Columbia County Building Permit Application

Revised 9-23-04

For Office Use Only Application # 0603-03 Date Received 3/1/06 By JW Permit # 24254

Application Approved by - Zoning Official BLK Date 03.03.06 Plans Examiner OK JTH Date 3-17-06

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

Comments CULVERT APPLICATION APPLIED FOR BECK 1-09-2006 (941)

Cell# 561-371-0996

Applicants Name JAMES A. BEACH Phone 386-719-6630

Address 3889 N.W. ARCHER ST Apt #101 LAKE City, FLA. 32055

Owners Name JAMES & SALLY BEACH Phone 386-719-6630

911 Address 479 S.W. HILL CREEK DR. LAKE CITY, FLA. 32025

Contractors Name JAMES A. BEACH Phone 386-719-6630

Address 3889 N.W. ARCHER ST. Apt #101 LAKE City FLA. 32055

Fee Simple Owner Name & Address

Bonding Co. Name & Address N/A

Architect/Engineer Name & Address WAYLAND STRUCT. ENGINEERING 8200 SW 16th Place GAINESVILLE, FLA 32607

Mortgage Lenders Name & Address N/A

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

Property ID Number 05-5S-17-09116-133 Estimated Cost of Construction 240,000.

Subdivision Name Hills at Rose Creek Lot 33 Block ____ Unit ____ Phase ____

Driving Directions 41-South Turn on to Tustenuggee, Turn LEFT on Hill Creek Dr. 1/4 Mile on LEFT

Type of Construction CBS - S.F.D Number of Existing Dwellings on Property 0

Total Acreage 1.89 Lot Size 1.35 Do you need a - Culvert Permit or Culvert Waiver or Have an Existing Drive - Per Jason - Needs - Not Insta

Actual Distance of Structure from Property Lines - Front 149' ✓ Side 28' ✓ Side 29' ✓ Rear 320' ✓

Total Building Height 19'6" Number of Stories 1 Heated Floor Area 2484 sq.ft. Roof Pitch 5 12

Porches = 413 GARAGE = 584 TOTAL 3,481

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.

James A. Beach

Owner Builder or Agent (Including Contractor)

Contractor Signature

Contractors License Number

Competency Card Number

STATE OF FLORIDA
COUNTY OF COLUMBIA

NOTARY STAMP/SEAL

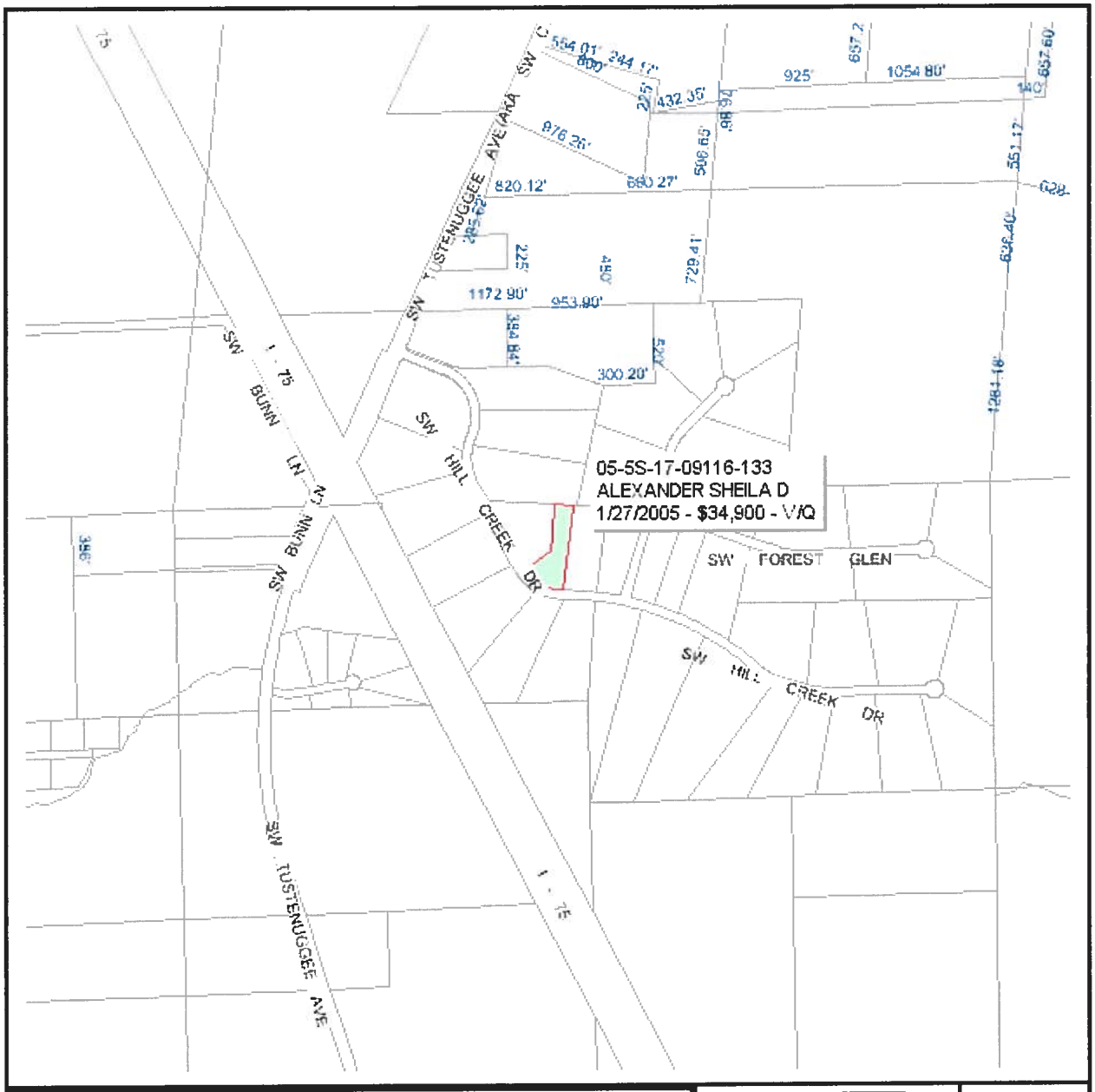
GALE TEDDER
MY COMMISSION # DD 333586
EXPIRES: June 28, 2008
Bonded Thru Notary Public Underwriters

Sworn to (or affirmed) and subscribed before me this 1st day of MARCH 20____.

Personally known ____ or Produced Identification DL

Notary Signature

4023



Columbia County Property Appraiser

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

PARCEL: 05-5S-17-09116-133 - VACANT (000000)

LOT 33 HILLS AT ROSE CREEK S/D PHASE 3. WD 1036-2426, WD 1036-2426, WD 1054-650.

Name:	BEACH JAMES A & SALLY F	LandVal	$30,000.00
Site:		BldgVal	$0.00
Mail:	4783 WAVERLY WOODS TER LAKE WORTH, FL 33487	ApprVal	$30,000.00
		JustVal	$30,000.00
Sales	7/27/2005 $55,000.00 V / Q	Assd	$30,000.00
Info	1/27/2005 $34,900.00 V / Q	Exmpt	$0.00
		Taxable	$30,000.00

0 0.08 0.16 0.24 mi

This information, GIS Map Updated: 8/3/2005, 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.

', A CHORD BEARING OF N21°17'14"W AND A CHORD LENGTH OF 433.91
OF 485.05 FEET TO THE POINT OF TANGENCY OF SAID CURVE; THENCE
RVATURE OF A CURVE TO THE LEFT, HAVING A RADIUS OF 25.00 FEET
T, A CHORD BEARING OF S67°23'39"W AND A CHORD LENGTH OF 35.36
OF 39.27 FEET TO THE POINT OF TANGENCY OF SAID CURVE; THENCE
VATURE OF A CURVE TO THE LEFT, HAVING A RADIUS OF 25.00 FEET, A
A CHORD BEARING OF S22°36'21"E AND A CHORD LENGTH OF 35.36
OF 39.27 FEET TO THE POINT OF TANGENCY OF SAID CURVE; THENCE
RVATURE OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 360.00 FEET,
FEET, A CHORD BEARING OF S21°17'14"E AND A CHORD LENGTH OF 520.70
OF 582.06 FEET TO THE POINT OF REVERSE CURVATURE OF A CURVE
GLE OF 51°57'20", A TANGENT LENGTH OF 146.18 FEET, A CHORD BEARING
ALONG THE ARC OF SAID CURVE, AN ARC LENGTH OF 272.04 FEET TO
A DISTANCE OF 638.84 FEET TO THE POINT OF CURVATURE OF A
TRAL ANGLE OF 62°01'15", A TANGENT LENGTH OF 180.33 FEET, A CHORD
THENCE ALONG THE ARC OF SAID CURVE, AN ARC LENGTH OF 324.74
HE RIGHT, HAVING A RADIUS OF 1930.00 FEET, A CENTRAL ANGLE OF
OF S85°50'24"E AND A CHORD LENGTH OF 209.08 FEET; THENCE ALONG
HE END OF SAID CURVE; THENCE CONTINUE ALONG SAID CURVE HAVING
ANGENT LENGTH OF 71.33 FEET, A CHORD BEARING OF S80°37'06"E AND
AID CURVE, AN ARC LENGTH OF 142.59 FEET TO THE POINT OF REVERSE
500 FEET, A CENTRAL ANGLE OF 83°24'09", A TANGENT LENGTH OF 22.28
OF 33.26 FEET; THENCE ALONG THE ARC OF SAID CURVE, AN ARC
RVE; THENCE N18°05'44"E, A DISTANCE OF 570.81 FEET; THENCE
, A DISTANCE OF 802.59 FEET TO THE POINT OF BEGINNING. COLUMBIA

KEY MAP

NOT TO SCALE

SUBJECT PROPERTY

CE WITH THE RETRACEMENT OF
VIDED BY CLIENT.
5'27"W , FOR THE NORTHERLY

AY BE SUBJECT TO FLOODING.
NED FOR ZONE "A" SOME PORTIONS
TO BE OUTSIDE THE 500 YEAR FLOOD
L 1988 COMMUNITY PANEL NO. 120070
SUBJECT TO CHANGE.

R UTILITIES WERE LOCATED FOR

A TITLE COMMITMENT OR A TITLE

ROAD FRONT OF EACH LOT AND (7.5') SEVEN
INES ARE HEREBY CREATED AND PROVIDED FOR
ND UNDERGROUND UTILITIES AND DRAINAGE
BUILDING SITE, ONLY THE OUTSIDE BOUNDARY
EMENT
RECORDED ON THIS PLAT THAT MAY
Y
S OF THE MINIMUM TECHNICAL STANDARDS

APPROVED ON JULY 02, 2003.

FLOOD NOTICE:

THE FOLLOWING LOTS ARE AFFECTED BY
THE 100 YEAR FLOOD ELEVATION

THE 100 YEAR FLOOD ELEVATION IS 86.50 FEET FOR
LOTS: 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, AND 16

THE 100 YEAR FLOOD ELEVATION IS 108.50 FEET FOR
LOTS: 27 AND 28

THE 100 YEAR FLOOD ELEVATION IS 105.50 FEET FOR
LOT 22 AND 23

NOTICE:
THIS PLAT AS RECORDED IN ITS GRAPHICAL FORM, IS THE OFFICIAL DEPICTION OF THE SUBDIVIDED LANDS DESCRIBED HEREIN AND WILL IN NO CIRCUMSTANCES BE SUPPLANTED IN AUTHORITY BY OTHER GRAPHICAL OR DIGITAL FORM OF THE PLAT. THERE MAY BE ADDITIONAL RESTRICTIONS THAT ARE NOT RECORDED ON THIS PLAT THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY.

ASEMENTS SHALL ALSO BE FOR THE CONSTRUCTION,
SION SERVICES; PROVIDED, HOWEVER, NO SUCH
F CABLE TELEVISION SERVICES SHALL INTERFERE
GAS OR OTHER PUBLIC UTILITY. IN THE EVENT THAT
PUBLIC UTILITY, IT SHALL BE SOLELY RESPONSIBLE

DEVELOPEI
A BAR S LAND AN
CATTLE COMPANY
386-752-5035
3814 S. 1st. STREE
LAKE CITY, FL 320

This Instrument Prepared by & return to:
Name: *Sherril Johns, an employee of TITLE OFFICES, LLC*
Address: *1089 SW MAIN BLVD. LAKE CITY, FLORIDA 32025*
File No. 05Y-07014SJ

Inst:2005018904 Date:08/08/2005 Time:09:14
Doc Stamp-Deed : 385.00
MK DC,P.DeWitt Cason,Columbia County B:1054 P:650

Parcel I.D. #: *09116-133*

SPACE ABOVE THIS LINE FOR PROCESSING DATA | *SPACE ABOVE THIS LINE FOR RECORDING DATA*

THIS WARRANTY DEED

Made the 27TH day of July, A.D. 2005, by

SHEILA D. ALEXANDER, widow *hereinafter called the grantor, to*

JAMES A. BEACH and SALLY F. BEACH, HIS WIFE, whose post office address i

s 4783 WAVERLY WOODS TER., LAKE WORTH, FLORIDA 33487, hereinafter called the grantees:

(Wherever used herein the terms "grantor" and "grantees" include all the parties to this instrument, singular and plural, the heirs, legal representatives and assigns of individuals, and the successors and assigns of corporations, wherever the context so admits or requires.)

Witnesseth: *That the grantor, for and in consideration of the sum of $10.00 and other valuable consideration, receipt whereof is hereby acknowledged, does hereby grant, bargain, sell, alien, remise, release, convey and confirm unto the grantees all that certain land situate in* ***Columbia County, State of FLORIDA****, viz:*

Lot 33, HILLS AT ROSE CREEK, Phase 3, according to the map or plat thereof as recorded in Plat Book 7, Page 194-197, of the Public Records of Columbia County, FLORIDA.

Together *with all the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining.*

To Have and to Hold *the same in fee simple forever.*

And the grantor hereby covenants with said grantees that she is lawfully seized of said land in fee simple; that she has good right and lawful authority to sell and convey said land, and hereby fully warrants the title to said land and will defend the same against the lawful claims of all persons whomsoever, and that said land is free of all encumbrances, except taxes accruing subsequent to December 31, 2004.

In Witness Whereof, *the said grantor has signed and sealed these presents, the day and year first above written.*

Signed, sealed and delivered in the presence of:

Kathy Smith
Witness Signature
KATHY Smith
Printed Name

Martha Bryan
Witness Signature
MARTHA BRYAN
Printed Name

Sheila D. Alexander *L.S.*
SHEILA D. ALEXANDER
Address:
2425 NW 55TH BLVD, GAINESVILLE, FLORIDA 32653

STATE OF FLORIDA
COUNTY OF COLUMBIA

The foregoing instrument was acknowledged before me this 27th day of July, 2005, by ***SHEILA D. ALEXANDER****, who is known to me or who has produced* Dr. License *as identification.*

Martha Bryan
Notary Public
My commission expires

Martha Bryan
Commission # DD232534
Expires August 10, 2007
Bonded Troy Fain - Insurance, Inc. 800-385-7019

CLERK CIRCUIT COURT COLUMBIA COUNTY, FLORIDA

STATE OF FLORIDA, COUNTY OF COLUMBIA
I HEREBY CERTIFY, that the above and foregoing is a true copy of the original filed in this office.
P. DeWITT CASON, CLERK OF COURTS
By Roseann Aiello
Deputy Clerk
Date January 9, 2006

LYNCH WELL DRILLING, INC.

173 SW Tustenuggee Ave
Lake City, FL. 32025
Phone 386-752-6677
Fax 386-752-1477

Building Permit #_____ Owner's Name James Beach Hills at Rose Creek Lot 33 Rhase 3

Well Depth_____ Ft. Casing Depth _____Ft. Water Level _____Ft.

Casing Size 4 inch Steel Pump Installation: Deep Well Submersible

Pump Make Aermotor Pump Model S20-100 HP 1

System Pressure (PSI) _____On 30 Off 50 Average Pressure 40

Pumping System GPM at average pressure and pumping level 20 (GPM)

Tank Installation: Precharged Bladder Make Challenger Model PC244 Size 81

Tank Draw-down per cycle at system pressure 25.1 gallons

I HEREBY VERTIFY THAT THIS WATER WELL SYSTEM HAS BEEN INSTALLED AS PER THE ABOVE INFORMATION.

Linda Newcomb
Signature

Linda Newcomb
Print Name

2609
License Number

2-24-06
Date

Columbia County Building Department
Culvert Permit

Culvert Permit No. 000000941

DATE 01/09/2006 PARCEL ID # 05-5S-17-09116-133

APPLICANT JAMES BEACH PHONE 561 371-0996

ADDRESS 4409 NW 186TH ST NEWBERRY FL 32669

OWNER JAMES BEACH PHONE 561 371-0996

ADDRESS 4409 NW 186TH STREET NEWBERRY FL 32669

CONTRACTOR JAMES BEACH PHONE

LOCATION OF PROPERTY 41S, TR ON TUSTENUGGEE, TL ON HILL CREEK DR, 1/4 MILE ON LEFT

LOT IS MARKED

SUBDIVISION/LOT/BLOCK/PHASE/UNIT HILLS AT ROSE CREEK 33

SIGNATURE

INSTALLATION REQUIREMENTS

[X] Culvert size will be 18 inches in diameter with a total lenght of 32 feet, leaving 24 feet of driving surface. Both ends will be mitered 4 foot with a 4 : 1 slope and poured with a 4 inch thick reinforced concrete slab.

INSTALLATION NOTE: Turnouts will be required as follows:
a) a majority of the current and existing driveway turnouts are paved, or;
b) the driveway to be served will be paved or formed with concrete.
Turnouts shall be concrete or paved a minimum of 12 feet wide or the width of the concrete or paved driveway, whichever is greater. The width shall conform to the current and existing paved or concreted turnouts.

[ ] Culvert installation shall conform to the approved site plan standards.

[ ] Department of Transportation Permit installation approved standards.

[ ] Other

365

ALL PROPER SAFETY REQUIREMENTS SHOULD BE FOLLOWED DURING THE INSTALATION OF THE CULVERT.

135 NE Hernando Ave., Suite B-21
Lake City, FL 32055
Phone: 386-758-1008 Fax: 386-758-2160

Amount Paid 25.00

COLUMBIA COUNTY, FLORIDA

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 ISSUED: 14 December 2005

ENHANCED 9-1-1 ADDRESS:

479 SW HILL CREEK DR (LAKE CITY, FL 32025)

Addressed Location 911 Phone Number: NOT AVAIL.

OCCUPANT NAME: NOT AVAIL.

OCCUPANT CURRENT MAILING ADDRESS:

PROPERTY APPRAISER PARCEL NUMBER: 05-5S-17-09116-133

Other Contact Phone Number (If any):

Building Permit Number (If known):

Remarks: LOT 33 HILLS AT ROSE CREEK, PHASE 3, S/D

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

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 09116-133

1. **Description of property: (legal description of the property and street address or 911 address)**
   LOT 33, HILLS AT ROSE CREEK PHASE 3 ACCORDING TO THE MAP OR PLAT THEREOF AS RECORDED IN PLAT BOOK 7, PAGE 194-197, of THE PUBLIC RECORDS of COLUMBIA COUNTY, FLORIDA.
   479 SW HILL CREEK DR LAKE CITY, FLA. 32025

2. **General description of improvement:** CONSTRUCT - RESIDENCE

3. **Owner Name & Address** JAMES A & Sally S. BEACH 3889 N.W. ARCHER ST. APT #101 LAKE CITY, FLA. 32055 **Interest in Property** OWNER

4. **Name & Address of Fee Simple Owner (if other than owner):**

5. **Contractor Name** JAMES A. BEACH **Phone Number** 561-371-0996
   Address 3889 N.W. ARCHER ST APT #101 LAKE CITY, FLA 32055

6. **Surety Holders Name** _____ **Phone Number** _____
   Address _____
   Amount of Bond _____

   Inst:2006003664 Date:02/14/2006 Time:11:06
   D.C.,P.DeWitt Cason,Columbia County B:1074 P:166

7. **Lender Name** _____
   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 JAMES A. BEACH **Phone Number** 561-371-0996-Cell 386-719-6630
   Address 3889 N.W. ARCHER ST. APT #101 LAKE CITY, FLA. 32055

9. **In addition to himself/herself the owner designates** Sally S. BEACH **of** _____ **to receive a copy of the Lienor's Notice as provided in Section 713.13 (1) –**
   (a) 7. Phone Number of the designee 561-762-8202

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.

James A Beach
Signature of Owner

Sworn to (or affirmed) and subscribed before day of 14th, February, 2006

NOTARY STAMP/SEAL

SOL S. RODRIGUEZ
MY COMMISSION # DD 158083
EXPIRES: October 13, 2006
Bonded Thru Notary Public Underwriters

Signature of Notary

DISCLOSURE STATEMENT

FOR OWNER/BUILDER WHEN ACTING AS THER OWN CONTRACTOR AND CLAIMING EXEMPTION OF CONTRACTOR LICENSING REQUIREMENTS IN ACCORDANCE WITH FLORIDA STATUTES, ss. 489.103(7).

State law requires construction to be done by licensed contractors. You have applied for a permit under an exemption to that law. The exemption allows you, as the owner of your property, to act as your own contractor with certain restrictions even though you do not have a license. You must provide direct, onsite supervision of the construction yourself. You may build or improve a one-family or two-family residence or a farm outbuilding. You may also build or improve a commercial building, provided your costs do not exceed $25,000. The building or residence must be for your own use or occupancy. It may not be built or substantially improved for sale or lease. If you sell or lease a building you have built or substantially improved yourself within 1 year after the construction is complete, the law will presume that you built or substantially improved it for sale or lease, which is a violation of this exemption. You may not hire an unlicensed person to act as your contractor or to supervise people working on your building. It is your responsibility to make sure that people employed by you have licenses required by state law and by county or municipal licensing ordinances. You may not delegate the responsibility for supervising work to a licensed contractor who is not licensed to perform the work being done. Any person working on your building who is not licensed must work under your direct supervision and must be employed by you, which means that you must deduct F .I.C.A. and withholding tax and provide workers' compensation for that employee, all as prescribed by law. Your construction must comply with all applicable laws, ordinances, building codes, and zoning regulations.

TYPE OF CONSTRUCTION

( ) Single Family Dwelling
( ) Farm Outbuilding
(X) New Construction S.F.D.
( ) Two-Family Residence
(X) Other DETACHED GARAGE
( ) Addition, Alteration, Modification or other Improvement

NEW CONSTRUCTION OR IMPROVEMENT

I James Beach, have been advised of the above disclosure statement for exemption from contractor licensing as an owner/builder. I agree to comply with all requirements provided for in Florida Statutes ss.489.103(7) allowing this exception for the construction permitted by Columbia County Building Permit Number_____

James A. Beach — 3/1/2006

Signature — Date

FOR BUILDING USE ONLY

I hereby certify that the above listed owner/builder has been notified of the disclosure statement in Florida Statutes ss 489.103(7).

Date 3/1/06 Building Official/Representative

STATE OF FLORIDA
DEPARTMENT OF HEALTH

APPLICATION FOR ONSITE SEWAGE DISPOSAL SYSTEM CONSTRUCTION PERMIT

Permit Application Number 06-0021N

PART II - SITE PLAN

Scale: Each block represents 5 feet and 1 inch = 50 feet.

See attached

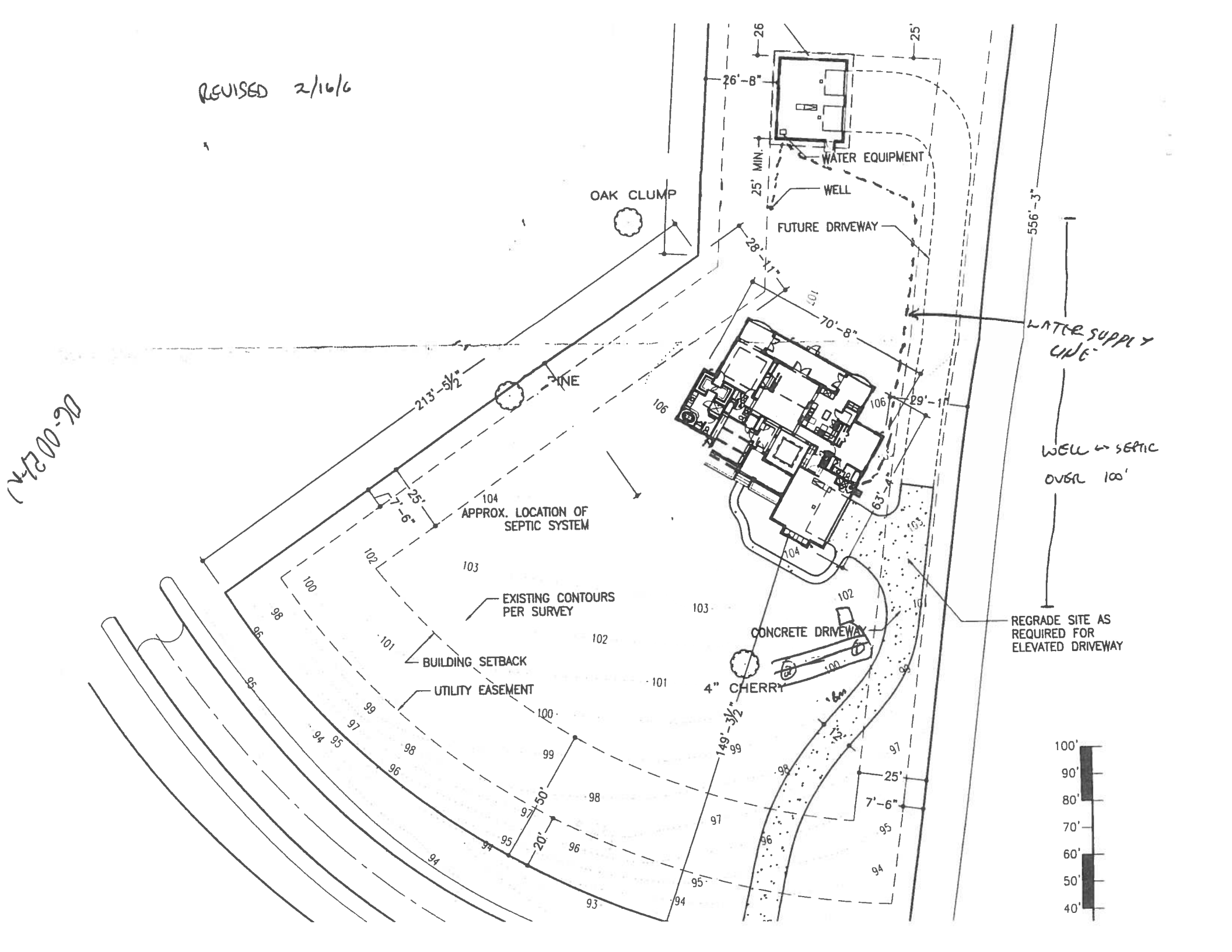
Notes: _____

Site Plan submitted by: James A. Beach (Signature) Owner (Title)

Plan Approved _____ Not Approved _____ Date 1/9/2006

By Mark S Lan. County Health Department

ALL CHANGES MUST BE APPROVED BY THE COUNTY HEALTH DEPARTMENT


REVISED 2/16/6
14200-20
26'-8"
25'
25' MIN.
WATER EQUIPMENT
WELL
OAK CLUMP
FUTURE DRIVEWAY
556'-3"
28'-1"
70'-8"
WATER SUPPLY LINE
213'-5½"
3" PINE
106
29'-1"
63'-4"
WELL & SEPTIC OVER 100'
25'
7'-6"
104
APPROX. LOCATION OF SEPTIC SYSTEM
103
102
100
98
96
101
EXISTING CONTOURS PER SURVEY
BUILDING SETBACK
UTILITY EASEMENT
99
97
94
95
50'
20'
149'-3½"
CONCRETE DRIVEWAY
4" CHERRY
REGRADE SITE AS REQUIRED FOR ELEVATED DRIVEWAY
25'
7'-6"
100'
90'
80'
70'
60'
50'
40'

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE SCORE* = 84.6

The higher the score, the more efficient the home.

1.	New construction or existing	New	12.	Cooling systems	
2.	Single family or multi-family	Single family	a.	Central Unit	Cap: 60.0 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?	No			
6.	Conditioned floor area (ft²)	2484 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, U=0.6) 219.0 ft²	a.	Electric Heat Pump	Cap: 60.0 kBtu/hr
b.	SHGC:				HSPF: 8.10
	(or Clear or Tint DEFAULT)	7b. (SHGC=0.35) 517.0 ft²	b.	N/A	
8.	Floor types				
a.	Slab-On-Grade Edge Insulation	R=0.0, 262.7(p) ft	c.	N/A	
b.	N/A				
c.	N/A		14.	Hot water systems	
9.	Wall types		a.	Electric Resistance	Cap: 50.0 gallons
a.	Concrete, Int Insul, Exterior	R=4.0, 1492.0 ft²			EF: 0.91
b.	Frame, Wood, Adjacent	R=13.0, 251.0 ft²	b.	N/A	
c.	N/A				
d.	N/A		c.	Conservation credits	
e.	N/A			(HR-Heat recovery, Solar DHP-Dedicated heat pump)	
10.	Ceiling types		15.	HVAC credits	PT,
a.	Under Attic	R=30.0, 2495.0 ft²		(CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)	
b.	Under Attic	R=19.0, 185.0 ft²			
c.	N/A				
11.	Ducts				
a.	Sup: Unc. Ret: Unc. AH: Garage	Sup. R=6.0, 188.0 ft			
b.	N/A				

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: James A. Beach Date: 3/1/2006

Address of New Home: 4795 W Hill Creek DR. City/FL Zip: Lake City Fla. 32025

**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.

FORM 600A-2004 EnergyGauge® 4.1

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs

Residential Whole Building Performance Method A

Project Name:	WEB DESIGN - BEACH RES	Builder:	
Address:		Permitting Office:	COLUMBIA
City, State:	,	Permit Number:	
Owner:		Jurisdiction Number:	221000
Climate Zone:	North		

1. New construction or existing	New	12. Cooling systems	
2. Single family or multi-family	Single family	a. Central Unit	Cap: 60.0 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?	No	c. N/A	
6. Conditioned floor area (ft²)	2484 ft²	13. Heating systems	
7. Glass type[1] and area: (Label reqd. by 13-104.4.5 if not default)		a. Electric Heat Pump	Cap: 60.0 kBtu/hr
a. U-factor:	Description Area		HSPF: 8.10
(or Single or Double DEFAULT)	7a. (Dble, U=0.6) 219.0 ft²	b. N/A	
b. SHGC:		c. N/A	
(or Clear or Tint DEFAULT)	7b. (SHGC=0.35) 517.0 ft²	14. Hot water systems	
8. Floor types		a. Electric Resistance	Cap: 50.0 gallons
a. Slab-On-Grade Edge Insulation	R=0.0, 262.7(p) ft		EF: 0.91
b. N/A		b. N/A	
c. N/A		c. Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)	
9. Wall types		15. HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)	PT,
a. Concrete, Int Insul, Exterior	R=4.0, 1492.0 ft²		
b. Frame, Wood, Adjacent	R=13.0, 251.0 ft²		
c. N/A			
d. N/A			
e. N/A			
10. Ceiling types			
a. Under Attic	R=30.0, 2495.0 ft²		
b. Under Attic	R=19.0, 185.0 ft²		
c. N/A			
11. Ducts			
a. Sup: Unc. Ret: Unc. AH: Garage	Sup. R=6.0, 188.0 ft		
b. N/A			

Glass/Floor Area: 0.21 Total as-built points: 31124 Total base points: 32840 **PASS**

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

PREPARED BY: _____

DATE: 2/27/06

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

OWNER/AGENT: _____

DATE: 3/1/2006

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: , , , 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	2484.0	20.04	8960.3	Double,U=0.55,SHGC=0.35	SW	0.0	0.0	114.0	19.74	1.00	2250.1	
				Double,U=0.55,SHGC=0.35	NW	0.0	0.0	88.0	12.28	1.00	1080.8	
				Double,U=0.55,SHGC=0.35	NE	0.0	0.0	219.0	14.17	1.00	3104.0	
				Double,U=0.55,SHGC=0.35	SE	0.0	0.0	96.0	21.14	1.00	2029.3	
				As-Built Total:				**517.0**			**8464.2**	
WALL TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM =		Points	
Adjacent	251.0	0.70	175.7	Concrete, Int Insul, Exterior			4.0	1492.0	1.15		1715.8	
Exterior	1492.0	1.70	2536.4	Frame, Wood, Adjacent			13.0	251.0	0.60		150.6	
Base Total:	**1743.0**		**2712.1**	**As-Built Total:**				**1743.0**			**1866.4**	
DOOR TYPES	Area X	BSPM =	Points	Type				Area X	SPM =		Points	
Adjacent	18.0	1.60	28.8	Adjacent Insulated				18.0	1.60		28.8	
Exterior	0.0	0.00	0.0									
Base Total:	**18.0**		**28.8**	**As-Built Total:**				**18.0**			**28.8**	
CEILING TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM X SCM =		Points	
Under Attic	2484.0	1.73	4297.3	Under Attic			30.0	2495.0	1.73 X 1.00		4316.4	
				Under Attic			19.0	185.0	2.34 X 1.00		432.9	
Base Total:	**2484.0**		**4297.3**	**As-Built Total:**				**2680.0**			**4749.3**	
FLOOR TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM =		Points	
Slab	262.7(p)	-37.0	-9719.9	Slab-On-Grade Edge Insulation			0.0	262.7(p	-41.20		-10823.2	
Raised	0.0	0.00	0.0									
Base Total:			**-9719.9**	**As-Built Total:**				**262.7**			**-10823.2**	
INFILTRATION	Area X	BSPM =	Points					Area X	SPM =		Points	
	2484.0	10.21	25361.6					2484.0	10.21		25361.6	

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , ,	PERMIT #:

BASE			AS-BUILT					
Summer Base Points: 31640.2			**Summer As-Built Points:**					**29647.1**
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 60000 btuh ,SEER/EFF(13.0) Ducts:Unc(S),Unc(R),Gar(AH),R6.0(INS)					
			29647	1.00	(1.09 x 1.147 x 1.00)	0.263	0.950	9244.6
31640.2	**0.4266**	**13497.7**	**29647.1**	**1.00**	**1.250**	**0.263**	**0.950**	**9244.6**

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , , 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	2484.0	12.74	5696.3	Double,U=0.55,SHGC=0.35	SW	0.0	0.0	114.0	13.52	1.00	1541.7
				Double,U=0.55,SHGC=0.35	NW	0.0	0.0	88.0	17.52	1.00	1541.9
				Double,U=0.55,SHGC=0.35	NE	0.0	0.0	219.0	17.15	1.00	3755.5
				Double,U=0.55,SHGC=0.35	SE	0.0	0.0	96.0	12.39	1.00	1189.7
				As-Built Total:				**517.0**			**8028.8**

WALL TYPES	Area X	BWPM	= Points	Type	R-Value	Area X	WPM	= Points
Adjacent	251.0	3.60	903.6	Concrete, Int Insul, Exterior	4.0	1492.0	6.50	9698.0
Exterior	1492.0	3.70	5520.4	Frame, Wood, Adjacent	13.0	251.0	3.30	828.3
Base Total:	**1743.0**		**6424.0**	**As-Built Total:**		**1743.0**		**10526.3**

DOOR TYPES	Area X	BWPM	= Points	Type	Area X	WPM	= Points
Adjacent	18.0	8.00	144.0	Adjacent Insulated	18.0	8.00	144.0
Exterior	0.0	0.00	0.0				
Base Total:	**18.0**		**144.0**	**As-Built Total:**	**18.0**		**144.0**

CEILING TYPES	Area X	BWPM	= Points	Type	R-Value	Area X	WPM X	WCM =	Points
Under Attic	2484.0	2.05	5092.2	Under Attic	30.0	2495.0	2.05 X	1.00	5114.8
				Under Attic	19.0	185.0	2.70 X	1.00	499.5
Base Total:	**2484.0**		**5092.2**	**As-Built Total:**		**2680.0**			**5614.3**

FLOOR TYPES	Area X	BWPM	= Points	Type	R-Value	Area X	WPM	= Points
Slab	262.7(p)	8.9	2338.0	Slab-On-Grade Edge Insulation	0.0	262.7(p	18.80	4938.8
Raised	0.0	0.00	0.0					
Base Total:			**2338.0**	**As-Built Total:**		**262.7**		**4938.8**

INFILTRATION	Area X	BWPM	= Points	Area X	WPM	= Points
	2484.0	-0.59	-1465.6	2484.0	-0.59	-1465.6

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , ,	PERMIT #:

BASE			AS-BUILT					
Winter Base Points:		**18229.0**	**Winter As-Built Points:**					**27786.6**
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 60000 btuh ,EFF(8.1) Ducts:Unc(S),Unc(R),Gar(AH),R6.0					
			27786.6	1.000	(1.069 x 1.169 x 1.00)	0.421	0.950	13887.4
18229.0	**0.6274**	**11436.9**	**27786.6**	**1.00**	**1.250**	**0.421**	**0.950**	**13887.4**

WATER HEATING & CODE COMPLIANCE STATUS

Residential Whole Building Performance Method A - Details

ADDRESS: , , , 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	50.0	0.91	3	1.00	2663.96	1.00	7991.9
			As-Built Total:						**7991.9**

CODE COMPLIANCE STATUS

BASE				AS-BUILT			
Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points	Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points
13498	**11437**	**7905**	**32840**	**9245**	**13887**	**7992**	**31124**

PASS

Code Compliance Checklist

Residential Whole Building Performance Method A - Details

ADDRESS: , , , 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 circ 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.	

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 05-5S-17-09116-133 **Building permit No.** 000024254

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

Permit Holder JAMES A. BEACH **Waste:** 167.50

Owner of Building JAMES A. BEACH **Total:** 223.30

Location: 479 SW HILL CREEK DRIVE

Date: 12/18/2006

Harry Dicks

Building Inspector

POST IN A CONSPICUOUS PLACE
(Business Places Only)

Cal-Tech Testing, Inc.
• Engineering
• Geotechnical
• Environmental
LABORATORIES

P.O. Box 1625 • Lake City, FL 32056-1625
6919 Distribution Avenue S., Unit #5 • Jacksonville, FL 32257

Tel. (386) 755-3633 • Fax (386) 752-5456
Tel. (904) 262-4046 • Fax (904) 262-4047

March 16, 2006

Jim Beach
3889 N.W. Archer Street, Apt. 101
Lake City, Florida 32055

Reference: Proposed Residence and Garage
479 S.W. Hill Creek Drive
Lake City, Columbia County, Florida
Cal-Tech Project No. 06-153

Dear Mr. Beach,

Cal-Tech Testing, Inc. has completed the subsurface investigation and engineering evaluation of the sites for a residence and detached garage to be constructed at the referenced address in Columbia County, Florida. Our work was performed in conjunction with and authorized by you.

We were provided a site plan and understand the residence and garage will be single-story and of masonry block construction. Support for the residence is to be provided by conventional, shallow spread footings. The garage will be supported by a monolithic foundation. Anticipated foundation loads were not provided; however, we assume column and wall loads for the residence will not exceed 25 kips and 2 kips per foot, respectively. Wall loads for the garage are assumed not to exceed 1 kip per foot.

The purposes of our investigation were to evaluate the existing subgrade soils for an allowable bearing pressure of 2,000 pounds per square foot and to provide recommendations as appropriate.

Site Investigation

The building sites were investigated by performing six (6) Standard Penetration Test borings advanced to depths of 10.0 feet. Borings were performed at the approximate locations indicated on the attached Boring Location Plan. Boring locations were selected by our firm, and the building areas were staked on site.

The Standard Penetration Test (ASTM D-1586) is performed by driving a standard split-barrel sampler into the soil by blows of a 140-pound hammer falling 30 inches. The number of blows required to drive the sampler 1 foot, after seating 6 inches, is designated the penetration resistance, or N-value; this value is an index to soil density or consistency.

Findings

The soil borings generally encountered four soil strata. The first layer consists of 1.0 to 2.5 feet of loose, generally dark gray, dark brownish gray or dark gray and brown, silty sand (SM) and sand with silt (SP/SM). The N-values of this layer are on the order of 6 to 8 blows per foot.

The second layer consists of 3.0 to 9.0 or more feet of loose to dense, generally gray, orange, red and/or tan, clayey sand (SC) and sand with clay (SP/SC). The N-values of this layer range from 5 to 42 blows per foot.

The third layer consists of 1.5 to 4.5 or more feet of very stiff, generally gray, tan, orange and/or brown, sandy clay (CH). The N-values of this layer range from 18 to 27 blows per foot.

The fourth layer consists of an undetermined thickness of medium dense, gray, tan, orange and brown, clayey sand (SC). The N-values of this layer are on the order of 25 to 27 blows per foot.

Groundwater was not encountered at the time of our investigation, and we estimate the wet season water table will occur at a depth of more than 6.0 feet below the existing surface grade. Note however that storm water will temporarily perch on clayey soils encountered near the ground surface.

For a more detailed description of the subsurface conditions encountered, please refer to the attached Boring Logs.

Discussion

We have performed a bearing capacity analysis for the immediate bearing soils and have assumed the foundations will have a minimum width of 20 inches and be embedded a minimum of 16 inches. For this foundation and the site soils as encountered, we obtained an minimum allowable bearing capacity of 2,000 pounds per square foot with a factor of safety of about 1.7 against a bearing capacity failure. It is therefore our opinion the subgrade soils within the proposed building areas are suitable for shallow foundations and/or monolithic foundations and an allowable bearing pressure of 2,000 pounds per square foot.

Based upon our findings, we recommend only normal, good practice site preparation procedures. These procedures include stripping the building areas to remove organics, particularly stumps, and proof-rolling to locate zones of loose soils than may be present. Bearing soils should be proof-compacted to a minimum of 95% of the Modified Proctor maximum dry density to a depth of at least 2 feet in foundation areas and 1 foot in floor slab areas.

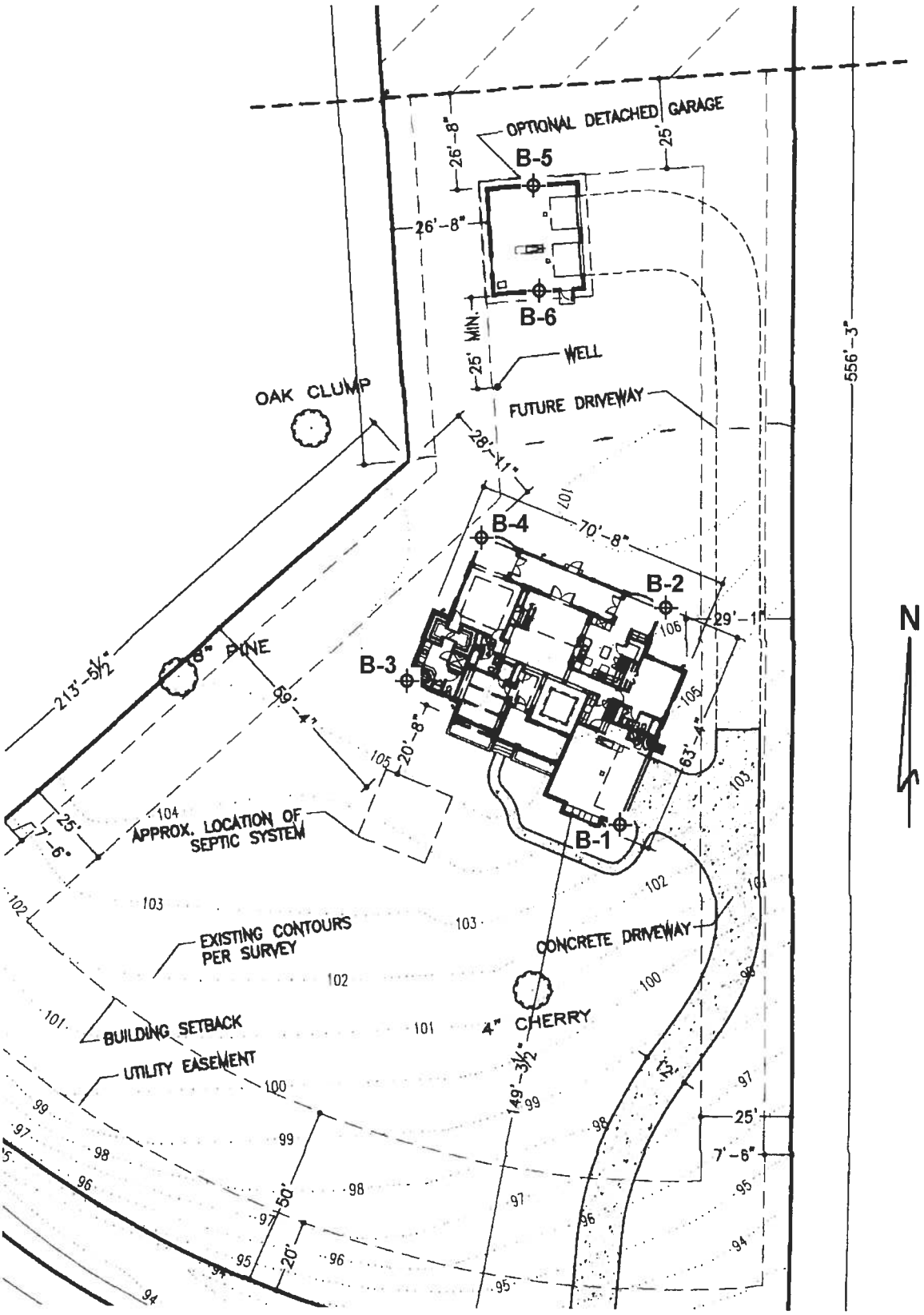
Our evaluation is based upon the subsurface conditions encountered and as presented within this report. However, subsurface conditions may exist that differ from our findings. We request that we be notified if substantially different subsurface conditions are encountered.

We appreciate the opportunity to be of service on this project and look forward to a continued association. Please do not hesitate to contact us should you have questions concerning this report or if we may be of further assistance.

Respectfully submitted,
Cal-Tech Testing, Inc.

Linda Creamer
President / CEO

John C. Dorman, Jr., Ph.D., P.E.
Geotechnical Engineer 3/16/06
52612



Boring Location Plan: Proposed Beach Residence

B-1

Water Table: N/A

Depth (ft)	N-value	Soil Description
0		Dark Brownish Gray, SILTY SAND (SM)
	7	Loose, Dark Grayish Tan, SLIGHTLY CLAYEY SAND (SC)
	12	Medium Dense, Tannish Gray and Orange, VERY CLAYEY SAND (SC)
5	18	Medium Dense, Gray, Tan and Orange, CLAYEY SAND (SC)
	24	Medium Dense, Gray and Light Orange, SLIGHTLY CLAYEY SAND,
	27	Trace Limerock (SC)
	27	Medium Dense, Tannish Gray, Orange and Brown, CLAYEY SAND (SC)
10		

B-2

Water Table: N/A

Depth (ft)	N-value	Soil Description
0		Dark Gray and Brown, SILTY SAND (SM)
	6	Loose, Gray and Dark Tan, SILTY SAND (SM)
	6	Loose, Gray, Orange and Red, VERY CLAYEY SAND (SC)
5	31	Dense, Gray, Orange and Tan, CLAYEY SAND (SC)
	41	
	33	Dense, Gray and Tannish Orange, CLAYEY SAND (SC)
	18	Very Stiff, Greenish Gray CLAY (CH)
10		

B-3

Water Table: N/A

Depth (ft)	N-value	Soil Description
0		Dark Brownish Gray, SILTY SAND (SM)
	8	Loose, Grayish Tan and Orange SAND with SILT (SP/SM)
	5	Loose, Dark Tannish Gray, CLAYEY SAND (SC)
5	19	Medium Dense, Gray and Orange, CLAYEY SAND (SC)
	32	Dense, Dark Gray, Light Gray and Tan, CLAYEY SAND (SC)
	42	Dense, Tan and Gray, SLIGHTLY CLAYEY SAND (SC)
	33	Dense, Tannish Gray SAND with CLAY (SP/SC)
10		

B-4

Water Table: N/A

Depth (ft)	N-value	Soil Description
0		Dark Grayish Brown, SILTY SAND (SM)
	8	Loose, Dark Tannish Gray, SILTY SAND, Trace Clay (SM)
	20	Medium Dense, Dark Grayish Brown, CLAYEY SAND (SC)
5	27	Medium Dense, Dark brownish Gray, Light Gray and Orange, VERY CLAYEY SAND (SC)
	23	
	26	Very Stiff, Gray and Orange CLAY with SAND (CH)
	23	Very Stiff, Greenish Gray CLAY (CH)
10		

B-5

Water Table: N/A

Depth (ft)	N-value	Soil Description
0		Dark Brownish Gray, SILTY SAND (SM)
	8	Loose, Dark Grayish Tan, CLAYEY SAND (SC)
	14	Medium Dense, Dark Grayish Tan, VERY CLAYEY SAND (SC)
5	15	
	16	Very Stiff, Gray, Dark Tan and Orange, SANDY CLAY (CH)
	27	Very Stiff, Gray and Orange CLAY (CH)
	25	Medium Dense, Grayish Tan and Light Gray, VERY CLAYEY SAND (SC)
10		

B-6

Water Table: N/A

Depth (ft)	N-value	Soil Description
0		Dark Gray, SILTY SAND (SM)
	7	Loose, Dark Grayish Tan, VERY CLAYEY SAND (SC)
	11	Medium Dense, Gray, Dark Tan and Orange, CLAYEY SAND (SC)
5	11	Medium Dense, Gray, Orange and Dark Brown, VERY CLAYEY SAND (SC)
	22	Very Stiff, Gray and Dark Brown, SANDY CLAY (CH)
	25	Medium Dense, Gray, Tan, Orange and Brown, CLAYEY SAND (SC)
	27	
10		

Boring Logs: Proposed Beach Residence

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

Reference to a building permit application Number: 0603-04

James Beach Owner/Builder lot 33 of Hills at Rose Creek

On the date of March 9, 2006 application 0603-04 and plans for construction of a detached garage 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 0603-03 when making reference to this application.

✓1. The Structural design of the detached garage by Wayland Structural Engineering assumes that the allowable soil bearing pressure for the supporting foundation will be 2,000 pounds per square foot. Therefore please follow the prescribed testing methods to reveal the soil load bearing capacities. Please have a registered professional conduct subsurface explorations at the project site upon which foundations are to be constructed, a sufficient number (not less than four, one boring on each corner of the building foundation) borings shall be made to a depth of not less than 10 feet (3048 mm) below the level of the foundations to provide assurance of the soundness of the foundation bed and its load-bearing capacity.

✓2. On the elevation drawing provide the total height of the structure from the existing grade to the roof highest ridge line.

3. Sub panel conductors shall have four-wire conductors, of which one conductor shall be used as an equipment ground.

Thank you,

Joe Haltiwanger
Plan Examiner
Columbia County Building Department

Location: 4795W Hill Creek Dr. **Project Name:** Beach Residence

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

ategory/Subcategory	Manufacturer	Product Description	Approval Number(s)
. EXTERIOR DOORS			
1. Swinging	Masonite Int.	Exterior Front Door	FL 4668
2. Sliding			
3. Sectional	Clopay Bld. P.	Sectional Garage Door	FL 3026
4. Roll up			
5. Automatic			
6. Other			
. WINDOWS			
1. Single hung	MI Windows	Capitol Low E Flange	FL 5438
2. Horizontal Slider			
3. Casement			
4. Double Hung			
5. Fixed			
6. Awning			
7. Pass-through			
8. Projected			
9. Mullion			
10. Wind Breaker			
11 Dual Action			
12. Other			
. PANEL WALL			
1. Siding			
2. Soffits			
3. EIFS	KayCan LTD	Soffits	FL 4899
4. Storefronts			
5. Curtain walls			
6. Wall louver			
7. Glass block	Hy Lite Prod.	Glass Block	FL 2025
8. Membrane	Glass Block W.	Glass Block	FL 4018
9. Greenhouse			
10. Other			
. ROOFING PRODUCTS			
1. Asphalt Shingles	ELK	Architect. Shingles	FL 728
2. Underlayments	Atlas R.	Under Layment	FL 4064
3. Roofing Fasteners	Senco Prod.	Roof Fasteners	FL 5135
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			

13. Liquid Applied Roof Sys			
14. Cements-Adhesives – Coatings			
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			
1. Skylight			
2. Other			
G. STRUCTURAL COMPONENTS			
1. Wood connector/anchor			
2. Truss plates			
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 inspect

James A. Beach
Contractor or Contractor's Authorized Agent Signature

James A. Beach 3/01/2006
Print Name Date

Location

Permit # **(FOR STAFF USE ONLY)**

WIND ENGINEERING

FOR

BEACH RESIDENCE
Lake City, Florida

w s e

WAYLAND

STRUCTURAL ENGINEERING

8200 SW 16th Place Gainesville, FL 32607

Phone/Fax 352-331-0727

FL COA #8236

Project Number
05170

January 12, 2006

For
James & Sally Beach
4783 Waverly Woods Terrace
Lake Worth, Florida 33463

TABLE OF CONTENTS

GREGORY S. WAYLAND, PE
FL PE #54396

1/16/06

WAYLAND STRUCTURAL ENGINEERING			Date:	1/12/2006
Gregory S. Wayland, PE	FL PE #54396	FL COA #8236	By:	GSW
8200 SW 16th Place Gainesville, FL 32607	Ph/Fax 352-331-0727		Page:	1
Project Name: BEACH RESIDENCE			For:	
WSE Project Number: 05170				
Project Location: Lake City, Florida				

STRUCTURAL SPECIFICATION

A. GENERAL

1. This STRUCTURAL SPECIFICATION shall be considered part of the contract documents for this project and shall be attached to the drawings prepared by: **W.E.B. DESIGNS** Date:
2. Roof truss layout, uplift loads and gravity loads relied upon for design of supporting walls, lintels, headers, footings, etc. prepared by: **MAYO TRUSS CO., Inc. Rt 2, Box 40 Mayo, FL** Date: 12/23/2005
3. Information and materials specified in this STRUCTURAL SPECIFICATION shall take precedence over that shown on the drawings.
4. Signing and sealing this document and/or the construction drawings by Wayland Structural Engineering certifies only the structural systems for this building, and is not a certification of the site plan, architectural, electrical, mechanical, plumbing or other systems that may be shown on the same drawing. WSE is not responsible for changes made to this document by others without written consent.
5. It is assumed that this building site is not located within a 100 year floodplain and is not designed for hydrostatic or moving water loads.
6. **CODE COMPLIANCE:** **This building is designed in compliance with the requirements of the Florida Building Code, 2004.** Structural members, cladding, fasteners and systems providing for the structural integrity of the building are designed to resist gravity loads prescribed Chapter 16 and wind loads prescribed in Section 1606.2 Simplified Provisions for Low Rise Buildings.

7. **DESIGN LOADS**

a. Uniformly Distributed Live Loads		(Section 1604.1)
Floor Live Load	NA	psf
b. Roof Live Loads		(Section 1604.6)
5:12 pitch	16	psf
c. Wind Loads		(Section 1606.2)
1.) Enclosure Classification	Enclosed	
2.) Basic Wind Speed (3 second gust)	*130	mph
3.) Wind Importance Factor, Iw	1.0	
4.) Exposure Category	B	
5.) Internal Pressure Coefficients:	+0.18, -0.18	

6.) Design Wind Pressures for Doors and Windows:

Opening Area (sf)	Inward Pressure (psf)	Outward Pressure (psf)
0-10	30.4	-40.7
11-20	29.0	-38.0
21-50	27.2	-34.3
51-100	25.9	-31.6

***STRUCTURE DESIGNED FOR 130 MPH AT CLIENT'S REQUEST. DESIGN WIND SPEED FOR THIS LOCATION IS 110 MPH.**

B. EARTHWORK

1. **General:**
   a. A geotechnical or soil investigation has not been performed for this site.
   b. Bearing soil is therefore presumed to be sandy soil with no organics, peat, clay, expansive clays, or boulders.
   c. It is assumed that seasonal high groundwater table is well below footing bearing elevation.
   d. It is assumed that allowable bearing pressure is 2,000 pounds per square foot.
   e. If contractor or building inspector encounters organics, clays, silts, boulders or high grounwater levels during foundation excavation, engineer of record and/or geotechnical engineer shall be contacted and/or employed to assess conditions first hand and give direction for additional corrective work or modifications to the design that may need to be performed.
2. **Site Preparation:**
   a. Strip all trees, grasses, topsoil and other organics from building footprint.
   b. Use root rake or similar equipment to remove roots from building footprint.
   c. Proofcompact existing grade with loaded dump truck or compactor to densify existing soils and identify soft or loose soils.
   d. If soft soils are encountered during proofcompaction, overcut unsuitable material and replace with well graded sand. (See 1e. above)
3. **Excavation:**
   a. Excavations are to be performed in accordance with current OSHA standards. Contractor is responsible for excavation safety.
   b. Compact all excavation bottoms to firm unyielding condition.
4. **Footing Bearing:**
   a. All foundations are to bear on undisturbed sandy soil soil or compacted fill as described herein.
   b. Bottom of footings are to extend at least 12 inches below grade.
5. **Ground/Surface Water Control:**
   a. Excavation and backfill operations are to be maintained in a dry condition.
   b. Slope or crown building subgrades to promote run-off and prevent ponding.
   c. Surface and infiltrating water are to be removed by grading and pumping from sumps if required.
6. **Backfill and Compaction:**
   a. Use only clean, well graded sand with no more than 10% passing #200 sieve for fill and backfill within building footprint.
   b. Mechanically compact all backfill within building footprint in maximum 12" loose lifts to firm unyielding consistency.
7. **Pest Control:**
   a. Treat all slab subgrades for termites in accordance with the Florida Building Code and local ordinances.
8. **Exterior Grading:**
   a. Exterior grade is to be kept at least 6 inches below wood siding and/or foam insulation.
   b. Slope exterior grade away from building to promote drainage.

STRUCTURAL SPECIFICATION (Continued)

C. CONCRETE

1. Concrete Materials:

a. General: Comply with the Florida Building Code, 2004 Chapter 19, and ACI 301-99 Specifications for Structural Concrete.

b. Concrete:
1.) Cement: ASTM C150, Type I Portland cement.
2.) Aggregate: ASTM C33. Maximum aggregate size = 1 inch.
3.) Compressive Strength: Footings and slabs - 2,500 psi minimum at 28 days.
4.) Maximum water/cement ratio: 0.50.
5.) Air entraining admixture: ASTM C 260. Concrete is to be air entrained for mild exposure, 3 - 6%.
6.) Water reducing admixtures: ASTM C 494, Type A. All concrete to contain a water reducing admixture.
7.) Slump: 4 inches +/- 1 inch.

c. Reinforcing Steel: ASTM A615, Grade 40.

d. Welded Wire Reinforcing (WWR): ASTM A185, 6x6-W1.4xW1.4 (6x6-10/10) sheets.

e. Fibrous Reinforcing: ASTM C 1116, Fibermesh "Stealth" or "Inforce e3" polypropylene fibers by SI Concrete Systems or equivalent. Add to concrete mix at a rate of 1.5 lb/cy of concrete.

2. Concrete Installation:

a. Slab-on-grade: Provide 4 inch thick slab-on-grade with 6 mil thick polyethylene vapor retarder, lap 6 inches.

b. Footings: Install footings with size and reinforcement shown on plans.

c. Reinforcing Steel:

1.) Standard Lap Splice:	#3 bars = 15", #4 bars = 20", #5 bars = 25", #6 bars = 30"
2.) Standard Hooks:	#3 bars = 6", #4 bars = 8", #5 bars = 10", #6 bars = 12"
3.) Corner Bars:	Provide 90 degree bend with standard lap splice at all footing corners and intersections.
4.) Bar Cover:	3 inches clear between bottom of footing bars and soil. 1 1/2" clear for concrete beams.
5.) WWR Lap Length:	Minimum 10"

d. Slab Reinforcement:
1.) For monolithic slabs: Use WWR only, lap edges minimum 10", support on chairs @ 3'-0" o.c. each way.
2.) For masonry stem walls: Use WWR or Fiber reinforcement at contractor's option. WWR need not be installed on chairs if used in conjunction with fiber reinforcement.

e. Protection: Cure all slabs for minimum 7 days using sprayed-on membrane curing compound or continuous water sprinkling.

f. Slab joints: As concrete slabs cure and dry out, they will shrink causing cracks to form in the surface of the slab. Slab reinforcement is placed in the slab to help limit the width of cracks that form. All slabs left exposed should be saw-cut in roughly 10'-0" squares.

D. MASONRY

1. Masonry Materials:

a. General: Comply with the Florida Building Code, 2004 Chapter 21 and ACI 530.1-02 Specifications for Masonry Structures.

b. Concrete Masonry Units: ASTM C90, Type 1, two core, normal weight units, 1,900 psi net area compressive strength.

c. Mortar: ASTM C270, Type M or S.

d. Grout: ASTM C476, fine or coarse grout, minimum 3,000 psi compressive strength at 28 days, 8-9 inch slump.

e. Joint Reinforcing: ASTM A951, truss type, hot-dip galvanized per ASTM A153, class B, 9 gauge wires.

f. Reinforcing Steel: ASTM A615, Grade 40.

2. Masonry Installation:

a. Joint Reinforcing: (Optional) Install joint reinforcing in all walls at 16 inches o.c. vertical for crack resistance.

b. Reinforcing:
1.) Provide clean-out at base of wall for all vertical bars for pours over 5 feet high.
2.) Provide vertical #5 bars @ 4'-0" o.c. and at all corners and ends of walls.
3.) Provide one vertical #5 bar in first cell at all window and door jambs.
4.) Provide (2) #5 vertical bars in all masonry columns.

c. Provide standard 90 degree hook into footing at bottom and into bond beam at top of wall for all vertical bars.

d. Provide one #5 bar continuous in bond beam at top of wall.

e. Lap bars in masonry construction 48 x bar diameter.

f. Provide 90 degree bend corner bars at all wall corners and intersections.

g. Provide precast/pre-reinforced U-shaped concrete lintels over all openings as described in the attached lintel schedule detail.

STRUCTURAL SPECIFICATION (Continued)

E. **WOOD FRAMING**

1. Wood Materials:

a. General: Comply with the Florida Building Code, 2004 Chapter 23.

b. Wall Framing:

1.) Loadbearing Studs: 2x4's @ 16" o.c., Construction Grade Spruce-Pine-Fir (SPF).

2.) Bottom Plate: 2x4, preservative treated wood.

3.) Top Plate: Doubled 2x4.

4.) Posts: No. 2 Southern Pine (SP), preservative treated, size as shown on plans.

5.) Lumber Headers/Beams: No. 2 Southern Pine, size as shown on plan.

6.) Wall Sheathing: 15/32" thick, Oriented Strand Board (OSB), Sheathing Grade, Exposure 1.
or APA Rated CDX Plywood Sheathing, Exposure 1.

c. Roof Framing:

1.) Engineered Roof Trusses:

a.) Wayland Structural Engineering is not responsible for design and detailing or installation of engineered wood roof trusses.

b.) Truss engineering drawings to be signed and sealed by Professional Engineer registered in State of Florida.

c.) Truss manufacturer to Engineer trusses to support dead, live and wind loads per Florida Building Code, 2004 or ASCE 7-02.

d.) Engineer trusses to comply with ANSI/TPI 1 "National Design Standard for Metal Plate Connected Wood Truss Construction.

e.) Comply with TPI HIB "Commentary and Recommendations for Handling, Installing and Bracing of Metal Plate Connected Wood Trusses."

f.) Comply with TPI DSB "Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses."

g.) Truss spacing = 2'-0" o.c. maximium.

2.) Roof Sheathing: 15/32" thick, Oriented Strand Board (OSB), Sheathing Grade, Exposure 1.
or APA Rated CDX Plywood Sheathing, Exposure 1.

3.) Fascia Board: 2x6, No. 2, Spruce-Pine-Fir (SPF).

d. Fasteners:

1.) Framing Fasteners: Comply with Florida Building Code, 2004, Table 2304.9.1, "Fastening Schedule."

a.) Fasteners permanently exposed to weather are to be hot-dip galvanized.

2.) Anchor bolts: ASTM A307, 1/2" diameter x 8" J-bolts, 2"x2" washer.

3.) Bolts: ASTM A307, hot-dip galvanized, see plan for size and quantity.

4.) Wind Uplift Anchors: Use Simpson Strong-Tie or equivalent.

a.) Contractor must verify that loads shown on truss engineering drawings do not exceed loads shown in anchor schedule prior to installation. If discrepancy is discovered, contact engineer for direction.

2. Wood Installation:

a. Sheathing:

1.) Fasten wall sheathing with 8d nails @ 6" o.c at panel edges, 12" o.c. along intermediate supports.

2.) Fasten roof sheathing with 8d common nails @ 6" o.c at panel edges, 12" o.c. along intermediate supports.

3.) Ensure that roof sheathing is edge nailed to 2x6 fascia. Ensure wall sheathing is edge nailed to top and bottom plates.

4.) Lay roof and floor sheathing perpendicular to supporting members. Stagger end panel locations.

5.) Use "H" panel clips between panel supports for roof sheathing.

6.) Cover sheathing as soon as possible for protection against excessive moisture exposure.

b. Anchors:

1.) Install all uplift anchors as recommended by manufacturer.

2.) Install anchor bolts @ 2'-0" o.c. at interior bearing walls, and 8" from corners and jamb studs.

c. Fasteners: Fasten all wood construction using fasteners specified in FBC Table 2306.1 unless noted otherwise.

d. Headers: See attached "Typical Header Schedule" for opening construction in wood stud bearing walls.

F. **WALL OPENINGS**

1. Windows, Doors, Skylights:

a. Wayland Structural Engineering is not responsible for the design, construction, or attachment of windows, doors or skylights.

b. The building envelope is designed assuming a fully enclosed condition, therefore windows, doors and skylights must be designed to support the same wind pressures that walls and roofs are designed for.

b. Window, door and skylight manufacturer shall submit certification indicating that window or door units can adequately support design wind pressures for the specified wind zone as shown in section A.7.c.6. above.

c. Window, door and skylight manufacturer is to provide fastening information for attachment to supporting construction.

WAYLAND STRUCTURAL ENGINEERING			Date:	1/12/2006
Gregory S. Wayland, PE	FL PE #54396	FL COA #8236	By:	GSW
8200 SW 16th Place Gainesville, FL 32607	Ph/Fax 352-331-0727		Page:	4
Project Name: **BEACH RESIDENCE**			For:	
WSE Project Number: 05170				
Project Location: Lake City, Florida				

A. UPLIFT CHECKS

1. BOND BEAM CHECK (upward bending)

Vertical bar spacing	s =	4.00 ft	
Gross uniform uplift load	ug =	-277 plf	(worst case from truss engineering)
Bond beam weight	wd =	42 plf	(one course high x 8 inches wide)
Calculated net uniform uplift load	un =	-235 plf	

		Calc'd	Supplied	
Maximum net shear (kips)	U =	**0.47**	**2.16**	**OK**
Maximum net moment (kip-in)	M =	**5.6**	**25.5**	**OK**

*** USE ONE COURSE HIGH x 8 INCH WIDE MASONRY BOND BEAM WITH (1) #5 CONTINUOUS TOP**

2. VERTICAL BAR CHECK (upward tension)

Allowable reinforcing tension	Fs =	20,000 psi
Stress increase for wind	Cw =	1.33

		* Calc'd Uplift (kips)	Vertical Reinforcing Quantity	Vertical Reinforcing Size (#)	**Supplied Uplift (kips)	
For typical common trusses,		0.940	1	5	8.161	OK
For girder trusses,	A13	1.068	1	5	8.161	OK
	A21	0.651	1	5	8.161	OK
	B5	0.701	1	5	8.161	OK
	C3	0.692	1	5	8.161	OK
	D1	1.786	1	5	8.161	OK
	E1	0.469	1	5	8.161	OK

* uplift values taken from truss engineering.

** includes stress increase for wind.

USE (1) #5 VERTICAL BAR @ 4'-0" O.C. MAX.

3A. WALL + FOOTING + SOIL WEIGHT CHECK (uplift at common trusses)

				Resisting Weight Supplied
Wall height	hw =	10.00 ft		
Wall thickness	tw =	8 in		
Wall unit weight	ww =	52 psf		
Bond beam height	hbb =	8 in	Bond beam	58
Bond beam unit weight	wbb =	130 psf	Wall	485
Footing thickness	tf =	10 in	Footing	208
Footing width	bf =	20 in	Soil (inside)	67
Footing depth below slab	df1 =	26 in	Soil (outside)	33
Footing depth below grade	df2 =	18 in	**Wr =**	**851 plf**
Soil unit weight	ws =	100 psf		

Safety Factor Against Uplift	SF =	1.00	
Gross uniform uplift load	ug =	277 plf	
Required Resisting Weight, Wr = SF*ug		**277 plf**	**OK**

USE MINIMUM 8" THICK MASONRY WALL WITH 10"X20" FOOTING WITH (3) #5 BARS CONTINUOUS.

3B. WALL + FOOTING + SOIL WEIGHT CHECK (uplift at girder truss bearing points and columns)

Girder Truss or Column	Downward Load (lb)	Uplift Load (lb)	Adjacent Uplift Load (plf)	*Required Uplift Load (lb)	**Resisting Weight (lb)	Rqd Footing ***Weight (lb)	Rqd Concrete Volume (cf)	Footing Thickness (in)	Min. Square Footing (ft)	
A13 LEFT	2,434	699	144	1,707	770	937	8	16	**2.4**	2-6x2'-6x16
A21 MID	4,234	1,204	335	3,549	770	2779	20	16	**3.9**	4'-0x4'-0x16
D1 LEFT	6,229	1,769	100	2,469	6,812	-4343	-28	10	**0.0**	
D1 RIGHT	6,230	1,786	100	2,486	6,812	-4326	-27	10	**0.0**	

** Resisting weight equals weight of wall, footing, soil for 4 feet each side of load point.

*** Required footing weight equals weight required in addition to 10" x 20" footing.

WAYLAND STRUCTURAL ENGINEERING				Date:	1/12/2006
Gregory S. Wayland, PE	FL PE #54396	FL COA #8236		By:	GSW
8200 SW 16th Place Gainesville, FL 32607	Ph/Fax 352-331-0727			Page:	5
Project Name: **BEACH RESIDENCE**			For:	0	
WSE Project Number: 05170				0	
Project Location: Lake City, Florida				0	

B. LINTELS

1. TYPICAL LINTELS (with uniform load only)

	Unit Load (psf)	Trib. Width (ft)	Uniform Load (kips/ft)	Load Factor	Factored Uniform Load (kips/ft)
Roof Dead Load	15	25.00	0.375	1.40	0.525
Wall Dead Load	87	1.33	0.116	1.40	0.162
Roof Live Load	16	25.00	0.400	1.70	0.680
Roof Attic Load	10	25.00	0.250	1.70	0.425
		w =	**1.141**	**wu =**	**1.792**
*Uplift Load			0.277	1.60	0.443

(*from truss engineering)

Lintel Span	L =	**4.67**	**6.33**	**9.33**			ft
Unfactored Reaction	R =	2.66	3.61	5.32			kips
Unfactored Net Uplift Reaction	Unet =	0.48	0.66	0.97			kips
Factored Uplift Moment	Munet =	0.57	1.04	2.26			kip-ft
Factored Shear	Vu =	4.18	5.67	8.36			kips
Factored Design Shear	Vud =	**2.09**	**3.58**	**6.27**			kips
Factored Moment	Mu =	**4.89**	**8.98**	**19.50**			kip-ft
	Select Lintel	**TYPE A FILLED/ W 1 COURSE MASONRY**	**TYPE B FILLED/ W 1 COURSE MASONRY**	**TYPE B FILLED/ W 1 COURSE MASONRY**			

2. 18'-0" GARAGE DOOR LINTEL (with girder truss B5 bearing) **Lintel Span, L = 18.00 ft**

Uniform Load #1	Unit Load (psf)	Trib. Width (ft)	Uniform Load (kips/ft)	Load Factor	Factored Uniform Load (kips/ft)
Roof Dead Load	15	13.33	0.200	1.40	0.280
Wall Dead Load	87	1.33	0.116	1.40	0.162
Roof Live Load	16	13.33	0.213	1.70	0.363
Roof Attic Load	10	13.33	0.133	1.70	0.227
		w1 =	**0.662**	**wu1 =**	**1.031**
Uplift Load			0.190	1.60	0.304
Uniform Load #2					
Roof Dead Load	15	5.50	0.083	1.40	0.116
Wall Dead Load	87	1.33	0.116	1.40	0.162
Roof Live Load	16	5.50	0.088	1.70	0.150
Roof Attic Load	10	5.50	0.055	1.70	0.094
		w2 =	**0.341**	**wu2 =**	**0.521**
Uplift Load			0.097	1.60	0.155

Point Load	Point Load (kips)	Load Factor	Factored Uniform Load (kips)	Distance From Left (ft)	Distance From Right (ft)
Dead Load	1.231	1.40	1.72		
Live Load	1.231	1.70	2.09		
P =	**2.462**	**Pu =**	**3.82**	4.33	13.67
Uplift Load	0.701	1.60	1.12	4.33	13.67

		Left End	Right End	
Unfactored Reaction	R =	6.16	3.83	kips
Unfactored Net Uplift Reaction	Unet =	1.13	0.47	kips
Factored Shear	Vu =	9.53	5.87	kips
Factored Design Shear	**Vud =**	**8.33**	**5.26**	**kips**

Factored Moment	(due to P)	Mu1 =	12.55	kip-ft @	4.33	ft
	(due to w1)	Mu2 =	7.48	kip-ft @	3.81	ft
	(due to w2)	Mu3 =	18.71	kip-ft @	9.52	ft
		Mu =	**28.27**	**kip-ft**		

USE TYPE E PRECAST WITH ONE COURSE MASONRY W/ #3 STIRRUPS @ 8" O.C.

3. 11'-4" BACK PORCH LINTEL (with no girder truss bearing)

	Unit Load (psf)	Trib. Width (ft)	Uniform Load (kips/ft)	Load Factor	Factored Uniform Load (kips/ft)	
Roof Dead Load	15	6.33	0.095	1.40	0.133	
Wall Dead Load	87	1.33	0.116	1.40	0.162	
Roof Live Load	16	6.33	0.101	1.70	0.172	
Roof Attic Load	10	6.33	0.063	1.70	0.108	
		w =	**0.375**	**wu =**	**0.575**	
*Uplift Load			0.102	1.60	0.163	(*from truss engineering)

Lintel Span	L =	**11.33**	ft
Unfactored Reaction	R =	2.13	kips
Unfactored Net Uplift Reaction	Unet =	0.18	kips
Factored Uplift Moment	Munet =	0.52	kip-ft
Factored Shear	Vu =	3.26	kips
Factored Design Shear	Vud =	**2.59**	kips
Factored Moment	Mu =	**9.22**	kip-ft

USE TYPE E FILLED W/ ONE COURSE MASONRY

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8200 SW 16th Place Gainesville, FL 32607 | Ph/Fax 352-331-0727

Project Name: **BEACH RESIDENCE**
WSE Project Number: 05170
Project Location: Lake City, Florida

For: 0
0
0

C. LATERAL ANALYSIS

1. Building Data

Building Length	L =	70.67	ft
Building Width	B =	63.33	ft
Eave Height	he =	8.67	ft
Peak ht above eave	hp =	10.41	ft
Roof Slope		5	/12

2. Edge Zone

a = 0.10*B	6.33	ft
a = 0.40*h	3.47	ft
a =	3.47	ft
a = 0.04*B	2.53	ft
a = 3.00	3.00	ft
a =	**3.47**	**ft**

3. End Zone

z = 2*a = **6.94** **ft**

4. LONGITUDINAL DIRECTION

Exposure Category: **B**
Adjustment Coefficient: **1.00**

MWFRS Wind Pressures:

Wall Interior Zone	17.8 psf
Wall End Zone	26.8 psf
Roof Interior Zone	-8.2 psf
Roof End Zone	-13.9 psf

Wall Shear Force:

Interior	3.82 kips
End	1.61 kips
Total	5.43 kips

Roof Shear Force:

Interior	-2.70 kips
End	-0.28 kips
Total	-2.98 kips
Use	0.00 kips

Total Shear Force:

V = **5.43** **kips**

Roof Diaphragm Check:

Diaphragm shear	v =	38	plf
Allowable shear	v =	240	plf
	check	OK	

Shear Wall Check:

Shear wall length	d =	5.33	ft
Shear wall height	h =	8.67	ft
Shear wall effective thickness	be =	2.50	in
Masonry strength	f'm =	1500	psi
Actual Shear	V =	2.71	kips
Overturning moment	M =	23.53	kip-ft
Actual shear stress	**fv =**	**17.0**	**psi**
	check	OK	

Allowable shear stress

M/V*d	1.63	
M/V*d >= 1.0	YES	
Allowable shear stress	Fv1 = 38.73	psi
	Fv2 = 35.00	psi
	Fv = **35.00**	**psi**

5. TRANSVERSE DIRECTION

MWFRS Wind Pressures:

Wall Interior Zone	24.7 psf
Wall End Zone	37.1 psf
Roof Interior Zone	-5.4 psf
Roof End Zone	-9.8 psf

Wall Shear Force:

Interior	6.08 kips
End	2.23 kips
Total	8.31 kips

Roof Shear Force:

Interior	-2.04 kips
End	-0.20 kips
Total	-2.24 kips
Use	0.00 kips

Total Shear Force:

V = **8.31** **kips**

Roof Diaphragm Check:

Diaphragm shear	v =	66	plf
Allowable shear	v =	240	plf
	check	OK	

USE 15/32" OSB SHEATHING GRADE W/ 8d NAILS @ 6" O.C. EDGE, 12" O.C. FIELD

Shear Wall Check:

Shear wall length	d =	8.33	ft
Shear wall height	h =	8.67	ft
Shear wall effective thickness	be =	2.50	in
Masonry strength	f'm =	1500	psi
Actual Shear	V =	4.16	kips
Overturning moment	M =	36.04	kip-ft
Actual shear stress	**fv =**	**16.6**	**psi**
	check	OK	

Allowable shear stress

M/V*d	1.04	
M/V*d >= 1.0	YES	
Allowable shear stress	Fv1 = 38.73	psi
	Fv2 = 35.00	psi
	Fv = **35.00**	**psi**

USE 8" CMU W/ TYPE S MORTAR, FACE SHELL BEDDING, GROUT ONLY AT REINFORCED CELLS.

WAYLAND STRUCTURAL ENGINEERING
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FL PE #54396
Ph/Fax 352-331-0727
FL COA #8236

Date:	1/12/2006
By:	GSW
Page:	8

Project Name:	**BEACH RESIDENCE**
WSE Project Number:	05170
Project Location:	Lake City, Florida

For:

FRONT PORCH BEAM $L = 12.67'$

$W = (480/2) = 240$ plf

$w = (246/2) = 123$ plf

$V = 240(12.67/12) = 1520$ lb each end or $P = 240(12.67+6)/2 = 2240$ lb/post

$M = 1/8(240)\,12.67^2 \times 12 = 57790$ in-lb.

$U = 123(12.67/2) = 779$ lb each end or $U = 123(12.67+6)/2 = 1148$ lb/post

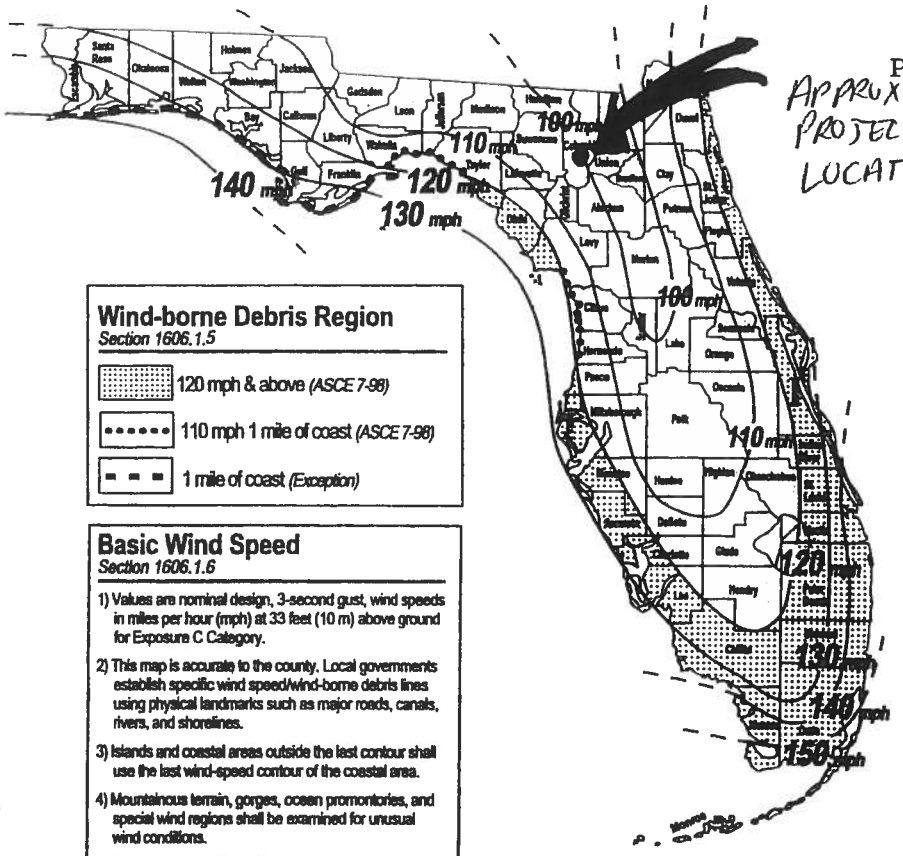
$A = 1520/(90 \times 1.25) = 13.5$ in^2

$S = 57790/(975 \times 1.25) = 47.4$ in^3

$\therefore$ USE

(2) 2X12 BEAM (NO. 2 SP)
W/ (2) SIMPSON "LSTA21" TO EACH POST
W/ 4X4 P.T. POST (NO. 2 SP)
W/ SIMPSON "ABU44" + 5/8" x 10" BOLT TO FOUNDATION

APPROXIMATE PROJECT LOCATION



Wind-borne Debris Region
Section 1606.1.5

- 120 mph & above *(ASCE 7-98)*
- 110 mph 1 mile of coast *(ASCE 7-98)*
- 1 mile of coast *(Exception)*

Basic Wind Speed
Section 1606.1.6

1) Values are nominal design, 3-second gust, wind speeds in miles per hour (mph) at 33 feet (10 m) above ground for Exposure C Category.

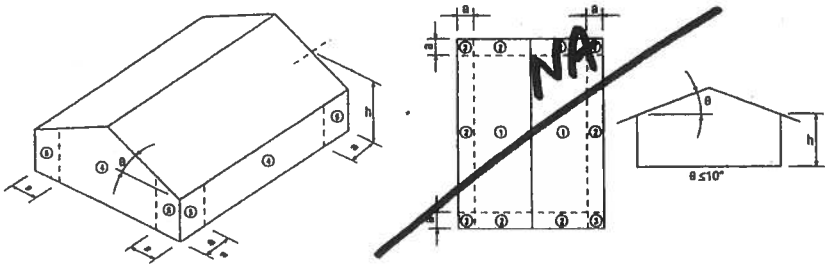
2) This map is accurate to the county. Local governments establish specific wind speed/wind-borne debris lines using physical landmarks such as major roads, canals, rivers, and shorelines.

3) Islands and coastal areas outside the last contour shall use the last wind-speed contour of the coastal area.

4) Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

5) Wind speeds are American Society of Civil Engineers Standard (ASCE 7-98) 50–100-year peak gusts.

FIGURE 1606
STATE OF FLORIDA
WIND-BORNE DEBRIS REGION & BASIC WIND SPEED



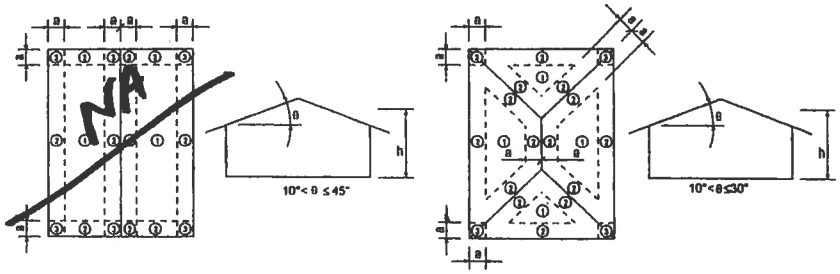


FIGURE 1606.2(c)
COMPONENT AND CLADDING LOADING DIAGRAMS

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TABLE 1606.2A
MAIN WIND FORCE RESISTING SYSTEM WIND LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN Exposure B

			Horizontal loads[2]				Vertical Loads (psf)						Max. Horizontal Wall Loads[4] (psf)			
			End Zone		Interior Zone		End Zone		Interior Zone		Windward Overhang		Zone			
Wind Velocity (mph)	Load Direction	Roof angle (degrees)	Wall	Roof[3]	Wall	Roof[3]	Windward Roof	Leeward Roof	Windward Roof	Leeward Roof	End Zone	Interior Zone	1E	4E	1	4
90	Transverse	0 - 5	12.8	-6.7	8.5	-4.0	-15.4	-8.8	-10.7	-6.8	-21.6	-16.9	10.0	-7.5	7.2	-5.8
		20	17.8	-4.7	11.9	-2.6	-15.4	-10.7	-10.7	-8.1	-21.6	-16.9	12.0	-10.1	8.8	-7.5
		30 < angle ≤ 45	14.4	9.9	11.5	7.9	5.6	-8.8	4.8	-7.5	-5.1	-5.8	11.0	-8.1	9.1	-6.8
	Longitudinal	All angles	12.8	-6.7	8.5	-4.0	-15.4	-8.8	-10.7	-6.8	-21.6	-16.9	10.0	-7.5	7.2	-5.8
100	Transverse	0 - 5	15.9	-8.2	10.5	-4.9	-19.1	-10.8	-13.3	-8.4	-26.7	-20.9	12.0	-9.3	8.8	-7.2
		20	22.0	-5.8	14.6	-3.2	-19.1	-13.3	-13.3	-10.1	-26.7	-20.9	15.0	-12.5	10.8	-9.3
		30 < angle ≤ 45	17.8	12.2	14.2	9.8	6.9	-10.8	5.9	-9.3	-6.3	-7.2	13.0	-10.1	11.3	-8.4
	Longitudinal	All Angles	15.9	-8.2	10.5	-4.9	-19.1	-10.8	-13.3	-8.4	-26.7	-20.9	12.0	-9.3	8.8	-7.2
110	Transverse	0 - 5	19.2	-10.0	12.7	-5.9	-23.1	-13.1	-16.0	-10.1	-32.3	-25.3	15.0	-11.3	10.7	-8.7
		20	26.6	-7.0	17.7	-3.9	-23.1	-16.0	-16.0	-12.2	-32.3	-25.3	18.0	-15.1	13.1	-11.3
		30 < angle ≤ 45	21.6	14.8	17.2	11.8	8.3	-13.1	7.2	-11.3	-7.6	-8.7	16.0	-12.2	13.7	-10.1
	Longitudinal	All Angles	19.2	-10.0	12.7	-5.9	-23.1	-13.1	-16.0	-10.1	-32.3	-25.3	15.0	-11.3	10.7	-8.7
120	Transverse	0 - 5	22.8	-11.9	15.1	-7.0	-27.4	-15.6	-19.1	-12.1	-38.4	-30.1	17.0	-13.4	12.7	-10.3
		20	31.6	-8.3	21.1	-4.6	-27.4	-19.1	-19.1	-14.5	-38.4	-30.1	22.0	-18.0	15.6	-13.4
		30 < angle ≤ 45	25.7	17.6	20.4	14.0	9.9	-15.6	8.6	-13.4	-9.0	-10.3	19.0	-14.5	16.2	-12.1
	Longitudinal	All Angles	22.8	-11.9	15.1	-7.0	-27.4	-15.6	-19.1	-12.1	-38.4	-30.1	17.0	-13.4	12.7	-10.3
130	Transverse	0 - 5	26.8	-13.9	17.8	-8.2	-32.2	-18.3	-22.4	-14.2	-45.1	-35.3	20.0	-15.7	14.9	-12.1
		20	37.1	-9.8	24.7	-5.4	-32.2	-22.4	-22.4	-17.0	-45.1	-35.3	25.0	-21.1	18.3	-15.7
		30 < angle ≤ 45	30.1	20.6	24.0	16.5	11.6	-18.3	10.0	-15.7	-10.6	-12.1	22.0	-17.0	19.1	-14.2
	Longitudinal	All Angles	26.8	-13.9	17.8	-8.2	-32.2	-18.3	-22.4	-14.2	-45.1	-35.3	20.0	-15.7	14.9	-12.1
140	Transverse	0 - 5	31.1	-16.1	20.6	-9.6	-37.3	-21.2	-26.0	-16.4	-52.3	-40.9	24.0	-18.2	17.3	-14.0
		20	43.0	-11.4	28.7	-6.3	-37.3	-26.0	-26.0	-19.7	-52.3	-40.9	29.0	-24.5	21.2	-18.2
		30 < angle ≤ 45	35.0	23.9	27.8	19.1	13.4	-21.2	11.7	-18.2	-12.3	-14.0	26.0	-19.7	22.1	-16.4
	Longitudinal	All Angles	31.1	-16.1	20.6	-9.6	-37.3	-21.2	-26.0	-16.4	-52.3	-40.9	24.0	-18.2	17.3	-14.0
150	Transverse	0 - 5	35.7	-18.5	23.7	-11.0	-42.9	-24.4	-29.8	-18.9	-60.0	-47.0	27.0	-20.9	19.9	-16.1
		20	49.4	-13.0	32.9	-7.2	-42.9	-29.8	-29.8	-22.6	-60.0	-47.0	34.0	-28.1	24.4	-20.9
		30 < angle ≤ 45	40.1	27.4	31.9	22.0	15.4	-24.4	13.4	-20.9	-14.1	-16.1	30.0	-22.6	25.4	-18.9
	Longitudinal	All Angles	35.7	-18.5	23.7	-11.0	-42.9	-24.4	-29.8	-18.9	-60.0	-47.0	27.0	-20.9	19.9	-16.1

For SI: 1 ft^2 = 0.0929 m^2, 1 mph = 0.447 m/s, 1 degree of angle = 0.01745 rad, 1 psf = 47.88 N/m^2.

Notes:
1 Pressures for roof angles from 5 to 20 degrees shall be interpolated from the table.
2 Pressures are the sum of the windward and leeward pressures and shall be applied to the windward elevation of the building in accordance with Figure 1606.2(c).
3 If pressure is less than 0, use 0.
4 Pressures shall be applied in accordance with Figure 1606.2(b).

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TABLE 1606.2B
COMPONENT AND CLADDING WIND LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B (psf)

Zone[3]	Effective wind area (ft^2)	Basic Wind Speed V (mph - 3 second gust)															
		85		90		100		110		120		130		140		150	
Roof Angle > 0-10 degrees																	
1	10.0	10.0	-13.0	10.0	-14.6	10.0	-18.0	10.0	-21.8	10.5	-25.9	12.4	-30.4	14.3	-35.3	16.5	-40.5
1	20.0	10.0	-12.7	10.0	-14.2	10.0	-17.5	10.0	-21.2	10.0	-25.2	11.6	-29.6	13.4	-34.4	15.4	-39.4
1	50.0	10.0	-12.2	10.0	-13.7	10.0	-16.9	10.0	-20.5	10.0	-24.4	10.6	-28.6	12.3	-33.2	14.1	-38.1
1	100.0	10.0	-11.9	10.0	-13.3	10.0	-16.5	10.0	-19.9	10.0	-23.7	10.0	-27.8	11.4	-32.3	13.0	-37.0
2	10.0	10.0	-21.8	10.0	-24.4	10.0	-30.2	10.0	-36.5	10.5	-43.5	12.4	-51.0	14.3	-59.2	16.5	-67.9
2	20.0	10.0	-19.5	10.0	-21.8	10.0	-27.0	10.0	-32.6	10.0	-38.8	11.6	-45.6	13.4	-52.9	15.4	-60.7
2	50.0	10.0	-16.4	10.0	-18.4	10.0	-22.7	10.0	-27.5	10.0	-32.7	10.6	-38.4	12.3	-44.5	14.1	-51.1
2	100.0	10.0	-14.1	10.0	-15.8	10.0	-19.5	10.0	-28.1	10.0	-33.0	11.4	-38.2	11.4	-38.2	13.0	-43.9
3	10.0	10.0	-32.8	10.0	-36.8	10.0	-45.4	10.0	-55.0	10.5	-65.4	12.4	-76.8	14.3	-89.0	16.5	-102.2
3	20.0	10.0	-27.2	10.0	-30.5	10.0	-37.6	10.0	-45.5	10.0	-54.2	11.6	-63.6	13.4	-73.8	15.4	-84.7
3	50.0	10.0	-19.7	10.0	-22.1	10.0	-27.3	10.0	-33.1	10.0	-39.3	10.6	-46.2	12.3	-53.5	14.1	-61.5
3	100.0	10.0	-14.1	10.0	-15.8	10.0	-19.5	10.0	-23.6	10.0	-28.1	10.0	-33.0	11.4	-38.2	13.0	-43.9
Roof Angle > 10-30 degrees																	
1	10.0	10.0	-11.9	10.0	-13.3	10.4	-16.5	12.5	-19.9	14.9	-23.7	17.5	-27.8	20.3	-32.3	23.3	-37.0
1	20.0	10.0	-11.6	10.0	-13.0	10.0	-16.0	11.4	-19.4	13.6	-23.0	16.0	-27.0	18.5	-31.4	21.3	-36.0
1	50.0	10.0	-11.1	10.0	-12.5	10.0	-15.4	10.0	-18.6	11.9	-22.2	13.9	-26.0	16.1	-30.2	18.5	-34.6
1	100.0	10.0	-10.8	10.0	-12.1	10.0	-14.9	10.0	-18.1	10.5	-21.5	12.4	-25.2	14.3	-29.3	16.5	-33.6
2	10.0	10.0	-25.1	10.0	-28.2	10.4	-34.8	12.5	-42.1	14.9	-50.1	17.5	-58.7	20.3	-68.1	23.3	-78.2
2	20.0	10.0	-22.8	10.0	-25.6	10.0	-31.5	11.4	-38.2	13.6	-45.4	16.0	-53.3	18.5	-61.8	21.3	-71.0
2	50.0	10.0	-19.7	10.0	-22.1	10.0	-27.3	10.0	-33.0	11.9	-39.3	13.9	-46.1	16.1	-53.5	18.5	-61.4
2	100.0	10.0	-17.4	10.0	-19.5	10.0	-21.1	10.0	-29.1	10.5	-34.7	12.4	-40.7	14.3	-47.2	16.5	-54.2
3	10.0	10.0	-25.1	10.0	-28.2	10.4	-34.8	12.5	-42.1	14.9	-50.1	17.5	-58.7	20.3	-68.1	23.3	-78.2
3	20.0	10.0	-22.8	10.0	-25.6	10.0	-31.5	11.4	-38.2	13.6	-45.4	16.0	-53.3	18.5	-61.8	21.3	-71.0
3	50.0	10.0	-19.7	10.0	-22.1	10.0	-27.3	10.0	-33.0	11.9	-39.3	13.9	-46.1	16.1	-53.5	18.5	-61.4
3	100.0	10.0	-17.4	10.0	-19.5	10.0	-24.1	10.0	29.1	10.5	-34.7	12.4	-40.7	14.3	-47.2	16.5	-54.2
Roof Angle > 30-45 degrees																	
1	10.0	11.9	-13.0	13.3	-14.6	16.5	-18.0	19.9	-21.8	23.7	-25.9	27.8	-30.4	32.3	-35.3	37.0	-40.5
1	20.0	11.6	-12.3	13.0	-13.8	16.0	-17.1	19.4	-20.7	23.0	-24.6	27.0	-28.9	31.4	-33.5	36.0	-38.4
1	50.0	11.1	-11.5	12.5	-12.8	15.4	-15.9	18.6	-19.2	22.2	-22.8	26.0	-26.8	30.2	31.1	34.6	-35.7
1	100.0	10.8	-10.8	12.1	-12.1	14.9	-14.9	18.1	-18.1	21.5	-21.5	25.2	-25.2	29.3	-29.3	33.6	-33.6
2	10.0	11.9	-15.2	13.3	-17.0	16.5	-21.0	19.9	-25.5	23.7	-30.3	27.8	-35.6	32.3	-41.2	37.0	-47.3
2	20.0	11.6	-14.5	13.0	-16.3	16.0	-20.1	19.4	-24.3	23.0	-29.0	27.0	-34.0	31.4	-39.4	36.0	-45.3
2	50.0	11.1	-13.7	12.5	-15.3	15.4	-18.9	18.6	-22.9	22.2	-27.2	26.0	-32.0	30.2	-37.1	34.6	-42.5
2	100.0	10.8	-13.0	12.1	-14.6	14.9	-18.0	18.1	-21.8	21.5	-25.9	25.2	-30.4	29.3	-35.3	33.6	-40.5
3	10.0	11.9	-15.2	13.3	-17.0	16.5	-21.0	19.9	-25.5	23.7	-30.3	27.8	-35.6	32.3	-41.2	37.0	-47.3
3	20.0	11.6	-14.5	13.0	-16.3	16.0	-20.1	19.4	-24.3	23.0	-29.0	27.0	-34.0	31.4	-39.4	36.0	-45.3
3	50.0	11.1	-13.7	12.5	-15.3	15.4	-18.9	18.6	-22.9	22.2	-27.2	26.0	-32.0	30.2	-37.1	34.6	-42.5
3	100.0	10.8	-13.0	12.1	-14.6	14.9	-18.0	18.1	-21.8	21.5	-25.9	25.2	-30.4	29.3	-35.3	33.6	-40.5
Wall																	
4	10.0	13.0	-14.1	14.6	-15.8	18.0	-19.5	21.8	-23.6	25.9	-28.1	30.4	-33.0	35.3	-38.2	40.5	-43.9
4	20.0	12.4	-13.5	13.9	-15.1	17.2	-18.7	20.8	-22.6	24.7	-26.9	29.0	-31.6	33.7	-36.7	38.7	-42.1
4	50.0	11.6	-12.7	13.0	-14.3	16.1	-17.6	19.5	-21.3	23.2	-25.4	27.2	-29.8	31.6	-34.6	36.2	-39.7
4	100.0	11.1	-12.2	12.4	-13.6	15.3	-16.8	18.5	-20.4	22.0	-24.2	25.9	-28.4	30.0	-33.0	34.4	-37.8
5	10.0	13.0	-17.4	14.6	-19.5	18.0	-24.1	21.8	-29.1	25.9	-34.7	30.4	-40.7	35.3	-47.2	40.5	-54.2
5	20.0	12.4	-16.2	13.9	-18.2	17.2	-22.5	20.8	-27.2	24.7	-32.4	29.0	-38.0	33.7	-44.0	38.7	-50.5
5	50.0	11.6	-14.7	13.0	-16.5	16.1	-20.3	19.5	-24.6	23.2	-29.3	27.2	-34.3	31.6	-39.8	36.2	-45.7
5	100.0	11.1	-13.5	12.4	-15.1	15.3	-18.7	18.5	-22.6	22.0	-26.9	25.9	-31.6	30.0	-36.7	34.4	-42.1

For SI: 1 ft^2 = 0.0929 m^2, 1 mph = 0.447 m/s, 1 psf = 47.88 N/m^2.

1 For effective areas or wind speeds between those given above the load may be interpolated, otherwise use the load associated with the lower effective area.

2 Table values shall be adjusted for height and exposure by multiplying by adjustment coefficients in Table 1606.2D.

3 See Figure 1606.2(c) for location of zones.

4 Plus and minus signs signify pressures acting toward and away from the building surfaces.

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TABLE 1606.2C
ROOF OVERHANG COMPONENT AND CLADDING DESIGN WIND PRESSURES FOR A BUILDING WITH MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B (psf)

Zone	Effective Wind Area (ft^2)	Basic Wind Speed v (mph - 3 second gust) 90	100	110	120	130	140	150
Roof Angle > 0-10 degrees								
2	10	-21.0	-25.9	-31.4	-37.3	-43.8	-50.8	-58.3
2	20	-20.6	-25.5	-30.8	-36.7	-43.0	-49.9	-57.3
2	100	-19.8	-24.4	-29.5	-35.1	-41.2	-47.8	-54.9
3	10	-34.6	-42.7	-51.6	-61.5	-72.1	-83.7	-96.0
3	20	-27.1	-33.5	-40.5	-48.3	-56.6	-65.7	-75.4
3	100	-10.0	-12.2	-14.8	-17.6	-20.6	-23.9	-27.4
Roof Angle > 10 - 30 degrees								
2	10	-27.2	-33.5	-40.6	-48.3	-56.7	-65.7	-75.5
2	20	-27.2	-33.5	-40.6	-48.3	-56.7	-65.7	-75.5
2	100	-27.2	-33.5	-40.6	-48.3	-56.7	-65.7	-75.5
3	10	-45.7	-56.4	-68.3	-81.2	-95.3	-110.6	-126.9
3	20	-40.5	-50.0	-60.5	-72.0	-84.5	-98.0	-112.5
3	100	-28.4	-35.1	-42.4	-50.5	-59.3	-68.7	-78.9
Roof Angle > 30 - 45 degrees								
2	10	-24.7	-30.5	-36.9	-43.9	-51.5	-59.8	-68.6
2	20	-24.0	-29.6	-35.8	-42.6	-50.0	-58.0	-66.5
2	100	-22.2	-27.4	-33.2	-39.5	-46.4	-53.8	-61.7
3	10	-24.7	-30.5	-36.9	-43.9	-51.5	-59.8	-68.6
3	20	-24.0	-29.6	-35.8	-42.6	-50.0	-58.0	-66.5
3	100	-22.2	-27.4	-33.2	-39.5	-46.4	-53.8	-61.7

For SI: 1 psf = 47.88 N/m^2, 1 ft^2 = 0.0929 m^2, 1 mph = 0.447 m/s.
Note: For effective areas between those given above the load may be interpolated, otherwise use the load may be interpolated, otherwise use the load associated with the lower effective area.

TABLE 1606.2D
HEIGHT AND EXPOSURE ADJUSTMENT COEFFICIENTS

Mean Roof Height	Exposure B	C	D
15	1.00	1.21	1.47
20	1.00	1.29	1.55
25	1.00	1.35	1.61
30	1.00	1.40	1.66
35	1.05	1.45	1.70
40	1.09	1.49	1.74
45	1.12	1.53	1.78
50	1.16	1.56	1.81
55	1.19	1.59	1.84
60	1.22	1.62	1.87

Note: All table values shall be adjusted for other exposures and heights by multiplying by the above coefficients.

WAYLAND
Structural Engineering
8200 SW 16th Place
Gainesville, Forida 32607

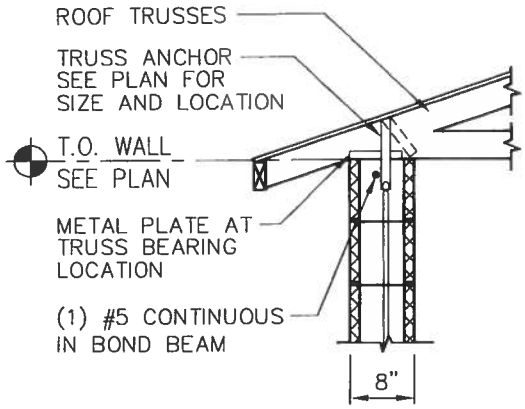
WAYLAND STRUCTURAL ENGINEERING			Date: 1/12/2006
Gregory S. Wayland, PE	FL PE #54396	FL COA #8236	By: GSW
8200 SW 16th Place Gainesville, FL 32607	Ph/Fax 352-331-0727		Page: 13
Project Name: **BEACH RESIDENCE**		For:	
WSE Project Number: **05170**			
Project Location: Lake City, Florida			

ROOF TRUSS ANCHOR SCHEDULE

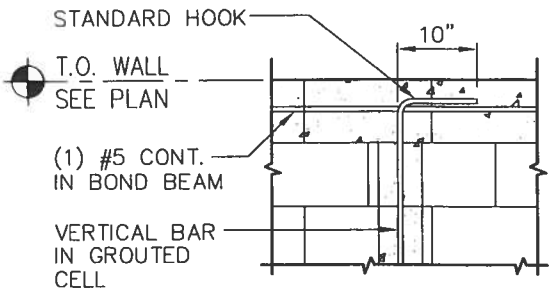
Truss Engineering:	MAYO TRUSS CO., INC.	Date:	12/23/2005
Anchors:	SIMPSON STRONG-TIE CO., INC.		

1. TRUSS TO TRUSS CONNECTIONS ARE TO BE SPECIFIED AND SUPPLIED BY TRUSS MANUFACTURER.
2. USE "META16" FOR ALL TRUSSES BEARING ON MASONRY UNLESS OTHERWISE NOTED BELOW (U = 1450 lb).
3. USE "H2.5A" FOR ALL TRUSSES BEARING ON WOOD UNLESS OTHERWISE NOTED BELOW (U = 535 lb).

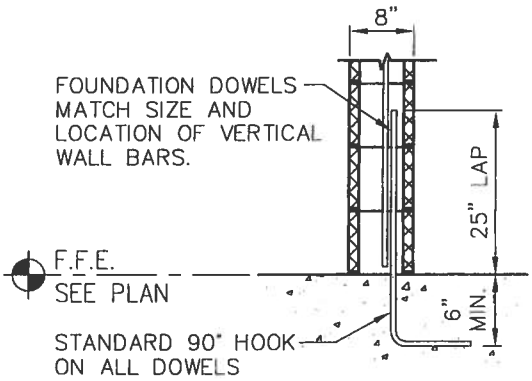
TRUSS	Bearing Point #1		Bearing Point #2		Bearing Point #3		Bearing Point #4	
DESIGNATION	Uplift (lb)	Anchor	Uplift (lb)	Anchor	Uplift (lb)	Anchor	Uplift (lb)	Anchor
A20	200	META16	670	H10	269	META16		
A21	128	META16	1204	LGT2	651	META16		
D1	1769	(2)META16	1786	(2)META16				



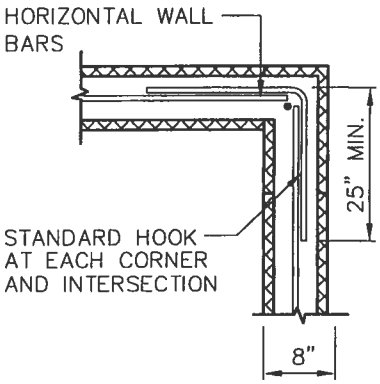
1 EXTERIOR TRUSS BEARING
1/2" = 1'-0"



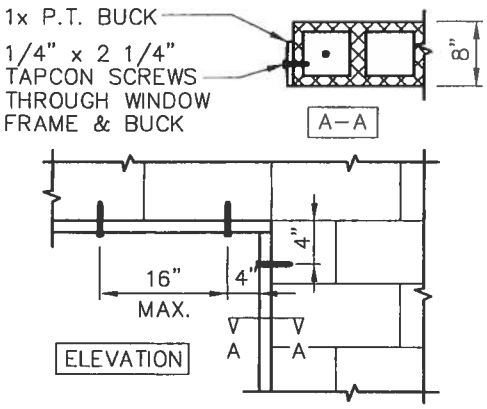
2 HOOK TO BOND BEAM
1/2" = 1'-0"



3 WALL BASE
1/2" = 1'-0"



4 WALL CORNER REINFORCING
1/2" = 1'-0"



5 DOOR/WINDOW BUCK
1/2" = 1'-0"

WSE
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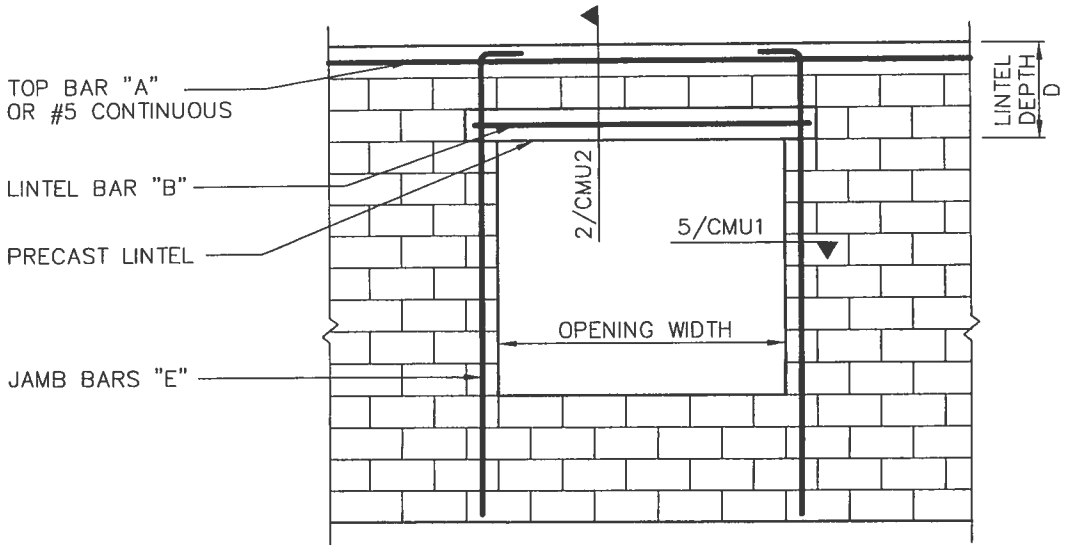
Phone (352) 331-0727
Fax (352) 331-0727

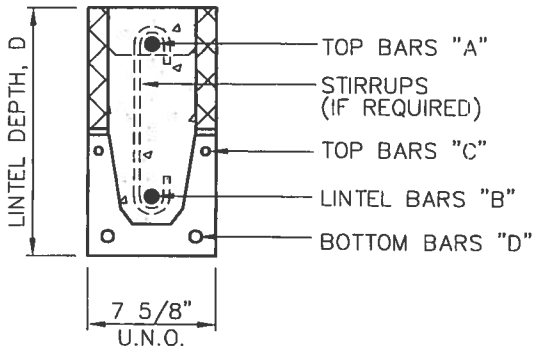
DWG. NAME: TYPICAL CMU WALL DETAILS
SCALE: VARIES
PROJECT NAME:
BEACH RESIDENCE
LAKE CITY, FLORIDA
PROJECT NO: 05170
DRAWN BY: GSW
DATE: 1/12/2006
DWG NO. CMU1



1 OPENING ELEVATION
1/4" = 1'-0"

MASONRY OPENING	LINTEL MARK	LINTEL DEPTH D (IN)	MASONRY REINFORCING			PRECAST LINTEL REINFORCING		JAMB BARS "E"
			TOP BARS "A"	LINTEL BARS "B"	STIRRUPS	TOP BARS "C"	BOTTOM BARS "D"	
4'-8"	A	16	(1) #5	(1) #5	NONE	NONE	(2) #3	(1) #5
6'-4"	B	16	(1) #5	(1) #5	NONE	(2) #2	(2) #4	(1) #5
9'-4"	B	16	(1) #5	(1) #5	NONE	(2) #2	(2) #4	(1) #5
11'-4" BACK PORCH LINTEL	E	16	(1) #5	(1) #5	NONE	(2) #4	(2) #6	(2) #5
18'-0" GARAGE DOOR LINTEL	E	16	(1) #5	(1) #5	#3@8	(2) #4	(2) #6	(2) #5

1. PRECAST U-SHAPED LINTELS BY CEMENT PRECAST OR EQUAL.
2. PRECAST CONCRETE: 4,000 PSI COMPRESSIVE STRENGTH.
3. PRECAST REINFORCING: ASTM A615, GRADE 60.
4. PROVIDE MINIMUM 8" BEARING BOTH ENDS.
5. POUR PRECAST LINTEL AND MASONRY ABOVE MONOLITHICALLY.
6. LINTEL WIDTH IS 7 5/8" UNLESS OTHERWISE NOTED.
7. E+CIP = TYPE E PRECAST LINTEL WITH CAST-IN-PLACE CONCRETE ABOVE INSTEAD OF FILLED MASONRY. CONCRETE TO BE 3,000 PSI.
8. SHORE LINTELS OVER 12 FEET LONG FOR 14 DAYS.



2 TYPICAL MASONRY LINTELS
1" = 1'-0"

wse
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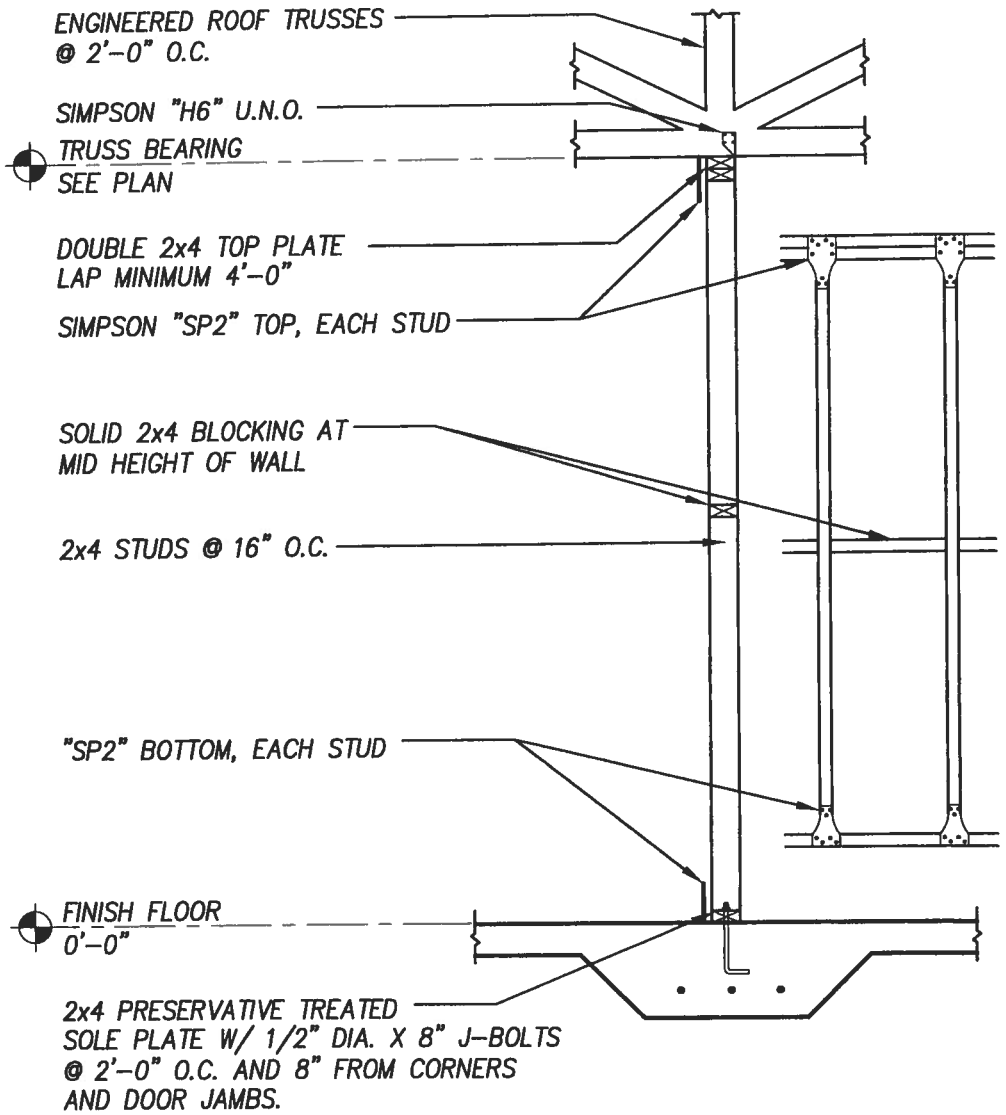
DWG. NAME: TYPICAL CMU WALL DETAILS
SCALE: VARIES
PROJECT NAME:
BEACH RESIDENCE
LAKE CITY, FLORIDA
PROJECT NO: 05170
DRAWN BY: GSW
DATE: 1/12/2006
DWG NO. CMU2



A

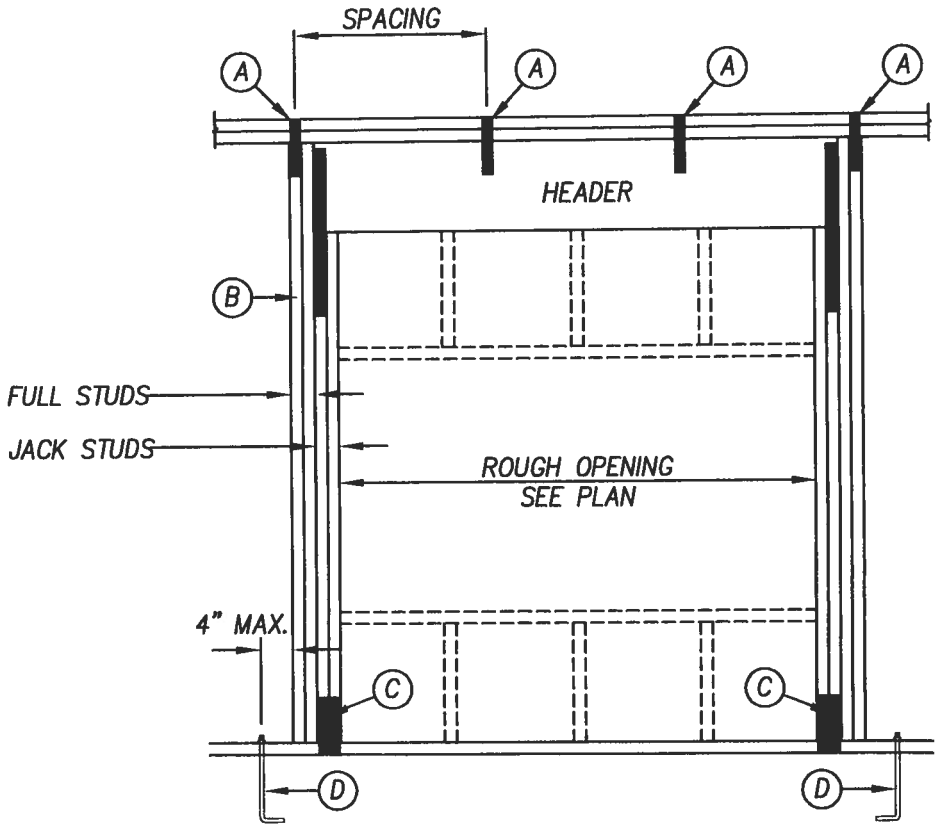
Typical Interior Bearing Wall

1/2" = 1'-0"

WOOD-W11

HEADER SCHEDULE							
HEADER SPAN (FT)	HEADER	QTY JACK STUDS	QTY FULL STUDS	UPLIFT ANCHORS			
				(A)	(B)	(C)	(D)
4'–0" 6'–0" 8'–0"	(2) 2x6 (2) 2x8 (2) 2x10	1 2 2	2 2 3	SPH4 @ 24" ↓	(1) LSTA18 (2) LSTA18 (2) LSTA18	(1) SPH4 (2) SPH4 (2) SPH4	1/2" x 8" J–BOLT 1/2" x 8" J–BOLT 1/2" x 8" J–BOLT

1. USE NO. 2 SOUTHERN PINE FOR ALL DIMENSIONAL LUMBER HEADERS.
2. USE 1 3/4" THICK "GP–LAM" LAMINATED VENEER LUMBER (Fb = 2950 PSI) FOR LVL HEADERS. BY GEORGIA PACIFIC OR EQUIVALENT.
3. ALL CONNECTORS ARE BY SIMPSON STRONG–TIE OR EQUIVALENT.
4. PROVIDE 1/2" OSB OR PLYWOOD SPACER BETWEEN HEADER PLYS FOR DIMENSIONAL LUMBER.
5. FASTEN HEADER PLYS TOGETHER WITH 16d NAILS @ 12" O.C. STAGGERED TOP AND BOTTOM.
6. FASTEN JAMB STUDS TOGETHER WITH 10d NAILS @ 12" O.C.
7. TOP PLATE ANCHORS (A) ARE REQUIRED ONLY ON ALL UNSHEATHED BEARING WALLS.



B

Typical Header Schedule

1/2" = 1'–0"

WOOD–W08A

#24254

WSE
WAYLAND
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8200 SW 16th Place Gainesville, FL 32607
Phone (352) 331-0727 Fax (352) 331-0727
Email: waylandgs@aol.com

May 18, 2006

James Beach
3889 NW Archer St., Apt. #101
Lake City, FL 32055

Re: **BEACH RESIDENCE**
WSE Project No: 05170

Dear Mr. Beach:

It is structurally acceptable to substitute the embedded strap anchors specified in the "Wind Engineering" package by WSE dated 1/12/2006 as described below.

1. Provide preservative treated 2x8 plate on top of masonry wall. Attach plate to wall with ½" dia. x 8" embedded j-bolts with 2" x 2" washers spaced at 48" o.c., and within 8" of each corner and splice.
2. Fasten each truss that bears on wall with (4) 10d common toe-nails to plate and Simpson "MTSM16" strap (in lieu of "META16") with (7) 10d x 1 ½" nails to truss and (4) ¼" x 1 ¾" Titen (or Tapcon) screws to masonry bond beam.
3. For truss D1, use (2) Simpson "MTSM16" straps.

Please contact me if you have any questions regarding this matter

Sincerely,

WAYLAND STRUCTURAL ENGINEERING

Gregory S. Wayland
FL PE #54396
FL COA #8236

5/18/06

WIND ENGINEERING

FOR

BEACH RESIDENCE
Lake City, Florida

w s e

WAYLAND

STRUCTURAL ENGINEERING

8200 SW 16th Place Gainesville, FL 32607

Phone/Fax 352-331-0727

FL COA #8236

Project Number
05170

January 12, 2006

For
James & Sally Beach
4783 Waverly Woods Terrace
Lake Worth, Florida 33463

TABLE OF CONTENTS

GREGORY S. WAYLAND, PE
FL PE #54396

1/16/06

WAYLAND STRUCTURAL ENGINEERING			Date:	1/12/2006
Gregory S. Wayland, PE	FL PE #54396	FL COA #8236	By:	GSW
8200 SW 16th Place Gainesville, FL 32607	Ph/Fax 352-331-0727		Page:	1
Project Name: BEACH RESIDENCE			For:	
WSE Project Number: 05170				
Project Location: Lake City, Florida				

STRUCTURAL SPECIFICATION

A. **GENERAL**

1. This STRUCTURAL SPECIFICATION shall be considered part of the contract documents for this project and shall be attached to the drawings prepared by: W.E.B. DESIGNS Date:
2. Roof truss layout, uplift loads and gravity loads relied upon for design of supporting walls, lintels, headers, footings, etc. prepared by: MAYO TRUSS CO., Inc. Rt 2, Box 40 Mayo, FL. Date: 12/23/2005
3. Information and materials specified in this STRUCTURAL SPECIFICATION shall take precedence over that shown on the drawings.
4. Signing and sealing this document and/or the construction drawings by Wayland Structural Engineering certifies only the structural systems for this building, and is not a certification of the site plan, architectural, electrical, mechanical, plumbing or other systems that may be shown on the same drawing. WSE is not responsible for changes made to this document by others without written consent.
5. It is assumed that this building site is not located within a 100 year floodplain and is not designed for hydrostatic or moving water loads.
6. **CODE COMPLIANCE:** **This building is designed in compliance with the requirements of the Florida Building Code, 2004.** Structural members, cladding, fasteners and systems providing for the structural integrity of the building are designed to resist gravity loads prescribed Chapter 16 and wind loads prescribed in Section 1606.2 Simplified Provisions for Low Rise Buildings.

7. **DESIGN LOADS**

a. Uniformly Distributed Live Loads		(Section 1604.1)
Floor Live Load	NA	psf
b. Roof Live Loads		(Section 1604.6)
5:12 pitch	16	psf
c. Wind Loads		(Section 1606.2)
1.) Enclosure Classification	Enclosed	
2.) Basic Wind Speed (3 second gust)	*130	mph
3.) Wind Importance Factor, Iw	1.0	
4.) Exposure Category	B	
5.) Internal Pressure Coefficients:	+0.18, -0.18	

6.) Design Wind Pressures for Doors and Windows:

Opening Area (sf)	Inward Pressure (psf)	Outward Pressure (psf)
0-10	30.4	-40.7
11-20	29.0	-38.0
21-50	27.2	-34.3
51-100	25.9	-31.6

***STRUCTURE DESIGNED FOR 130 MPH AT CLIENT'S REQUEST. DESIGN WIND SPEED FOR THIS LOCATION IS 110 MPH.**

B. **EARTHWORK**

1. **General:**
   a. A geotechnical or soil investigation has not been performed for this site.
   b. Bearing soil is therefore presumed to be sandy soil with no organics, peat, clay, expansive clays, or boulders.
   c. It is assumed that seasonal high groundwater table is well below footing bearing elevation.
   d. It is assumed that allowable bearing pressure is 2,000 pounds per square foot.
   e. If contractor or building inspector encounters organics, clays, silts, boulders or high grounwater levels during foundation excavation, engineer of record and/or geotechnical engineer shall be contacted and/or employed to assess conditions first hand and give direction for additional corrective work or modifications to the design that may need to be performed.
2. **Site Preparation:**
   a. Strip all trees, grasses, topsoil and other organics from building footprint.
   b. Use root rake or similar equipment to remove roots from building footprint.
   c. Proofcompact existing grade with loaded dump truck or compactor to densify existing soils and identify soft or loose soils.
   d. If soft soils are encountered during proofcompaction, overcut unsuitable material and replace with well graded sand. (See 1e. above)
3. **Excavation:**
   a. Excavations are to be performed in accordance with current OSHA standards. Contractor is responsible for excavation safety.
   b. Compact all excavation bottoms to firm unyielding condition.
4. **Footing Bearing:**
   a. All foundations are to bear on undisturbed sandy soil soil or compacted fill as described herein.
   b. Bottom of footings are to extend at least 12 inches below grade.
5. **Ground/Surface Water Control:**
   a. Excavation and backfill operations are to be maintained in a dry condition.
   b. Slope or crown building subgrades to promote run-off and prevent ponding.
   c. Surface and infiltrating water are to be removed by grading and pumping from sumps if required.
6. **Backfill and Compaction:**
   a. Use only clean, well graded sand with no more than 10% passing #200 sieve for fill and backfill within building footprint.
   b. Mechanically compact all backfill within building footprint in maximum 12" loose lifts to firm unyielding consistency.
7. **Pest Control:**
   a. Treat all slab subgrades for termites in accordance with the Florida Building Code and local ordinances.
8. **Exterior Grading:**
   a. Exterior grade is to be kept at least 6 inches below wood siding and/or foam insulation.
   b. Slope exterior grade away from building to promote drainage.

STRUCTURAL SPECIFICATION (Continued)

C. CONCRETE

1. Concrete Materials:

a. General: Comply with the Florida Building Code, 2004 Chapter 19, and ACI 301-99 Specifications for Structural Concrete.

b. Concrete:
1.) Cement: ASTM C150, Type I Portland cement.
2.) Aggregate: ASTM C33. Maximum aggregate size = 1 inch.
3.) Compressive Strength: Footings and slabs - 2,500 psi minimum at 28 days.
4.) Maximum water/cement ratio: 0.50.
5.) Air entraining admixture: ASTM C 260. Concrete is to be air entrained for mild exposure, 3 - 6%.
6.) Water reducing admixtures: ASTM C 494, Type A. All concrete to contain a water reducing admixture.
7.) Slump: 4 inches +/- 1 inch.

c. Reinforcing Steel: ASTM A615, Grade 40.

d. Welded Wire Reinforcing (WWR): ASTM A185, 6x6-W1.4xW1.4 (6x6-10/10) sheets.

e. Fibrous Reinforcing: ASTM C 1116, Fibermesh "Stealth" or "Inforce e3" polypropylene fibers by SI Concrete Systems or equivalent. Add to concrete mix at a rate of 1.5 lb/cy of concrete.

2. Concrete Installation:

a. Slab-on-grade: Provide 4 inch thick slab-on-grade with 6 mil thick polyethylene vapor retarder, lap 6 inches.

b. Footings: Install footings with size and reinforcement shown on plans.

c. Reinforcing Steel:
1.) Standard Lap Splice: #3 bars = 15", #4 bars = 20", #5 bars = 25", #6 bars = 30"
2.) Standard Hooks: #3 bars = 6", #4 bars = 8", #5 bars = 10", #6 bars = 12"
3.) Corner Bars: Provide 90 degree bend with standard lap splice at all footing corners and intersections.
4.) Bar Cover: 3 inches clear between bottom of footing bars and soil. 1 1/2" clear for concrete beams.
5.) WWR Lap Length: Minimum 10"

d. Slab Reinforcement:
1.) For monolithic slabs: Use WWR only, lap edges minimum 10", support on chairs @ 3'-0" o.c. each way.
2.) For masonry stem walls: Use WWR or Fiber reinforcement at contractor's option. WWR need not be installed on chairs if used in conjunction with fiber reinforcement.

e. Protection: Cure all slabs for minimum 7 days using sprayed-on membrane curing compound or continuous water sprinkling.

f. Slab joints: As concrete slabs cure and dry out, they will shrink causing cracks to form in the surface of the slab. Slab reinforcement is placed in the slab to help limit the width of cracks that form. All slabs left exposed should be saw-cut in roughly 10'-0" squares.

D. MASONRY

1. Masonry Materials:

a. General: Comply with the Florida Building Code, 2004 Chapter 21 and ACI 530.1-02 Specifications for Masonry Structures.

b. Concrete Masonry Units: ASTM C90, Type 1, two core, normal weight units, 1,900 psi net area compressive strength.

c. Mortar: ASTM C270, Type M or S.

d. Grout: ASTM C476, fine or coarse grout, minimum 3,000 psi compressive strength at 28 days, 8-9 inch slump.

e. Joint Reinforcing: ASTM A951, truss type, hot-dip galvanized per ASTM A153, class B, 9 gauge wires.

f. Reinforcing Steel: ASTM A615, Grade 40.

2. Masonry Installation:

a. Joint Reinforcing: (Optional) Install joint reinforcing in all walls at 16 inches o.c. vertical for crack resistance.

b. Reinforcing:
1.) Provide clean-out at base of wall for all vertical bars for pours over 5 feet high.
2.) Provide vertical #5 bars @ 4'-0" o.c. and at all corners and ends of walls.
3.) Provide one vertical #5 bar in first cell at all window and door jambs.
4.) Provide (2) #5 vertical bars in all masonry columns.

c. Provide standard 90 degree hook into footing at bottom and into bond beam at top of wall for all vertical bars.

d. Provide one #5 bar continuous in bond beam at top of wall.

e. Lap bars in masonry construction 48 x bar diameter.

f. Provide 90 degree bend corner bars at all wall corners and intersections.

g. Provide precast/pre-reinforced U-shaped concrete lintels over all openings as described in the attached lintel schedule detail.

STRUCTURAL SPECIFICATION (Continued)

E. WOOD FRAMING

1. Wood Materials:

a. General: Comply with the Florida Building Code, 2004 Chapter 23.

b. Wall Framing:

1.) Loadbearing Studs: 2x4's @ 16" o.c., Construction Grade Spruce-Pine-Fir (SPF).

2.) Bottom Plate: 2x4, preservative treated wood.

3.) Top Plate: Doubled 2x4.

4.) Posts: No. 2 Southern Pine (SP), preservative treated, size as shown on plans.

5.) Lumber Headers/Beams: No. 2 Southern Pine, size as shown on plan.

6.) Wall Sheathing: 15/32" thick, Oriented Strand Board (OSB), Sheathing Grade, Exposure 1. or APA Rated CDX Plywood Sheathing, Exposure 1.

c. Roof Framing:

1.) Engineered Roof Trusses:

a.) Wayland Structural Engineering is not responsible for design and detailing or installation of engineered wood roof trusses.

b.) Truss engineering drawings to be signed and sealed by Professional Engineer registered in State of Florida.

c.) Truss manufacturer to Engineer trusses to support dead, live and wind loads per Florida Building Code, 2004 or ASCE 7-02.

d.) Engineer trusses to comply with ANSI/TPI 1 "National Design Standard for Metal Plate Connected Wood Truss Construction.

e.) Comply with TPI HIB "Commentary and Recommendations for Handling, Installing and Bracing of Metal Plate Connected Wood Trusses."

f.) Comply with TPI DSB "Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses."

g.) Truss spacing = 2'-0" o.c. maximum.

2.) Roof Sheathing: 15/32" thick, Oriented Strand Board (OSB), Sheathing Grade, Exposure 1. or APA Rated CDX Plywood Sheathing, Exposure 1.

3.) Fascia Board: 2x6, No. 2, Spruce-Pine-Fir (SPF).

d. Fasteners:

1.) Framing Fasteners: Comply with Florida Building Code, 2004, Table 2304.9.1, "Fastening Schedule."

a.) Fasteners permanently exposed to weather are to be hot-dip galvanized.

2.) Anchor bolts: ASTM A307, 1/2" diameter x 8" J-bolts, 2"x2" washer.

3.) Bolts: ASTM A307, hot-dip galvanized, see plan for size and quantity.

4.) Wind Uplift Anchors: Use Simpson Strong-Tie or equivalent.

a.) Contractor must verify that loads shown on truss engineering drawings do not exceed loads shown in anchor schedule prior to installation. If discrepancy is discovered, contact engineer for direction.

2. Wood Installation:

a. Sheathing:

1.) Fasten wall sheathing with 8d nails @ 6" o.c at panel edges, 12" o.c. along intermediate supports.

2.) Fasten roof sheathing with 8d common nails @ 6" o.c at panel edges, 12" o.c. along intermediate supports.

3.) Ensure that roof sheathing is edge nailed to 2x6 fascia. Ensure wall sheathing is edge nailed to top and bottom plates.

4.) Lay roof and floor sheathing perpendicular to supporting members. Stagger end panel locations.

5.) Use "H" panel clips between panel supports for roof sheathing.

6.) Cover sheathing as soon as possible for protection against excessive moisture exposure.

b. Anchors:

1.) Install all uplift anchors as recommended by manufacturer.

2.) Install anchor bolts @ 2'-0" o.c. at interior bearing walls, and 8" from corners and jamb studs.

c. Fasteners: Fasten all wood construction using fasteners specified in FBC Table 2306.1 unless noted otherwise.

d. Headers: See attached "Typical Header Schedule" for opening construction in wood stud bearing walls.

F. WALL OPENINGS

1. Windows, Doors, Skylights:

a. Wayland Structural Engineering is not responsible for the design, construction, or attachment of windows, doors or skylights.

b. The building envelope is designed assuming a fully enclosed condition, therefore windows, doors and skylights must be designed to support the same wind pressures that walls and roofs are designed for.

b. Window, door and skylight manufacturer shall submit certification indicating that window or door units can adequately support design wind pressures for the specified wind zone as shown in section A.7.c.6. above.

c. Window, door and skylight manufacturer is to provide fastening information for attachment to supporting construction.

WAYLAND STRUCTURAL ENGINEERING
Gregory S. Wayland, PE FL PE #54396 FL COA #8236
8200 SW 16th Place Gainesville, FL 32607 Ph/Fax 352-331-0727

Date: 1/12/2006
By: GSW
Page: 4

Project Name: **BEACH RESIDENCE**
WSE Project Number: 05170
Project Location: Lake City, Florida
For:

A. UPLIFT CHECKS

1. BOND BEAM CHECK (upward bending)

Vertical bar spacing	s =	4.00 ft	
Gross uniform uplift load	ug =	-277 plf	(worst case from truss engineering)
Bond beam weight	wd =	42 plf	(one course high x 8 inches wide)
Calculated net uniform uplift load	un =	-235 plf	

		Calc'd	Supplied	
Maximum net shear (kips)	U =	**0.47**	**2.16**	**OK**
Maximum net moment (kip-in)	M =	**5.6**	**25.5**	**OK**

*** USE ONE COURSE HIGH x 8 INCH WIDE MASONRY BOND BEAM WITH (1) #5 CONTINUOUS TOP**

2. VERTICAL BAR CHECK (upward tension)

Allowable reinforcing tension Fs = 20,000 psi
Stress increase for wind Cw = 1.33

		* Calc'd Uplift (kips)	Vertical Reinforcing Quantity	Vertical Reinforcing Size (#)	**Supplied Uplift (kips)	
For typical common trusses,		0.940	1	5	8.161	**OK**
For girder trusses,	A13	1.068	1	5	8.161	**OK**
	A21	0.651	1	5	8.161	**OK**
	B5	0.701	1	5	8.161	**OK**
	C3	0.692	1	5	8.161	**OK**
	D1	1.786	1	5	8.161	**OK**
	E1	0.469	1	5	8.161	**OK**

* uplift values taken from truss engineering.
** includes stress increase for wind.

USE (1) #5 VERTICAL BAR @ 4'-0" O.C. MAX.

3A. WALL + FOOTING + SOIL WEIGHT CHECK (uplift at common trusses)

				Resisting Weight Supplied
Wall height	hw =	10.00 ft		
Wall thickness	tw =	8 in		
Wall unit weight	ww =	52 psf		
Bond beam height	hbb =	8 in	Bond beam	58
Bond beam unit weight	wbb =	130 psf	Wall	485
Footing thickness	tf =	10 in	Footing	208
Footing width	bf =	20 in	Soil (inside)	67
Footing depth below slab	df1 =	26 in	Soil (outside)	33
Footing depth below grade	df2 =	18 in	**Wr =**	**851 plf**
Soil unit weight	ws =	100 psf		

Safety Factor Against Uplift	SF =	1.00	
Gross uniform uplift load	ug =	277 plf	
Required Resisting Weight, Wr = SF*ug		**277 plf**	**OK**

USE MINIMUM 8" THICK MASONRY WALL WITH 10"X20" FOOTING WITH (3) #5 BARS CONTINUOUS.

3B. WALL + FOOTING + SOIL WEIGHT CHECK (uplift at girder truss bearing points and columns)

Girder Truss or Column	Downward Load (lb)	Uplift Load (lb)	Adjacent Uplift Load (plf)	*Required Uplift Load (lb)	**Resisting Weight (lb)	Rqd Footing ***Weight (lb)	Rqd Concrete Volume (cf)	Footing Thickness (in)	Min. Square Footing (ft)	
A13 LEFT	2,434	699	144	1,707	770	937	8	16	**2.4**	2'-6"x2'-6"x16"
A21 MID	4,234	1,204	335	3,549	770	2779	20	16	**3.9**	4'-0"x4'-0"x16"
D1 LEFT	6,229	1,769	100	2,469	6,812	-4343	-28	10	**0.0**	
D1 RIGHT	6,230	1,786	100	2,486	6,812	-4326	-27	10	**0.0**	

** Resisting weight equals weight of wall, footing, soil for 4 feet each side of load point.
*** Required footing weight equals weight required in addition to 10" x 20" footing.

WAYLAND STRUCTURAL ENGINEERING
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Date: 1/12/2006
By: GSW
Page: 5

Project Name: **BEACH RESIDENCE** For: 0
WSE Project Number: 05170 0
Project Location: Lake City, Florida 0

B. LINTELS

1. TYPICAL LINTELS (with uniform load only)

	Unit Load (psf)	Trib. Width (ft)	Uniform Load (kips/ft)	Load Factor	Factored Uniform Load (kips/ft)
Roof Dead Load	15	25.00	0.375	1.40	0.525
Wall Dead Load	87	1.33	0.116	1.40	0.162
Roof Live Load	16	25.00	0.400	1.70	0.680
Roof Attic Load	10	25.00	0.250	1.70	0.425
		w =	**1.141**	**wu =**	**1.792**
*Uplift Load			0.277	1.60	0.443

(*from truss engineering)

Lintel Span	L =	**4.67**	**6.33**	**9.33**				ft
Unfactored Reaction	R =	2.66	3.61	5.32				kips
Unfactored Net Uplift Reaction	Unet =	0.48	0.66	0.97				kips
Factored Uplift Moment	Munet =	0.57	1.04	2.26				kip-ft
Factored Shear	Vu =	4.18	5.67	8.36				kips
Factored Design Shear	Vud =	**2.09**	**3.58**	**6.27**				kips
Factored Moment	Mu =	**4.89**	**8.98**	**19.50**				kip-ft
	Select Lintel	**TYPE A FILLED/ W 1 COURSE MASONRY**	**TYPE B FILLED/ W 1 COURSE MASONRY**	**TYPE B FILLED/ W 1 COURSE MASONRY**				

2. 18'-0" GARAGE DOOR LINTEL (with girder truss B5 bearing)

Lintel Span, L = **18.00 ft**

	Unit Load (psf)	Trib. Width (ft)	Uniform Load (kips/ft)	Load Factor	Factored Uniform Load (kips/ft)
Uniform Load #1					
Roof Dead Load	15	13.33	0.200	1.40	0.280
Wall Dead Load	87	1.33	0.116	1.40	0.162
Roof Live Load	16	13.33	0.213	1.70	0.363
Roof Attic Load	10	13.33	0.133	1.70	0.227
		w1 =	**0.662**	**wu1 =**	**1.031**
Uplift Load			0.190	1.60	0.304
Uniform Load #2					
Roof Dead Load	15	5.50	0.083	1.40	0.116
Wall Dead Load	87	1.33	0.116	1.40	0.162
Roof Live Load	16	5.50	0.088	1.70	0.150
Roof Attic Load	10	5.50	0.055	1.70	0.094
		w2 =	**0.341**	**wu2 =**	**0.521**
Uplift Load			0.097	1.60	0.155

	Point Load (kips)	Load Factor	Factored Uniform Load (kips)	Distance From Left (ft)	Distance From Right (ft)
Point Load					
Dead Load	1.231	1.40	1.72		
Live Load	1.231	1.70	2.09		
P =	**2.462**	**Pu =**	**3.82**	4.33	13.67
Uplift Load	0.701	1.60	1.12	4.33	13.67

		Left End	Right End	
Unfactored Reaction	R =	6.16	3.83	kips
Unfactored Net Uplift Reaction	Unet =	1.13	0.47	kips
Factored Shear	Vu =	9.53	5.87	kips
Factored Design Shear	**Vud =**	**8.33**	**5.26**	**kips**

Factored Moment	(due to P)	Mu1 =	12.55	kip-ft @	4.33	ft
	(due to w1)	Mu2 =	7.48	kip-ft @	3.81	ft
	(due to w2)	Mu3 =	18.71	kip-ft @	9.52	ft
		Mu =	**28.27**	**kip-ft**		

USE TYPE E PRECAST WITH ONE COURSE MASONRY W/ #3 STIRRUPS @ 8" O.C.

3. 11'-4" BACK PORCH LINTEL (with no girder truss bearing)

	Unit Load (psf)	Trib. Width (ft)	Uniform Load (kips/ft)	Load Factor	Factored Uniform Load (kips/ft)	
Roof Dead Load	15	6.33	0.095	1.40	0.133	
Wall Dead Load	87	1.33	0.116	1.40	0.162	
Roof Live Load	16	6.33	0.101	1.70	0.172	
Roof Attic Load	10	6.33	0.063	1.70	0.108	
		w =	**0.375**	**wu =**	**0.575**	
*Uplift Load			0.102	1.60	0.163	(*from truss engineering)

Lintel Span	L =	**11.33**	ft
Unfactored Reaction	R =	2.13	kips
Unfactored Net Uplift Reaction	Unet =	0.18	kips
Factored Uplift Moment	Munet =	0.52	kip-ft
Factored Shear	Vu =	3.26	kips
Factored Design Shear	Vud =	**2.59**	kips
Factored Moment	Mu =	**9.22**	kip-ft

USE TYPE E FILLED W/ ONE COURSE MASONRY

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Project Name: **BEACH RESIDENCE** For: 0
WSE Project Number: 05170 0
Project Location: Lake City, Florida 0

C. LATERAL ANALYSIS

1. Building Data

Building Length	L =	70.67	ft
Building Width	B =	63.33	ft
Eave Height	he =	8.67	ft
Peak ht above eave	hp =	10.41	ft
Roof Slope		5	/12

2. Edge Zone

a = 0.10*B	6.33	ft
a = 0.40*h	3.47	ft
a =	3.47	ft
a = 0.04*B	2.53	ft
a = 3.00	3.00	ft
a =	**3.47**	**ft**

3. End Zone

z = 2*a = **6.94** **ft**

4. LONGITUDINAL DIRECTION

Exposure Category	B
Adjustment Coefficient	1.00

MWFRS Wind Pressures:

Wall Interior Zone	17.8	psf
Wall End Zone	26.8	psf
Roof Interior Zone	-8.2	psf
Roof End Zone	-13.9	psf

Wall Shear Force:

Interior	3.82	kips
End	1.61	kips
Total	5.43	kips

Roof Shear Force:

Interior	-2.70	kips
End	-0.28	kips
Total	-2.98	kips
Use	0.00	kips

Total Shear Force:

V = **5.43** **kips**

Roof Diaphragm Check:

Diaphragm shear	v =	38	plf
Allowable shear	v =	240	plf
	check	OK	

Shear Wall Check:

Shear wall length	d =	5.33	ft
Shear wall height	h =	8.67	ft
Shear wall effective thickness	be =	2.50	in
Masonry strength	f'm =	1500	psi
Actual Shear	V =	2.71	kips
Overturning moment	M =	23.53	kip-ft
Actual shear stress	**fv =**	**17.0**	**psi**
	check	OK	

Allowable shear stress

M/V*d	1.63	
M/V*d >= 1.0	YES	
Allowable shear stress		
Fv1 =	38.73	psi
Fv2 =	35.00	psi
Fv =	**35.00**	**psi**

5. TRANSVERSE DIRECTION

MWFRS Wind Pressures:

Wall Interior Zone	24.7	psf
Wall End Zone	37.1	psf
Roof Interior Zone	-5.4	psf
Roof End Zone	-9.8	psf

Wall Shear Force:

Interior	6.08	kips
End	2.23	kips
Total	8.31	kips

Roof Shear Force:

Interior	-2.04	kips
End	-0.20	kips
Total	-2.24	kips
Use	0.00	kips

Total Shear Force:

V = **8.31** **kips**

Roof Diaphragm Check:

Diaphragm shear	v =	66	plf
Allowable shear	v =	240	plf
	check	OK	

USE 15/32" OSB SHEATHING GRADE W/ 8d NAILS @ 6" O.C. EDGE, 12" O.C. FIELD

Shear Wall Check:

Shear wall length	d =	8.33	ft
Shear wall height	h =	8.67	ft
Shear wall effective thickness	be =	2.50	in
Masonry strength	f'm =	1500	psi
Actual Shear	V =	4.16	kips
Overturning moment	M =	36.04	kip-ft
Actual shear stress	**fv =**	**16.6**	**psi**
	check	OK	

Allowable shear stress

M/V*d	1.04	
M/V*d >= 1.0	YES	
Allowable shear stress		
Fv1 =	38.73	psi
Fv2 =	35.00	psi
Fv =	**35.00**	**psi**

USE 8" CMU W/ TYPE S MORTAR, FACE SHELL BEDDING, GROUT ONLY AT REINFORCED CELLS.

WAYLAND STRUCTURAL ENGINEERING			Date:	1/12/2006
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8200 SW 16th Place Gainesville, FL 32607	Ph/Fax 352-331-0727		Page:	8
Project Name: BEACH RESIDENCE			For:	
WSE Project Number: 05170				
Project Location: Lake City, Florida				

FRONT PORCH BEAM $L = 12.67'$

$W = (480/2) = 240$ plf

$w = (246/2) = 123$ plf

$V = 240(12.67/2) = 1520$ lb each end or $P = 240(12.67+6)/2 = 2240$ lb/post

$M = 1/8(240)\,12.67^2 \times 12 = 57790$ in.-lb.

$U = 123(12.67/2) = 779$ lb each end or $U = 123(12.67+6)/2 = 1148$ lb/post

$A = 1520/(90 \times 1.25) = 13.5$ in.^{2}

$S = 57790/(975 \times 1.25) = 47.4$ in.^{3}

∴ USE

(2) 2X12 BEAM (NO. 2 SP)
W/ (2) SIMPSON "LSTA21" TO EACH POST
W/ 4X4 P.T. POST (NO. 2 SP)
W/ SIMPSON "ABU44" + 5/8" X 10" BOLT TO FOUNDATION

APPROXIMATE PROJECT LOCATION

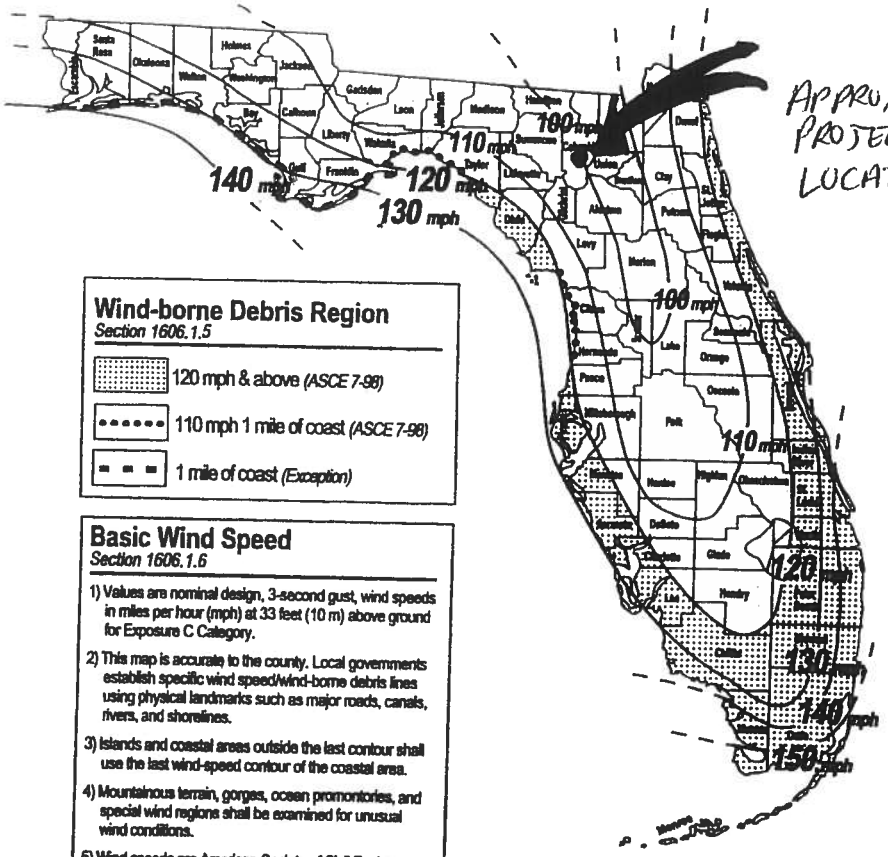

FIGURE 1606
STATE OF FLORIDA
WIND-BORNE DEBRIS REGION & BASIC WIND SPEED

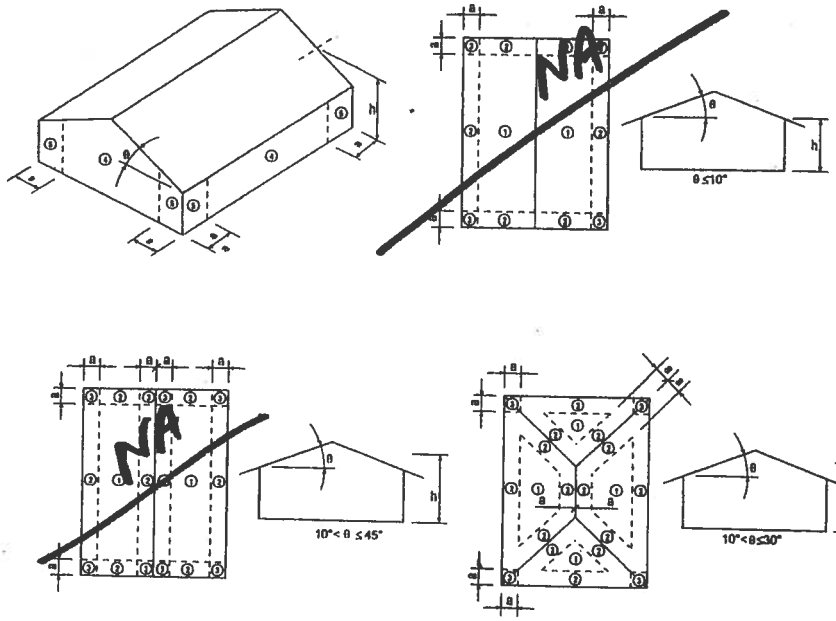

FIGURE 1606.2(c)
COMPONENT AND CLADDING LOADING DIAGRAMS

WAYLAND
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TABLE 1606.2A
MAIN WIND FORCE RESISTING SYSTEM WIND LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN Exposure B

			Horizontal loads[2]				Vertical Loads (psf)						Max. Horizontal Wall Loads[4] (psf)			
			End Zone		Interior Zone		End Zone		Interior Zone		Windward Overhang		Zone			
Wind Velocity (mph)	Load Direction	Roof angle (degrees)	Wall	Roof[3]	Wall	Roof[3]	Windward Roof	Leeward Roof	Windward Roof	Leeward Roof	End Zone	Interior Zone	1E	4E	1	4
90	Transverse	0 - 5	12.8	-6.7	8.5	-4.0	-15.4	-8.8	-10.7	-6.8	-21.6	-16.9	10.0	-7.5	7.2	-5.8
		20	17.8	-4.7	11.9	-2.6	-15.4	-10.7	-10.7	-8.1	-21.6	-16.9	12.0	-10.1	8.8	-7.5
		30 < angle ≤ 45	14.4	9.9	11.5	7.9	5.6	-8.8	4.8	-7.5	-5.1	-5.8	11.0	-8.1	9.1	-6.8
	Longitudinal	All angles	12.8	-6.7	8.5	-4.0	-15.4	-8.8	-10.7	-6.8	-21.6	-16.9	10.0	-7.5	7.2	-5.8
100	Transverse	0 - 5	15.9	-8.2	10.5	-4.9	-19.1	-10.8	-13.3	-8.4	-26.7	-20.9	12.0	-9.3	8.8	-7.2
		20	22.0	-5.8	14.6	-3.2	-19.1	-13.3	-13.3	-10.1	-26.7	-20.9	15.0	-12.5	10.8	-9.3
		30 < angle ≤ 45	17.8	12.2	14.2	9.8	6.9	-10.8	5.9	-9.3	-6.3	-7.2	13.0	-10.1	11.3	-8.4
	Longitudinal	All Angles	15.9	-8.2	10.5	-4.9	-19.1	-10.8	-13.3	-8.4	-26.7	-20.9	12.0	-9.3	8.8	-7.2
110	Transverse	0 - 5	19.2	-10.0	12.7	-5.9	-23.1	-13.1	-16.0	-10.1	-32.3	-25.3	15.0	-11.3	10.7	-8.7
		20	26.6	-7.0	17.7	-3.9	-23.1	-16.0	-16.0	-12.2	-32.3	-25.3	18.0	-15.1	13.1	-11.3
		30 < angle ≤ 45	21.6	14.8	17.2	11.8	8.3	-13.1	7.2	-11.3	-7.6	-8.7	16.0	-12.2	13.7	-10.1
	Longitudinal	All Angles	19.2	-10.0	12.7	-5.9	-23.1	-13.1	-16.0	-10.1	-32.3	-25.3	15.0	-11.3	10.7	-8.7
120	Transverse	0 - 5	22.8	-11.9	15.1	-7.0	-27.4	-15.6	-19.1	-12.1	-38.4	-30.1	17.0	-13.4	12.7	-10.3
		20	31.6	-8.3	21.1	-4.6	-27.4	-19.1	-19.1	-14.5	-38.4	-30.1	22.0	-18.0	15.6	-13.4
		30 < angle ≤ 45	25.7	17.6	20.4	14.0	9.9	-15.6	8.6	-13.4	-9.0	-10.3	19.0	-14.5	16.2	-12.1
	Longitudinal	All Angles	22.8	-11.9	15.1	-7.0	-27.4	-15.6	-19.1	-12.1	-38.4	-30.1	17.0	-13.4	12.7	-10.3
130	Transverse	0 - 5	26.8	-13.9	17.8	-8.2	-32.2	-18.3	-22.4	-14.2	-45.1	-35.3	20.0	-15.7	14.9	-12.1
		20	37.1	-9.8	24.7	-5.4	-32.2	-22.4	-22.4	-17.0	-45.1	-35.3	25.0	-21.1	18.3	-15.7
		30 < angle ≤ 45	30.1	20.6	24.0	16.5	11.6	-18.3	10.0	-15.7	-10.6	-12.1	22.0	-17.0	19.1	-14.2
	Longitudinal	All Angles	26.8	-13.9	17.8	-8.2	-32.2	-18.3	-22.4	-14.2	-45.1	-35.3	20.0	-15.7	14.9	-12.1
140	Transverse	0 - 5	31.1	-16.1	20.6	-9.6	-37.3	-21.2	-26.0	-16.4	-52.3	-40.9	24.0	-18.2	17.3	-14.0
		20	43.0	-11.4	28.7	-6.3	-37.3	-26.0	-26.0	-19.7	-52.3	-40.9	29.0	-24.5	21.2	-18.2
		30 < angle ≤ 45	35.0	23.9	27.8	19.1	13.4	-21.2	11.7	-18.2	-12.3	-14.0	26.0	-19.7	22.1	-16.4
	Longitudinal	All Angles	31.1	-16.1	20.6	-9.6	-37.3	-21.2	-26.0	-16.4	-52.3	-40.9	24.0	-18.2	17.3	-14.0
150	Transverse	0 - 5	35.7	-18.5	23.7	-11.0	-42.9	-24.4	-29.8	-18.9	-60.0	-47.0	27.0	-20.9	19.9	-16.1
		20	49.4	-13.0	32.9	-7.2	-42.9	-29.8	-29.8	-22.6	-60.0	-47.0	34.0	-28.1	24.4	-20.9
		30 < angle ≤ 45	40.1	27.4	31.9	22.0	15.4	-24.4	13.4	-20.9	-14.1	-16.1	30.0	-22.6	25.4	-18.9
	Longitudinal	All Angles	35.7	-18.5	23.7	-11.0	-42.9	-24.4	-29.8	-18.9	-60.0	-47.0	27.0	-20.9	19.9	-16.1

For SI: 1 ft^2 = 0.0929 m^2, 1 mph = 0.447 m/s, 1 degree of angle = 0.01745 rad, 1 psf = 47.88 N/m^2.

Notes:
1 Pressures for roof angles from 5 to 20 degrees shall be interpolated from the table.
2 Pressures are the sum of the windward and leeward pressures and shall be applied to the windward elevation of the building in accordance with Figure 1606.2(c).
3 If pressure is less than 0, use 0.
4 Pressures shall be applied in accordance with Figure 1606.2(b).

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TABLE 1606.2B
COMPONENT AND CLADDING WIND LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B (psf)

Zone[3]	Effective wind area (ft^2)	Basic Wind Speed V (mph - 3 second gust)															
		85		90		100		110		120		130		140		150	
Roof Angle > 0-10 degrees																	
1	10.0	10.0	-13.0	10.0	-14.6	10.0	-18.0	10.0	-21.8	10.5	-25.9	12.4	-30.4	14.3	-35.3	16.5	-40.5
1	20.0	10.0	-12.7	10.0	-14.2	10.0	-17.5	10.0	-21.2	10.0	-25.2	11.6	-29.6	13.4	-34.4	15.4	-39.4
1	50.0	10.0	-12.2	10.0	-13.7	10.0	-16.9	10.0	-20.5	10.0	-24.4	10.6	-28.6	12.3	-33.2	14.1	-38.1
1	100.0	10.0	-11.9	10.0	-13.3	10.0	-16.5	10.0	-19.9	10.0	-23.7	10.0	-27.8	11.4	-32.3	13.0	-37.0
2	10.0	10.0	-21.8	10.0	-24.4	10.0	-30.2	10.0	-36.5	10.5	-43.5	12.4	-51.0	14.3	-59.2	16.5	-67.9
2	20.0	10.0	-19.5	10.0	-21.8	10.0	-27.0	10.0	-32.6	10.0	-38.8	11.6	-45.6	13.4	-52.9	15.4	-60.7
2	50.0	10.0	-16.4	10.0	-18.4	10.0	-22.7	10.0	-27.5	10.0	-32.7	10.6	-38.4	12.3	-44.5	14.1	-51.1
2	100.0	10.0	-14.1	10.0	-15.8	10.0	-19.5	10.0	-28.1	10.0	-33.0	11.4	-38.2	11.4	-38.2	13.0	-43.9
3	10.0	10.0	-32.8	10.0	-36.8	10.0	-45.4	10.0	-55.0	10.5	-65.4	12.4	-76.8	14.3	-89.0	16.5	-102.2
3	20.0	10.0	-27.2	10.0	-30.5	10.0	-37.6	10.0	-45.5	10.0	-54.2	11.6	-63.6	13.4	-73.8	15.4	-84.7
3	50.0	10.0	-19.7	10.0	-22.1	10.0	-27.3	10.0	-33.1	10.0	-39.3	10.6	-46.2	12.3	-53.5	14.1	-61.5
3	100.0	10.0	-14.1	10.0	-15.8	10.0	-19.5	10.0	-23.6	10.0	-28.1	10.0	-33.0	11.4	-38.2	13.0	-43.9
Roof Angle > 10-30 degrees																	
1	10.0	10.0	-11.9	10.0	-13.3	10.4	-16.5	12.5	-19.9	14.9	-23.7	17.5	-27.8	20.3	-32.3	23.3	-37.0
1	20.0	10.0	-11.6	10.0	-13.0	10.0	-16.0	11.4	-19.4	13.6	-23.0	16.0	-27.0	18.5	-31.4	21.3	-36.0
1	50.0	10.0	-11.1	10.0	-12.5	10.0	-15.4	10.0	-18.6	11.9	-22.2	13.9	-26.0	16.1	-30.2	18.5	-34.6
1	100.0	10.0	-10.8	10.0	-12.1	10.0	-14.9	10.0	-18.1	10.5	-21.5	12.4	-25.2	14.3	-29.3	16.5	-33.6
2	10.0	10.0	-25.1	10.0	-28.2	10.4	-34.8	12.5	-42.1	14.9	-50.1	17.5	-58.7	20.3	-68.1	23.3	-78.2
2	20.0	10.0	-22.8	10.0	-25.6	10.0	-31.5	11.4	-38.2	13.6	-45.4	16.0	-53.3	18.5	-61.8	21.3	-71.0
2	50.0	10.0	-19.7	10.0	-22.1	10.0	-27.3	10.0	-33.0	11.9	-39.3	13.9	-46.1	16.1	-53.5	18.5	-61.4
2	100.0	10.0	-17.4	10.0	-19.5	10.0	-21.1	10.0	-29.1	10.5	-34.7	12.4	-40.7	14.3	-47.2	16.5	-54.2
3	10.0	10.0	-25.1	10.0	-28.2	10.4	-34.8	12.5	-42.1	14.9	-50.1	17.5	-58.7	20.3	-68.1	23.3	-78.2
3	20.0	10.0	-22.8	10.0	-25.6	10.0	-31.5	11.4	-38.2	13.6	-45.4	16.0	-53.3	18.5	-61.8	21.3	-71.0
3	50.0	10.0	-19.7	10.0	-22.1	10.0	-27.3	10.0	-33.0	11.9	-39.3	13.9	-46.1	16.1	-53.5	18.5	-61.4
3	100.0	10.0	-17.4	10.0	-19.5	10.0	-24.1	10.0	29.1	10.5	-34.7	12.4	-40.7	14.3	-47.2	16.5	-54.2
Roof Angle > 30-45 degrees																	
1	10.0	11.9	-13.0	13.3	-14.6	16.5	-18.0	19.9	-21.8	23.7	-25.9	27.8	-30.4	32.3	-35.3	37.0	-40.5
1	20.0	11.6	-12.3	13.0	-13.8	16.0	-17.1	19.4	-20.7	23.0	-24.6	27.0	-28.9	31.4	-33.5	36.0	-38.4
1	50.0	11.1	-11.5	12.5	-12.8	15.4	-15.9	18.6	-19.2	22.2	-22.8	26.0	-26.8	30.2	31.1	34.6	-35.7
1	100.0	10.8	-10.8	12.1	-12.1	14.9	-14.9	18.1	-18.1	21.5	-21.5	25.2	-25.2	29.3	-29.3	33.6	-33.6
2	10.0	11.9	-15.2	13.3	-17.0	16.5	-21.0	19.9	-25.5	23.7	-30.3	27.8	-35.6	32.3	-41.2	37.0	-47.3
2	20.0	11.6	-14.5	13.0	-16.3	16.0	-20.1	19.4	-24.3	23.0	-29.0	27.0	-34.0	31.4	-39.4	36.0	-45.3
2	50.0	11.1	-13.7	12.5	-15.3	15.4	-18.9	18.6	-22.9	22.2	-27.2	26.0	-32.0	30.2	-37.1	34.6	-42.5
2	100.0	10.8	-13.0	12.1	-14.6	14.9	-18.0	18.1	-21.8	21.5	-25.9	25.2	-30.4	29.3	-35.3	33.6	-40.5
3	10.0	11.9	-15.2	13.3	-17.0	16.5	-21.0	19.9	-25.5	23.7	-30.3	27.8	-35.6	32.3	-41.2	37.0	-47.3
3	20.0	11.6	-14.5	13.0	-16.3	16.0	-20.1	19.4	-24.3	23.0	-29.0	27.0	-34.0	31.4	-39.4	36.0	-45.3
3	50.0	11.1	-13.7	12.5	-15.3	15.4	-18.9	18.6	-22.9	22.2	-27.2	26.0	-32.0	30.2	-37.1	34.6	-42.5
3	100.0	10.8	-13.0	12.1	-14.6	14.9	-18.0	18.1	-21.8	21.5	-25.9	25.2	-30.4	29.3	-35.3	33.6	-40.5
Wall																	
4	10.0	13.0	-14.1	14.6	-15.8	18.0	-19.5	21.8	-23.6	25.9	-28.1	30.4	-33.0	35.3	-38.2	40.5	-43.9
4	20.0	12.4	-13.5	13.9	-15.1	17.2	-18.7	20.8	-22.6	24.7	-26.9	29.0	-31.6	33.7	-36.7	38.7	-42.1
4	50.0	11.6	-12.7	13.0	-14.3	16.1	-17.6	19.5	-21.3	23.2	-25.4	27.2	-29.8	31.6	-34.6	36.2	-39.7
4	100.0	11.1	-12.2	12.4	-13.6	15.3	-16.8	18.5	-20.4	22.0	-24.2	25.9	-28.4	30.0	-33.0	34.4	-37.8
5	10.0	13.0	-17.4	14.6	-19.5	18.0	-24.1	21.8	-29.1	25.9	-34.7	30.4	-40.7	35.3	-47.2	40.5	-54.2
5	20.0	12.4	-16.2	13.9	-18.2	17.2	-22.5	20.8	-27.2	24.7	-32.4	29.0	-38.0	33.7	-44.0	38.7	-50.5
5	50.0	11.6	-14.7	13.0	-16.5	16.1	-20.3	19.5	-24.6	23.2	-29.3	27.2	-34.3	31.6	-39.8	36.2	-45.7
5	100.0	11.1	-13.5	12.4	-15.1	15.3	-18.7	18.5	-22.6	22.0	-26.9	25.9	-31.6	30.0	-36.7	34.4	-42.1

For SI: 1 ft^2 = 0.0929 m^2, 1 mph = 0.447 m/s, 1 psf = 47.88 N/m^2.

1 For effective areas or wind speeds between those given above the load may be interpolated, otherwise use the load associated with the lower effective area.

2 Table values shall be adjusted for height and exposure by multiplying by adjustment coefficients in Table 1606.2D.

3 See Figure 1606.2(c) for location of zones.

4 Plus and minus signs signify pressures acting toward and away from the building surfaces.

WAYLAND
Structural Engineering
8200 SW 16th Place
Gainesville, Forida 32607

TABLE 1606.2C
ROOF OVERHANG COMPONENT AND CLADDING DESIGN WIND PRESSURES FOR A BUILDING WITH MEAN ROOF HEIGHT OF 30 FEET LOCATED IN EXPOSURE B (psf)

Zone	Effective Wind Area (ft^2)	Basic Wind Speed v (mph - 3 second gust) 90	100	110	120	130	140	150
Roof Angle > 0-10 degrees								
2	10	-21.0	-25.9	-31.4	-37.3	-43.8	-50.8	-58.3
2	20	-20.6	-25.5	-30.8	-36.7	-43.0	-49.9	-57.3
2	100	-19.8	-24.4	-29.5	-35.1	-41.2	-47.8	-54.9
3	10	-34.6	-42.7	-51.6	-61.5	-72.1	-83.7	-96.0
3	20	-27.1	-33.5	-40.5	-48.3	-56.6	-65.7	-75.4
3	100	-10.0	-12.2	-14.8	-17.6	-20.6	-23.9	-27.4
Roof Angle > 10 - 30 degrees								
2	10	-27.2	-33.5	-40.6	-48.3	-56.7	-65.7	-75.5
2	20	-27.2	-33.5	-40.6	-48.3	-56.7	-65.7	-75.5
2	100	-27.2	-33.5	-40.6	-48.3	-56.7	-65.7	-75.5
3	10	-45.7	-56.4	-68.3	-81.2	-95.3	-110.6	-126.9
3	20	-40.5	-50.0	-60.5	-72.0	-84.5	-98.0	-112.5
3	100	-28.4	-35.1	-42.4	-50.5	-59.3	-68.7	-78.9
Roof Angle > 30 - 45 degrees								
2	10	-24.7	-30.5	-36.9	-43.9	-51.5	-59.8	-68.6
2	20	-24.0	-29.6	-35.8	-42.6	-50.0	-58.0	-66.5
2	100	-22.2	-27.4	-33.2	-39.5	-46.4	-53.8	-61.7
3	10	-24.7	-30.5	-36.9	-43.9	-51.5	-59.8	-68.6
3	20	-24.0	-29.6	-35.8	-42.6	-50.0	-58.0	-66.5
3	100	-22.2	-27.4	-33.2	-39.5	-46.4	-53.8	-61.7

For SI: 1 psf = 47.88 N/m^2, 1 ft^2 = 0.0929 m^2, 1 mph = 0.447 m/s.
Note: For effective areas between those given above the load may be interpolated, otherwise use the load may be interpolated, otherwise use the load associated with the lower effective area.

TABLE 1606.2D
HEIGHT AND EXPOSURE ADJUSTMENT COEFFICIENTS

Mean Roof Height	Exposure B	C	D
15	1.00	1.21	1.47
20	1.00	1.29	1.55
25	1.00	1.35	1.61
30	1.00	1.40	1.66
35	1.05	1.45	1.70
40	1.09	1.49	1.74
45	1.12	1.53	1.78
50	1.16	1.56	1.81
55	1.19	1.59	1.84
60	1.22	1.62	1.87

Note: All table values shall be adjusted for other exposures and heights by multiplying by the above coefficients.

WAYLAND
Structural Engineering
8200 SW 16th Place
Gainesville, Forida 32607

WAYLAND STRUCTURAL ENGINEERING
Gregory S. Wayland, PE FL PE #54396 FL COA #8236
8200 SW 16th Place Gainesville, FL 32607 Ph/Fax 352-331-0727

Date: 1/12/2006
By: GSW
Page: 13

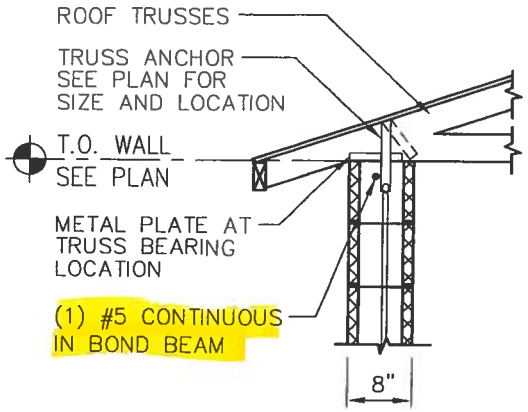
Project Name: **BEACH RESIDENCE**
WSE Project Number: **05170**
Project Location: Lake City, Florida
For:

ROOF TRUSS ANCHOR SCHEDULE

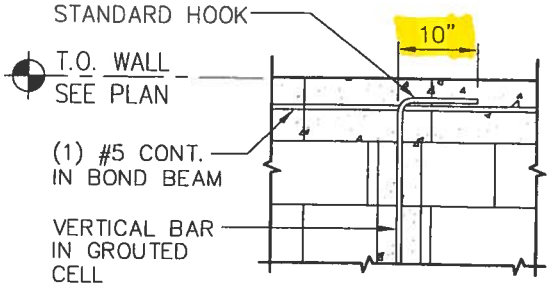
Truss Engineering: MAYO TRUSS CO., INC. Date: 12/23/2005
Anchors: SIMPSON STRONG-TIE CO., INC.

1. TRUSS TO TRUSS CONNECTIONS ARE TO BE SPECIFIED AND SUPPLIED BY TRUSS MANUFACTURER.
2. USE "META16" FOR ALL TRUSSES BEARING ON MASONRY UNLESS OTHERWISE NOTED BELOW (U = 1450 lb).
3. USE "H2.5A" FOR ALL TRUSSES BEARING ON WOOD UNLESS OTHERWISE NOTED BELOW (U = 535 lb).

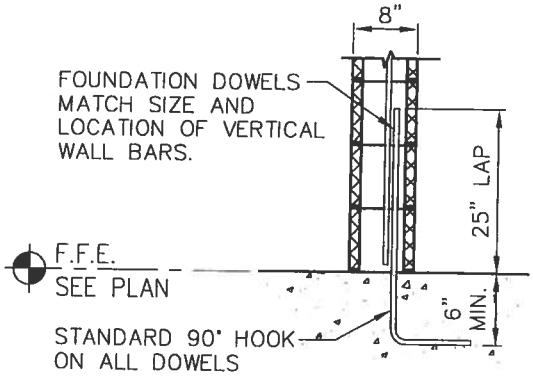
TRUSS DESIGNATION	Bearing Point #1		Bearing Point #2		Bearing Point #3		Bearing Point #4	
	Uplift (lb)	Anchor	Uplift (lb)	Anchor	Uplift (lb)	Anchor	Uplift (lb)	Anchor
A20	200	META16	670	H10	269	META16		
A21	128	META16	1204	LGT2	651	META16		
D1	1769	(2)META16	1786	(2)META16				



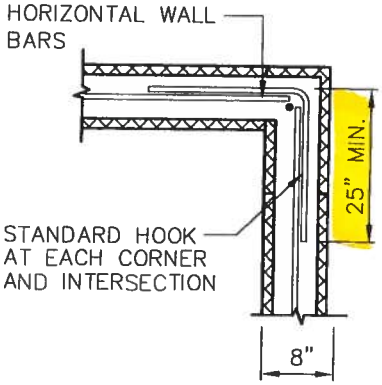
1 EXTERIOR TRUSS BEARING
1/2" = 1'-0"



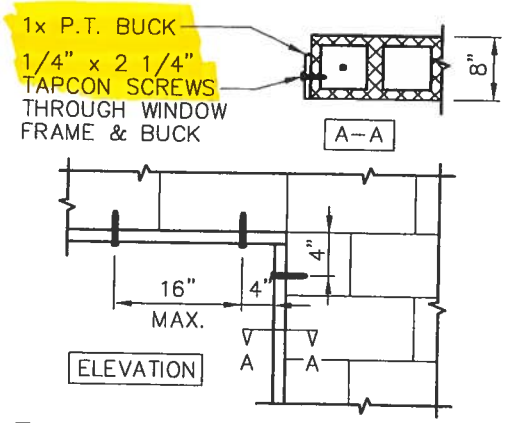
2 HOOK TO BOND BEAM
1/2" = 1'-0"



3 WALL BASE
1/2" = 1'-0"



4 WALL CORNER REINFORCING
1/2" = 1'-0"



5 DOOR/WINDOW BUCK
1/2" = 1'-0"

WSE
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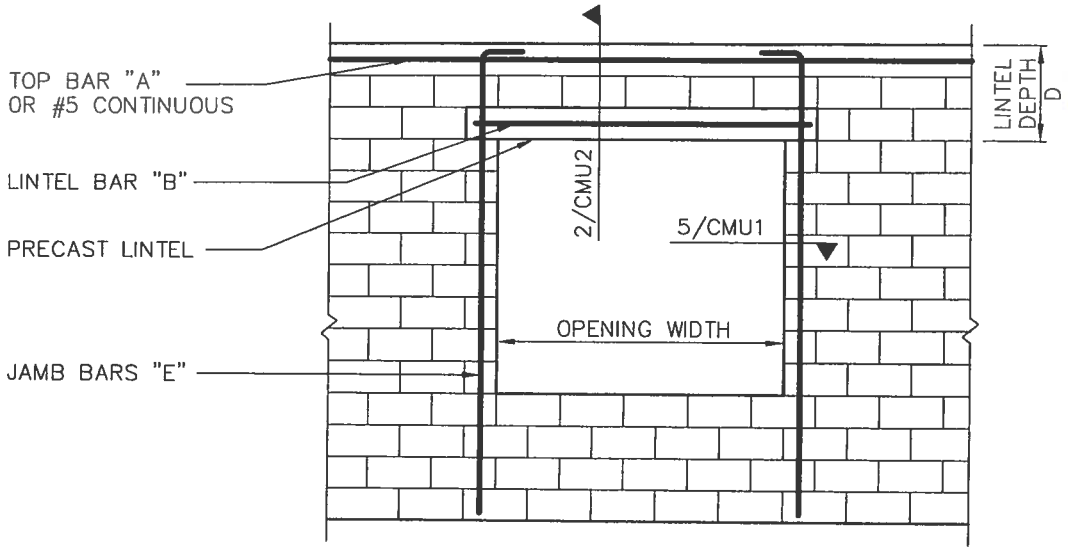
8200 SW 16th Place
Gainesville, FL 32607
Phone (352) 331-0727
Fax (352) 331-0727

DWG. NAME:	TYPICAL CMU WALL DETAILS
SCALE:	VARIES
PROJECT NAME:	BEACH RESIDENCE LAKE CITY, FLORIDA
PROJECT NO:	05170
DRAWN BY:	GSW
DATE:	1/12/2006
DWG NO.	CMU1

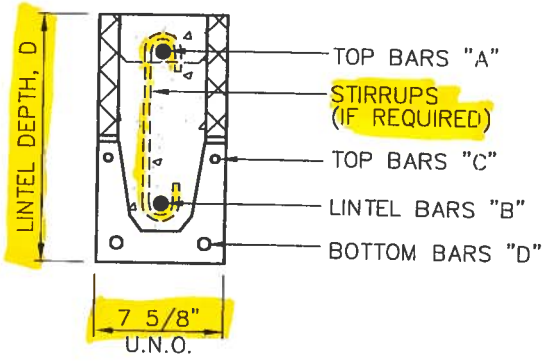


1 OPENING ELEVATION
1/4" = 1'-0"

MASONRY OPENING	LINTEL MARK	LINTEL DEPTH D (IN)	MASONRY REINFORCING			PRECAST LINTEL REINFORCING		JAMB BARS "E"
			TOP BARS "A"	LINTEL BARS "B"	STIRRUPS	TOP BARS "C"	BOTTOM BARS "D"	
4'-8"	A	16	(1) #5	(1) #5	NONE	NONE	(2) #3	(1) #5
6'-4"	B	16	(1) #5	(1) #5	NONE	(2) #2	(2) #4	(1) #5
9'-4"	B	16	(1) #5	(1) #5	NONE	(2) #2	(2) #4	(1) #5
11'-4" BACK PORCH LINTEL	E	16	(1) #5	(1) #5	NONE	(2) #4	(2) #6	(2) #5
18'-0" GARAGE DOOR LINTEL	E	16	(1) #5	(1) #5	#3@8	(2) #4	(2) #6	(2) #5

1. PRECAST U-SHAPED LINTELS BY CEMENT PRECAST OR EQUAL.
2. PRECAST CONCRETE: 4,000 PSI COMPRESSIVE STRENGTH.
3. PRECAST REINFORCING: ASTM A615, GRADE 60.
4. PROVIDE MINIMUM 8" BEARING BOTH ENDS.
5. POUR PRECAST LINTEL AND MASONRY ABOVE MONOLITHICALLY.
6. LINTEL WIDTH IS 7 5/8" UNLESS OTHERWISE NOTED.
7. E+CIP = TYPE E PRECAST LINTEL WITH CAST-IN-PLACE CONCRETE ABOVE INSTEAD OF FILLED MASONRY. CONCRETE TO BE 3,000 PSI.
8. SHORE LINTELS OVER 12 FEET LONG FOR 14 DAYS.

2 TYPICAL MASONRY LINTELS
1" = 1'-0"



wse
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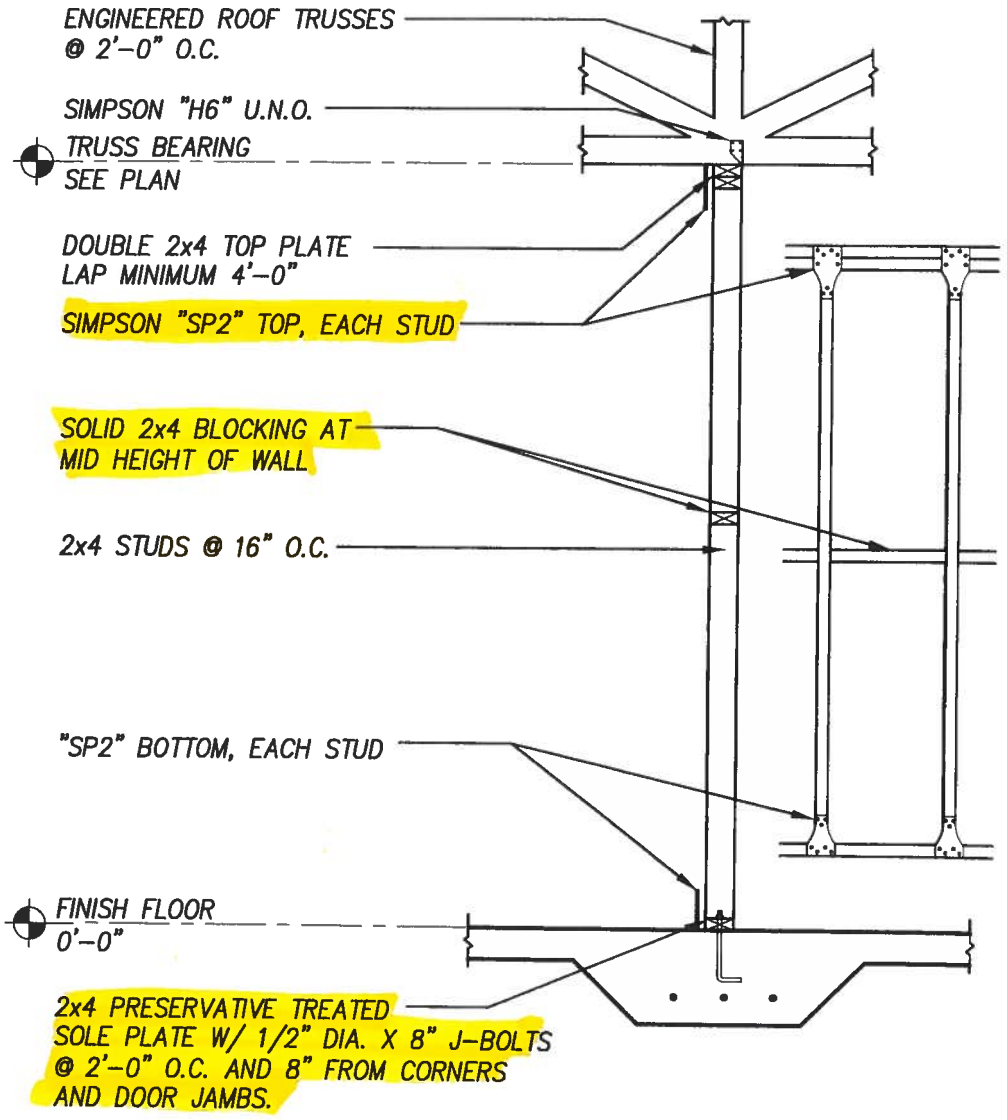
DWG. NAME: TYPICAL CMU WALL DETAILS
SCALE: VARIES
PROJECT NAME: BEACH RESIDENCE
LAKE CITY, FLORIDA
PROJECT NO: 05170
DRAWN BY: GSW
DATE: 1/12/2006
DWG NO. CMU2



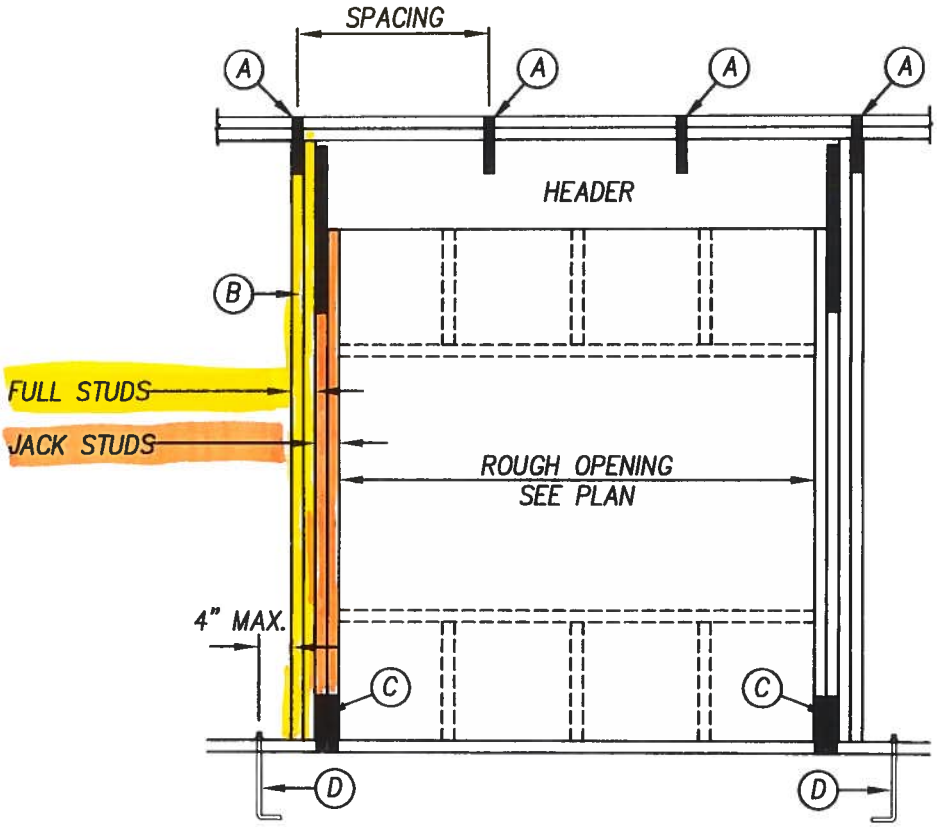
A **Typical Interior Bearing Wall**

1/2" = 1'-0"

WOOD-W11

HEADER SCHEDULE							
HEADER SPAN (FT)	HEADER	QTY JACK STUDS	QTY FULL STUDS	UPLIFT ANCHORS			
				(A)	(B)	(C)	(D)
4'-0" 6'-0" 8'-0"	(2) 2x6 (2) 2x8 (2) 2x10	1 2 2	2 2 3	SPH4 @ 24" ↓	(1) LSTA18 (2) LSTA18 (2) LSTA18	(1) SPH4 (2) SPH4 (2) SPH4	1/2" x 8" J-BOLT 1/2" x 8" J-BOLT 1/2" x 8" J-BOLT

1. USE NO. 2 SOUTHERN PINE FOR ALL DIMENSIONAL LUMBER HEADERS.
2. USE 1 3/4" THICK "GP-LAM" LAMINATED VENEER LUMBER (Fb = 2950 PSI) FOR LVL HEADERS. BY GEORGIA PACIFIC OR EQUIVALENT.
3. ALL CONNECTORS ARE BY SIMPSON STRONG-TIE OR EQUIVALENT.
4. PROVIDE 1/2" OSB OR PLYWOOD SPACER BETWEEN HEADER PLYS FOR DIMENSIONAL LUMBER.
5. FASTEN HEADER PLYS TOGETHER WITH 16d NAILS @ 12" O.C. STAGGERED TOP AND BOTTOM.
6. FASTEN JAMB STUDS TOGETHER WITH 10d NAILS @ 12" O.C.
7. TOP PLATE ANCHORS (A) ARE REQUIRED ONLY ON ALL UNSHEATHED BEARING WALLS.



B **Typical Header Schedule**

1/2" = 1'-0"

WOOD-W08A

New Construction Subterranean Termite Soil Treatment Record

OMB Approval No. 2502-0525

This form is completed by the licensed Pest Control Company.

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This information is mandatory and is required to obtain benefits. HUD may not collect this information, and you are not required to complete this form, unless it displays a currently valid OMB control number.
Section 24 CFR 200.926d(b)(3) requires that the sites for HUD insured structures must be free of termite hazards. This information collection requires the builder to certify that an authorized Pest Control company performed all required treatment for termites, and that the builder guarantees the treated area against infestation for one year. Builders, pest control companies, mortgage lenders, homebuyers, and HUD as a record of treatment for specific homes will use the information collected. The information is not considered confidential.

This report is submitted for informational purposes to the builder on proposed (new) construction cases when soil treatment for prevention of subterranean termite infestation is specified by the builder, architect, or required by the lender, architect, FHA, or VA.

All contracts for services are between the Pest Control Operator and builder, unless stated otherwise.

24254

Section 1: General Information (Treating Company Information)

Company Name: Aspen Pest Control, Inc.
Company Address: 301 NW Cole Terrace City Lake City State FL Zip 32055
Company Business License No. JF109478 Company Phone No. 386-755-3611
FHA/VA Case No. (if any)

Section 2: Builder Information

Company Name: Jim Beach Company Phone No.

Section 3: Property Information

Location of Structure(s) Treated (Street Address or Legal Description, City, State and Zip) 479 S.W. Old Duck Rd Lake City, FL 32024

Type of Construction (More than one box may be checked) ☐ Slab ☐ Basement ☐ Crawl ☐ Other
Approximate Depth of Footing: Outside 12 Inside 24 Type of Fill N.A.

Section 4: Treatment Information

Date(s) of Treatment(s) 5-2-06
Brand Name of Product(s) Used Dyna Zone
EPA Registration No. 53645-92
Approximate Final Mix Solution % 0.25%
Approximate Size of Treatment Area: Sq. ft. 4046 Linear ft. 220 Linear ft. of Masonry Voids 220
Approximate Total Gallons of Solution Applied 1000
Was treatment completed on exterior? ☐ Yes ☒ No
Service Agreement Available? ☒ Yes ☐ No

Note: Some state laws require service agreements to be issued. This form does not preempt state law.

Attachments (List)

Comments

Name of Applicator(s) Russ Brannen Certification No. (if required by State law) JF104376

The applicator has used a product in accordance with the product label and state requirements. All treatment materials and methods used comply with state and federal regulations.

Authorized Signature Date 5-2-06

ing: HUD will prosecute false claims and statements. Conviction may result in criminal and/or civil penalties. (18 U.S.C. 1001, 1010. 1012; 31 U.S.C. 3729, 3802)

24254

WSE
WAYLAND
STRUCTURAL ENGINEERING
8200 SW 16th Place Gainesville, FL 32607
Phone (352) 331-0727 Fax (352) 331-0727
Email: waylandgs@aol.com

August 4, 2006

James Beach
3889 NW Archer St., Apt. #101
Lake City, FL 32055

Re: **BEACH RESIDENCE**
WSE Project No: 05170

Dear Mr. Beach:

It is structurally acceptable to substitute the twist strap anchors specified in the letter by WSE dated 5/18/2006 as described below.

1. Substitute Simpson "MTSM16" with "MTS30" strap with (7) 10d x 1 ½" nails to truss and (4) ¼" x 1 ¾" Titen (or Tapcon) screws to masonry bond beam.
2. For truss D1, use (2) Simpson "MTS30" straps.

Please contact me if you have any questions regarding this matter

Sincerely,

WAYLAND STRUCTURAL ENGINEERING

Gregory S. Wayland
FL PE #54396
FL COA #8236

8/4/06