Columbia County Building Permit Application

Revised 9-23-04

For Office Use Only Application # 0605-86 Date Received 5/24/06 By G Permit # 24583

Application Approved by - Zoning Official BLK Date 01.06.06 Plans Examiner OK JTH Date 5-30-06

Flood Zone X Development Permit N/A Zoning A-3 Land Use Plan Map Category A-3

Comments Section 2.3.1

~~E# needed~~ 752-6369

Applicants Name Mangrum Construction, Inc / David Mangrum Phone 386-752-6399

Address P.O. Box 2103 Lake City, Fl 32056-2103

Owners Name Mangrum Construction, Inc. Phone 386-752-6399

911 Address 426 SW Mollie Ter. Lake City, Fl 32024

Contractors Name Mangrum Construction, Inc. Phone 386-752-6399

Address P.O. Box 2103 Lake City, Fl 32056-2103

Fee Simple Owner Name & Address N/A

Bonding Co. Name & Address N/A

Architect/Engineer Name & Address Fred C. Jones P.E.

Mortgage Lenders Name & Address CASH

Circle the correct power company – FL Power & Light – (Clay Elec.) – Suwannee Valley Elec. – Progressive Energy

Property ID Number 07 4S 16 02808.017 Estimated Cost of Construction 80,000.00

Subdivision Name Barwick West (Unrecorded) Lot 8 Block ____ Unit ____ Phase ____

Driving Directions US 90 W to Pinemount Rd go SW to Barwick Rd, Turn Left go to Parker Rd turn Right go to Mollie Ter turn Left Lot's #[illegible] & #8 500 yards on the right. 2nd to last on right.

Type of Construction Residented New Construction Number of Existing Dwellings on Property 0

Total Acreage 2.950 Lot Size 128.33x372 Do you need a - Culvert Permit or Culvert Waiver or Have an Existing Drive

Actual Distance of Structure from Property Lines - Front 100' Side 86.38 Side 86.38 Rear 436.80

Total Building Height 17' Number of Stories 1 Heated Floor Area 1438 Roof Pitch 4/12

Porch 20 GARAGE 400 TOTAL 1958

Application is hereby made to obtain a permit to do work and installations as indicated. I certify that no work or installation has commenced prior to the issuance of a permit and that all work be performed to meet the standards of all laws regulating construction in this jurisdiction.

OWNERS AFFIDAVIT: I hereby certify that all the foregoing information is accurate and all work will be done in compliance with all applicable laws and regulating construction and zoning.

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

Mangrum Construction, Inc.
Owner/Builder or Agent (Including Contractor)

David E Mangrum
Contractor Signature

Contractors License Number RB-29003100

Competency Card Number 5661

STATE OF FLORIDA
COUNTY OF COLUMBIA

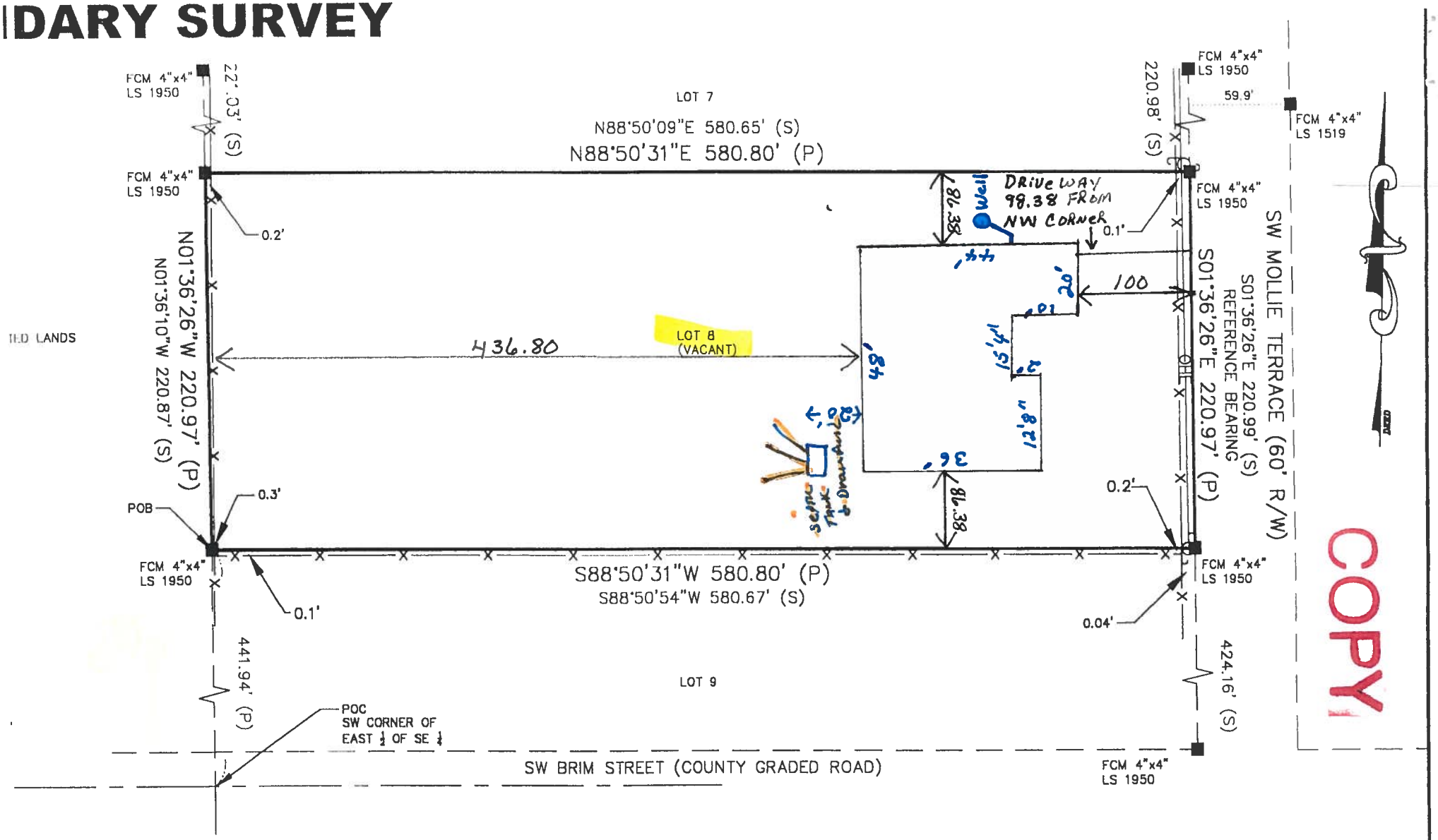
Sworn to (or affirmed) and subscribed before me this 24th day of May 2006.

Personally known ✓ or Produced Identification ____

NOTARY SEAL
Comm# DD0535439
Expires 4/2/2010
Bonded by (800)432-4254
Florida Notary Assn. Inc

Debra A Bowden
Notary Signature

IDARY SURVEY



COPY

TED LANDS

D. THE PUBLIC RECORDS, ENTS, TITLE, COVENANTS, ETC., THERE COULD BE L.

Y DIRECT STANDARDS -6, FLORIDA JES.

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

REV:		
WILLIAM N. KITCHEN PROFESSIONAL SURVEYOR AND MAPPER 152 N MARION AVENUE LAKE CITY, FLORIDA 32055 PHONE (386) 755-7786	DRAWN BY: RI	FIELD BOOK: 06087
	SCALE: 1" = 80'	
	SURVEY DATE: MARCH 7, 2006	
	JOB NUMBER	SHEET
CLIENT: MANGRUM CONSTRUCTION, INC.	06087	1 OF 1

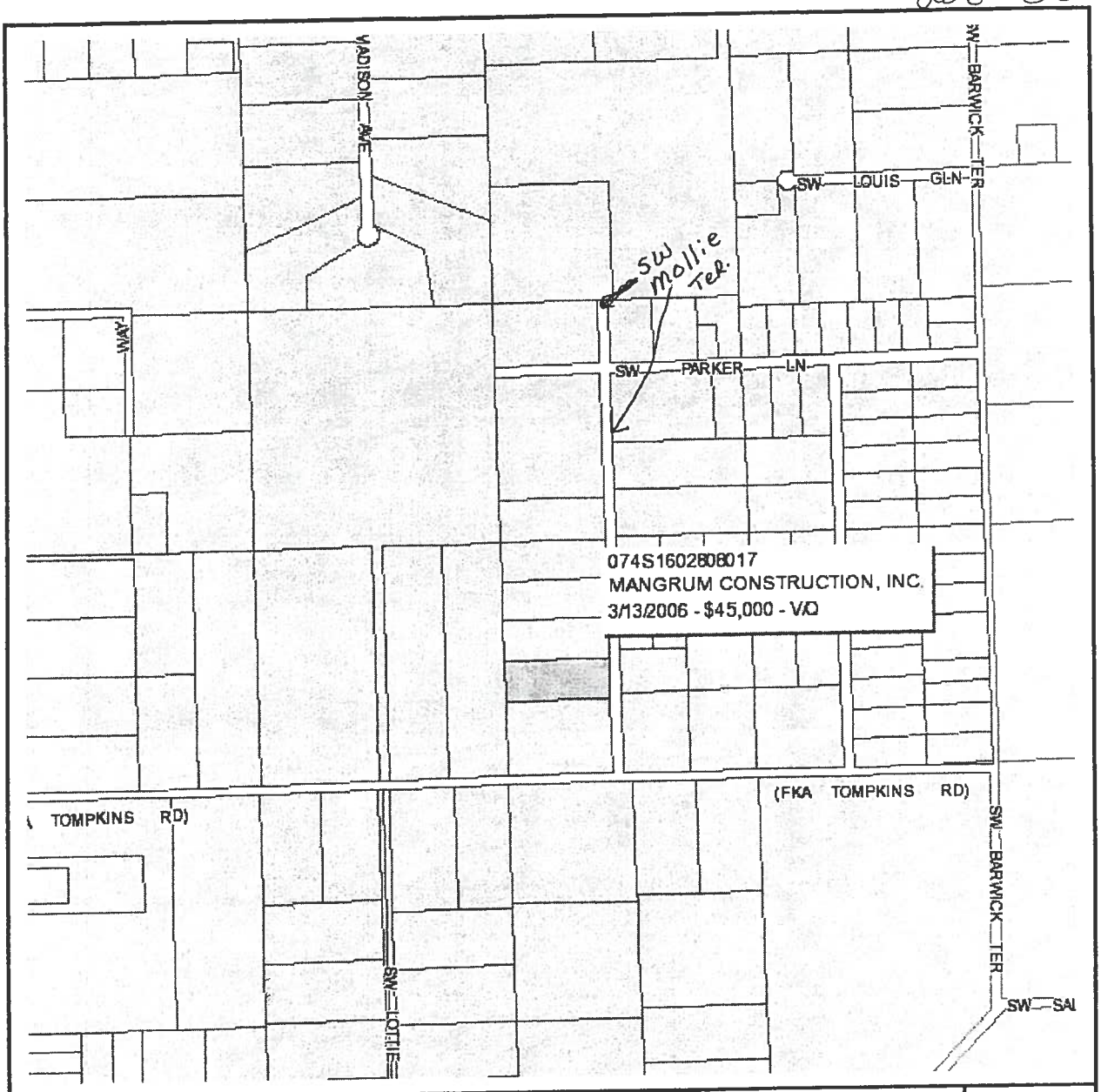
LEGEND

(P) = PLAT
(S) = SURVEY MEASUREMENT
NOID = NO SURVEYORS IDENTIFICATION
LS = LAND SURVEYOR
FCM = FOUND CONCRETE MONUMENT
POC = POINT OF COMMENCEMENT
POB = POINT OF BEGINNING
R/W = RIGHT OF WAY
OHE = OVER HEAD ELECTRIC

X --- X = WIRE FENCE
= POWER POLE

Lot #08

COPY



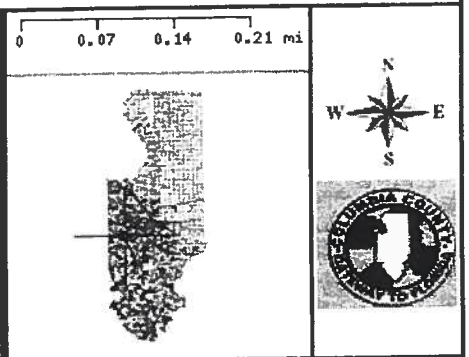
Columbia County Property Appraiser

J. Doyle Crews, CFA - Lake City, Florida - 386-758-1083

PARCEL: 07-4S-16-02808-017 - NO AG ACRE (009900) 2.950Acles

COMM AT THE SW COR OF THE E 1/2 OF THE SE 1/4. RUN N 441.94 FT. TO POB. CONT. N

Name:	MANGRUM CONSTRUCTION, INC.	LandVal	$29,500.00
Site:		BldgVal	$0.00
Mail:	634 SE MAYHALL TERR LAKE CITY, FL 32025	ApprVal	$29,500.00
		JustVal	$29,500.00
Sales Info	3/13/2006 $45,000.00 V / Q	Assd	$29,500.00
		Exmpt	$0.00
		Taxable	$29,500.00



This information, GIS Map Updated: 4/6/2006, was derived from data which was compiled by the Columbia County Property Appraiser Office solely for the governmental purpose of property assessment. This information should not be relied upon by anyone as a determination of the ownership of property or market value. No warranties, expressed or implied, are provided for the accuracy of the data herein, it's use, or it's interpretation. Although it is periodically updated, this information may not reflect the data currently on file in the Property Appraiser's office. The assessed values are NOT certified values and therefore are subject to change before being finalized for ad valorem assessment purposes.

WARRANTY DEED

THIS INDENTURE, made this 13 day of March, 2006, between C. A. BOSTON, JR. and BETTY L. BOSTON, his wife, whose address is Post Office Box 721, Lake City, Florida 32056, Grantors, and MANGRUM CONSTRUCTION, INC., a Florida corporation, whose address is 634 SE Mayhall Terrace, Lake City, Florida 32025, Grantee,

W I T N E S S E T H:

That said Grantors, for and in consideration of the sum of TEN AND NO/100 ($10.00) DOLLARS, and other good and valuable considerations to said Grantors in hand paid by said Grantee, the receipt whereof is hereby acknowledged, have granted, bargained and sold to the said Grantee, and Grantee's heirs, successors and assigns forever, the following described land, situate, lying and being in COLUMBIA County, Florida, to-wit:

SEE SCHEDULE A ATTACHED HERETO (Lot 8)

Tax parcel number R02808-016 (cutout)

SUBJECT TO: Taxes for 2006 and subsequent years; restrictions and easements of record; and easements shown by the plat of said property.

Said Grantors do hereby fully warrant the title to said land and will defend the same against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, Grantors have hereunto set their hands and seals the day and year first above written.

Signed, sealed and delivered
in the presence of:

Print Name: Eddie M. Anderson

Print Name: Julie Calloway
Witnesses as to Grantors

C. A. BOSTON, JR.

BETTY L. BOSTON

This Instrument Prepared by
EDDIE M. ANDERSON, P.A.
P. O. Box 1179
Lake City, Florida 32056-1179

STATE OF FLORIDA
COUNTY OF COLUMBIA

The foregoing instrument was acknowledged before me this 13 day of March, 2006, by C. A. BOSTON, JR. and BETTY L. BOSTON. They produced FLDL as identification.

Notary Public
My Commission Expires:

(Notarial Seal)

Notary Public State of Florida
Julie Calloway
My Commission DD501123
Expires 01/23/2010

Inst:2006006061 Date:03/13/2006 Time:13:23
Doc Stamp-Deed : 345.00
DC,P.DeWitt Cason,Columbia County B:1076 P:2684

SCHEDULE A TO WARRANTY DEED

BOSTON to MANGRUM CONSTRUCTION, INC.

(Lot 8, Barwick West, unrecorded)

TOWNSHIP 4 SOUTH, RANGE 16 EAST

Section 7: Commence at the Southwest corner of the East 1/2 of the SE 1/4 and run N 01 deg. 36' 26" W 441.94 feet to the point of beginning; thence continue N 01 deg. 36' 26" W 220.97 feet; thence N 88 deg. 50' 31 E 580.80 feet; thence S 01 deg. 36' 26" E 220.97 feet; thence S 88 deg. 50' 31" W 580.80 feet to the point of beginning. Lying in Columbia County, Florida.

Inst:2006006061 Date:03/13/2006 Time:13:23
Doc Stamp-Deed : 315.00
DC,P.DeWitt Cason,Columbia County B:1076 P:2685

COLUMBIA COUNTY 9-1-1 ADDRESSING

P. O. Box 1787, Lake City, FL 32056-1787
PHONE: (386) 758-1125 * FAX: (386) 758-1365 * Email: ron_croft@columbiacountyfla.com

Addressing Maintenance

To maintain the Countywide Addressing Policy you must make application for a 9-1-1 Address at the time you apply for a building permit. The established standards for assigning and posting numbers to all principal buildings, dwellings, businesses and industries are contained in Columbia County Ordinance 2001-9. The addressing system is to enable Emergency Service Agencies to locate you in an emergency, and to assist the United States Postal Service and the public in the timely and efficient provision of services to residents and businesses of Columbia County.

DATE REQUESTED: 4/20/2006 **DATE ISSUED:** 4/27/2006

ENHANCED 9-1-1 ADDRESS:

426 SW MOLLIE TER

LAKE CITY FL 32024

PROPERTY APPRAISER PARCEL NUMBER:

07-4S-16-02808-017

Remarks:

Address Issued By: _____
Columbia County 9-1-1 Addressing / GIS Department

NOTICE: THIS ADDRESS WAS ISSUED BASED ON LOCATION INFORMATION RECEIVED FROM THE REQUESTER. SHOULD, AT A LATER DATE, THE LOCATION INFORMATION BE FOUND TO BE IN ERROR, THIS ADDRESS IS SUBJECT TO CHANGE.

COLUMBIA COUNTY
9-1-1 ADDRESSING
APPROVED

Pat Lynch
LYNCH DRILLING Corp.
P. O. BOX 934
Branford, FL 32008-0934
(386) 935-1076

Mangrum Construction
P.O. Box 2103
Lake City, Fl 32056-2103

DATE: 5-24-06

4" Water well complete with 4" black water well steel casing, 1HP submersible pump (20 gpm) with 1 ¼" galvanized drop pipe, and 81 gallon captive air tank (21.9 gallon drawdown) (maximum 100 feet included) ....

Well will be complete at the well site. We do not include electrical nor plumbing connections from the well to the home and/or power pole.

Prices on estimates are subject to change, if estimate is over 30 days old, unless specific arrangements are made to extend limit. Estimated depths are available upon request and after review of the specified location.

THANK YOU!

Seller shall retain title to the described merchandise until such merchandise has been paid for by the buyer, however, buyer shall have the right to use, display, move, prepare, or otherwise deal with the merchandise solely in connection with the sale of such merchandise to buyers in the ordinary course of business. The merchandise delivered hereby is to be paid for upon delivery and if not paid for within thirty (30) days after receipt, interest and service charges shall accrue at the rate of 1 ½% per month; this charge is equivalent to an interest rate of 18% per annum from the date of receipt. In the event it shall become necessary for seller to collect the purchase price, or any part thereof, buyer agrees to pay to seller all of the cost of collection including reasonable attorney's fees and all incidental damages suffered by the seller. The buyer shall have five (5) days after receipt to notify seller of any defects or shortages in the merchandise. If buyer has not so notified seller within such five-day period such rights shall have waived and such merchandise shall be deemed to have been received in good condition. Seller warrants that the merchandise is merchantable and free from defects in material and workmanship. Seller makes no other express or implied warranties and does not warrant that the merchandise is fit for any particular purpose. Buyer further agrees that the site of this contract and place for payment is Suwannee County, Florida. The buyer acknowledges acceptance of the above-stated items and conditions if this sale by his receipt and retention for five days the merchandise shipped or delivered by the seller.

NOT RESPONSIBLE FOR QUALITY OF WATER

Property ID Number 07 4S 16 02808.017

Subdivision Name Barwick West (Unrecorded) Lot 8 Block ____ Unit ____ Phase ____

Driving Directions US 90 W to Piemount Rd go SW to Barwick Rd, Turn Left go to Parker Rd turn Right go to Mollie Ter. turn Left Lot's #6 #7 & #8 500 yards on the right.

911 Address: 426 SW Mollie Ter.
Lake City, FL. 32024

NOTICE OF COMMENCEMENT FORM
COLUMBIA COUNTY, FLORIDA

THIS DOCUMENT MUST BE RECORDED AT THE COUNTY CLERKS OFFICE BEFORE YOUR FIRST INSPECTION.

THE UNDERSIGNED hereby gives notice that improvement will be made to certain real property, and in accordance with Chapter 713, Florida Statutes, the following information is provided in this Notice of Commencement.

Tax Parcel ID Number 07 4S 16 02808 017 **PERMIT NUMBER** _____

1. **Description of property: (legal description of the property and street address or 911 address)** 426 SW Mollie Ter Lake City, Fl 32024
Lot 8, Barwick West Township 4 South, Range 16 E Section 7: Commence at the Southwest Corner of the East ½ of the SE ¼ and run N01 deg. 36'2" W 662.91 feet to the point of beginning; thence continue N 01 deg. 36'26" W 220.97 feet; thence N 88 deg. 50' 31" E 580.80 feet; thence S 01 deg. 36'26" E 220.97 feet; thence S 88 deg. 50'31" W 580.80 feet to the point of beginning. Lying in Columbia County Fl
2. **General description of improvement:** Residential New Construction
3. **Owner Name & Address** Mangrum Construction, Inc. P.O. Box 2103 Lake City, Fl 32056-2103 **Interest in Property** 100 %
4. **Name & Address of Fee Simple Owner (if other than owner):** N/A
5. **Contractor Name** Mangrum Construction, Inc. **Phone Number** 386-752-6399
Address P.O. Box 2103 Lake City, Fl 32056-2103
6. **Surety Holders Name** N/A **Phone Number** _____
Address _____
Amount of Bond _____
7. **Lender Name** N/A **Phone Number** _____
Address _____
8. **Persons within the State of Florida designated by the Owner upon whom notices or other documents may be served as provided by section 718.13 (1)(a) 7; Florida Statutes:**
Name David E Mangrum **Phone Number** 386-752-6399
Address P.O. Box 2103 Lake City, Fl 32056-2103
9. **In addition to himself/herself the owner designates** N/A **of** _____ **to receive a copy of the Lienor's Notice as provided in Section 713.13 (1) –**
(a) 7. Phone Number of the designee N/A
10. **Expiration date of the Notice of Commencement (the expiration date is 1 (one) year from the date of recording, *(Unless a different date is specified)*** _____

NOTICE AS PER CHAPTER 713, Florida Statutes:
The owner must sign the notice of commencement and no one else may be permitted to sign in his/her stead.

David E Mangrum
Signature of Owner
Print

Sworn to (or affirmed) and subscribed before me this 24th day of May, 2006

NOTARY STAMP/SEAL
DEBRA ANN BOWDEN
Comm# DD0535439
Expires 4/2/2010
Bonded by (800)432-4254
Florida Notary Assn. Inc

Signature of Notary Debra A Bowden

Inst:200612603 Date:05/24/2006 Time:12:52
DC,P.DeWitt Cason,Columbia County B:1064 P:1572

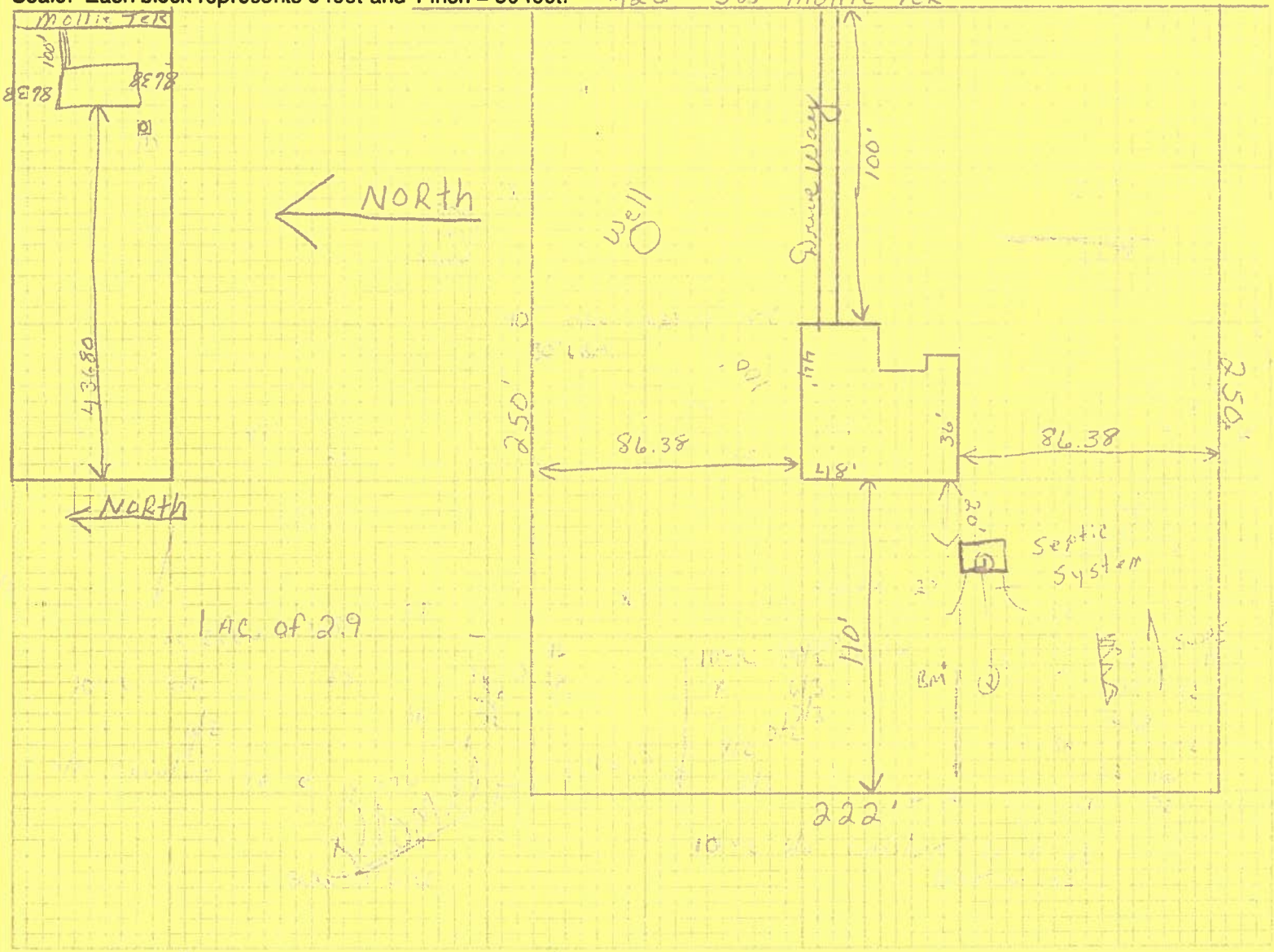
STATE OF FLORIDA
DEPARTMENT OF HEALTH

APPLICATION FOR ONSITE SEWAGE DISPOSAL SYSTEM CONSTRUCTION PERMIT

Permit Application Number 0508N

PART II - SITE PLAN

Scale: Each block represents 5 feet and 1 inch = 50 feet. 426 SW Mollie Ter



Notes: Lot 8 Barwick West Subdivision

Site Plan submitted by: Daniel E Allan
Signature

Title

Plan Approved X Not Approved _____ Date 5/30/06

By _____ County Health Department

ALL CHANGES MUST BE APPROVED BY THE COUNTY HEALTH DEPARTMENT

GLENN I. JONES, INC. COOLING & HEATING SPECIALISTS

Project Summary
Entire House

Job: ryan model
Date: May 15, 2006
By: Louis Weeks

APPLICATION # 0605-86

Project Information

For: Mangrum Construction, Inc.
P.O. Box 2103, Lake City, Fl 32056-2103
Phone: 386-752-6399 Fax: 386-752-6369

Notes: This is a test

Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

Outside db	33	°F
Inside db	70	°F
Design TD	37	°F

Summer Design Conditions

Outside db	92	°F
Inside db	75	°F
Design TD	17	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	52	gr/lb

Heating Summary

Structure	19685	Btuh
Ducts	5673	Btuh
Central vent (103 cfm)	4176	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	29534	Btuh

Sensible Cooling Equipment Load Sizing

Structure	14528	Btuh
Ducts	7058	Btuh
Central vent (103 cfm)	1919	Btuh
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	0.97	
Equipment sensible load	22799	Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

	Heating	Cooling
Area (ft²)	1438	1438
Volume (ft³)	12630	12630
Air changes/hour	0.16	0.08
Equiv. AVF (cfm)	34	17

Latent Cooling Equipment Load Sizing

Structure	1792	Btuh
Ducts	1688	Btuh
Central vent (103 cfm)	3627	Btuh
Equipment latent load	7107	Btuh
Equipment total load	29906	Btuh
Req. total capacity at 0.70 SHR	2.7	ton

Heating Equipment Summary

Make Carrier
Trade Comfort 12 Heat Pump
Model 38YRA03632

Efficiency	7.3 HSPF	
Heating input		
Heating output	35000	Btuh @ 47°F
Temperature rise	29	°F
Actual air flow	1087	cfm
Air flow factor	0.043	cfm/Btuh
Static pressure	0.00	in H2O
Space thermostat		

Cooling Equipment Summary

Make Carrier
Trade Comfort 12 Heat Pump
Cond 38YRA03632
Coil CE3AXA036000

Efficiency	13 SEER	
Sensible cooling	22820	Btuh
Latent cooling	9780	Btuh
Total cooling	32600	Btuh
Actual air flow	1087	cfm
Air flow factor	0.050	cfm/Btuh
Static pressure	0.00	in H2O
Load sensible heat ratio	0.77	

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs

Residential Whole Building Performance Method A

Project Name:	**mangrum-ryan model**	Builder:	
Address:	**Lot: , Sub: , Plat:**	Permitting Office:	
City, State:	,	Permit Number:	
Owner:	**mangrum construction**	Jurisdiction Number:	
Climate Zone:	**North**		

1.	New construction or existing	New	
2.	Single family or multi-family	Single family	
3.	Number of units, if multi-family	1	
4.	Number of Bedrooms	3	
5.	Is this a worst case?	Yes	
6.	Conditioned floor area (ft²)	1438 ft²	
7.	Glass type[1] and area: (Label reqd. by 13-104.4.5 if not default)		
a.	U-factor: (or Single or Double DEFAULT)	Description Area 7a. (Dble Default) 175.3 ft²	
b.	SHGC: (or Clear or Tint DEFAULT)	7b. (Clear) 175.3 ft²	
8.	Floor types		
a.	Slab-On-Grade Edge Insulation	R=0.0, 196.7(p) ft	
b.	N/A		
c.	N/A		
9.	Wall types		
a.	Concrete, Int Insul, Exterior	R=5.0, 1770.3 ft²	
b.	Frame, Wood, Adjacent	R=11.0, 260.0 ft²	
c.	N/A		
d.	N/A		
e.	N/A		
10.	Ceiling types		
a.	Under Attic	R=30.0, 1438.0 ft²	
b.	N/A		
c.	N/A		
11.	Ducts		
a.	Sup: Unc. Ret: Unc. AH: Garage	Sup. R=6.0, 106.4 ft	
b.	N/A		

12.	Cooling systems		
a.	Central Unit	Cap: 32.6 kBtu/hr	
		SEER: 13.00	
b.	N/A		
c.	N/A		
13.	Heating systems		
a.	Electric Heat Pump	Cap: 35.0 kBtu/hr	
		HSPF: 8.00	
b.	N/A		
c.	N/A		
14.	Hot water systems		
a.	Electric Resistance	Cap: 40.0 gallons	
		EF: 0.92	
b.	N/A		
c.	Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)		
15.	HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)		

Glass/Floor Area: 0.12

Total as-built points: 24391
Total base points: 25028

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: _____

DATE: _____

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

GREAT SEAL OF THE STATE OF FLORIDA — IN GOD WE TRUST

BUILDING OFFICIAL: _____

DATE: _____

1 Predominant glass type. For actual glass type and areas, see Summer & Winter Glass output on pages 2&4.

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

BASE				AS-BUILT								
GLASS TYPES .18 X Conditioned Floor Area	X BSPM	= Points		Type/SC	Overhang Ornt	Len	Hgt	Area X	SPM X	SOF	= Points	
.18	1438.0	20.04	5187.2	Double, Clear	SE	1.5	6.0	50.0	42.75	0.88	1888.3	
				Double, Clear	SW	1.5	6.0	43.3	40.16	0.89	1539.0	
				Double, Clear	NE	1.5	6.0	15.0	29.56	0.92	408.1	
				Double, Clear	NE	1.5	8.0	42.0	29.56	0.96	1191.6	
				Double, Clear	NW	1.5	6.0	25.0	25.97	0.93	600.9	
				As-Built Total:				**175.3**			**5628.0**	
WALL TYPES	Area X	BSPM	= Points	Type			R-Value	Area X	SPM	=	Points	
Exterior	1770.3	1.70	3009.5	Concrete, Int Insul, Exterior			5.0	1770.3	1.00		1770.3	
Adjacent	260.0	0.70	182.0	Frame, Wood, Adjacent			11.0	260.0	0.70		182.0	
Base Total:	**2030.3**		**3191.5**	**As-Built Total:**				**2030.3**			**1952.3**	
DOOR TYPES	Area X	BSPM	= Points	Type				Area X	SPM	=	Points	
Exterior	21.0	4.10	86.1	Exterior Wood				21.0	6.10		128.1	
Adjacent	0.0	0.00	0.0									
Base Total:	**21.0**		**86.1**	**As-Built Total:**				**21.0**			**128.1**	
CEILING TYPES	Area X	BSPM	= Points	Type			R-Value	Area X	SPM X SCM	=	Points	
Under Attic	1438.0	1.73	2487.7	Under Attic			30.0	1438.0	1.73 X 1.00		2487.7	
Base Total:	**1438.0**		**2487.7**	**As-Built Total:**				**1438.0**			**2487.7**	
FLOOR TYPES	Area X	BSPM	= Points	Type			R-Value	Area X	SPM	=	Points	
Slab	196.7(p)	-37.0	-7277.9	Slab-On-Grade Edge Insulation			0.0	196.7(p	-41.20		-8104.0	
Raised	0.0	0.00	0.0									
Base Total:			**-7277.9**	**As-Built Total:**				**196.7**			**-8104.0**	
INFILTRATION	Area X	BSPM	= Points					Area X	SPM	=	Points	
	1438.0	10.21	14682.0					1438.0	10.21		14682.0	

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

BASE			AS-BUILT					
Summer Base Points: 18356.6			**Summer As-Built Points:**					**16774.1**
Total Summer Points	X System Multiplier	= Cooling Points	Total Component (System - Points)	X Cap Ratio	X Duct Multiplier (DM x DSM x AHU)	X System Multiplier	X Credit Multiplier	= Cooling Points
			(sys 1: Central Unit 32600 btuh ,SEER/EFF(13.0) Ducts:Unc(S),Unc(R),Gar(AH),R6.0(INS)					
18356.6	**0.4266**	**7830.9**	16774 **16774.1**	1.00 **1.00**	(1.09 x 1.147 x 1.00) **1.250**	0.263 **0.263**	1.000 **1.000**	5505.8 **5505.8**

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

BASE				AS-BUILT								
GLASS TYPES .18 X Conditioned Floor Area	X BWPM	= Points		Type/SC	Overhang Ornt	Len	Hgt	Area X	WPM X	WOF	= Points	
.18	1438.0	12.74	3297.6	Double, Clear	SE	1.5	6.0	50.0	14.71	1.10	806.1	
				Double, Clear	SW	1.5	6.0	43.3	16.74	1.06	768.4	
				Double, Clear	NE	1.5	6.0	15.0	23.57	1.01	355.8	
				Double, Clear	NE	1.5	8.0	42.0	23.57	1.00	991.9	
				Double, Clear	NW	1.5	6.0	25.0	24.30	1.00	609.3	
				As-Built Total:				**175.3**			**3531.5**	
WALL TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM =		Points	
Exterior	1770.3	3.70	6550.1	Concrete, Int Insul, Exterior			5.0	1770.3	5.70		10090.7	
Adjacent	260.0	3.60	936.0	Frame, Wood, Adjacent			11.0	260.0	3.60		936.0	
Base Total:	**2030.3**		**7486.1**	**As-Built Total:**				**2030.3**			**11026.7**	
DOOR TYPES	Area X	BWPM =	Points	Type				Area X	WPM =		Points	
Exterior	21.0	8.40	176.4	Exterior Wood				21.0	12.30		258.3	
Adjacent	0.0	0.00	0.0									
Base Total:	**21.0**		**176.4**	**As-Built Total:**				**21.0**			**258.3**	
CEILING TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM X	WCM =	Points	
Under Attic	1438.0	2.05	2947.9	Under Attic			30.0	1438.0	2.05 X	1.00	2947.9	
Base Total:	**1438.0**		**2947.9**	**As-Built Total:**				**1438.0**			**2947.9**	
FLOOR TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM =		Points	
Slab	196.7(p)	8.9	1750.6	Slab-On-Grade Edge Insulation			0.0	196.7(p	18.80		3698.0	
Raised	0.0	0.00	0.0									
Base Total:			**1750.6**	**As-Built Total:**				**196.7**			**3698.0**	
INFILTRATION	Area X	BWPM =	Points					Area X	WPM =		Points	
	1438.0	-0.59	-848.4					1438.0	-0.59		-848.4	

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

BASE			AS-BUILT					
Winter Base Points:		**14810.2**	**Winter As-Built Points:**					**20614.0**
Total Winter Points	X System Multiplier	= Heating Points	Total Component (System - Points)	X Cap Ratio	X Duct Multiplier (DM x DSM x AHU)	X System Multiplier	X Credit Multiplier	= Heating Points
			(sys 1: Electric Heat Pump 35000 btuh ,EFF(8.0) Ducts:Unc(S),Unc(R),Gar(AH),R6.0					
			20614.0	1.000	(1.069 x 1.169 x 1.00)	0.426	1.000	10980.4
14810.2	**0.6274**	**9291.9**	**20614.0**	**1.00**	**1.250**	**0.426**	**1.000**	**10980.4**

WATER HEATING & CODE COMPLIANCE STATUS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

BASE				AS-BUILT							
WATER HEATING Number of Bedrooms	X	Multiplier	= Total	Tank Volume	EF	Number of Bedrooms	X Tank Ratio	X Multiplier	X Credit Multiplier	= Total	
3		2635.00	7905.0	40.0	0.92	3	1.00	2635.00	1.00	7905.0	
				As-Built Total:						**7905.0**	

CODE COMPLIANCE STATUS

BASE					AS-BUILT				
Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points		Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points	
7831	**9292**	**7905**	**25028**		**5506**	**10980**	**7905**	**24391**	

PASS

Code Compliance Checklist

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

6A-21 INFILTRATION REDUCTION COMPLIANCE CHECKLIST

COMPONENTS	SECTION	REQUIREMENTS FOR EACH PRACTICE	CHECK
Exterior Windows & Doors	606.1.ABC.1.1	Maximum:.3 cfm/sq.ft. window area; .5 cfm/sq.ft. door area.	
Exterior & Adjacent Walls	606.1.ABC.1.2.1	Caulk, gasket, weatherstrip or seal between: windows/doors & frames, surrounding wall; foundation & wall sole or sill plate; joints between exterior wall panels at corners; utility penetrations; between wall panels & top/bottom plates; between walls and floor. EXCEPTION: Frame walls where a continuous infiltration barrier is installed that extends from, and is sealed to, the foundation to the top plate.	
Floors	606.1.ABC.1.2.2	Penetrations/openings >1/8" sealed unless backed by truss or joint members. EXCEPTION: Frame floors where a continuous infiltration barrier is installed that is sealed to the perimeter, penetrations and seams.	
Ceilings	606.1.ABC.1.2.3	Between walls & ceilings; penetrations of ceiling plane of top floor; around shafts, chases, soffits, chimneys, cabinets sealed to continuous air barrier; gaps in gyp board & top plate; attic access. EXCEPTION: Frame ceilings where a continuous infiltration barrier is installed that is sealed at the perimeter, at penetrations and seams.	
Recessed Lighting Fixtures	606.1.ABC.1.2.4	Type IC rated with no penetrations, sealed; or Type IC or non-IC rated, installed inside a sealed box with 1/2" clearance & 3" from insulation; or Type IC rated with < 2.0 cfm from conditioned space, tested.	
Multi-story Houses	606.1.ABC.1.2.5	Air barrier on perimeter of floor cavity between floors.	
Additional Infiltration reqts	606.1.ABC.1.3	Exhaust fans vented to outdoors, dampers; combustion space heaters comply with NFPA, have combustion air.	

6A-22 OTHER PRESCRIPTIVE MEASURES (must be met or exceeded by all residences.)

COMPONENTS	SECTION	REQUIREMENTS	CHECK
Water Heaters	612.1	Comply with efficiency requirements in Table 612.1.ABC.3.2. Switch or clearly marked cir breaker (electric) or cutoff (gas) must be provided. External or built-in heat trap required.	
Swimming Pools & Spas	612.1	Spas & heated pools must have covers (except solar heated). Non-commercial pools must have a pump timer. Gas spa & pool heaters must have a minimum thermal efficiency of 78%.	
Shower heads	612.1	Water flow must be restricted to no more than 2.5 gallons per minute at 80 PSIG.	
Air Distribution Systems	610.1	All ducts, fittings, mechanical equipment and plenum chambers shall be mechanically attached, sealed, insulated, and installed in accordance with the criteria of Section 610. Ducts in unconditioned attics: R-6 min. insulation.	
HVAC Controls	607.1	Separate readily accessible manual or automatic thermostat for each system.	
Insulation	604.1, 602.1	Ceilings-Min. R-19. Common walls-Frame R-11 or CBS R-3 both sides. Common ceiling & floors R-11.	

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE SCORE* = 83.7

The higher the score, the more efficient the home.

mangrum construction, Lot: , Sub: , Plat: , , ,

1.	New construction or existing	New	
2.	Single family or multi-family	Single family	
3.	Number of units, if multi-family	1	
4.	Number of Bedrooms	3	
5.	Is this a worst case?	Yes	
6.	Conditioned floor area (ft²)	1438 ft²	
7.	Glass type[1] and area: (Label reqd. by 13-104.4.5 if not default)		
a.	U-factor:	Description Area	
	(or Single or Double DEFAULT) 7a.	(Dble Default) 175.3 ft²	
b.	SHGC:		
	(or Clear or Tint DEFAULT) 7b.	(Clear) 175.3 ft²	
8.	Floor types		
a.	Slab-On-Grade Edge Insulation	R=0.0, 196.7(p) ft	
b.	N/A		
c.	N/A		
9.	Wall types		
a.	Concrete, Int Insul, Exterior	R=5.0, 1770.3 ft²	
b.	Frame, Wood, Adjacent	R=11.0, 260.0 ft²	
c.	N/A		
d.	N/A		
e.	N/A		
10.	Ceiling types		
a.	Under Attic	R=30.0, 1438.0 ft²	
b.	N/A		
c.	N/A		
11.	Ducts		
a.	Sup: Unc. Ret: Unc. AH: Garage	Sup. R=6.0, 106.4 ft	
b.	N/A		

12.	Cooling systems		
a.	Central Unit	Cap: 32.6 kBtu/hr	
		SEER: 13.00	
b.	N/A		
c.	N/A		
13.	Heating systems		
a.	Electric Heat Pump	Cap: 35.0 kBtu/hr	
		HSPF: 8.00	
b.	N/A		
c.	N/A		
14.	Hot water systems		
a.	Electric Resistance	Cap: 40.0 gallons	
		EF: 0.92	
b.	N/A		
c.	Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)		
15.	HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)		

I certify that this home has complied with the Florida Energy Efficiency Code For Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: _____

Address of New Home: _____ City/FL Zip: _____

**NOTE: The home's estimated energy performance score is only available through the FLA/RES computer program. This is not a Building Energy Rating. If your score is 80 or greater (or 86 for a US EPA/DOE EnergyStar™ designation), your home may qualify for energy efficiency mortgage (EEM) incentives if you obtain a Florida Energy Gauge Rating. Contact the Energy Gauge Hotline at 321/638-1492 or see the Energy Gauge web site at www.fsec.ucf.edu for information and a list of certified Raters. For information about Florida's Energy Efficiency Code For Building Construction, contact the Department of Community Affairs at 850/487-1824.*

1 Predominant glass type. For actual glass type and areas, see Summer & Winter Glass output on pages 2&4.

From: The Columbia County Building & Zoning Department
Plan Review
135 NE Hernando Av.
P.O. Box 1529
Lake City Florida 32056-1529

Reference to a building permit application Number: 0605-86

Contractor: Mangrum Construction Owner: Mangrum Construction 462 SW Mollie Ter.

On the date of May 26, 2006 application 0605-86 and plans for construction of a single family dwelling were reviewed and the following information or alteration to the plans will be required to continue processing this application. If you should have any question please contact the above address, or contact phone number (386) 758-1163 or fax any information to (386) 754-7088.

Please include application number 0605-86 when making reference to this application.

To help ensure compliance with the Florida Residential Code 2004 the comments below need to be addressed on the plans.

1. Line 6, conditioned area square footage on form 600A-2004 of the Florida Energy Efficiency Code for Building Construction doesn't concur with the conditioned floor area on the submitted plans. The total conditioned areas on the plans are 1438 (square feet). Line 6 currently reads that the conditioned floor area equals1477 (square feet).

Please resubmit the corrected form to reflect on line 6 the actual total conditioned area to this department.

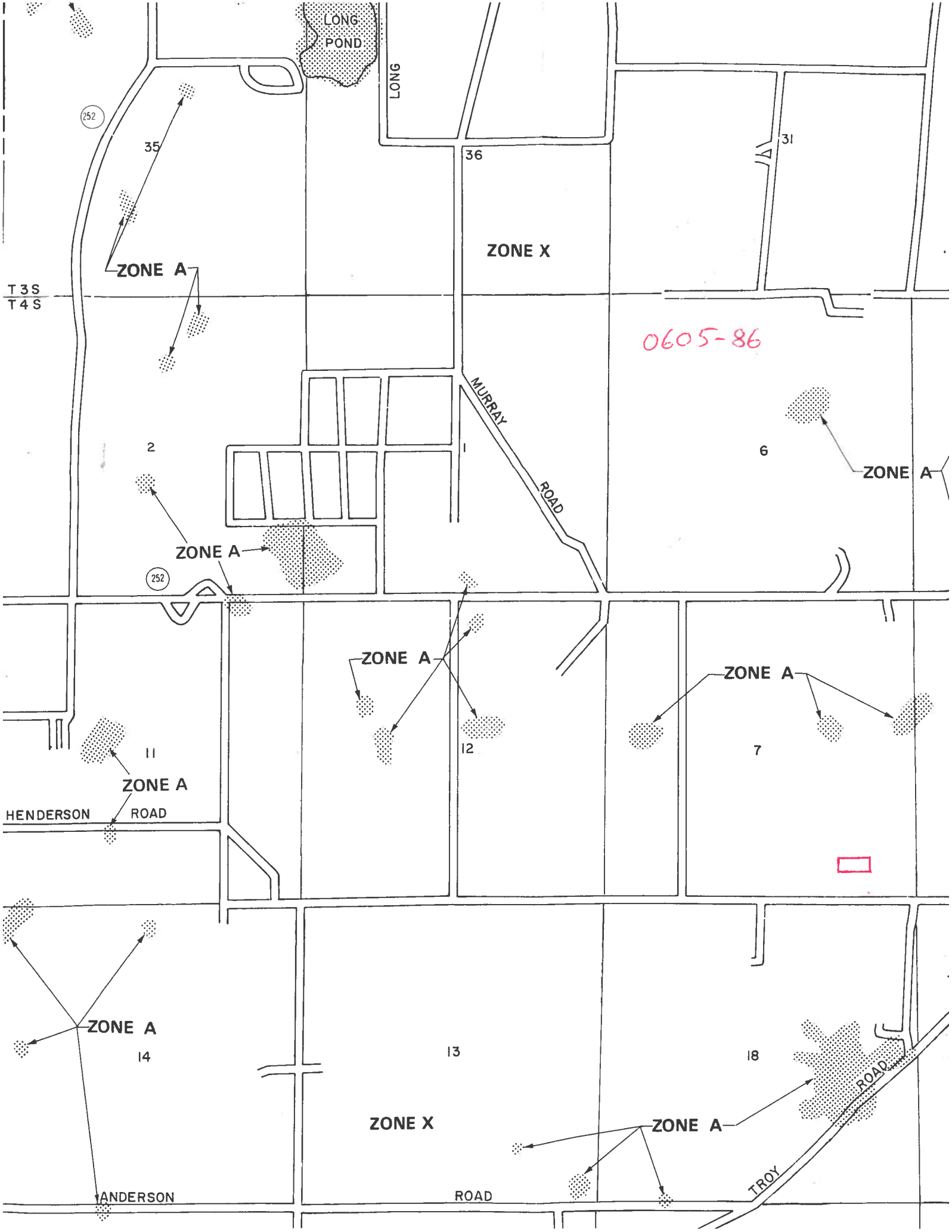
2. Please indicate on the plans one window in each bedroom which will comply with the FRC-2004 sections Section R310.1.1 Minimum opening area: All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.530 m2).
   Exception: Grade floor openings shall have a minimum net clear opening of **5 square feet** (0.465 m2): R310.1.2 Minimum opening height. The minimum net clear opening height shall be 24 inches (610 mm): R310.1.3 Minimum opening width. The minimum net clear opening width shall be 20 inches (508 mm).
3. Please apply the following building codes in the garage area FRC-2004 sections R309 R309.1 Opening protection: Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 13/8 inches (35 mm) thick, or 20-minute fire-rated doors. In the garage area show compliance with the FRC-2004 sections R309.1.1 Duct penetration: Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other approved material and shall have no openings into the garage. In the garage

area show compliance with the FRC-2004 sections R309.2 Separation required: The garage shall be separated from the residence and its attic area by not less than ½-inch (12.7 mm) gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than 5/8-inch (15.9 mm) Type X gypsum board or equivalent. Where the separation is a floor-ceiling assembly, the structure supporting the separation shall also be protected by not less than ½-inch (12.7 mm) gypsum board or equivalent.

4. On the electrical plan show the location of the electrical panel and include the total amperage rating of the electrical service panel also show the overcurrent protection device which shall be installed on the exterior of structures to serve as a disconnecting means. Conductors used from the exterior disconnecting means to a panel or sub panel shall have four-wire conductors, of which one conductor shall be used as an equipment ground.

Joe Haltiwanger

Plan Examiner
Columbia County Building Department


LONG POND
LONG
252
35
36
31
ZONE A
ZONE X
T3S
T4S
0605-86
MURRAY
ROAD
2
1
6
ZONE A
ZONE A
252
ZONE A
ZONE A
11
12
7
ZONE A
HENDERSON
ROAD
ZONE A
14
13
18
ROAD
ZONE X
ZONE A
TROY
ANDERSON
ROAD

GLENN I. JONES, INC. COOLING & HEATING SPECIALISTS

Project Summary
Entire House

Job: ryan model
Date: May 15, 2006
By: Louis Weeks

Application # 0605-86

Project Information

For: Mangrum Construction, Inc.
P.O. Box 2103, Lake City, Fl 32056-2103
Phone: 386-752-6399 Fax: 386-752-6369

Notes: This is a test

Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

Outside db	33	°F
Inside db	70	°F
Design TD	37	°F

Summer Design Conditions

Outside db	92	°F
Inside db	75	°F
Design TD	17	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	52	gr/lb

Heating Summary

Structure	19685	Btuh
Ducts	5673	Btuh
Central vent (103 cfm)	4176	Btuh
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	29534	Btuh

Sensible Cooling Equipment Load Sizing

Structure	14528	Btuh
Ducts	7058	Btuh
Central vent (103 cfm)	1919	Btuh
Blower	0	Btuh
Use manufacturer's data	n	
Rate/swing multiplier	0.97	
Equipment sensible load	22799	Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

	Heating	Cooling
Area (ft²)	1438	1438
Volume (ft³)	12630	12630
Air changes/hour	0.16	0.08
Equiv. AVF (cfm)	34	17

Latent Cooling Equipment Load Sizing

Structure	1792	Btuh
Ducts	1688	Btuh
Central vent (103 cfm)	3627	Btuh
Equipment latent load	7107	Btuh
Equipment total load	29906	Btuh
Req. total capacity at 0.70 SHR	2.7	ton

Heating Equipment Summary

Make Carrier
Trade Comfort 12 Heat Pump
Model 38YRA03632

Efficiency	7.3 HSPF	
Heating input		
Heating output	35000	Btuh @ 47°F
Temperature rise	29	°F
Actual air flow	1087	cfm
Air flow factor	0.043	cfm/Btuh
Static pressure	0.00	in H2O
Space thermostat		

Cooling Equipment Summary

Make Carrier
Trade Comfort 12 Heat Pump
Cond 38YRA03632
Coil CE3AXA036000

Efficiency	13 SEER	
Sensible cooling	22820	Btuh
Latent cooling	9780	Btuh
Total cooling	32600	Btuh
Actual air flow	1087	cfm
Air flow factor	0.050	cfm/Btuh
Static pressure	0.00	in H2O
Load sensible heat ratio	0.77	

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs

Residential Whole Building Performance Method A

Project Name:	**mangrum-ryan model**	Builder:	
Address:	**Lot: , Sub: , Plat:**	Permitting Office:	
City, State:	,	Permit Number:	
Owner:	**mangrum construction**	Jurisdiction Number:	
Climate Zone:	**North**		

1. New construction or existing	New	12. Cooling systems	
2. Single family or multi-family	Single family	a. Central Unit	Cap: 32.6 kBtu/hr
3. Number of units, if multi-family	1		SEER: 13.00
4. Number of Bedrooms	3	b. N/A	
5. Is this a worst case?	Yes		
6. Conditioned floor area (ft²)	1438 ft²	c. N/A	
7. Glass type[1] and area: (Label reqd. by 13-104.4.5 if not default)			
a. U-factor:	Description Area	13. Heating systems	
(or Single or Double DEFAULT)	7a. (Dble Default) 175.3 ft²	a. Electric Heat Pump	Cap: 35.0 kBtu/hr
b. SHGC:			HSPF: 8.00
(or Clear or Tint DEFAULT)	7b. (Clear) 175.3 ft²	b. N/A	
8. Floor types			
a. Slab-On-Grade Edge Insulation	R=0.0, 196.7(p) ft	c. N/A	
b. N/A			
c. N/A		14. Hot water systems	
9. Wall types		a. Electric Resistance	Cap: 40.0 gallons
a. Concrete, Int Insul, Exterior	R=5.0, 1770.3 ft²		EF: 0.92
b. Frame, Wood, Adjacent	R=11.0, 260.0 ft²	b. N/A	
c. N/A			
d. N/A		c. Conservation credits	
e. N/A		(HR-Heat recovery, Solar	
10. Ceiling types		DHP-Dedicated heat pump)	
a. Under Attic	R=30.0, 1438.0 ft²	15. HVAC credits	
b. N/A		(CF-Ceiling fan, CV-Cross ventilation,	
c. N/A		HF-Whole house fan,	
11. Ducts		PT-Programmable Thermostat,	
a. Sup: Unc. Ret: Unc. AH: Garage	Sup. R=6.0, 106.4 ft	MZ-C-Multizone cooling,	
b. N/A		MZ-H-Multizone heating)	

Glass/Floor Area: 0.12

Total as-built points: 24391
Total base points: 25028

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: _____

DATE: _____

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.

OWNER/AGENT: _____

DATE: _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: _____

DATE: _____

1 Predominant glass type. For actual glass type and areas, see Summer & Winter Glass output on pages 2&4.

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

BASE				AS-BUILT								
GLASS TYPES .18 X Conditioned Floor Area	X BSPM	= Points		Type/SC	Overhang Ornt	Len	Hgt	Area X	SPM X	SOF	= Points	
.18	1438.0	20.04	5187.2	Double, Clear	SE	1.5	6.0	50.0	42.75	0.88	1888.3	
				Double, Clear	SW	1.5	6.0	43.3	40.16	0.89	1539.0	
				Double, Clear	NE	1.5	6.0	15.0	29.56	0.92	408.1	
				Double, Clear	NE	1.5	8.0	42.0	29.56	0.96	1191.6	
				Double, Clear	NW	1.5	6.0	25.0	25.97	0.93	600.9	
				As-Built Total:				**175.3**			**5628.0**	
WALL TYPES	Area X	BSPM	= Points	Type			R-Value	Area X	SPM	=	Points	
Exterior	1770.3	1.70	3009.5	Concrete, Int Insul, Exterior			5.0	1770.3	1.00		1770.3	
Adjacent	260.0	0.70	182.0	Frame, Wood, Adjacent			11.0	260.0	0.70		182.0	
Base Total:	**2030.3**		**3191.5**	**As-Built Total:**				**2030.3**			**1952.3**	
DOOR TYPES	Area X	BSPM	= Points	Type				Area X	SPM	=	Points	
Exterior	21.0	4.10	86.1	Exterior Wood				21.0	6.10		128.1	
Adjacent	0.0	0.00	0.0									
Base Total:	**21.0**		**86.1**	**As-Built Total:**				**21.0**			**128.1**	
CEILING TYPES	Area X	BSPM	= Points	Type			R-Value	Area X	SPM X SCM	=	Points	
Under Attic	1438.0	1.73	2487.7	Under Attic			30.0	1438.0	1.73 X 1.00		2487.7	
Base Total:	**1438.0**		**2487.7**	**As-Built Total:**				**1438.0**			**2487.7**	
FLOOR TYPES	Area X	BSPM	= Points	Type			R-Value	Area X	SPM	=	Points	
Slab	196.7(p)	-37.0	-7277.9	Slab-On-Grade Edge Insulation			0.0	196.7(p	-41.20		-8104.0	
Raised	0.0	0.00	0.0									
Base Total:			**-7277.9**	**As-Built Total:**				**196.7**			**-8104.0**	
INFILTRATION	Area X	BSPM	= Points					Area X	SPM	=	Points	
	1438.0	10.21	14682.0					1438.0	10.21		14682.0	

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

BASE			AS-BUILT					
Summer Base Points: 18356.6			**Summer As-Built Points:**					**16774.1**
Total Summer Points	X System Multiplier	= Cooling Points	Total Component (System - Points)	X Cap Ratio	X Duct Multiplier (DM x DSM x AHU)	X System Multiplier	X Credit Multiplier	= Cooling Points
			(sys 1: Central Unit 32600 btuh ,SEER/EFF(13.0) Ducts:Unc(S),Unc(R),Gar(AH),R6.0(INS)					
			16774	1.00	(1.09 x 1.147 x 1.00)	0.263	1.000	5505.8
18356.6	**0.4266**	**7830.9**	**16774.1**	**1.00**	**1.250**	**0.263**	**1.000**	**5505.8**

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

BASE				AS-BUILT								
GLASS TYPES .18 X Conditioned Floor Area	X BWPM	= Points		Type/SC	Overhang Ornt	Len	Hgt	Area X	WPM X	WOF	= Points	
.18	1438.0	12.74	3297.6	Double, Clear	SE	1.5	6.0	50.0	14.71	1.10	806.1	
				Double, Clear	SW	1.5	6.0	43.3	16.74	1.06	768.4	
				Double, Clear	NE	1.5	6.0	15.0	23.57	1.01	355.8	
				Double, Clear	NE	1.5	8.0	42.0	23.57	1.00	991.9	
				Double, Clear	NW	1.5	6.0	25.0	24.30	1.00	609.3	
				As-Built Total:				**175.3**			**3531.5**	
WALL TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM =		Points	
Exterior	1770.3	3.70	6550.1	Concrete, Int Insul, Exterior			5.0	1770.3	5.70		10090.7	
Adjacent	260.0	3.60	936.0	Frame, Wood, Adjacent			11.0	260.0	3.60		936.0	
Base Total:	**2030.3**		**7486.1**	**As-Built Total:**				**2030.3**			**11026.7**	
DOOR TYPES	Area X	BWPM =	Points	Type				Area X	WPM =		Points	
Exterior	21.0	8.40	176.4	Exterior Wood				21.0	12.30		258.3	
Adjacent	0.0	0.00	0.0									
Base Total:	**21.0**		**176.4**	**As-Built Total:**				**21.0**			**258.3**	
CEILING TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM X	WCM =	Points	
Under Attic	1438.0	2.05	2947.9	Under Attic			30.0	1438.0	2.05 X	1.00	2947.9	
Base Total:	**1438.0**		**2947.9**	**As-Built Total:**				**1438.0**			**2947.9**	
FLOOR TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM =		Points	
Slab	196.7(p)	8.9	1750.6	Slab-On-Grade Edge Insulation			0.0	196.7(p	18.80		3698.0	
Raised	0.0	0.00	0.0									
Base Total:			**1750.6**	**As-Built Total:**				**196.7**			**3698.0**	
INFILTRATION	Area X	BWPM =	Points					Area X	WPM =		Points	
	1438.0	-0.59	-848.4					1438.0	-0.59		-848.4	

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

BASE			AS-BUILT					
Winter Base Points:		**14810.2**	**Winter As-Built Points:**					**20614.0**
Total Winter Points	X System Multiplier	= Heating Points	Total Component (System - Points)	X Cap Ratio	X Duct Multiplier (DM x DSM x AHU)	X System Multiplier	X Credit Multiplier	= Heating Points
			(sys 1: Electric Heat Pump 35000 btuh ,EFF(8.0) Ducts:Unc(S),Unc(R),Gar(AH),R6.0					
			20614.0	1.000	(1.069 x 1.169 x 1.00)	0.426	1.000	10980.4
14810.2	**0.6274**	**9291.9**	**20614.0**	**1.00**	**1.250**	**0.426**	**1.000**	**10980.4**

WATER HEATING & CODE COMPLIANCE STATUS

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

BASE				AS-BUILT							
WATER HEATING											
Number of Bedrooms	X	Multiplier	= Total	Tank Volume	EF	Number of Bedrooms	X Tank Ratio	X Multiplier	X Credit Multiplier	= Total	
3		2635.00	7905.0	40.0	0.92	3	1.00	2635.00	1.00	7905.0	
				As-Built Total:						**7905.0**	

CODE COMPLIANCE STATUS

BASE				AS-BUILT			
Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points	Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points
7831	**9292**	**7905**	**25028**	**5506**	**10980**	**7905**	**24391**

PASS

Code Compliance Checklist

Residential Whole Building Performance Method A - Details

ADDRESS: **Lot: , Sub: , Plat: , , ,** PERMIT #:

6A-21 INFILTRATION REDUCTION COMPLIANCE CHECKLIST

COMPONENTS	SECTION	REQUIREMENTS FOR EACH PRACTICE	CHECK
Exterior Windows & Doors	606.1.ABC.1.1	Maximum:.3 cfm/sq.ft. window area; .5 cfm/sq.ft. door area.	
Exterior & Adjacent Walls	606.1.ABC.1.2.1	Caulk, gasket, weatherstrip or seal between: windows/doors & frames, surrounding wall; foundation & wall sole or sill plate; joints between exterior wall panels at corners; utility penetrations; between wall panels & top/bottom plates; between walls and floor. EXCEPTION: Frame walls where a continuous infiltration barrier is installed that extends from, and is sealed to, the foundation to the top plate.	
Floors	606.1.ABC.1.2.2	Penetrations/openings >1/8" sealed unless backed by truss or joint members. EXCEPTION: Frame floors where a continuous infiltration barrier is installed that is sealed to the perimeter, penetrations and seams.	
Ceilings	606.1.ABC.1.2.3	Between walls & ceilings; penetrations of ceiling plane of top floor; around shafts, chases, soffits, chimneys, cabinets sealed to continuous air barrier; gaps in gyp board & top plate; attic access. EXCEPTION: Frame ceilings where a continuous infiltration barrier is installed that is sealed at the perimeter, at penetrations and seams.	
Recessed Lighting Fixtures	606.1.ABC.1.2.4	Type IC rated with no penetrations, sealed; or Type IC or non-IC rated, installed inside a sealed box with 1/2" clearance & 3" from insulation; or Type IC rated with < 2.0 cfm from conditioned space, tested.	
Multi-story Houses	606.1.ABC.1.2.5	Air barrier on perimeter of floor cavity between floors.	
Additional Infiltration reqts	606.1.ABC.1.3	Exhaust fans vented to outdoors, dampers; combustion space heaters comply with NFPA, have combustion air.	

6A-22 OTHER PRESCRIPTIVE MEASURES (must be met or exceeded by all residences.)

COMPONENTS	SECTION	REQUIREMENTS	CHECK
Water Heaters	612.1	Comply with efficiency requirements in Table 612.1.ABC.3.2. Switch or clearly marked cir breaker (electric) or cutoff (gas) must be provided. External or built-in heat trap required.	
Swimming Pools & Spas	612.1	Spas & heated pools must have covers (except solar heated). Non-commercial pools must have a pump timer. Gas spa & pool heaters must have a minimum thermal efficiency of 78%.	
Shower heads	612.1	Water flow must be restricted to no more than 2.5 gallons per minute at 80 PSIG.	
Air Distribution Systems	610.1	All ducts, fittings, mechanical equipment and plenum chambers shall be mechanically attached, sealed, insulated, and installed in accordance with the criteria of Section 610. Ducts in unconditioned attics: R-6 min. insulation.	
HVAC Controls	607.1	Separate readily accessible manual or automatic thermostat for each system.	
Insulation	604.1, 602.1	Ceilings-Min. R-19. Common walls-Frame R-11 or CBS R-3 both sides. Common ceiling & floors R-11.	

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE SCORE* = 83.7

The higher the score, the more efficient the home.

mangrum construction, Lot: , Sub: , Plat: , , ,

1.	New construction or existing	New	
2.	Single family or multi-family	Single family	
3.	Number of units, if multi-family	1	
4.	Number of Bedrooms	3	
5.	Is this a worst case?	Yes	
6.	Conditioned floor area (ft²)	1438 ft²	
7.	Glass type[1] and area: (Label reqd. by 13-104.4.5 if not default)		
a.	U-factor: (or Single or Double DEFAULT)	7a. Description Area (Dble Default) 175.3 ft²	
b.	SHGC: (or Clear or Tint DEFAULT)	7b. (Clear) 175.3 ft²	
8.	Floor types		
a.	Slab-On-Grade Edge Insulation	R=0.0, 196.7(p) ft	
b.	N/A		
c.	N/A		
9.	Wall types		
a.	Concrete, Int Insul, Exterior	R=5.0, 1770.3 ft²	
b.	Frame, Wood, Adjacent	R=11.0, 260.0 ft²	
c.	N/A		
d.	N/A		
e.	N/A		
10.	Ceiling types		
a.	Under Attic	R=30.0, 1438.0 ft²	
b.	N/A		
c.	N/A		
11.	Ducts		
a.	Sup: Unc. Ret: Unc. AH: Garage	Sup. R=6.0, 106.4 ft	
b.	N/A		
12.	Cooling systems		
a.	Central Unit	Cap: 32.6 kBtu/hr	
		SEER: 13.00	
b.	N/A		
c.	N/A		
13.	Heating systems		
a.	Electric Heat Pump	Cap: 35.0 kBtu/hr	
		HSPF: 8.00	
b.	N/A		
c.	N/A		
14.	Hot water systems		
a.	Electric Resistance	Cap: 40.0 gallons	
		EF: 0.92	
b.	N/A		
c.	Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)		
15.	HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)		

I certify that this home has complied with the Florida Energy Efficiency Code For Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: _____

Address of New Home: _____ City/FL Zip: _____

**NOTE: The home's estimated energy performance score is only available through the FLA/RES computer program. This is not a Building Energy Rating. If your score is 80 or greater (or 86 for a US EPA/DOE EnergyStar™ designation), your home may qualify for energy efficiency mortgage (EEM) incentives if you obtain a Florida Energy Gauge Rating. Contact the Energy Gauge Hotline at 321/638-1492 or see the Energy Gauge web site at www.fsec.ucf.edu for information and a list of certified Raters. For information about Florida's Energy Efficiency Code For Building Construction, contact the Department of Community Affairs at 850/487-1824.*

1 Predominant glass type. For actual glass type and areas, see Summer & Winter Glass output on pages 2&4.

RIGHT-J LOAD AND EQUIPMENT SUMMARY
Entire House

Mangrum Construction, Inc.

PO Box 2103, Lake City, FL 32056 Phone: (386) 752-6399 Fax (386) 752-6369

Job: 06050543 May 9, 2006

Project Information

For: Ryan Model ~ Base
Columbia County,

Notes: Calculations By:
Calculation Computations
Office (239)542-4275 Fax (239)542-6475
Email ~ tcrawford1@swfla.rr.com

Design Information

Weather: Jacksonville, Cecil Field NAS, FL , US

Winter Design Conditions

Outside db	40	°F
Inside db	70	°F
Design TD	30	°F

Summer Design Conditions

Outside db	95	°F
Inside db	75	°F
Design TD	20	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	40	gr/lb

Heating Summary

Building heat loss	22567	Btuh
Ventilation air	0	cfm
Ventilation air loss	0	Btuh
Design heat load	22567	Btuh

Sensible Cooling Equipment Load Sizing

Structure	17750	Btuh
Ventilation	0	Btuh
Design temperature swing	3.0	°F
Use mfg. data	n	
Rate/swing multiplier	1.00	
Total sens. equip. load	17750	Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

	Heating	Cooling
Area (ft²)	1477	1477
Volume (ft³)	13145	13145
Air changes/hour	1.00	0.50
Equiv. AVF (cfm)	219	110

Latent Cooling Equipment Load Sizing

Internal gains	1380	Btuh
Ventilation	0	Btuh
Infiltration	2987	Btuh
Total latent equip. load	4367	Btuh
Total equipment load	22118	Btuh
Req. total capacity at 0.70% SHR	2.1	ton

Heating Equipment Summary

Make		
Trade		
Efficiency	80.0	AFUE
Heating input	0	Btuh
Heating output	0	Btuh
Heating temp rise	0	°F
Actual heating fan	849	cfm
Heating air flow factor	0.038	cfm/Btuh
Space thermostat		

Cooling Equipment Summary

Make		
Trade		
Efficiency	0.0	EER
Sensible cooling	0	Btuh
Latent cooling	0	Btuh
Total cooling	0	Btuh
Actual cooling fan	849	cfm
Cooling air flow factor	0.048	cfm/Btuh
Load sensible heat ratio	80	%

Printout certified by ACCA to meet all requirements of Manual J 7th Ed.

RIGHT-J WORKSHEET
Entire House
Mangrum Construction, Inc.

Job: 06050543 May 9, 2006

PO Box 2103, Lake City, FL 32056 Phone: (386) 752-6399 Fax: (386) 752-6369

	MANUAL J: 7th Ed.					Entire House			Zone One								
1	Name of room																
2	Length of exposed wall					167.0 ft			167.0 ft								
3	Room dimensions								147.7 x 10.0 ft								
4	Ceilings	Condit. Option				8.9 ft	heat/cool	d	8.9 ft	heat/cool							
	TYPE OF EXPOSURE		CST NO.	HTM Htg	HTM Clg	Area (ft^2)	Load (Btuh) Htg	Load (Btuh) Clg	Area (ft^2)	Load (Btuh) Htg	Load (Btuh) Clg	Area	Htg	Clg	Area	Htg	Clg
5	Gross Exposed walls and partitions	a	51B	5.1	2.8	1082	****	****	1082	****	****		****	****		****	****
		b	12C	2.7	2.1	27	****	****	27	****	****		****	****		****	****
		c	13C	1.8	1.4	240	****	****	240	****	****		****	****		****	****
		d		0.0	0.0	0	****	****	0	****	****		****	****		****	****
		e		0.0	0.0	0	****	****	0	****	****		****	****		****	****
		f		0.0	0.0	0	****	****	0	****	****		****	****		****	****
6	Windows and glass doors Heating	a	3C	21.8	**	80	1740	****	80	1740	****			****			****
		b	3C	21.8	**	50	1088	****	50	1088	****			****			****
		c	3C	21.8	**	7	152	****	7	152	****			****			****
		d	3C	21.8	**	0	0	****	0	0	****			****			****
		e	9C	36.3	**	0	0	****	0	0	****			****			****
		f	8C	34.6	**	0	0	****	0	0	****			****			****
7	Windows and glass doors Cooling	North			16.9	15	****	261	15	****	261		****			****	
		NE/NW			35.7	71	****	2532	71	****	2532		****			****	
		E/W			0.0	0	****	0	0	****	0		****			****	
		SE/SW			44.1	51	****	2230	51	****	2230		****			****	
		South			0.0	0	****	0	0	****	0		****			****	
		Horz			0.0	0	****	0	0	****	0		****			****	
8	Other doors	a	11E	5.7	4.5	18	103	81	18	103	81						
		b	11E	5.7	4.5	23	130	102	23	130	102						
		c	11E	5.7	4.5	20	114	90	20	114	90						
9	Net exposed walls and partitions	a	51B	5.1	2.8	927	4728	2569	927	4728	2569						
		b	12C	2.7	2.1	4	11	8	4	11	8						
		c	13C	1.8	1.4	220	396	297	220	396	297						
		d		0.0	0.0	0	0	0	0	0	0						
		e		0.0	0.0	0	0	0	0	0	0						
		f		0.0	0.0	0	0	0	0	0	0						
10	Ceilings	a	16G	1.0	1.5	1477	1462	2145	1477	1462	2145						
		b	16D	1.6	2.3	177	281	413	177	281	413						
		c		0.0	0.0	0	0	0	0	0	0						
		d		0.0	0.0	0	0	0	0	0	0						
		e		0.0	0.0	0	0	0	0	0	0						
		f		0.0	0.0	0	0	0	0	0	0						
11	Floors (Note: room perimeter is displ. for slab floors)	a	22A	24.3	0.0	167	4058	0	167	4058	0						
		b		0.0	0.0	0	0	0	0	0	0						
		c		0.0	0.0	0	0	0	0	0	0						
		d		0.0	0.0	0	0	0	0	0	0						
		e		0.0	0.0	0	0	0	0	0	0						
		f		0.0	0.0	0	0	0	0	0	0						
12	Infiltration	a		36.6	12.2	198	7230	2410	198	7230	2410						
13	*Subtotal loss=6+8..+11+12*					****	21492	****	****	21492	****	****		****	****		****
	Less external heating					****	0	****	****	0	****	****		****	****		****
	Less transfer					****	0	****	****	0	****	****		****	****		****
	Heating redistribution					****	0	****	****	0	****	****		****	****		****
14	Duct loss					5%	1075	****	5%	1075	****	%		****	%		****
15	Total loss = 13+14					****	22567	****	****	22567	****	****		****	****		****
16	Int. gains: People @ 300					6	****	1800	6	****	1800		****			****	
	Appl. @ 1200					1	****	1200	1	****	1200		****			****	
17	Subtot RSH gain=7+8..+12+16					****	****	16137	****	****	16137	****	****		****	****	
	Less external cooling					****	****	0	****	****	0	****	****		****	****	
	Less transfer					****	****	0	****	****	0	****	****		****	****	
	Cooling redistribution					****	****	0	****	****	0	****	****		****	****	
18	Duct gain					10%	****	1614	10%	****	1614	%	****		%	****	
19	Total RSH gain=(17+18)*PLF					1.00	****	17750	1.00	****	17750		****			****	
20	Air required (cfm)					****	849	849	****	849	849	****			****		

Printout certified by ACCA to meet all requirements of Manual J 7th Ed.

BUILDING ANALYSIS REPORT
Entire House

Mangrum Construction, Inc.

PO Box 2103, Lake City, FL 32056 Phone: (386) 752-6399 Fax: (386) 752-6369

Job: 06050543 May 9, 2006

Project Information

For: Ryan Model ~ Base
Columbia County,

Design Information

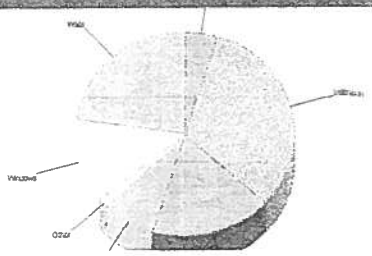
	Htg	Clg
Outside db (°F)	40	95
Inside db (°F)	70	75
Design TD (°F)	30	20
Daily range	-	M
Inside humidity (%)	-	50
Moisture difference (gr/lb)	-	40

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

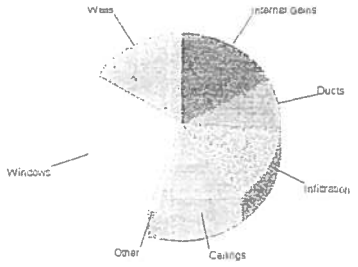
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.5	5134	22.8
Windows	21.8	2980	13.2
Doors	5.7	347	1.5
Ceilings	1.1	1744	7.7
Floors	24.3	4058	18.0
Infiltration	36.6	7230	32.0
Ducts		1075	4.8
Total		22567	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.5	2874	16.2
Windows	36.7	5022	28.3
Doors	4.5	273	1.5
Ceilings	1.5	2557	14.4
Floors	0.0	0	0.0
Infiltration	12.2	2410	13.6
Ducts		1614	9.1
Internal gains		3000	16.9
Total		17750	100.0



Overall U-value = 0.152 Btuh/ft²-°F

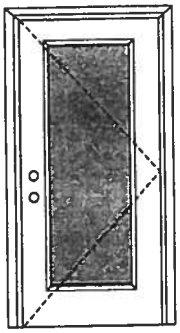
WARNING: window to floor area ratio = 9.3% - less than 10%.

X
Glazed Inswing Unit

COP-WL-JH4141-02

WOOD-EDGE STEEL DOORS

APPROVED ARRANGEMENT:



Note:
Units of other sizes are covered by this report as long as the panel used does not exceed 3'0" x 6'8".

Warnock Hersey

Test Data Review Certificate #3026447A and COP/Test Report Validation Matrix #3026447A-001 provides additional information - available from the ITS/WH website (www.etisemko.com), the Masonite website (www.masonite.com) or the Masonite technical center.

Single Door
Maximum unit size = 3'0" x 6'8"

Design Pressure
+40.5/-40.5
Limited water unless special threshold design is used.

Large Missile Impact Resistance
Hurricane protective system (shutters) is REQUIRED.

Actual design pressure and impact resistant requirements for a specific building design and geographic location is determined by ASCE 7-national, state or local building codes specify the edition required.

MINIMUM ASSEMBLY DETAIL:

Compliance requires that minimum assembly details have been followed – see MAD-WL-MA0001-02 and MAD-WL-MA0041-02.

MINIMUM INSTALLATION DETAIL:

Compliance requires that minimum installation details have been followed – see MID-WL-MA0001-02.

APPROVED DOOR STYLES:

1/4 GLASS:


100 Series


133, 135 Series

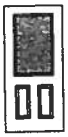

136 Series


680 Series


822 Series

1/2 GLASS:


105 Series*


106, 160 Series*


129 Series*


200 Series*


12 R/L, 23 R/L, 24 R/L Series*


107 Series*


108 Series


304 Series

*This glass kit may also be used in the following door styles: 5-panel; 5-panel with scroll; Eyebrow 5-panel; Eyebrow 5-panel with scroll.

Johnson™ EntrySystems

June 17, 2002
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.

PREMDOR Collection Premium Quality Doors

Exclusively from Masonite®
Masonite International Corporation

X
Glazed Inswing Unit

COP-WL-JH4141-02

WOOD-EDGE STEEL DOORS

APPROVED DOOR STYLES:
3/4 GLASS:

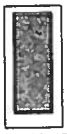

404 Series


410 Series


450 Series

FULL GLASS:


109 Series


114, 120, 122 Series


152 Series


149 Series


300 Series

CERTIFIED TEST REPORTS:

NCTL 210-1897-7, 8, 9, 10, 11, 12; NCTL 210-1861-4, 5, 6, 10, 11, 12; NCTL 210-2185-1, 2, 3

Certifying Engineer and License Number: Barry D. Portney, P.E. / 16258.

Unit Tested in Accordance with Miami-Dade BCCO PA202.

Evaluation report NCTL-210-2794-1

Door panels constructed from 26-gauge 0.017" thick steel skins. Both stiles constructed from wood. Top end rails constructed of 0.041" steel. Bottom end rails constructed of 0.021" steel. Interior cavity of slab filled with rigid polyurethane foam core. Slab glazed with insulated glass mounted in a rigid plastic lip lite surround.

Frame constructed of wood with an extruded aluminum threshold.

PRODUCT COMPLIANCE LABELING:

TESTED IN
ACCORDANCE WITH
MIAMI-DADE BCCO PA202

COMPANY NAME
CITY, STATE

To the best of my knowledge and ability the above side-hinged exterior door unit conforms to the requirements of the 2001 Florida Building Code, Chapter 17 (Structural Tests and Inspections).

Kurt L Balthazor

State of Florida, Professional Engineer
Kurt Balthazor, P.E. – License Number 56533

Warnock Hersey

Test Data Review Certificate #3026447A and COP/Test Report Validation Matrix #3026447A-001 provides additional information - available from the ITS/WH website (www.etlsemko.com), the Masonite website (www.masonite.com) or the Masonite technical center.

Johnson™ EntrySystems

June 17, 2002
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.

PREMDOR Collection Premium Quality Doors

Exclusively from Masonite®
Masonite International Corporation

AAMA/NWWDA 101/I.S.2-97
TEST REPORT SUMMARY

Rendered to:

MI HOME PRODUCTS, INC.

SERIES/MODEL: 650 Fin
TYPE: Aluminum Single Hung Window

Title of Test	Results
Rating	H-R40 52 x 72
Overall Design Pressure	+45.0 psf -47.2 psf
Operating Force	11 lb max.
Air Infiltration	0.13 cfm/ft^2
Water Resistance	6.00 psf
Structural Test Pressure	+67.5 psf -70.8 psf
Deglazing	Passed
Forced Entry Resistance	Grade 10

Reference should be made to Report No. 01-41134.01 dated 03/26/02 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.

Mark A. Hess, Technician

MAH:nlb

ALLEN M. REEVES
CERTIFICATE
NO. 15354
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

1 APRIL 2002

Architectural Testing

AAMA/NWWDA 101/I.S.2-97 TEST REPORT

Rendered to

MI HOME PRODUCTS, INC.
650 West Market Street
P.O. Box 370
Gratz, Pennsylvania 17030-0370

Report No: 01-41134.01
Test Date: 03/07/02
Report Date: 03/26/02
Expiration Date: 03/07/06

Project Summary: Architectural Testing, Inc. (ATI) was contracted by MI Home Products, Inc. to perform tests on Series/Model 650 Fin, aluminum single hung window at their facility located in Elizabethville, Pennsylvania. The samples tested successfully met the performance requirements for a H-R40 52 x 72 rating.

Test Specification: The test specimen was evaluated in accordance with AAMA/NWWDA 101/I.S.2-97, *Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.*

Test Specimen Description

Series/Model: 650 Fin

Type: Aluminum Single Hung Window

Overall Size: 4' 4-1/4" wide by 6' 0-3/8" high

Active Sash Size: 4' 1-3/4" wide by 3' 0-5/8" high

Daylight Opening Size: 3' 11-3/8" wide by 2' 9-1/2" high

Screen Size: 4' 0-1/4" wide by 2' 11-1/8" high

Finish: All aluminum was white.

Glazing Details: The active and fixed lites utilized 5/8" thick, sealed insulating glass constructed from two sheets of 1/8" thick, clear annealed glass and a metal reinforced butyl spacer system. The active sash was channel glazed utilizing a flexible vinyl wrap around gasket. The fixed lite was interior glazed against double-sided adhesive foam tape and secured with PVC snap-in glazing beads.

130 Derry Court
York, PA 17402-9405
phone: 717.764.7700
fax: 717.764.4129
www.archtest.com

Allen N. Reeves
1 APRIL 2002

ALLEN N. REEVES
LICENSE NO. 19354
STATE OF FLORIDA
PROFESSIONAL ENGINEER

Test Specimen Description: (Continued)

Weatherstripping:

Description	Quantity	Location
0.230" high by 0.270" backed polypile with center fin	1 Row	Fixed meeting rail
0.250" high by 0.187" backed polypile with center fin	2 Rows	Active sash stiles
1/2" x 1/2" dust plug	4 Pieces	Active sash, top and bottom of stiles
1/4" foam-filled vinyl bulb seal	1 Row	Active sash, bottom rail

Frame Construction: The frame was constructed of extruded aluminum with coped, butted, and sealed corners fastened with two #8 x 1" screws through the head and sill into each jamb screw boss. End caps were utilized on the ends of the fixed meeting rail and secured with two 1-1/4" screws per cap. Meeting rail was secured to the frame utilizing two 1-1/4" screws.

Sash Construction: The sash was constructed of extruded aluminum with coped, butted, and sealed corners fastened with two #8 x 1-1/2" screws through the rails into each jamb screw boss.

Screen Construction: The screen was constructed from roll-formed aluminum with keyed corners. The fiberglass mesh was secured with a flexible spline.

Hardware:

Description	Quantity	Location
Metal cam lock with keeper		Midspan, active meeting rail with keeper adjacent on fixed meeting rail
Plastic tilt latch	2	Active sash, meeting rail ends
Metal tilt pin	2	Active sash, bottom rail ends
Balance assembly	2	One in each jamb
Screen plunger	2	4" from rail ends on top rail

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FLORIDA
PROFESSIONAL ENGINEER

Allen N. Reeves
1 APRIL 2002

Test Specimen Description: (Continued)

Drainage: Sloped sill

Reinforcement: No reinforcement was utilized.

Installation: The test specimen was installed into a 2 x 8 #2 Spruce-Pine-Fir wood test buck with #8 x 1-5/8" drywall screws every 8" on center around the nail fin. Polyurethane was used as a sealant under the nail fin and around the exterior perimeter.

Test Results:

The results are tabulated as follows:

Paragraph	Title of Test - Test Method	Results	Allowed
2.2.1.6.1	Operating Force	11 lbs	30 lbs max
	Air Infiltration (ASTM E 283-91) @ 1.57 psf (25 mph)	0.13 cfm/ft^2	0.3 cfm/ft^2 max
	Water Resistance (ASTM E 547-00) (with and without screen) WTP = 2.86 psf	No leakage	No leakage
2.1.4.1	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the meeting rail) (Loads were held for 33 seconds)		
	@ 25.9 psf (positive)	0.42"*	0.26" max.
	@ 34.7 psf (negative)	0.43"*	0.26" max.
2.1.4.2	Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the meeting rail) (Loads were held for 10 seconds)		
	@ 38.9 psf (positive)	0.02"	0.18" max.
	@ 52.1 psf (negative)	0.02"	0.18" max.

Note #1: The tested specimen meets the performance levels specified in AAMA/NWWDA 101/I.S. 2-97 for air infiltration.

**Exceeds L/175 for deflection, but passes all other test requirements.*

Allen N. Reeves
1 APRIL 2002

ALLEN N. REEVES
CERTIFICATE
NO. 1337
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Test Specimen Description: (Continued)

Paragraph	Title of Test - Test Method	Results	Allowed
2.2.1.6.2	Deglazing Test (ASTM E 987)		
	In operating direction at 70 lbs		
	Meeting rail	0.12"/25%	0.50"/100%
	Bottom rail	0.12"/25%	0.50"/100%
	In remaining direction at 50 lbs		
	Left stile	0.06"/12%	0.50"/100%
	Right stile	0.06"/12%	0.50"/100%
	Forced Entry Resistance (ASTM F 588-97)		
	Type: A		
	Grade: 10		
	Lock Manipulation Test	No entry	No entry
	Tests A1 through A5	No entry	No entry
	Test A7	No entry	No entry
	Lock Manipulation Test	No entry	No entry
Optional Performance			
4.3	Water Resistance (ASTM E 547-00) (with and without screen) WTP = 6.00 psf	No leakage	No leakage
	Uniform Load Deflection (ASTM E 330-97) (Measurements reported were taken on the meeting rail) (Loads were held for 33 seconds)		
	@ 45.0 psf (positive)	0.47"*	0.26" max.
	@ 47.2 psf (negative)	0.46"*	0.26" max.
	Uniform Load Structural (ASTM E 330-97) (Measurements reported were taken on the meeting rail) (Loads were held for 10 seconds)		
	@ 67.5 psf (positive)	0.05"	0.18" max.
	@ 70.8 psf (negative)	0.05"	0.18" max.

Exceeds L/175 for deflection, but passes all other test requirements.

Allen N. Reeves
1 APRIL 2002

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CERTIFICATE NO. 19336
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PROFESSIONAL ENGINEER

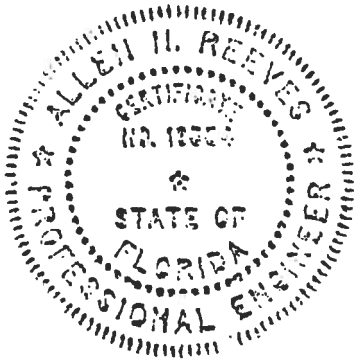
Detailed drawings, representative samples of the test specimen, and a copy of this report will be retained by ATI for a period of four years. The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the above referenced specification. This report does not constitute certification of this product, which may only be granted by the certification program administrator.

For ARCHITECTURAL TESTING, INC:

Mark A. Hess
Technician

Allen N. Reeves, P.E.
Director - Engineering Services
1 APRIL 2002

MAH:nlb
01-41134.01



24583.

Job	Truss	Truss Type	Qty	Ply	
L159972	T14	SPECIAL	2	1	Job Reference (optional)

Builders FirstSource, Lake City, Fl 32055

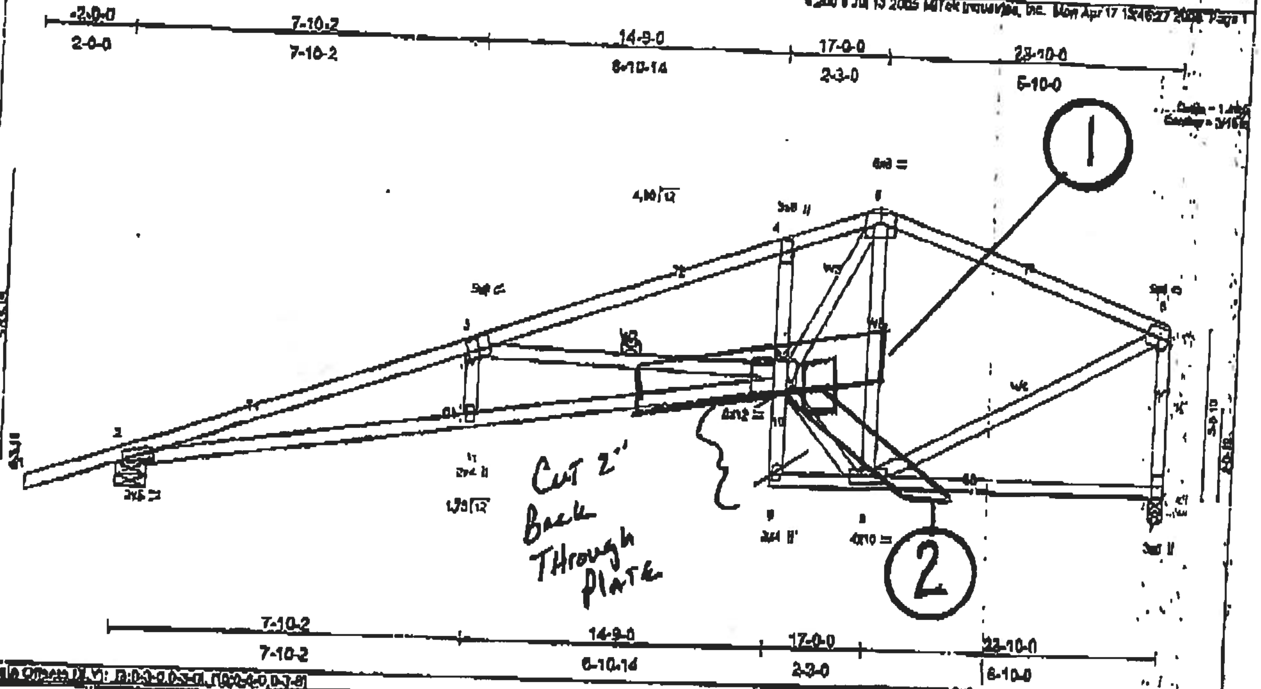


Plate Offsets (X,Y): [2:0-3-0,0-3-0], [10:0-4-0,0-3-8]

LOADING (psf)		SPACING	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plates Increase	1.25	TC	0.84	Vert(LL)	-0.33	10-11	>448	240	MT20	244/190
TCDL	7.0	Lumber Increase	1.25	BC	0.77	Vert(TL)	-0.55	10-11	>525	180		
BCLL	10.0	Rep Stress Incr	YES	WB	0.61	Horz(TL)	0.23	7	n/a	n/a		
BCDL	5.0	Code FBC2004/TPI2002		(Matrix)							Weight: 129 lb	

LUMBER
TOP CHORD 2 X 4 SYP No.2
BOT CHORD 2 X 4 SYP No.2 *Except*
B2 2 X 4 SYP No.3
WEBS 2 X 4 SYP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-8-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 5-1-8 oc bracing.
WEBS 1 Row at midpt 3-10

REACTIONS (lb/size) 2=1113/0-4-0, 7=975/0-4-0
Max Horz 2=283(load case 3)
Max Uplift 2=-477(load case 5), 7=-301(load case 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/31, 2-3=-3617/1454, 3-4=-2070/814, 4-5=-1887/807, 5-6=-954/449, 6-7=-871/443
BOT CHORD 2-11=-1482/3301, 10-11=-1488/3283, 9-10=-23/0, 4-10=-214/767, 8-9=-17/24, 7-8=-41/60
WEBS 3-11=0/240, 3-10=-1342/631, 5-10=-441/1169, 5-10=-863/1677, 5-8=-1054/537, 6-8=-387/879

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-02; 110mph (3-second gust); h=30ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp B; enclosed; MWFRS gable end zone and C-C Exterior(2) zone; Lumber DOL=1.60 plate grip DOL=1.60. This truss is designed for C&C for members and forces, and for MWFRS for reactions specified.
3) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 477 lb uplift at joint 2 and 301 lb uplift at joint 7.

ARCHITECTURAL SERVICES AND ENGINEERING
24710 STATE ROAD 54
LUTZ, FL 33559
FLORIDA LICENSE NUMBER CA 7882

1. **2x12 No.2 SYP SCAB 6'-0" LONG WITH 20-10d's AT THE BOTTOM CHORD AND 10-10d's AT EVERY OTHER MEMBER.**
2. **2x8 No.2 SYP SCAB ONE FACE WITH 9-10d's AT EVERY MEMBER CONNECTED TO THE 2x12 SCAB AT THE TOP WITH 6x8 PRESS PLATE BOTH FACES.**

ROBERT W. WALL LICENSE No. 46921 STATE OF FLORIDA PROFESSIONAL ENGINEER

Notice of Treatment

Applicator: Florida Pest Control & Chemical Co. (www.flapest .com)
Address: 536 SE Baya Dr
City Lake City Phone 752-1703

Site Location: Subdivision
Lot # 5 Block# Permit # 24583
Address 426 SW Mallis Terr, L.C.

Product used	Active Ingredient	% Concentration
☑ Premise	Imidacloprid	0.1%
☐ Termidor	Fipronil	0.12%
☐ Bora-Care	Disodium Octaborate Tetrahydrate	23.0%

Type treatment: ☑ Soil ☐ Wood

Area Treated	Square feet	Linear feet	Gallons Applied
Dwelling	1958	140	140 @ .6

As per Florida Building Code 104.2.6 – If soil chemical barrier method for termite prevention is used, final exterior treatment shall be completed prior to final building approval.

If this notice is for the final exterior treatment, initial this line _____.

6/26/02 Date | 10:45 Time | [illegible] Print Technician's Name

Remarks: _____

Applicator - White Permit File - Canary Permit Holder - Pink

10/05 ©

24583

Job	Truss	Truss Type	Qty	Ply
L159972	T13	SPECIAL	1	1

Builders FirstSource, Lake City, Fl 32055 — Job Reference (optional)

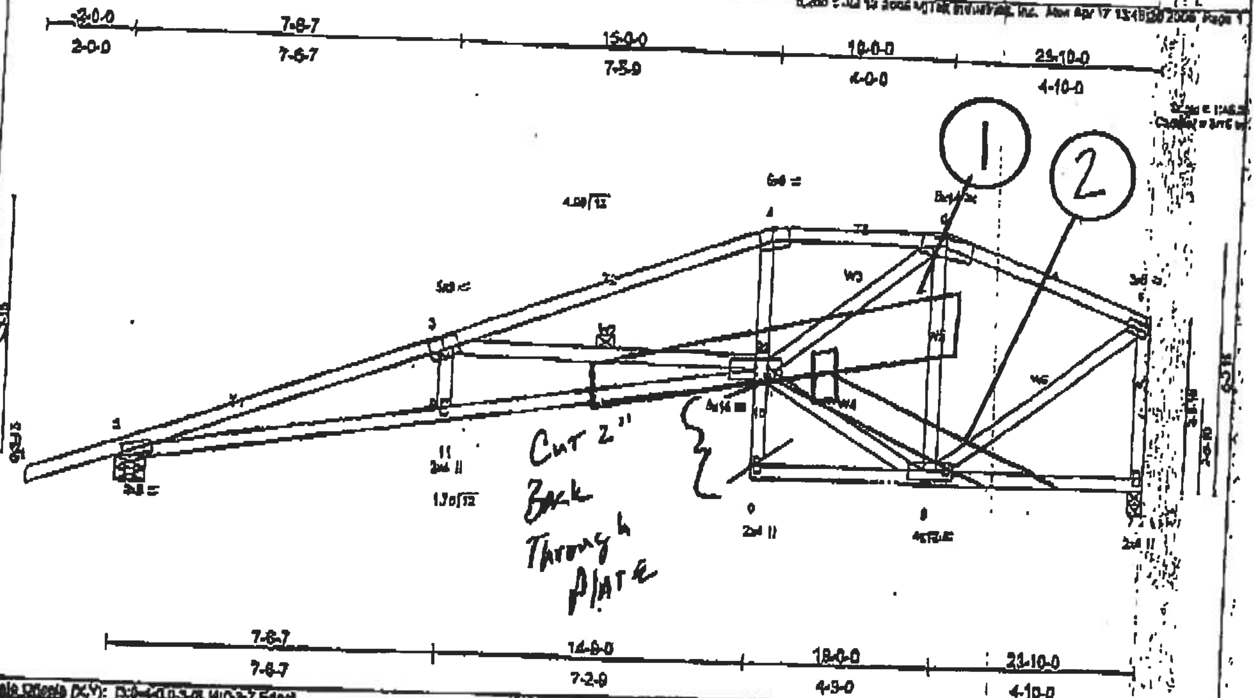


Plate Offsets (X,Y): [2:0-4-0,0-3-8], [10:0-3-7,Edge]

LOADING (psf)		SPACING		CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	20.0	Plates Increase	1.25	TC	0.63	Vert(LL)	-0.34	10-11	>820	240	MT20	244/190
TCDL	7.0	Lumber Increase	1.25	BC	0.75	Vert(TL)	-0.55	10-11	>505	180		
BCLL	10.0	Rep Stress Incr	YES	WB	0.43	Horz(TL)	0.22	7	n/a	n/a		
BCDL	5.0	Code FBC2004/TPI2002		(Matrix)							Weight: 129 lb	

LUMBER
TOP CHORD 2 X 4 SYP No.2
BOT CHORD 2 X 4 SYP No.2 *Except*
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BOT CHORD Rigid ceiling directly applied or 5-1-4 oc bracing.
WEBS 1 Row at midpt 3-10

REACTIONS (lb/size) 2=1113/0-8-0, 7=976/0-4-0
Max Horz 2=225(load case 3)
Max Uplift2=-485(load case 3), 7=-318(load case 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/31, 2-3=-3658/1456, 3-4=-2008/502, 4-5=-1825/857, 5-6=-844/360, 6-7=-900/427
BOT CHORD 2-11=-1408/3541, 10-11=-1388/3552, 9-10=40/55, 4-10=-34/322, 8-9=-30/17, 7-8=-21/40
WEBS 3-11=0/229, 3-10=-1378/659, 8-10=-308/815, 5-10=-585/1540, 5-8=-760/394, 6-8=-361/800

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-02; 110mph (3-second gust); h=20ft; TCDL=4.2psf; BCDL=3.0psf; Category II; Exp B; enclosed; MWFRS gable end zone and C-C Exterior(2) zone; Lumber DOL=1.60 plate grip DOL=1.60. This truss is designed for C-C for members and forces, and for MWFRS for reactions specified

ROBERT W. WALL LICENSE No. 46621 STATE OF FLORIDA PROFESSIONAL ENGINEER 8-22-06

ARCHITECTURAL SERVICES AND ENGINEERING
24710 STATE ROAD 54
LUTZ, FL 33559
FLORIDA LICENSE NUMBER CA 7882

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2. **2x8 No.2 SYP SCAB ONE FACE WITH 9-10d's AT EVERY MEMBER CONNECTED TO THE 2x12 SCAB AT THE TOP WITH 6x8 PRESS PLATE BOTH FACES.**

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 07-4S-16-02808-017 **Building permit No.** 000024583

Use Classification SFD, UTILITY **Fire:** 55.80

Permit Holder DAVID MANGRUM **Waste:** 167.50

Owner of Building MANGRUM CONSTRUCTION INC **Total:** 223.30

Location: 426 SW MOLLIE TERR.(BARWICK WEST,LOT 8)

Date: 12/15/2006

Building Inspector

POST IN A CONSPICUOUS PLACE
(Business Places Only)