-343

PAGE NO: 1 OF 1

(7-343--Fill in later GRAHAM -- , ** - A)

Top chord 2x4 SP #2 Dense
Bot chord 2x4 SP #2 Dense
Webs 2x4 SP #3

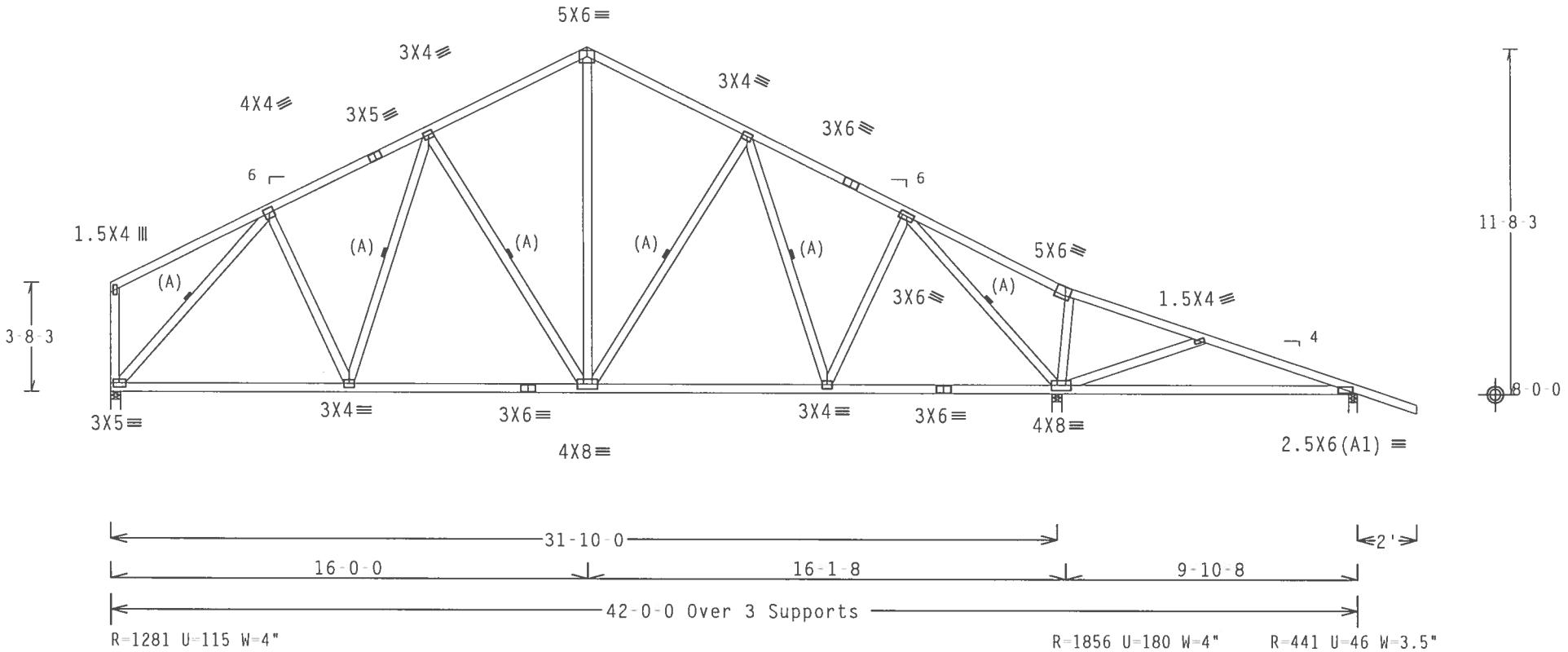
Left end vertical not exposed to wind pressure.

(A) Continuous lateral bracing equally spaced on member.

110 mph wind, 15.00 ft mean hgt, ASCE 7-02, CLOSED bldg, Located anywhere in roof, CAT II, EXP B, wind TC DL=5.0 psf, wind BC DL=5.0 psf. Iw=1.00 GCpi(+/-)=0.18

Wind reactions based on MWFRS pressures.

Deflection meets L/360 live and L/240 total load. Creep increase factor for dead load is 1.50.



Design Crit: TPI-2002(STD)/FBC
PLT TYP. Wave Cq/RT=1.00(1.25)/10(0) 7.36.042 QTY:1 FL/-/5/-/-/R/- Scale =.1875"/Ft.

ALPINE
ITW Building Components Group, Inc.
Haines City, FL 33844
FL Certificate of Authorization # 0 279

WARNING TRUSSES REQUIRE EXTREME CARE IN FABRICATION, HANDLING, SHIPPING, INSTALLING AND BRACING. REFER TO BCSI (BUILDING COMPONENT SAFETY INFORMATION), PUBLISHED BY TPI (TRUSS PLATE INSTITUTE, 218 NORTH LEE STREET, SUITE 312, ALEXANDRIA, VA, 22314) AND WTCA (WOOD TRUSS COUNCIL OF AMERICA, 6300 ENTERPRISE LANE, MADISON, WI 53719) FOR SAFETY PRACTICES PRIOR TO PERFORMING THESE FUNCTIONS. UNLESS OTHERWISE INDICATED TOP CHORD SHALL HAVE PROPERLY ATTACHED STRUCTURAL PANELS AND BOTTOM CHORD SHALL HAVE A PROPERLY ATTACHED RIGID CEILING.

IMPORTANT FURNISH A COPY OF THIS DESIGN TO THE INSTALLATION CONTRACTOR. ITW BCG, INC. SHALL NOT BE RESPONSIBLE FOR ANY DEVIATION FROM THIS DESIGN; ANY FAILURE TO BUILD THE TRUSS IN CONFORMANCE WITH TPI; OR FABRICATING, HANDLING, SHIPPING, INSTALLING & BRACING OF TRUSSES. DESIGN CONFORMS WITH APPLICABLE PROVISIONS OF NDS (NATIONAL DESIGN SPEC. BY AF&PA) AND TPI. ITW BCG CONNECTOR PLATES ARE MADE OF 20/18/16GA (H,H/SS/K) ASTM A653 GRADE 40/60 (H, K/H,SS) GALV. STEEL. APPLY PLATES TO EACH FACE OF TRUSS AND, UNLESS OTHERWISE LOCATED ON THIS DESIGN, POSITION PER DRAWINGS 160A-Z. ANY INSPECTION OF PLATES FOLLOWED BY (1) SHALL BE PER ANNEX A3 OF TPII-2002 SEC.3. A SEAL ON THIS DRAWING INDICATES ACCEPTANCE OF PROFESSIONAL ENGINEERING RESPONSIBILITY SOLELY FOR THE TRUSS COMPONENT DESIGN SHOWN. THE SUITABILITY AND USE OF THIS COMPONENT FOR ANY BUILDING IS THE RESPONSIBILITY OF THE BUILDING DESIGNER PER ANSI/TPI 1 SEC. 2.

DOUGLAS FLEMING LICENSE No. 66648 STATE OF FLORIDA PROFESSIONAL ENGINEER
28 '07

TC LL	20.0 PSF	REF	R8228- 97981
TC DL	10.0 PSF	DATE	11/27/07
BC DL	10.0 PSF	DRW	HCUSR8228 07331064
BC LL	0.0 PSF	HC-ENG	TCE/DF
TOT.LD.	40.0 PSF	SEQN-	48032
DUR.FAC.	1.25	FROM	AH
SPACING	24.0"	JREF-	1TCT8228Z03

(7 343 Fill in later GRAHAM , ** AGE)

THIS DWG PREPARED FROM COMPUTER INPUT (LOADS & DIMENSIONS) SUBMITTED BY TRUSS MFR.

Top chord 2x4 SP #2 Dense
Bot chord 2x4 SP #2 Dense
Webs 2x4 SP #3

110 mph wind, 15.00 ft mean hgt, ASCE 7-02, CLOSED bldg, Located anywhere in roof, CAT II, EXP B, wind TC DL=5.0 psf, wind BC DL=5.0 psf. Iw=1.00 GCpi(+/-)=0.18

Left end vertical not exposed to wind pressure.

See DWGS A11015EE0207 & GBLLETIN0207 for more requirements.

Deflection meets L/360 live and L/240 total load. Creep increase factor for dead load is 1.50.

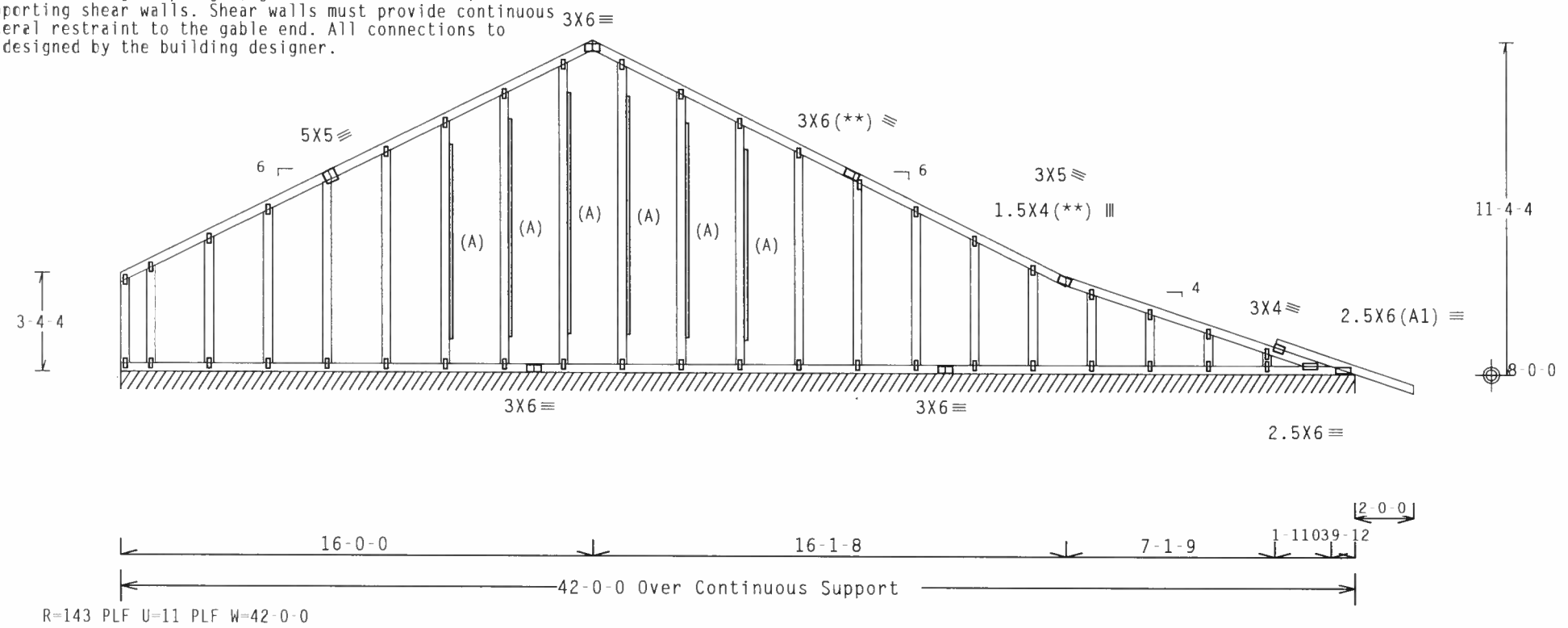
The building designer is responsible for the design of the roof and ceiling diaphragms, gable end shear walls, and supporting shear walls. Shear walls must provide continuous lateral restraint to the gable end. All connections to be designed by the building designer.

(**) 2 plate(s) require special positioning. Refer to scaled plate plot details for special positioning requirements.

Wind reactions based on MWFRS pressures.

Truss spaced at 24.0" OC designed to support 1-0-0 top chord outlookers. Cladding load shall not exceed 10.00 PSF. Top chord must not be cut or notched.

(A) 1x4 #3 or better "L" brace, 80% length of web member. Attach with 8d Box or Gun (0.113"x2.5",min.)nails @ 6" OC.



Note: All Plates Are 1.5X4 Except As Shown.

Design Crit: TPI-2002(STD)/FBC

PLT TYP. Wave Cq/RT=1.00(1.25)/10(0) 7.36.042 QTY:1 FL/-/5/-/-/R/- Scale =.1875"/Ft.

ALPINE
ITW Building Components Group, Inc.
Haines City, FL 33844
FL Certificate of Authorization # 0.229

WARNING TRUSSES REQUIRE EXTREME CARE IN FABRICATION, HANDLING, SHIPPING, INSTALLING AND BRACING. REFER TO BCSI (BUILDING COMPONENT SAFETY INFORMATION), PUBLISHED BY TPI (TRUSS PLATE INSTITUTE, 218 NORTH LEE STREET, SUITE 312, ALEXANDRIA, VA, 22314) AND WTCA (WOOD TRUSS COUNCIL OF AMERICA, 6300 ENTERPRISE LANE, MADISON, WI 53719) FOR SAFETY PRACTICES PRIOR TO PERFORMING THESE FUNCTIONS. UNLESS OTHERWISE INDICATED TOP CHORD SHALL HAVE PROPERLY ATTACHED STRUCTURAL PANELS AND BOTTOM CHORD SHALL HAVE A PROPERLY ATTACHED RIGID CEILING.

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DOUGLAS FLEMING LICENSE No. 66648 STATE OF FLORIDA PROFESSIONAL ENGINEER

28 '07

TC LL	20.0 PSF	REF R8228- 97982
TC DL	10.0 PSF	DATE 11/27/07
BC DL	10.0 PSF	DRW HCUSR8228 07331031
BC LL	0.0 PSF	HC-ENG DAL/DF
TOT.LD.	40.0 PSF	SEQN- 24886 REV
DUR.FAC.	1.25	FROM AH
SPACING	24.0"	JRFF- 1TCT8228Z03

(7 343 Fill in later GRAHAM , ** M)

THIS DAG PREPARED FROM COMPUTER INPUT (LOADS & DIMENSIONS) SUBMITTED BY TRUSS MFR.

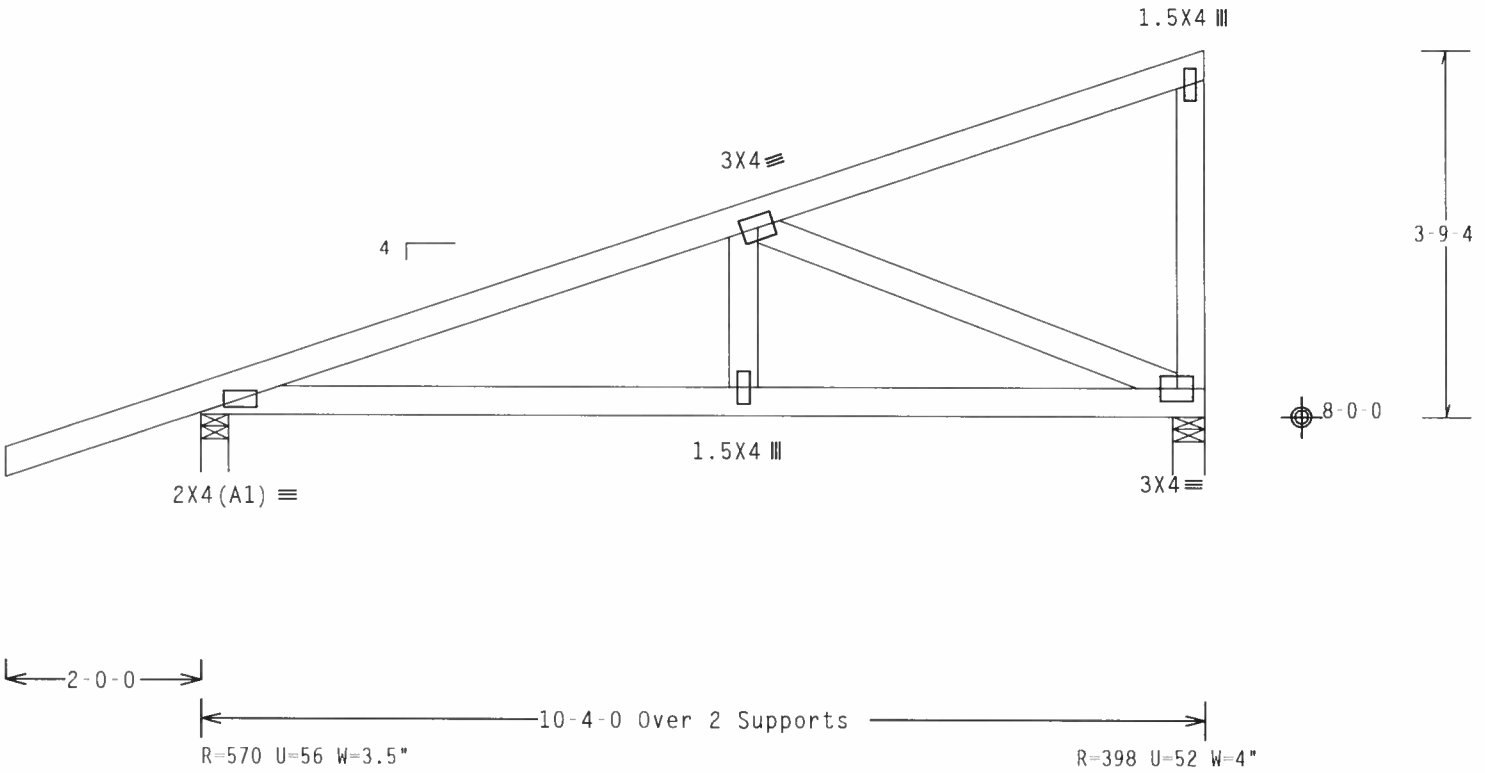
Top chord 2x4 SP #2 Dense
Bot chord 2x4 SP #2 Dense
Webs 2x4 SP #3

Deflection meets L/360 live and L/240 total load. Creep increase factor for dead load is 1.50.

110 mph wind, 15.00 ft mean hgt, ASCE 7-02, CLOSED bldg, Located anywhere in roof, CAT II, EXP B, wind TC DL=5.0 psf, wind BC DL=5.0 psf. Iw=1.00 GCpi(+/-)=0.18

Wind reactions based on MWFRS pressures.

Right end vertical not exposed to wind pressure.



Design Crit: TPI-2002(STD)/FBC
Cq/RT=1.00(1.25)/10(0) 7.36.04

PLT TYP. Wave

QTY:1 FL/-/5/-/-/R/- Scale =.5"/Ft.

ALPINE
ITW Building Components Group, Inc.
Haines City, FL 33844
FL Certificate of Authorization # 0 279

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DOUGLAS FLEMING LICENSE No. 66648 STATE OF FLORIDA PROFESSIONAL ENGINEER
28 '07

TC LL	20.0 PSF	REF	R8228- 97983
TC DL	10.0 PSF	DATE	11/27/07
BC DL	10.0 PSF	DRW	HCUSR8228 07331033
BC LL	0.0 PSF	HC-ENG	DAL/DF *
TOT.LD.	40.0 PSF	SEQN-	24890
DUR.FAC.	1.25	FROM	AH
SPACING	24.0"	JRFF-	1TCT8228Z03

(7 343 Fill in later GRAHAM , ** MGE)

Top chord 2x4 SP #2 Dense
Bot chord 2x4 SP #2 Dense
Webs 2x4 SP #3
:Stack Chord SC1 2x4 SP #2 Dense:

Truss spaced at 24.0" OC designed to support 1-0-0 top chord outlookers. Cladding load shall not exceed 10.00 PSF. Top chord must not be cut or notched.

Stacked top chord must NOT be notched or cut in area (NNL). Dropped top chord braced at 24" o.c. intervals. Attach stacked top chord (SC) to dropped top chord in notchable area using 3x4 tie-plates 24" o.c. Center plate on stacked/dropped chord interface, plate length perpendicular to chord length. Splice top chord in notchable area using 3x6.

The building designer is responsible for the design of the roof and ceiling diaphragms, gable end shear walls, and supporting shear walls. Shear walls must provide continuous lateral restraint to the gable end. All connections to be designed by the building designer.

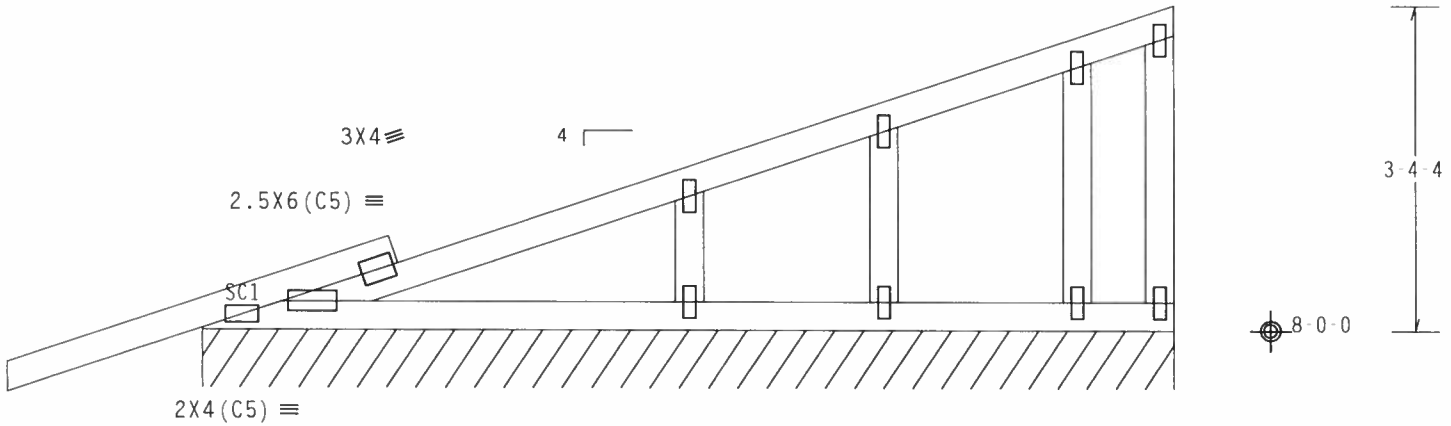
110 mph wind, 15.00 ft mean hgt, ASCE 7-02, CLOSED bldg, Located anywhere in roof, CAT II, EXP B, wind TC DL=5.0 psf, wind BC DL=5.0 psf. Iw=1.00 GCpi(+/-)=0.18

Wind reactions based on MWFRS pressures.

Right end vertical not exposed to wind pressure.

See DWGS A11015EE0207 & GBLLETIN0207 for more requirements.

Deflection meets L/360 live and L/240 total load. Creep increase factor for dead load is 1.50.



Note: All Plates Are 1.5X4 Except As Shown.

Design Crit: TPI-2002(STD)/FBC

PLT TYP. Wave Cq/RT=1.00(1.25)/10(0) 7.36.042 QTY:1 FL/-/5/-/-/R/- Scale =.5"/Ft.

ALPINE

ITW Building Components Group, Inc.
Haines City, FL 33844
FL Certificate of Authorization #0.27

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DOUGLAS FLEMING LICENSE No. 66648 STATE OF FLORIDA PROFESSIONAL ENGINEER

28 '07

TC LL	20.0 PSF	REF	R8228- 97984
TC DL	10.0 PSF	DATE	11/27/07
BC DL	10.0 PSF	DRW	HCUSR8228 07331032
BC LL	0.0 PSF	HC-ENG	DAL/DF
TOT.LD.	40.0 PSF	SEQN-	24894
DUR.FAC.	1.25	FROM	AH
SPACING	24.0"	JREF-	1TCTR228Z03

CLB WEB BRACE SUBSTITUTION

THIS DETAIL IS TO BE USED WHEN CONTINUOUS LATERAL BRACING (CLB) IS SPECIFIED ON AN ALPINE TRUSS DESIGN BUT AN ALTERNATIVE WEB BRACING METHOD IS DESIRED.

NOTES:

THIS DETAIL IS ONLY APPLICABLE FOR CHANGING THE SPECIFIED CLB SHOWN ON SINGLE PLY SEALED DESIGNS TO T-BRACING OR SCAB BRACING.

ALTERNATIVE BRACING SPECIFIED IN CHART BELOW MAY BE CONSERVATIVE. FOR MINIMUM ALTERNATIVE BRACING, RE-RUN DESIGN WITH APPROPRIATE BRACING.

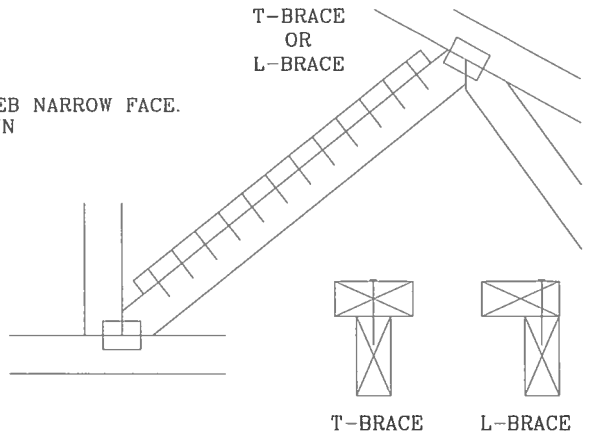
WEB MEMBER SIZE	SPECIFIED CLB BRACING	ALTERNATIVE BRACING T OR L-BRACE	ALTERNATIVE BRACING SCAB BRACE
2X3 OR 2X4	1 ROW	2X4	1-2X4
2X3 OR 2X4	2 ROWS	2X6	2-2X4
2X6	1 ROW	2X4	1-2X6
2X6	2 ROWS	2X6	2-2X4(*)
2X8	1 ROW	2X6	1-2X8
2X8	2 ROWS	2X6	2-2X6(*)

T-BRACE, L-BRACE AND SCAB BRACE TO BE SAME SPECIES AND GRADE OR BETTER THAN WEB MEMBER UNLESS SPECIFIED OTHERWISE ON ENGINEER'S SEALED DESIGN.

(*) CENTER SCAB ON WIDE FACE OF WEB. APPLY (1) SCAB TO EACH FACE OF WEB.

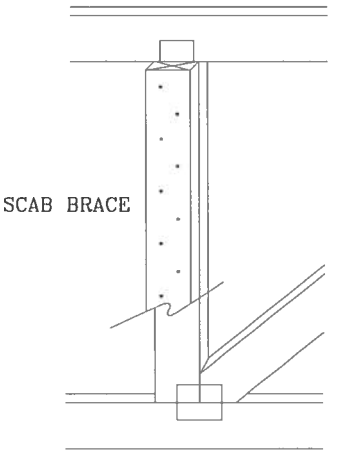
T-BRACING OR L-BRACING:

APPLY TO EITHER SIDE OF WEB NARROW FACE. ATTACH WITH 10d BOX OR GUN (0.128"x 3.",MIN) NAILS. AT 6" O.C. BRACE IS A MINIMUM 80% OF WEB MEMBER LENGTH



SCAB BRACING:

APPLY SCAB(S) TO WIDE FACE OF WEB. NO MORE THAN (1) SCAB PER FACE. ATTACH WITH 10d BOX OR GUN (0.128"x 3.",MIN) NAILS. AT 6" O.C. BRACE IS A MINIMUM 80% OF WEB MEMBER LENGTH



THIS DRAWING REPLACES DRAWING 579,640

ALPINE
ITW BUILDING COMPONENTS GROUP, INC.
POMPANO BEACH, FLORIDA

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DOUGLAS FLEMING LICENSE No. 66648 2/28 '07 STATE OF FLORIDA PROFESSIONAL ENGINEER

TC LL	PSF	REF	CLB SUBST.
TC DL	PSF	DATE	2/23/07
BC DL	PSF	DRWG	BRCLBSUB0207
BC LL	PSF	-ENG	MLH/KAR
TOT. LD.	PSF		
DUR. FAC.			
SPACING			

ASCE 7-02: 110 MPH WIND SPEED, 15' MEAN HEIGHT, ENCLOSED, I = 1.00, EXPOSURE C

MAX GABLE VERTICAL LENGTH

2X4 GABLE VERTICAL SPACING	SPECIES	BRACE GRADE	NO BRACES	(1) 1X4 "L" BRACE * GROUP A	(1) 1X4 "L" BRACE * GROUP B	(1) 2X4 "L" BRACE * GROUP A	(1) 2X4 "L" BRACE * GROUP B	(2) 2X4 "L" BRACE ** GROUP A	(2) 2X4 "L" BRACE ** GROUP B	(1) 2X6 "L" BRACE * GROUP A	(1) 2X6 "L" BRACE * GROUP B	(2) 2X6 "L" BRACE ** GROUP A	(2) 2X6 "L" BRACE ** GROUP B
24" O.C.	SPF HF	#1 / #2	3' 10"	6' 8"	6' 10"	7' 11"	8' 1"	9' 5"	9' 8"	12' 5"	12' 9"	14' 0"	14' 0"
		#3	3' 9"	6' 0"	6' 0"	7' 11"	7' 11"	9' 5"	9' 5"	12' 4"	12' 4"	14' 0"	14' 0"
		STUD	3' 9"	6' 0"	6' 0"	7' 11"	7' 11"	9' 5"	9' 5"	12' 3"	12' 3"	14' 0"	14' 0"
		STANDARD	3' 9"	5' 2"	5' 2"	6' 9"	6' 9"	9' 1"	9' 1"	10' 7"	10' 7"	14' 0"	14' 0"
	SP DFL	#1	4' 3"	6' 8"	7' 2"	7' 11"	8' 6"	9' 5"	10' 2"	12' 5"	13' 5"	14' 0"	14' 0"
		#2	4' 2"	6' 8"	7' 2"	7' 11"	8' 6"	9' 5"	10' 2"	12' 5"	13' 5"	14' 0"	14' 0"
		#3	4' 0"	6' 2"	6' 2"	7' 11"	8' 1"	9' 5"	9' 11"	12' 5"	12' 8"	14' 0"	14' 0"
		STUD	4' 0"	6' 1"	6' 1"	7' 11"	8' 0"	9' 5"	9' 11"	12' 5"	12' 6"	14' 0"	14' 0"
		STANDARD	3' 10"	5' 3"	5' 3"	6' 11"	6' 11"	9' 4"	9' 4"	10' 10"	10' 10"	14' 0"	14' 0"
16" O.C.	SPF HF	#1 / #2	4' 5"	7' 8"	7' 10"	9' 1"	9' 4"	10' 10"	11' 1"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	4' 4"	7' 4"	7' 4"	9' 1"	9' 1"	10' 10"	10' 10"	14' 0"	14' 0"	14' 0"	14' 0"
		STUD	4' 4"	7' 4"	7' 4"	9' 1"	9' 1"	10' 10"	10' 10"	14' 0"	14' 0"	14' 0"	14' 0"
		STANDARD	4' 4"	6' 4"	6' 4"	8' 4"	8' 4"	10' 10"	10' 10"	12' 11"	12' 11"	14' 0"	14' 0"
	SP DFL	#1	4' 10"	7' 8"	8' 3"	9' 1"	9' 9"	10' 10"	11' 8"	14' 0"	14' 0"	14' 0"	14' 0"
		#2	4' 9"	7' 8"	8' 3"	9' 1"	9' 9"	10' 10"	11' 8"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	4' 6"	7' 7"	7' 7"	9' 1"	9' 6"	10' 10"	11' 4"	14' 0"	14' 0"	14' 0"	14' 0"
		STUD	4' 6"	7' 6"	7' 6"	9' 1"	9' 6"	10' 10"	11' 4"	14' 0"	14' 0"	14' 0"	14' 0"
		STANDARD	4' 5"	6' 5"	6' 5"	8' 6"	8' 6"	10' 10"	11' 1"	13' 3"	13' 3"	14' 0"	14' 0"
12" O.C.	SPF HF	#1 / #2	4' 11"	8' 5"	8' 8"	10' 0"	10' 3"	11' 11"	12' 3"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	4' 9"	8' 5"	8' 5"	10' 0"	10' 0"	11' 11"	11' 11"	14' 0"	14' 0"	14' 0"	14' 0"
		STUD	4' 9"	8' 5"	8' 5"	10' 0"	10' 0"	11' 11"	11' 11"	14' 0"	14' 0"	14' 0"	14' 0"
		STANDARD	4' 9"	7' 3"	7' 3"	9' 7"	9' 7"	11' 11"	11' 11"	14' 0"	14' 0"	14' 0"	14' 0"
	SP DFL	#1	5' 4"	8' 5"	9' 1"	10' 0"	10' 9"	11' 11"	12' 10"	14' 0"	14' 0"	14' 0"	14' 0"
		#2	5' 3"	8' 5"	9' 1"	10' 0"	10' 9"	11' 11"	12' 10"	14' 0"	14' 0"	14' 0"	14' 0"
		#3	5' 0"	8' 5"	8' 5"	10' 0"	10' 6"	11' 11"	12' 6"	14' 0"	14' 0"	14' 0"	14' 0"
		STUD	5' 0"	8' 5"	8' 7"	10' 0"	10' 6"	11' 11"	12' 6"	14' 0"	14' 0"	14' 0"	14' 0"
		STANDARD	4' 11"	7' 5"	7' 5"	9' 10"	9' 10"	11' 11"	12' 3"	14' 0"	14' 0"	14' 0"	14' 0"

BRACING GROUP SPECIES AND GRADES:

GROUP A:

SPRUCE-PINE-FIR: #1 / #2 STANDARD; #3 STUD

HEM-FIR: #2 STUD; #3 STANDARD

DOUGLAS FIR-LARCH: #3; STUD; STANDARD

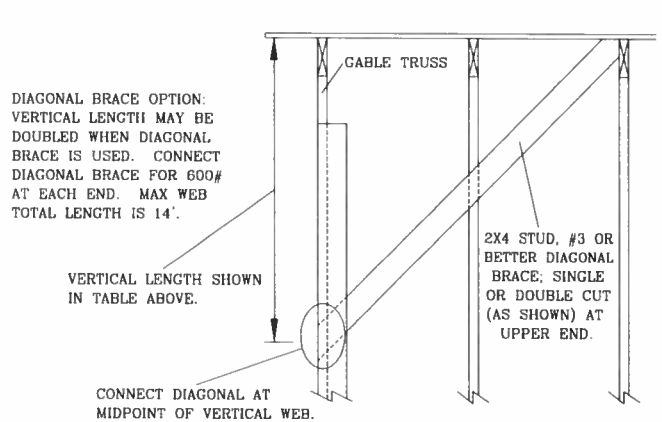
SOUTHERN PINE: #3; STUD; STANDARD

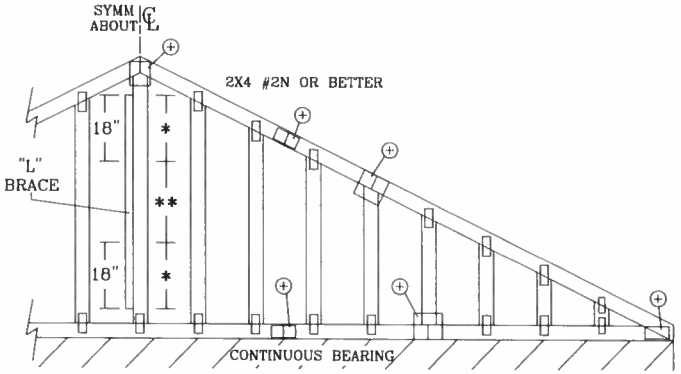
GROUP B:

HEM-FIR: #1 & BTR; #1

SOUTHERN PINE: #1; #2

DOUGLAS FIR-LARCH: #1; #2





REFER TO CHART ABOVE FOR MAX GABLE VERTICAL LENGTH.

GABLE TRUSS DETAIL NOTES:

LIVE LOAD DEFLECTION CRITERIA IS L/240.

PROVIDE UPLIFT CONNECTIONS FOR 80 PLF OVER CONTINUOUS BEARING (5 PSF TC DEAD LOAD).

GABLE END SUPPORTS LOAD FROM 4' 0" OUTLOOKERS WITH 2' 0" OVERHANG, OR 12" PLYWOOD OVERHANG.

ATTACH EACH "L" BRACE WITH 10d NAILS.
* FOR (1) "L" BRACE: SPACE NAILS AT 2" O.C. IN 18" END ZONES AND 4" O.C. BETWEEN ZONES.
** FOR (2) "L" BRACES: SPACE NAILS AT 3" O.C. IN 18" END ZONES AND 6" O.C. BETWEEN ZONES.

"L" BRACING MUST BE A MINIMUM OF 80% OF WEB MEMBER LENGTH.

GABLE VERTICAL PLATE SIZES

VERTICAL LENGTH	NO SPLICE
LESS THAN 4' 0"	1X4 OR 2X3
GREATER THAN 4' 0", BUT LESS THAN 11' 6"	2X4
GREATER THAN 11' 6"	2.5X4

+ REFER TO COMMON TRUSS DESIGN FOR PEAK, SPLICE, AND HEEL PLATES.

ALPINE

ITW BUILDING COMPONENTS GROUP, INC.
POMPANO BEACH, FLORIDA

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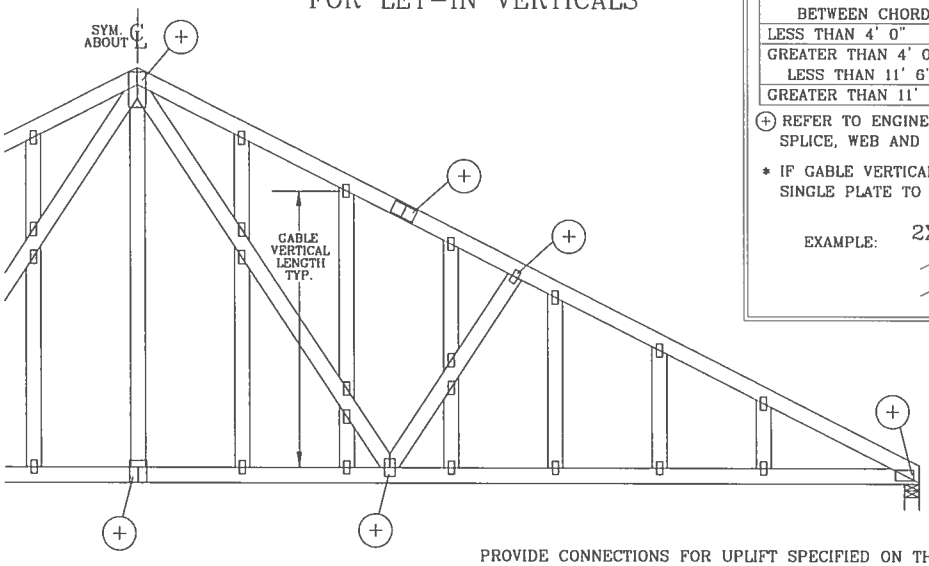
DOUGLAS FLEMING LICENSE No. 66648 STATE OF FLORIDA PROFESSIONAL ENGINEER
8 '07

MAX. TOT. LD. 60 PSF

MAX. SPACING 24.0"

REF	ASCE7-02-GAB11015
DATE	2/23/07
DRWG	A11015EE0207
-ENG	

GABLE DETAIL
FOR LET-IN VERTICALS

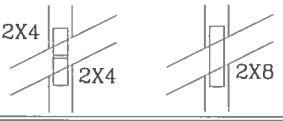


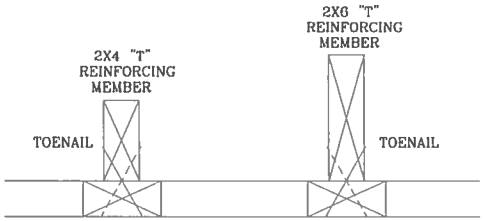
GABLE VERTICAL PLATE SIZES		
VERTICAL LENGTH BETWEEN CHORDS	PLATE SIZE	IF PLATES OVERLAP*
LESS THAN 4' 0"	1X4 OR 2X3	2X8
GREATER THAN 4' 0", BUT LESS THAN 11' 6"	2X4	2X8
GREATER THAN 11' 6"	2.5X4	2.5X8

(+) REFER TO ENGINEERED TRUSS DESIGN FOR PEAK, SPLICE, WEB AND HEEL PLATES.

* IF GABLE VERTICAL PLATES OVERLAP, USE A SINGLE PLATE TO SPAN THE WEB.

EXAMPLE:





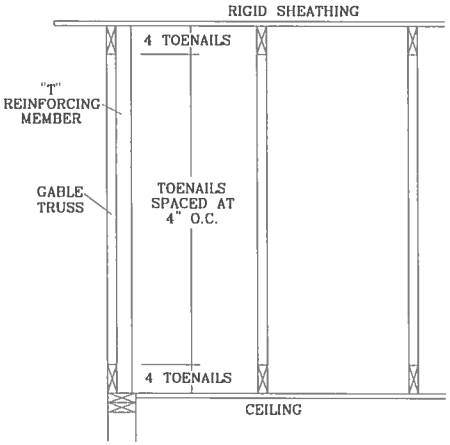
TO CONVERT FROM "L" TO "T" REINFORCING MEMBERS, MULTIPLY "T" FACTOR BY LENGTH (BASED ON GABLE VERTICAL SPECIES, GRADE AND SPACING) FOR (1) 2X4 "L" BRACE, GROUP A, OBTAINED FROM THE APPROPRIATE ALPINE GABLE DETAIL FOR ASCE OR SBCCI WIND LOAD.

MAXIMUM ALLOWABLE "T" REINFORCED GABLE VERTICAL LENGTH IS 14' FROM TOP TO BOTTOM CHORD.

WEB LENGTH INCREASE W/ "T" BRACE

WIND SPEED AND MRH	"T" REINF. MBR. SIZE	SBCCI	ASCE
110 MPH	2x4	10 %	10 %
15 FT	2x6	40 %	50 %
110 MPH	2x4	10 %	10 %
30 FT	2x6	50 %	50 %
100 MPH	2x4	10 %	10 %
15 FT	2x6	30 %	50 %
100 MPH	2x4	10 %	10 %
30 FT	2x6	40 %	40 %
90 MPH	2x4	20 %	10 %
15 FT	2x6	20 %	40 %
90 MPH	2x4	10 %	10 %
30 FT	2x6	30 %	50 %
80 MPH	2x4	10 %	20 %
15 FT	2x6	10 %	30 %
80 MPH	2x4	20 %	10 %
30 FT	2x6	20 %	40 %
70 MPH	2x4	0 %	20 %
15 FT	2x6	0 %	20 %
70 MPH	2x4	10 %	20 %
30 FT	2x6	10 %	30 %

EXAMPLE:
ASCE WIND SPEED = 100 MPH
MEAN ROOF HEIGHT = 30 FT
GABLE VERTICAL = 24" O.C. SP #3
"T" REINFORCING MEMBER SIZE = 2X4
"T" BRACE INCREASE (FROM ABOVE) = 10% = 1.10
(1) 2X4 "L" BRACE LENGTH = 6' 7"
MAXIMUM "T" REINFORCED GABLE VERTICAL LENGTH
1.10 x 6' 7" = 7' 3"



PROVIDE CONNECTIONS FOR UPLIFT SPECIFIED ON THE ENGINEERED TRUSS DESIGN.

ATTACH EACH "T" REINFORCING MEMBER WITH
HAND DRIVEN NAILS:
10d COMMON (0.148"X 3.",MIN) TOENAILS AT 4" O.C. PLUS
(4) 16d COMMON (0.162" X 3.5",MIN) TOENAILS IN TOP AND BOTTOM CHORD.
GUN DRIVEN NAILS:
8d COMMON (0.131"X 2.5",MIN) TOENAILS AT 4" O.C. PLUS
(4) TOENAILS IN TOP AND BOTTOM CHORD.

THIS DETAIL TO BE USED WITH THE APPROPRIATE ALPINE GABLE DETAIL FOR ASCE OR SBCCI WIND LOAD.
ASCE 7-93 GABLE DETAIL DRAWINGS
A11015EN0207, A10015EN0207, A09015EN0207, A08015EN0207, A07015EN0207, A11030EN0207, A10030EN0207, A09030EN0207, A08030EN0207, A07030EN0207
ASCE 7-98 GABLE DETAIL DRAWINGS
A13015EC0207, A12015EC0207, A11015EC0207, A10015EC0207, A08515EC0207, A13030EC0207, A12030EC0207, A11030EC0207, A10030EC0207, A08530EC0207
ASCE 7-02 GABLE DETAIL DRAWINGS
A13015EE0207, A12015EE0207, A11015EE0207, A10015EE0207, A08515EE0207, A13030EE0207, A12030EE0207, A11030EE0207, A10030EE0207, A08530EE0207
ASCE 7-05 GABLE DETAIL DRAWINGS
A13015E50207, A12015E50207, A11015E50207, A10015E50207, A08515E50207, A13030E50207, A12030E50207, A11030E50207, A10030E50207, A08530E50207

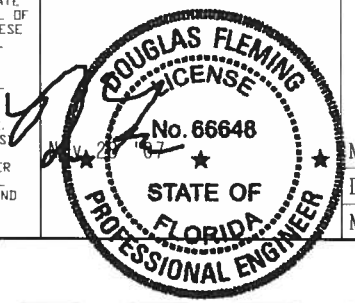
SEE APPROPRIATE ALPINE GABLE DETAIL (ASCE OR SBCCI WIND LOAD) FOR MAXIMUM UNREINFORCED GABLE VERTICAL LENGTH.

THIS DRAWING REPLACES DRAWINGS GAB98117 876,719 & HC26294035

ALPINE
ITW BUILDING COMPONENTS GROUP, INC.
POMPANO BEACH, FLORIDA

WARNING TRUSSES REQUIRE EXTREME CARE IN FABRICATING, HANDLING, SHIPPING, INSTALLING AND BRACING. REFER TO BCSI (BUILDING COMPONENT SAFETY INFORMATION), PUBLISHED BY TPI (TRUSS PLATE INSTITUTE, 218 NORTH LEE STR., SUITE 312, ALEXANDRIA, VA. 22314) AND WTCA (WOOD TRUSS COUNCIL OF AMERICA, 6300 ENTERPRISE LN, MADISON, WI 53719) FOR SAFETY PRACTICES PRIOR TO PERFORMING THESE FUNCTIONS. UNLESS OTHERWISE INDICATED, TOP CHORD SHALL HAVE PROPERLY ATTACHED STRUCTURAL PANELS AND BOTTOM CHORD SHALL HAVE A PROPERLY ATTACHED RIGID CEILING.

IMPORTANT FURNISH COPY OF THIS DESIGN TO INSTALLATION CONTRACTOR. ITW BCG, INC., SHALL NOT BE RESPONSIBLE FOR ANY DEVIATION FROM THIS DESIGN, ANY FAILURE TO BUILD THE TRUSS IN CONFORMANCE WITH TPI; OR FABRICATING, HANDLING, SHIPPING, INSTALLING & BRACING OF TRUSSES. DESIGN CONFORMS WITH APPLICABLE PROVISIONS OF NDS (NATIONAL DESIGN SPEC, BY AF&PA) AND TPI. ITW, BCG CONNECTOR PLATES ARE MADE OF 20/18/16GA (W,H/SS/K) ASTH A653 GRADE 40/60 (W,K/H,SS GALV. STEEL. APPLY PLATES TO EACH FACE OF TRUSS AND, UNLESS OTHERWISE LOCATED ON THIS DESIGN, POSITION PER DRAWINGS 160A-Z. ANY INSPECTION OF PLATES FOLLOWED BY (I) SHALL BE PER ANNEX A3 OF TPI 1-2002 SEC. 3. A SEAL ON THIS DRAWING INDICATES ACCEPTANCE OF PROFESSIONAL ENGINEERING RESPONSIBILITY SOLELY FOR THE TRUSS COMPONENT DESIGN SHOWN. THE SUITABILITY AND USE OF THIS COMPONENT FOR ANY BUILDING IS THE RESPONSIBILITY OF THE BUILDING DESIGNER, PER ANSI/TPI 1 SEC. 2.



MAX TOT. LD. 60 PSF
DUR. FAC. ANY
MAX SPACING 24.0"

REF	LET-IN VERT
DATE	2/23/07
DRWG	GBLLETIN0207
-ENG	DLJ/KAR

Residential System Sizing Calculation

Summary

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

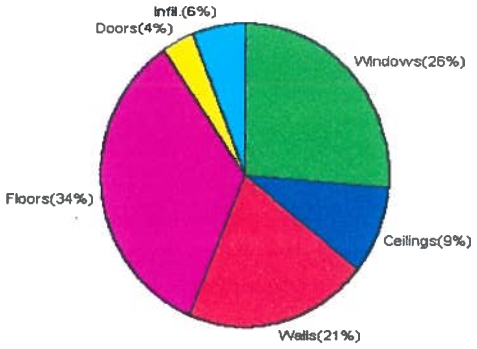
11/23/2007

Location for weather data: Gainesville - Defaults: Latitude(29) Altitude(152 ft.) Temp Range(M) Humidity data: Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(54gr.)					
Winter design temperature	33	F	Summer design temperature	92	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	17	F
Total heating load calculation	**21943**	**Btuh**	**Total cooling load calculation**	**16795**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	136.7	30000	Sensible (SHR = 0.75)	138.8	22500
Heat Pump + Auxiliary(0.0kW)	136.7	30000	Latent	1272.5	7500
			Total (Electric Heat Pump)	178.6	30000

WINTER CALCULATIONS

Winter Heating Load (for 1728 sqft)

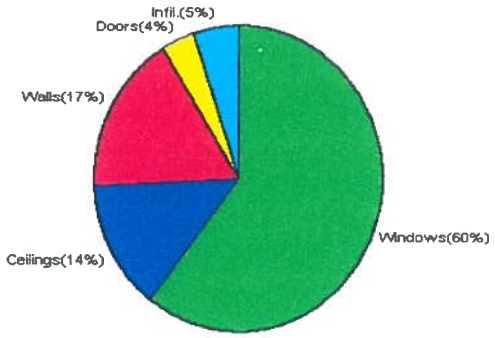
Load component			Load	
Window total	180	sqft	5794	Btuh
Wall total	1376	sqft	4519	Btuh
Door total	60	sqft	777	Btuh
Ceiling total	1728	sqft	2036	Btuh
Floor total	172	sqft	7510	Btuh
Infiltration	32	cfm	1307	Btuh
Duct loss			0	Btuh
Subtotal			**21943**	**Btuh**
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			**21943**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 1728 sqft)

Load component			Load	
Window total	180	sqft	10136	Btuh
Wall total	1376	sqft	2870	Btuh
Door total	60	sqft	588	Btuh
Ceiling total	1728	sqft	2311	Btuh
Floor total			0	Btuh
Infiltration	16	cfm	300	Btuh
Internal gain			0	Btuh
Duct gain			0	Btuh
Sens. Ventilation	0	cfm	0	Btuh
Total sensible gain			**16206**	**Btuh**
Latent gain(ducts)			0	Btuh
Latent gain(infiltration)			589	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			0	Btuh
Total latent gain			**589**	**Btuh**
TOTAL HEAT GAIN			**16795**	**Btuh**



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Version 8
For Florida residences only

EnergyGauge® System Sizing
PREPARED BY: [redacted]
DATE: 11-23-07

Residential Window Diversity

MidSummer

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

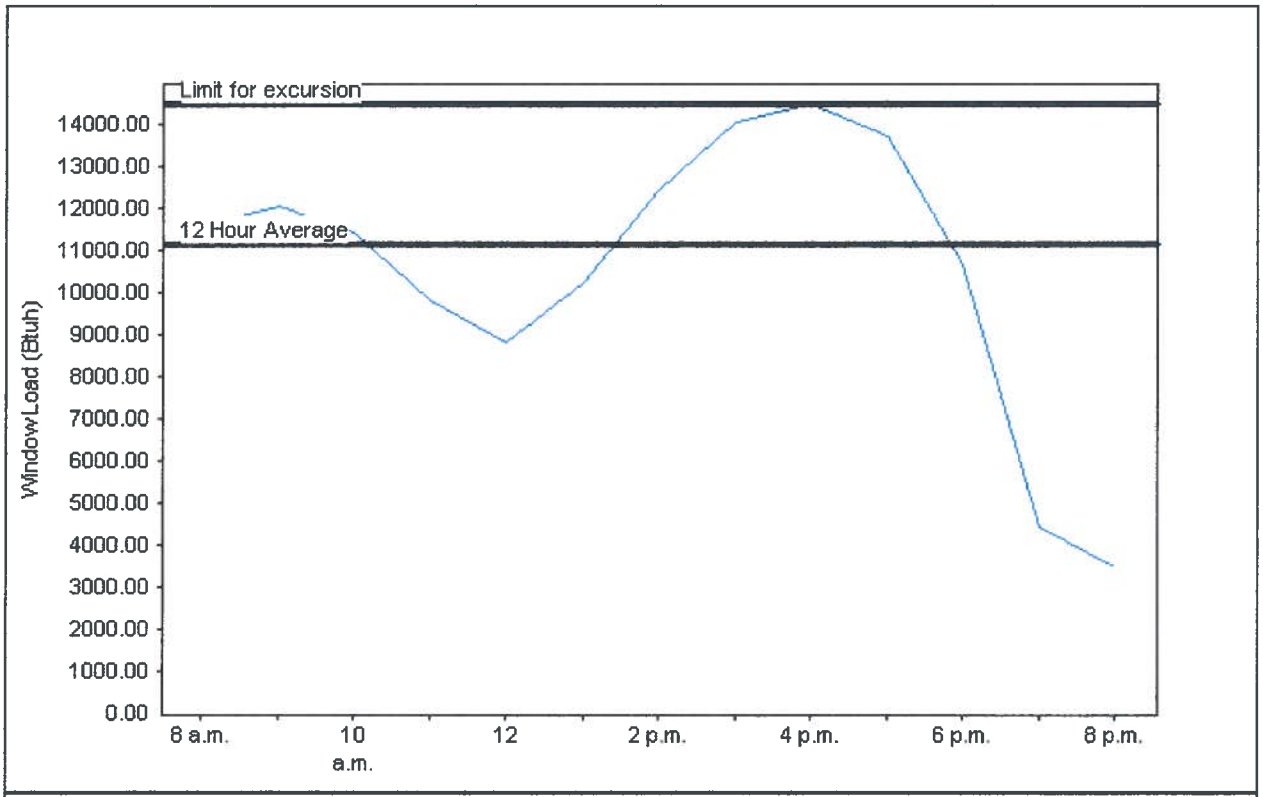
Code Only
Professional Version
Climate: North

11/23/2007

Weather data for: Gainesville - Defaults

Summer design temperature	92 F	Average window load for July	11131 Btu
Summer setpoint	75 F	Peak window load for July	14464 Btu
Summer temperature difference	17 F	Excusion limit(130% of Ave.)	14471 Btu
Latitude	29 North	Window excursion (July)	None

WINDOW Average and Peak Loads



Total July Window Load(Radiation and conduction)

The midsummer window load for this house does not exceed the window load excursion limit.

This house has adequate midsummer window diversity.

EnergyGauge® System Sizing for Florida residences only

PREPARED BY: _____

DATE: 11-23-07

System Sizing Calculations - Summer

Residential Load - Room by Room Component Details

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Summer Temperature Difference: 17.0 F 11/23/2007
This calculation is for Worst Case. The house has been rotated 90 degrees.

Component Loads for Zone #1: 1st Floor

	Type*		Overhang		Window Area(sqft)			HTM		Load
Window	Pn/SHGC/U/InSh/ExSh/IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
1	2, Clear, 0.87, B-M, N,H	E	0ft.	0ft.	75.0	0.0	75.0	21	62	4678 Btuh
2	2, Clear, 0.87, B-M, N,H	S	0ft.	0ft.	30.0	0.0	30.0	21	26	781 Btuh
3	2, Clear, 0.87, B-M, N,H	W	0ft.	0ft.	75.0	0.0	75.0	21	62	4678 Btuh
	Window Total				180 (sqft)					10136 Btuh
Walls	Type		R-Value/U-Value		Area(sqft)			HTM		Load
1	Frame - Wood - Ext		13.0/0.09		1376.0			2.1		2870 Btuh
	Wall Total				1376 (sqft)					2870 Btuh
Doors	Type				Area (sqft)			HTM		Load
1	Insulated - Exterior				60.0			9.8		588 Btuh
	Door Total				60 (sqft)					588 Btuh
Ceilings	Type/Color/Surface		R-Value		Area(sqft)			HTM		Load
1	Vented Attic/Light/Metal		30.0		1728.0			1.3		2311 Btuh
	Ceiling Total				1728 (sqft)					2311 Btuh
Floors	Type		R-Value		Size			HTM		Load
1	Slab On Grade		0.0		172 (ft(p))			0.0		0 Btuh
	Floor Total				172.0 (sqft)					0 Btuh
							Zone Envelope Subtotal:			15906 Btuh
Infiltration	Type		ACH		Volume(cuft)		wall area(sqft)	CFM=		Load
	SensibleNatural		0.07		13824		1376	16.1		300 Btuh
Internal gain			Occupants		Btuh/occupant			Appliance		Load
			0		X 230		+	0		0 Btuh
							Sensible Envelope Load:			16206 Btuh
Duct load	Average sealed, Supply(R6.0-Cond.), Return(R6.0-Cond)							(DGM of 0.000)		0 Btuh
							Sensible Zone Load			**16206 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

11/23/2007

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**16206 Btuh**
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	**16206 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**16206 Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	589 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (0 people @ 200 Btuh per person)	0 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**589 Btuh**
	TOTAL GAIN	**16795 Btuh**

EQUIPMENT

1. Central Unit	#	30000 Btuh

*Key: Window types (Pn - Number of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(U - Window U-Factor or 'DEF' for default)
(InSh - Interior shading device: none(N), Blinds(B), Draperies(D) or Roller Shades(R))
(ExSh - Exterior shading device: none(N) or numerical value)
(BS - Insect screen: none(N), Full(F) or Half(H))
(Ornt - compass orientation)

Version 8
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System Sizing Calculations - Summer

Residential Load - Whole House Component Details

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Summer Temperature Difference: 17.0 F 11/23/2007

This calculation is for Worst Case. The house has been rotated 90 degrees.

Component Loads for Whole House

	Type*		Overhang		Window Area(sqft)			HTM		Load
Window	Pn/SHGC/U/InSh/ExSh/IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
1	2, Clear, 0.87, B-M, N,H	E	0ft.	0ft.	75.0	0.0	75.0	21	62	4678 Btuh
2	2, Clear, 0.87, B-M, N,H	S	0ft.	0ft.	30.0	0.0	30.0	21	26	781 Btuh
3	2, Clear, 0.87, B-M, N,H	W	0ft.	0ft.	75.0	0.0	75.0	21	62	4678 Btuh
	Window Total				180 (sqft)					10136 Btuh
Walls	Type		R-Value/U-Value		Area(sqft)			HTM		Load
1	Frame - Wood - Ext		13.0/0.09		1376.0			2.1		2870 Btuh
	Wall Total				1376 (sqft)					2870 Btuh
Doors	Type				Area (sqft)			HTM		Load
1	Insulated - Exterior				60.0			9.8		588 Btuh
	Door Total				60 (sqft)					588 Btuh
Ceilings	Type/Color/Surface		R-Value		Area(sqft)			HTM		Load
1	Vented Attic/Light/Metal		30.0		1728.0			1.3		2311 Btuh
	Ceiling Total				1728 (sqft)					2311 Btuh
Floors	Type		R-Value		Size			HTM		Load
1	Slab On Grade		0.0		172 (ft(p))			0.0		0 Btuh
	Floor Total				172.0 (sqft)					0 Btuh
						Envelope Subtotal:				15906 Btuh
Infiltration	Type		ACH		Volume(cuft)	wall area(sqft)		CFM=		Load
	SensibleNatural		0.07		13824	1376		32.3		300 Btuh
Internal gain			Occupants		Btuh/occupant			Appliance		Load
			0		X 230	+		0		0 Btuh
						Sensible Envelope Load:				16206 Btuh
Duct load						(DGM of 0.000)				0 Btuh
						Sensible Load All Zones				**16206 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

11/23/2007

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**16206 Btuh**
	Sensible Duct Load	0 Btuh
	Total Sensible Zone Loads	**16206 Btuh**
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	**16206 Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	589 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	0 Btuh
	Latent occupant gain (0 people @ 200 Btuh per person)	0 Btuh
	Latent other gain	0 Btuh
	Latent total gain	**589 Btuh**
	TOTAL GAIN	**16795 Btuh**

EQUIPMENT

1. Central Unit	#	30000 Btuh

*Key: Window types (Pn - Number of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(U - Window U-Factor or 'DEF' for default)
(InSh - Interior shading device: none(N), Blinds(B), Draperies(D) or Roller Shades(R))
(ExSh - Exterior shading device: none(N) or numerical value)
(BS - Insect screen: none(N), Full(F) or Half(H))
(Ornt - compass orientation)

Version 8
For Florida residences only

System Sizing Calculations - Winter

Residential Load - Room by Room Component Details

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F
This calculation is for Worst Case. The house has been rotated 90 degrees.

11/23/2007

Component Loads for Zone #1: 1st Floor

Window	Panes/SHGC/Frame/U	Orientation	Area(sqft) X	HTM=	Load
1	2, Clear, Metal, 0.87	E	75.0	32.2	2414 Btuh
2	2, Clear, Metal, 0.87	S	30.0	32.2	966 Btuh
3	2, Clear, Metal, 0.87	W	75.0	32.2	2414 Btuh
	Window Total		180(sqft)		5794 Btuh
Walls	Type	R-Value	Area X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	1376	3.3	4519 Btuh
	Wall Total		1376		4519 Btuh
Doors	Type		Area X	HTM=	Load
1	Insulated - Exterior		60	12.9	777 Btuh
	Door Total		60		777Btuh
Ceilings	Type/Color/Surface	R-Value	Area X	HTM=	Load
1	Vented Attic/L/Meta	30.0	1728	1.2	2036 Btuh
	Ceiling Total		1728		2036Btuh
Floors	Type	R-Value	Size X	HTM=	Load
1	Slab On Grade	0	172.0 ft(p)	43.7	7510 Btuh
	Floor Total		172		7510 Btuh
			Zone Envelope Subtotal:		20636 Btuh
Infiltration	Type	ACH X	Volume(cuft)	walls(sqft)	CFM=
	Natural	0.14	13824	1376	32.3	1307 Btuh
Ductload	Average sealed, Supply(R6.0-Cond.), Return(R6.0-Cond)(DLM of 0.000)				0 Btuh
Zone #1			**Sensible Zone Subtotal**		**21943 Btuh**

WHOLE HOUSE TOTALS

	Subtotal Sensible	21943 Btuh
	Ventilation Sensible	0 Btuh
	Total Btuh Loss	21943 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

11/23/2007

EQUIPMENT		
1. Electric Heat Pump	#	30000 Btuh

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(Frame types - metal, wood or insulated metal)
(U - Window U-Factor or 'DEF' for default)
(HTM - ManualJ Heat Transfer Multiplier)
Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types)

Version 8
For Florida residences only

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

Reference City: Gainesville (Defaults) Winter Temperature Difference: 37.0 F

11/23/2007

This calculation is for Worst Case. The house has been rotated 90 degrees.

Component Loads for Whole House

Window	Panes/SHGC/Frame/U	Orientation	Area(sqft) X	HTM=	Load
1	2, Clear, Metal, 0.87	E	75.0	32.2	2414 Btuh
2	2, Clear, Metal, 0.87	S	30.0	32.2	966 Btuh
3	2, Clear, Metal, 0.87	W	75.0	32.2	2414 Btuh
	Window Total		180(sqft)		5794 Btuh
Walls	Type	R-Value	Area X	HTM=	Load
1	Frame - Wood - Ext(0.09)	13.0	1376	3.3	4519 Btuh
	Wall Total		1376		4519 Btuh
Doors	Type		Area X	HTM=	Load
1	Insulated - Exterior		60	12.9	777 Btuh
	Door Total		60		777Btuh
Ceilings	Type/Color/Surface	R-Value	Area X	HTM=	Load
1	Vented Attic/L/Meta	30.0	1728	1.2	2036 Btuh
	Ceiling Total		1728		2036Btuh
Floors	Type	R-Value	Size X	HTM=	Load
1	Slab On Grade	0	172.0 ft(p)	43.7	7510 Btuh
	Floor Total		172		7510 Btuh
			Envelope Subtotal:		20636 Btuh
Infiltration	Type	ACH X	Volume(cuft)	walls(sqft) CFM=	
	Natural	0.14	13824	1376 32.3	1307 Btuh
Ductload				(DLM of 0.000)	0 Btuh
All Zones			**Sensible Subtotal All Zones**		**21943 Btuh**

WHOLE HOUSE TOTALS

	Subtotal Sensible	21943 Btuh
	Ventilation Sensible	0 Btuh
	Total Btuh Loss	21943 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

John Graham
[redacted]
Lake city, Fl

Project Title:
John Graham

Code Only
Professional Version
Climate: North

11/23/2007

EQUIPMENT		
1. Electric Heat Pump	#	30000 Btuh

Key: Window types (SHGC - Shading coefficient of glass as SHGC numerical value or as clear or tint)
(Frame types - metal, wood or insulated metal)
(U - Window U-Factor or 'DEF' for default)
(HTM - ManualJ Heat Transfer Multiplier)
Key: Floor size (perimeter(p) for slab-on-grade or area for all other floor types)

Version 8
For Florida residences only

CERTIFICATE OF OCCUPANCY

COLUMBIA COUNTY, FLORIDA

Department of Building and Zoning Inspection

This Certificate of Occupancy is issued to the below named permit holder for the building and premises at the below named location, and certifies that the work has been completed in accordance with the Columbia County Building Code.

Parcel Number 29-5S-17-09446-001 **Building permit No.** 000026512

Use Classification SFD,UTILITY **Fire:** 19.26

Permit Holder OWNER BUILDER **Waste:** 50.25

Owner of Building JOHN WALTER GRAHAM **Total:** 69.51

Location: 2818 SW CR 349, LAKE CITY, FL

Date: 07/14/2008

Wayne H. Rust

Building Inspector

POST IN A CONSPICUOUS PLACE
(Business Places Only)