DATE 10/16/2006

Columbia County Building Permit

This Permit Expires One Year From the Date of Issue

PERMIT
000025127

APPLICANT KEVIN BEDENBAUGH PHONE 386 792-4061

ADDRESS P.O. BOX 1416 LIVE OAK FL 32064

OWNER EUGENE & NANCY ROYALS PHONE 752-0587

ADDRESS 550 SW GABRIAL PLACE LAKE CITY FL 32055

CONTRACTOR KEVIN BEDENBAUGH PHONE 386 792-4061

LOCATION OF PROPERTY 90W, TL ON BIRLEY AVE, TR ON GABRIEL PLACE, 1ST DRIVE ON LEFT

TYPE DEVELOPMENT MODULAR ESTIMATED COST OF CONSTRUCTION 0.00

HEATED FLOOR AREA TOTAL AREA HEIGHT STORIES

FOUNDATION WALLS ROOF PITCH FLOOR

LAND USE & ZONING A-3 MAX. HEIGHT

Minimum Set Back Requirments: STREET-FRONT 30.00 REAR 25.00 SIDE 25.00

NO. EX.D.U. 1 FLOOD ZONE X DEVELOPMENT PERMIT NO.

PARCEL ID 05-4S-16-02781-000 SUBDIVISION

LOT BLOCK PHASE UNIT 0 TOTAL ACRES

Culvert Permit No.	Culvert Waiver	Contractor's License Number	Applicant/Owner/Contractor
		RR0066597	Kevin Bedenbaugh

Driveway Connection	Septic Tank Number	LU & Zoning checked by	Approved for Issuance	New Resident
EXISTING	06-0832-N	BK	JH	

COMMENTS: NOC ON FILE, ONE FOOT ABOVE THE ROAD,
NE 10 ACRES OF A 40 ACRE PARCEL, RECEIVED CAL-TECH TESTING
FOR FOUNDATION REQUIREMENTS Check # or Cash 2762

FOR BUILDING & ZONING DEPARTMENT ONLY

(footer/Slab)

Temporary Power date/app. by — Foundation date/app. by — Monolithic date/app. by

Under slab rough-in plumbing date/app. by — Slab date/app. by — Sheathing/Nailing date/app. by

Framing date/app. by — Rough-in plumbing above slab and below wood floor date/app. by

Electrical rough-in date/app. by — Heat & Air Duct date/app. by — Peri. beam (Lintel) date/app. by

Permanent power date/app. by — C.O. Final date/app. by — Culvert date/app. by

M/H tie downs, blocking, electricity and plumbing date/app. by — Pool date/app. by

Reconnection date/app. by — Pump pole date/app. by — Utility Pole date/app. by

M/H Pole date/app. by — Travel Trailer date/app. by — Re-roof date/app. by

BUILDING PERMIT FEE $ 0.00 CERTIFICATION FEE $ 0.00 SURCHARGE FEE $ 0.00

MISC. FEES $ 200.00 ZONING CERT. FEE $ 50.00 FIRE FEE $ 0.00 WASTE FEE $

FLOOD DEVELOPMENT FEE $ FLOOD ZONE FEE $ 25.00 CULVERT FEE $ **TOTAL FEE** 275.00

INSPECTORS OFFICE CLERKS OFFICE CH

NOTICE: IN ADDITION TO THE REQUIREMENTS OF THIS PERMIT, THERE MAY BE ADDITIONAL RESTRICTIONS APPLICABLE TO THIS PROPERTY THAT MAY BE FOUND IN THE PUBLIC RECORDS OF THIS COUNTY. AND THERE MAY BE ADDITIONAL PERMITS REQUIRED FROM OTHER GOVERNMENTAL ENTITIES SUCH AS WATER MANAGEMENT DISTRICTS, STATE AGENCIES, OR FEDERAL AGENCIES.

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

This Permit Must Be Prominently Posted on Premises During Construction

PLEASE NOTIFY THE COLUMBIA COUNTY BUILDING DEPARTMENT AT LEAST 24 HOURS IN ADVANCE OF EACH INSPECTION, IN ORDER THAT IT MAY BE MADE WITHOUT DELAY OR INCONVIENCE, PHONE 758-1008. THIS PERMIT IS NOT VALID UNLESS THE WORK AUTHORIZED BY IT IS COMMENCED WITHIN 6 MONTHS AFTER ISSUANCE.

The Issuance of this Permit Does Not Waive Compliance by Permittee with Deed Restrictions.

TMD

THIS INSTRUMENT WAS PREPARED BY:

TERRY McDAVID 03-782
POST OFFICE BOX 1328
LAKE CITY, FL 32056-1328

RETURN TO:

TERRY McDAVID
POST OFFICE BOX 1328
LAKE CITY, FL 32056-1328

Property Appraiser's
Identification Number Part of R02781-000

Inst:2003025353 Date:11/24/2003 Time:08:50
Doc Stamp-Deed : 2310.00
TMK DC,P.DeWitt Cason,Columbia County B:1000 P:1690

WARRANTY DEED

THIS INDENTURE, made this 17th day of November, 2003, BETWEEN TROY H. REGISTER and GENEVIEVE W. REGISTER, Husband and Wife whose post office address is Post Office Box 3583, Lake City, FL 32056, of the County of Columbia, State of Florida, grantor*, and WILLIAM EUGENE ROYALS and NANCY K. ROYALS, Husband and Wife whose post office address is Route 26, Box 601, Lake City, FL 32025, of the County of Columbia, State of Florida, grantee*.

WITNESSETH: that said grantor, for and in consideration of the sum of Ten Dollars ($10.00), and other good and valuable considerations to said grantor in hand paid by said grantee, the receipt whereof is hereby acknowledged, has granted, bargained and sold to the said grantee, and grantee's heirs and assigns forever, the following described land, situate, lying and being in Columbia County, Florida, to-wit:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF.

SUBJECT TO: Restrictions, easements and outstanding mineral rights of record, if any, and taxes for the current year.

and said grantor does hereby fully warrant the title to said land, and will defend the same against the lawful claims of all persons whomsoever.

*"Grantor" and "grantee" are used for singular or plural, as context requires.

IN WITNESS WHEREOF, grantor has hereunto set grantor's hand and seal the day and year first above written.

Inst:2003025353 Date:11/24/2003 Time:08:50
Doc Stamp-Deed : 2310.00
DC,P.DeWitt Cason,Columbia County B:1000 P:1691

Signed, sealed and delivered
in our presence:

(Signature of First Witness)
Terry McDavid
(Typed Name of First Witness)

(Signature of Second Witness)
Crystal L. Brunner
(Typed Name of Second Witness)

(SEAL)
Grantor
TROY H. REGISTER
Printed Name

Genevieve W. Register (SEAL)
Grantor
GENEVIEVE W. REGISTER
Printed Name

STATE OF Florida
COUNTY OF Columbia

The foregoing instrument was acknowledged before me this 19th day of November, 2003, by TROY H. REGISTER and GENEVIEVE W. REGISTER, Husband and Wife who are personally known to me and who did not take an oath.

My Commission Expires:

Notary Public
Printed, typed, or stamped name:

TERRY MCDAVID
MY COMMISSION EXPIRES
January 16, 2006
#DD 079305
Bonded thru
Notary Public Underwriters
NOTARY PUBLIC, STATE OF FLORIDA

Inst:2003025353 Date:11/24/2003 Time:08:50
Doc Stamp-Deed : 2310.00
_____DC,P.DeWitt Cason,Columbia County B:1000 P:1692

EXHIBIT "A"

PARCEL 1:

TOWNSHIP 4 SOUTH - RANGE 16 EAST

SECTION 5: The West 330.61 feet of the NW 1/4 of the NW 1/4 of Section 5, Township 4 South, Range 16 East, Columbia County, Florida. SUBJECT TO maintained road right-of-way along the North side thereof.

PARCEL 2:

TOWNSHIP 4 SOUTH - RANGE 16 EAST

SECTION 5: The East 330.69 feet of the West 661.30 feet of the NW 1/4 of the NW 1/4 of Section 5, Township 4 South, Range 16 East, Columbia County, Florida. SUBJECT TO maintained road right-of-way along the North side thereof.

Columbia County Building Permit Application

For Office Use Only Application # 0609-81 Date Received 9/27 By JW Permit # 25127

Application Approved by - Zoning Official BLK Date 03.10.06 Plans Examiner OK JTH Date 10-18-06

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

Comments NE 10 ACRES of a 40 ACRE Parcel

JTH * SEE CAL-Tech TESTING FOR FOUNDATION Requirements

put on comment line

Applicants Name KEVIN BEDENBAUGH, Plumb Level Const. Phone 386-792-4061

Address PO BOX 1416 Live Oak, FL 32064

Owners Name Eugene & NANCY Royals Phone 386-754-6737

911 Address 552 SW Gabriel place Lake City FL 32024

Contractors Name KEVIN Bedenbaugh Phone 386-792-4061

Address PO BOX 1416 Live Oak, FL 32064

Fee Simple Owner Name & Address N/A

Bonding Co. Name & Address N/A

Architect/Engineer Name & Address Hilborn, Werner, Carter, & Ass. 1627 South Myrtle Ave Clearwater, FL 33756

Mortgage Lenders Name & Address N/A

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

Property ID Number 05-4S-16-02781-000 Estimated Cost of Construction 130,000

Subdivision Name ______ Lot ____ Block ____ Unit ____ Phase ____

Driving Directions Hwy 90 West, Turn (L) on Birley Ave. go 2-3 miles Turn (R) on Gabriel place. property 1st Drive on Left.

Type of Construction MODULAR. Number of Existing Dwellings on Property 1

Total Acreage 10 Lot Size ____ Do you need a - Culvert Permit or Culvert Waiver or (Have an Existing Drive)

Actual Distance of Structure from Property Lines - Front 100 Side 92 Side 50 Rear 75

Total Building Height 17' Number of Stories 1 Heated Floor Area 2040 Roof Pitch 5/12

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.

KEVIN BEDENBAUGH
Owner Builder or Agent (Including Contractor)

Kevin Bedenbaugh
Contractor Signature

Contractors License Number RR0066597

Competency Card Number ____

STATE OF FLORIDA
COUNTY OF COLUMBIA

DANNY W HERRING
MY COMMISSION #DD238154
EXPIRES: AUG 04, 2007
Bonded through Advantage Notary
NOTARY PUBLIC STATE OF FLORIDA

NOTARY STAMP/SEAL

Sworn to (or affirmed) and subscribed before me

this 25th day of September 2006.

Personally known X or Produced Identification ____

Danny W. Herring
Notary Signature

COLUMBIA COUNTY 9-1-1 ADDRESSING

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

Addressing Maintenance

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

DATE REQUESTED: 9/25/2006 **DATE ISSUED:** 9/25/2006

ENHANCED 9-1-1 ADDRESS:

552 SW GABRIEL PL

LAKE CITY FL 32024

PROPERTY APPRAISER PARCEL NUMBER:

05-4S-16-02781-000

Remarks:

2ND LOCATION ON PARCEL

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.

423

COLUMBIA COUNTY
9-1-1 ADDRESSING
APPROVED

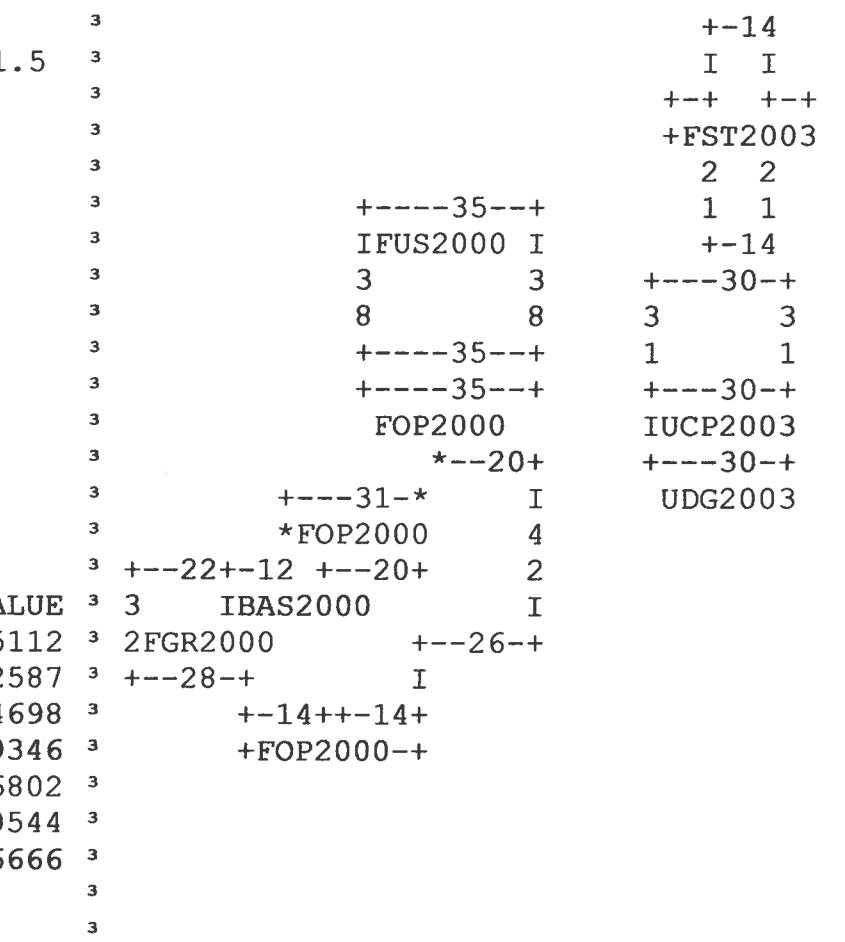
05-4S-16-02781-000

NW1/4 OF NW1/4.
ORB 894-1782 & ORB 1000-1690-1718, CWD 1014-2506.

ROYALS WILLIAM EUGENE & NANCY 05-4S-16-0
550 SW GABRIAL PLACE
LAKE CITY, FL 32024

BUSE	000100	SINGLE FAM	AE? Y	3930	HTD AREA	139.552	INDEX
MOD	1	SFR	BATH 3.50	5628	EFF AREA	62.798	E-RATE
EXW	10	ABOVE AVG.	FIXT	353427	RCN		
%		0000000000	BDRM 4	95.00	%GOOD	335,755	B BLDG VAL
RSTR	08	IRREGULAR	RMS				
RCVR	03	COMP SHNGL	UNTS				
%		N/A	C-W%				
INTW	05	DRYWALL	HGHT				
%		N/A	PMTR				
FLOR	14	CARPET	STYS 1.5				
30%	15	HARDTILE	ECON				
HTTP	04	AIR DUCTED	FUNC				
A/C	03	CENTRAL	SPCD				
QUAL	04	ABOVE AVG.	DEPR 52				
FNDN		N/A	N/A				
SIZE	04	IRREGULAR	N/A				
CEIL		N/A	N/A				
ARCH		N/A	N/A				
FRME	02	WOOD FRAME	N/A				
KTCH		N/A	N/A				
WNDO		N/A	N/A				
CLAS		N/A	N/A				
OCC		N/A	N/A				
COND		N/A	%				

FIELD CK: HX A
LOC: 550 GABRIAL PL SW



SUB	A-AREA	%	E-AREA	SUB VALUE
BAS00	2600	100	2600	155112
FOP00	703	30	211	12587
FGR00	752	55	414	24698
FUS00	1330	100	1330	79346
UCP03	570	20	114	6802
UDG03	930	55	512	30544
FST03	812	55	447	26666
TOTAL	7697		5628	335755

EXTRA FEATURES

AE	BN	CODE	DESC	LEN	WID	HGHT	QTY	QL	YR	ADJ	UNITS	UT
Y		0166	CONC,PAVMT				1		2003	1.00	1720.000	SF
Y		0260	PAVEMENT-ASP				1		2003	1.00	7520.000	SF
Y		0280	POOL R/CON	18	36		1		2004	1.00	648.000	SF
Y		0166	CONC,PAVMT				1		2004	1.00	489.000	SF

FIELD CK:

LAND	DESC	ZONE	ROAD	UD1	UD3	FRONT	DEPTH	FIELD CK:

AE	CODE		TOPO	UTIL	{UD2	{UD4	BACK	DT	ADJUSTMENTS			
Y	000100	SFR	A-1	0002					1.00	1.00	1.00	1.00
			0002	0003								
N	006200	PASTURE 3	A-1	0002					1.00	1.00	1.00	1.00
			0002	0003								
N	005200	CROPLAND 2	A-1	0002					1.00	1.00	1.00	1.00
			0002	0003								
N	009910	MKT.VAL.AG	A-1	0002					1.00	1.00	1.00	1.00
			0002	0003								

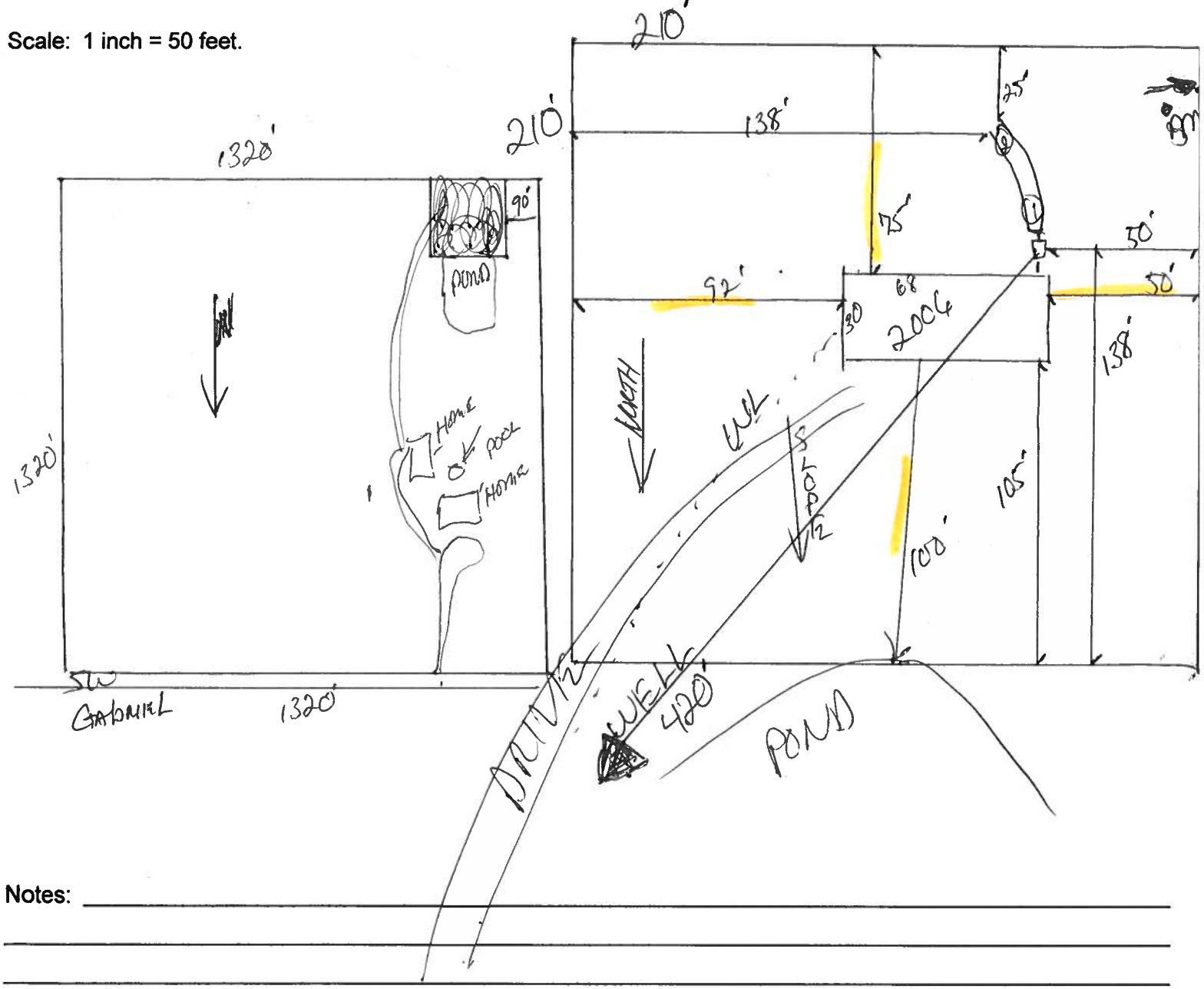
2006

STATE OF FLORIDA
DEPARTMENT OF HEALTH
APPLICATION FOR ONSITE SEWAGE DISPOSAL SYSTEM CONSTRUCTION PERMIT

Permit Application Number 06-0832 N

---------- PART II - SITEPLAN ----------

Scale: 1 inch = 50 feet.



Notes: _____

Site Plan submitted by: Rock D 7-0

MASTER CONTRACTOR

Plan Approved ✓ Not Approved _____ Date 9/26/06

By _____ Columbia County Health Department

ALL CHANGES MUST BE APPROVED BY THE COUNTY HEALTH DEPARTMENT

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 05-45-16-02781-000 **PERMIT NUMBER** _____

1. **Description of property: (legal description of the property and street address or 911 address)**
   05-45-16-02781-000
   Section 5, Township 4 South, Range 16 East
   550 SW Gabriel Place Lake City FL 32024
2. **General description of improvement:** Single Family / Guest house
3. **Owner Name & Address** Eugene & Nancy Royals 550 SW Gabriel Place 32024
   Interest in Property Owner
4. **Name & Address of Fee Simple Owner (if other than owner):** N/A
5. **Contractor Name** Plumb Level const, Kevin Bederbaugh **Phone Number** 386-938-5588
   Address PO Box [illegible] Live Oak, FL 32064
6. **Surety Holders Name** N/A **Phone Number** _____
   Address _____
   Amount of Bond _____
7. **Lender Name** N/A
   Address _____ **Phone Number** _____
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 St[illegible]**
   Name _____
   Address _____
   Inst:2006023069 Date:09/27/2006 Time:12:47
   A.T DC,P.DeWitt Cason,Columbia County B:1097 P:616
9. **In addition to himself/herself the owner designates**
   _____ **to receive a copy of the Lienor's Notice as provided in Section 713.13 (1) –**
   (a) 7. Phone Number of the designee _____
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.

Signature of Owner

Sworn to (or affirmed) and subscribed before day of September 25th, 2006

NOTARY STAMP/SEAL

DANNY W HERRING
MY COMMISSION #DD238154
EXPIRES: AUG 04, 2007
Bonded through Advantage Notary

Signature of Notary

FORM 600A-2004 EnergyGauge® 4.0

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs

Residential Whole Building Performance Method A

Project Name:	1447-4819 F	Builder:	HORTON
Address:		Permitting Office:	Columbia
City, State:	, FL	Permit Number:	25127
Owner:	HORTON HOMES	Jurisdiction Number:	221000
Climate Zone:	Central		

1. New construction or existing	New	12. Cooling systems	
2. Single family or multi-family	Single family	a. Central Unit	Cap: 36.0 kBtu/hr
3. Number of units, if multi-family	1		SEER: 11.00
4. Number of Bedrooms	3	b. N/A	
5. Is this a worst case?	Yes		
6. Conditioned floor area (ft²)	1760 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=0.5) 38.0 ft²	a. Electric Heat Pump	Cap: 34.0 kBtu/hr
b. SHGC:			HSPF: 7.80
(or Clear or Tint DEFAULT) 7b.	(Clear) 83.0 ft²	b. N/A	
8. Floor types			
a. Raised Wood, Stem Wall	R=22.0, 1760.0ft²	c. N/A	
b. N/A			
c. N/A		14. Hot water systems	
9. Wall types		a. Electric Resistance	Cap: 50.0 gallons
a. Frame, Wood, Exterior	R=15.0, 1175.0 ft²		EF: 0.90
b. N/A		b. N/A	
c. N/A			
d. N/A		c. Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)	
e. N/A		15. HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)	
10. Ceiling types			
a. Under Attic	R=30.0, 1796.0 ft²		
b. N/A			
c. N/A			
11. Ducts			
a. Sup: Unc. Ret: Con. AH(Sealed):Interior	Sup. R=6.0, 185.0 ft		
b. N/A			

Glass/Floor Area: 0.11 Total as-built points: 22030 Total base points: 24610 **PASS**

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

PREPARED BY: _____

DATE: APPROVED JUL 14 2005

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

OWNER/AGENT: _____

DATE: _____

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

Date JUL 19 2005 Plan No. _____

BUILDING OFFICIAL: Approved By JAMES A. LYONS

DATE: _____

Modular Building Plans Examiner
Florida License No. SMP-12

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

EnergyGauge® Version: FLRCSB v4.0)

SEE MANUFACTURER'S CONTRACT WITH FLORIDA DCA.

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL, 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	1760.0	25.78	8167.1	Double,U=0.51,Clear	W	1.3	5.7	60.0	51.80	0.93	2876.4	
				Double,U=0.51,Clear	W	1.3	4.0	3.8	51.80	0.85	168.1	
				Double,U=0.51,Clear	E	1.3	5.7	45.0	57.20	0.93	2384.8	
				Double,U=0.51,Clear	W	1.3	3.0	11.2	51.80	0.77	449.3	
				Double,U=0.51,Clear	E	1.3	7.5	76.0	57.20	0.97	4195.5	
				Double,U=0.51,Clear	S	1.0	4.0	5.6	43.52	0.87	211.6	
				As-Built Total:				**201.6**			**10285.6**	
WALL TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM =		Points	
Adjacent	0.0	0.00	0.0	Frame, Wood, Exterior			15.0	1175.0	1.47		1723.3	
Exterior	1175.0	1.90	2232.5									
Base Total:	**1175.0**		**2232.5**	**As-Built Total:**				**1175.0**			**1723.3**	
DOOR TYPES	Area X	BSPM =	Points	Type				Area X	SPM =		Points	
Adjacent	0.0	0.00	0.0	Exterior Insulated				40.0	4.80		192.0	
Exterior	40.0	4.80	192.0									
Base Total:	**40.0**		**192.0**	**As-Built Total:**				**40.0**			**192.0**	
CEILING TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM X SCM =		Points	
Under Attic	1760.0	2.13	3748.8	Under Attic			30.0	1796.0	2.13 X 1.00		3825.5	
Base Total:	**1760.0**		**3748.8**	**As-Built Total:**				**1796.0**			**3825.5**	
FLOOR TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM =		Points	
Slab	0.0(p)	0.0	0.0	Raised Wood, Stem Wall			22.0	1760.0	-1.80		-3168.0	
Raised	1760.0	-3.43	-6036.8									
Base Total:			**-6036.8**	**As-Built Total:**				**1760.0**			**-3168.0**	
INFILTRATION	Area X	BSPM =	Points					Area X	SPM =		Points	
	1760.0	14.31	25185.6					1760.0	14.31		25185.6	

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL,	PERMIT #:

BASE			AS-BUILT					
Summer Base Points: 33489.2			**Summer As-Built Points:**					**38044.0**
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 36000 btuh ,SEER/EFF(11.0) Ducts:Unc(S),Con(R),Int(AH),R6.0(INS)					
			38044	1.00	(1.08 x 1.150 x 0.85)	0.310	1.000	12512.2
33489.2	**0.4266**	**14286.5**	**38044.0**	**1.00**	**1.061**	**0.310**	**1.000**	**12512.2**

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL, 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	1760.0	5.86	1856.4	Double,U=0.51,Clear	W	1.3	5.7	60.0	5.07	1.01	307.2	
				Double,U=0.51,Clear	W	1.3	4.0	3.8	5.07	1.02	19.7	
				Double,U=0.51,Clear	E	1.3	5.7	45.0	4.39	1.02	200.7	
				Double,U=0.51,Clear	W	1.3	3.0	11.2	5.07	1.04	58.9	
				Double,U=0.51,Clear	E	1.3	7.5	76.0	4.39	1.01	336.7	
				Double,U=0.51,Clear	S	1.0	4.0	5.6	2.37	1.05	13.9	
				As-Built Total:				**201.6**			**937.1**	
WALL TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM =		Points	
Adjacent	0.0	0.00	0.0	Frame, Wood, Exterior			15.0	1175.0	1.57		1840.8	
Exterior	1175.0	2.00	2350.0									
Base Total:	**1175.0**		**2350.0**	**As-Built Total:**				**1175.0**			**1840.8**	
DOOR TYPES	Area X	BWPM =	Points	Type				Area X	WPM =		Points	
Adjacent	0.0	0.00	0.0	Exterior Insulated				40.0	5.10		204.0	
Exterior	40.0	5.10	204.0									
Base Total:	**40.0**		**204.0**	**As-Built Total:**				**40.0**			**204.0**	
CEILING TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM X	WCM =	Points	
Under Attic	1760.0	0.64	1126.4	Under Attic			30.0	1796.0	0.64 X	1.00	1149.4	
Base Total:	**1760.0**		**1126.4**	**As-Built Total:**				**1796.0**			**1149.4**	
FLOOR TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM =		Points	
Slab	0.0(p)	0.0	0.0	Raised Wood, Stem Wall			22.0	1760.0	0.30		528.0	
Raised	1760.0	-0.20	-352.0									
Base Total:			**-352.0**	**As-Built Total:**				**1760.0**			**528.0**	
INFILTRATION	Area X	BWPM =	Points					Area X	WPM =		Points	
	1760.0	-0.28	-492.8					1760.0	-0.28		-492.8	

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL,	PERMIT #:

BASE			AS-BUILT					
Winter Base Points:		**4692.0**	**Winter As-Built Points:**					**4166.6**
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 34000 btuh ,EFF(7.8) Ducts:Unc(S),Con(R),Int(AH),R6.0					
			4166.6	1.000	(1.068 x 1.160 x 0.87)	0.438	1.000	1974.1
4692.0	**0.6274**	**2943.8**	**4166.6**	**1.00**	**1.083**	**0.438**	**1.000**	**1974.1**

WATER HEATING & CODE COMPLIANCE STATUS

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL,	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		2460.00	7380.0	50.0	0.90	3	1.00	2514.67	1.00	7544.0	
				As-Built Total:						**7544.0**	

CODE COMPLIANCE STATUS

BASE				AS-BUILT			
Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points	Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points
14286	**2944**	**7380**	**24610**	**12512**	**1974**	**7544**	**22030**

PASS

Code Compliance Checklist

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL,	PERMIT #:

6A-21 INFILTRATION REDUCTION COMPLIANCE CHECKLIST

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

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

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

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE SCORE* = 85.8

The higher the score, the more efficient the home.

HORTON HOMES, , , FL,

1.	New construction or existing	New		12.	Cooling systems	
2.	Single family or multi-family	Single family			a. Central Unit	Cap: 36.0 kBtu/hr
3.	Number of units, if multi-family	1				SEER: 11.00
4.	Number of Bedrooms	3			b. N/A	
5.	Is this a worst case?	Yes				
6.	Conditioned floor area (ft²)	1760 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=0.5)	38.0 ft²		a. Electric Heat Pump	Cap: 34.0 kBtu/hr
	b. SHGC:					HSPF: 7.80
	(or Clear or Tint DEFAULT)	7b. (Clear)	83.0 ft²		b. N/A	
8.	Floor types					
	a. Raised Wood, Stem Wall	R=22.0, 1760.0ft²			c. N/A	
	b. N/A					
	c. N/A			14.	Hot water systems	
9.	Wall types				a. Electric Resistance	Cap: 50.0 gallons
	a. Frame, Wood, Exterior	R=15.0, 1175.0 ft²				EF: 0.90
	b. N/A				b. N/A	
	c. N/A					
	d. N/A				c. Conservation credits	
	e. N/A				(HR-Heat recovery, Solar	
10.	Ceiling types				DHP-Dedicated heat pump)	
	a. Under Attic	R=30.0, 1796.0 ft²		15.	HVAC credits	
	b. N/A				(CF-Ceiling fan, CV-Cross ventilation,	
	c. N/A				HF-Whole house fan,	
11.	Ducts				PT-Programmable Thermostat,	
	a. Sup: Unc. Ret: Con. AH(Sealed):Interior	Sup. R=6.0, 185.0 ft			MZ-C-Multizone cooling,	
	b. N/A				MZ-H-Multizone heating)	

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

Builder Signature: _____ Date: _____

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

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

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

Summary Energy Code Results

Residential Whole Building Performance Method A

HORTON HOMES

, FL

Project Title:
1447-4819 F

Class 3 Rating
Registration No. 0
Climate: Central

10/4/2005

Building Loads			
Base		As-Built	
Summer:	**33489 points**	Summer:	**38044 points**
Winter:	**4692 points**	Winter:	**4167 points**
Hot Water:	**6790 points**	Hot Water:	**6790 points**
Total:	**44971 points**	Total:	**49000 points**

Energy Use			
Base		As-Built	
Cooling:	**14286 points**	Cooling:	**12512 points**
Heating:	**2944 points**	Heating:	**1974 points**
Hot Water:	**7380 points**	Hot Water:	**7544 points**
Total:	**24610 points**	Total:	**22030 points**

PASS
e-Ratio: 0.90


ZONE A
LONA
29
28
30
10
90
BROWN
31
32
ZONE X
ROAD
BIRLEY
6
ZONE A
5
252
4
FLORIDA
ZONE A
7
8
9
ZONE A
TROY RD.

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

P.O. Box 1625 • Lake City, FL 32056 Tel. (386) 755-3633 • Fax (386) 752-5456
4784 Rosselle Street • Jacksonville, FL 32254 Tel. (904) 381-8901 • Fax (904) 381-8902
2230 Greensboro Highway • Quincy, FL 32351 Tel. (850) 442-3495 • Fax (850) 442-4008

October 9, 2006

Eugene Royals
550 SW Gabriel Place
Lake City, Florida 32024

Reference: Royals Residence
Gabriel Place
Lake City, Florida
Cal-Tech Project No. 06-578

Dear Mr. Royals,

Cal-Tech Testing, Inc. has completed the subsurface investigation and engineering evaluation for the proposed residence at the above referenced location. Our work was performed in conjunction with and authorized by you.

Introduction

We understand you will assemble a single-story, modular residential structure with a plan area of approximately 1,000 square feet. Support for the structure is to be provided by conventional, shallow spread footings, with low concrete block walls above. We understand that the design bearing pressure for the foundations is 2,000 pounds per square foot (psf). Detailed foundation loads have not been provided; however, we assume wall loads will not exceed 2.0 kips per foot.

The purposes of our investigation were to evaluate the existing subgrade soils for an allowable bearing pressure of 2,000 psf and to present recommendations for foundation design and construction.

Site Investigation

The subsurface conditions were investigated by performing two (2) Standard Penetration Test borings advanced to a depth of 10 feet. The borings were performed at the approximate locations indicated on the attached Report of Soil Borings, and were located in the field from corner stakes placed by you.

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

Both soil borings initially encountered a one foot thick layer of silty fine sands with trace amounts of organics. This was underlain by very loose to loose fine sands to four feet, then loose to dense clayey to very clayey fine sands to the termination depth of 10 feet.

Ground water was not encountered at the maximum boring depth of 10 feet.

For a more detailed description of the subsurface conditions encountered, please refer to the attached Report of Soil Borings. Note that the transition between soil layers may be gradual and not abrupt as indicated by the logs; therefore, the thickness of soil layers should be considered approximate.

Discussion and Recommendations

The site soils appear to be very loose to loose to a depth of about 4 feet and then loose to dense below. Based upon these findings, moderate site improvement should be performed; however, it is our opinion the site soils are suitable to provide support for the structure using conventional, shallow spread footings. We concur that the foundations may be sized using a maximum soil bearing pressure of 2,000 psf; however, we recommend foundations have minimum widths of 18 and 24 inches for strip and isolated footings, respectively, even though the allowable soil bearing pressure may not be developed. The bottoms of foundations should be embedded a minimum of 18 inches below the lowest adjacent grade (finished surface grade, for example).

Due to the generally very loose to loose condition of the immediate bearing soils, we believe it would be beneficial to proof-roll and then proof-compact the bearing soils throughout the building area. These 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 below the foundation bearing level. Compaction of the bearing soils will reduce settling of the foundations and thereby reduce the likelihood of distress in the structure.

Our evaluation is based upon subsurface conditions encountered at this site 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 further assistance.

Respectfully submitted,
Cal-Tech Testing, Inc.

Linda Creamer
President / CEO

Robert W. Clark, P.E. 10/11/06
Geotechnical Engineer
Registered Florida No. 52210

HWC

ENGINEERING • INSPECTIONS
CERTIFICATIONS • TESTING

July 19, 2005

Horton Homes, Inc.
Post Office Drawer 4410
101 Industrial Boulevard
Eatonton, GA 31024

RE: Manufacturer: Horton Homes, Inc.
S/N, Size & Occupancy: MOD-32x68 3+2 (BOSS) FLA; Residential
HWC Plan #: 1447-4819F

To Whom It May Concern:

This is to certify that the plans for the referenced manufactured building have been reviewed and approved as being in compliance with the 2004 Florida Codes and Standards, subject to the following limitations:

1. Approval covers factory-built structure only.
2. Items installed at the site are subject to review, approval, and inspection by the local authority having jurisdiction.
3. The Chapter 633 Plan Review and Inspection shall be conducted by the local fire safety inspector.
4. Complies with Rule 9B-72 (Product Approval) as noted on plans.
5. Signed and sealed plans shall be on file with HWC Engineering.
6. NOT approved for High Velocity Hurricane Zone (i.e., Broward and Dade Counties).

Sincerely,

HILBORN, WERNER, CARTER & ASSOCIATES, INC.

Plan Reviewer

HILBORN, WERNER, CARTER AND ASSOCIATES, INC.
1627 SOUTH MYRTLE AVENUE CLEARWATER, FLORIDA 33756
(727) 584-8151
FAX: (727) 586-3343 / (727) 585-2392 / (727) 587-0447

The Florida Department of Community Affairs
Building Code Information System

MANUFACTURED BLDGS

Plan's Detail

SITE NAVIGATION
Home
Course Accreditation
Florida Building Code
Manufact. Buildings
Prototype Building
Surcharges
Training
Product Approval
License Search
Mailing List
Florida Building Commission

SUPPORT
Log Out
Registration
Contact Us
About

Overview | Plans | Insignias | Organization Search

Plan Tracking #:	17412
Agency Plan #:	1447-4819F
Status:	Submitted
Manufacturer:	Horton Homes, Inc.
Building Type:	Manufactured Buildings
Construction Type:	VI
Occupancy:	Residential
Allowable # of Floors:	1
Wind Velocity:	130 mph
Fire Rating of Exterior Walls:	0 hrs
Maximum Floor Load:	Live: 40 psf Dead: 10 psf
Roof Load:	Live: 20 psf Dead: 10 psf
"U" Rating of Floor, Wall, and Roof:	03,06,033
Modules per Building:	2
Square Footage:	2006
Approved for Hurricane Protection Usage:	○ Yes ◉ No
Designed for use as a Hurricane Public Shelter:	○ Yes ◉ No
Plan Comments:	R-3 Plans approved by HWC Engineering on 7-15-05.
Agency To Review:	Hilborn Werner Carter And Assoc., Inc.
Date Entered:	07/19/2005
Original Plan Tracking #:	0

Attached Files

Date	File
07/19/2005	plan_17412_1447-4819F.pdf

Review results

New | New Modification | Cancel | Clear | Attach File | Update

JULY, 14, 2005

Mr. Carl Brorup,
Mr. Jamey Williamson,
Mr. Jeff Sanders,
Horton Industries Inc.
101 Industrial Blvd.
P. O. Box 4311
Eatonton, GA 31024

Re: STRUCTURAL WIND LOAD RATING
FLORIDA PLAN 1447-4819F

Dear Sirs:

This letter is to certify that all drawings and calculations pertaining to Horton Homes Modular 32 x 68 3+2 (BOSS)(1447-4819F) meet all requirements for 140 MPH Exposure B.

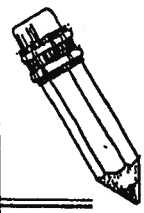
Additionally, 8" x 16" I –Beams are limited to an untraced height in the weak axis (8 " dim.) of 32" exclusive of wood plate.

If you need any further information please don't hesitate to contact me at your convenience.

Sincerely,

Robert E. Gregg, Architect

CC: Jeff Sanders
Sanders Housing
10300 Pensacola Blvd.
Pensacola, FL 32534



R.E. GREGG ARCHITECTURE

JUL 14 2005

APPROVED
JUL 15 2005
HWC
HILBORN, WERNER, CARTER & ASSOC.

630 Chestnut Street Clearwater, Florida 33756 727.796.8774 727.791.6942 fax

HORTON HOMES, INC
FLORIDA PRODUCT APPROVAL

PRODUCT TYPE	PRODUCT NAME	FLA PRODUCT #
DOORS	ELIXIR	FL1722
	CECO	FL2178
	DUNBARTON	FL1766
		FL1767
		FL1768
		FL1769
		FL2987
	PHILLIPS	FL1967
		FL1969
		FL2314
		FL2755
WINDOWS	KINRO	FL996
	HI-LITE PRODUCTS	FL2025
	PHILIPS	FL1671
		FL1934
		FL1935
		FL1933
ROOFING SHINGLES	CERTAIN TEED	FL250
	ATLAS	FL1996
	GAF	FL183
	OWENS CORNING	FL85
TRUSS PLATES	MITEK	FL2197
	ALPINE	FL1999
ENGINEERED BEAMS	PSL,LVL,&LSL GEORGIA PACIFIC	FL2023
	TRUST JOIST PSL,LVL,&LSL	FL1630
SKYLIGHT	SUN-TEK	FL2442
SIDING	HARDIE	FL889

FORM 600A-2004 EnergyGauge® 4.0

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs

Residential Whole Building Performance Method A

Project Name:	**1447-4819 F**	Builder:	**HORTON**
Address:		Permitting Office:	
City, State:	**, FL**	Permit Number:	
Owner:	**HORTON HOMES**	Jurisdiction Number:	
Climate Zone:	**North**		

1. New construction or existing	New	12. Cooling systems	
2. Single family or multi-family	Single family	a. Central Unit	Cap: 36.0 kBtu/hr
3. Number of units, if multi-family	1		SEER: 11.00
4. Number of Bedrooms	3	b. N/A	
5. Is this a worst case?	Yes		
6. Conditioned floor area (ft²)	1760 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=0.5) 38.0 ft²	a. Electric Heat Pump	Cap: 34.0 kBtu/hr
b. SHGC:			HSPF: 7.80
(or Clear or Tint DEFAULT)	7b. (Clear) 83.0 ft²	b. N/A	
8. Floor types			
a. Raised Wood, Stem Wall	R=22.0, 1760.0ft²	c. N/A	
b. N/A			
c. N/A		14. Hot water systems	
9. Wall types		a. Electric Resistance	Cap: 50.0 gallons
a. Frame, Wood, Exterior	R=15.0, 1175.0 ft²		EF: 0.90
b. N/A		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	
a. Under Attic	R=30.0, 1796.0 ft²	(CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)	
b. N/A			
c. N/A			
11. Ducts			
a. Sup: Unc. Ret: Con. AH(Sealed):Interior	Sup. R=6.0, 185.0 ft		
b. N/A			

Glass/Floor Area: 0.11	Total as-built points: 22102 Total base points: 25779	PASS

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

PREPARED BY: _____

DATE: APPROVED JUL 14 2005

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

OWNER/AGENT: _____

DATE: _____

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

Date JUL 19 2005 **Plan No.** _____

Approved By JAMES A. LYONS

BUILDING OFFICIAL: _____

DATE: _____

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

EnergyGauge® (Version: FLRCSB v4.0)

M... Building Plans Exami...

L... ...nse No. SMP-1...

SEE MANUFACTURER'S CONTRACT WITH FLORIDA DOA

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , **FL,** 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	1760.0	20.04	6348.7	Double,U=0.51,Clear	W	1.3	5.7	60.0	40.25	0.92	2231.0	
				Double,U=0.51,Clear	W	1.3	4.0	3.8	40.25	0.85	129.9	
				Double,U=0.51,Clear	E	1.3	5.7	45.0	43.74	0.92	1817.3	
				Double,U=0.51,Clear	W	1.3	3.0	11.2	40.25	0.77	345.7	
				Double,U=0.51,Clear	E	1.3	7.5	76.0	43.74	0.96	3204.8	
				Double,U=0.51,Clear	S	1.0	4.0	5.6	37.56	0.86	180.1	
				As-Built Total:				**201.6**			**7908.8**	
WALL TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM =		Points	
Adjacent	0.0	0.00	0.0	Frame, Wood, Exterior			15.0	1175.0	1.30		1527.5	
Exterior	1175.0	1.70	1997.5									
Base Total:	**1175.0**		**1997.5**	**As-Built Total:**				**1175.0**			**1527.5**	
DOOR TYPES	Area X	BSPM =	Points	Type				Area X	SPM =		Points	
Adjacent	0.0	0.00	0.0	Exterior Insulated				40.0	4.10		164.0	
Exterior	40.0	6.10	244.0									
Base Total:	**40.0**		**244.0**	**As-Built Total:**				**40.0**			**164.0**	
CEILING TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM X SCM =		Points	
Under Attic	1760.0	1.73	3044.8	Under Attic			30.0	1796.0	1.73 X 1.00		3107.1	
Base Total:	**1760.0**		**3044.8**	**As-Built Total:**				**1796.0**			**3107.1**	
FLOOR TYPES	Area X	BSPM =	Points	Type			R-Value	Area X	SPM =		Points	
Slab	0.0(p)	0.0	0.0	Raised Wood, Stem Wall			22.0	1760.0	-1.50		-2640.0	
Raised	1760.0	-3.99	-7022.4									
Base Total:			**-7022.4**	**As-Built Total:**				**1760.0**			**-2640.0**	
INFILTRATION	Area X	BSPM =	Points					Area X	SPM =		Points	
	1760.0	10.21	17969.6					1760.0	10.21		17969.6	

SUMMER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL,	PERMIT #:

BASE			AS-BUILT					
Summer Base Points: 22582.2			**Summer As-Built Points:**					**28036.9**
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 36000 btuh ,SEER/EFF(11.0) Ducts:Unc(S),Con(R),Int(AH),R6.0(INS)					
			28037	1.00	(1.08 x 1.147 x 0.86)	0.310	1.000	9324.6
22582.2	**0.4266**	**9633.6**	**28036.9**	**1.00**	**1.072**	**0.310**	**1.000**	**9324.6**

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL, 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	1760.0	12.74	4036.0	Double,U=0.51,Clear	W	1.3	5.7	60.0	10.47	1.02	641.1	
				Double,U=0.51,Clear	W	1.3	4.0	3.8	10.47	1.04	41.5	
				Double,U=0.51,Clear	E	1.3	5.7	45.0	8.67	1.03	402.4	
				Double,U=0.51,Clear	W	1.3	3.0	11.2	10.47	1.07	125.5	
				Double,U=0.51,Clear	E	1.3	7.5	76.0	8.67	1.02	670.3	
				Double,U=0.51,Clear	S	1.0	4.0	5.6	3.23	1.12	20.2	
				As-Built Total:				**201.6**			**1901.0**	
WALL TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM =		Points	
Adjacent	0.0	0.00	0.0	Frame, Wood, Exterior			15.0	1175.0	3.00		3525.0	
Exterior	1175.0	3.70	4347.5									
Base Total:	**1175.0**		**4347.5**	**As-Built Total:**				**1175.0**			**3525.0**	
DOOR TYPES	Area X	BWPM =	Points	Type				Area X	WPM =		Points	
Adjacent	0.0	0.00	0.0	Exterior Insulated				40.0	8.40		336.0	
Exterior	40.0	12.30	492.0									
Base Total:	**40.0**		**492.0**	**As-Built Total:**				**40.0**			**336.0**	
CEILING TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM X	WCM =	Points	
Under Attic	1760.0	2.05	3608.0	Under Attic			30.0	1796.0	2.05 X	1.00	3681.8	
Base Total:	**1760.0**		**3608.0**	**As-Built Total:**				**1796.0**			**3681.8**	
FLOOR TYPES	Area X	BWPM =	Points	Type			R-Value	Area X	WPM =		Points	
Slab	0.0(p)	0.0	0.0	Raised Wood, Stem Wall			22.0	1760.0	0.80		1408.0	
Raised	1760.0	0.96	1689.6									
Base Total:			**1689.6**	**As-Built Total:**				**1760.0**			**1408.0**	
INFILTRATION	Area X	BWPM =	Points					Area X	WPM =		Points	
	1760.0	-0.59	-1038.4					1760.0	-0.59		-1038.4	

WINTER CALCULATIONS

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL,	PERMIT #:

BASE			AS-BUILT					
Winter Base Points:		**13134.7**	**Winter As-Built Points:**					**9813.4**
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 34000 btuh ,EFF(7.8) Ducts:Unc(S),Con(R),Int(AH),R6.0					
			9813.4	1.000	(1.060 x 1.169 x 0.88)	0.437	1.000	4696.8
13134.7	**0.6274**	**8240.7**	**9813.4**	**1.00**	**1.095**	**0.437**	**1.000**	**4696.8**

WATER HEATING & CODE COMPLIANCE STATUS

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL,	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	0.90	3	1.00	2693.56	1.00	8080.7	
				As-Built Total:						**8080.7**	

CODE COMPLIANCE STATUS

BASE				AS-BUILT			
Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points	Cooling Points	+ Heating Points	+ Hot Water Points	= Total Points
9634	**8241**	**7905**	**25779**	**9325**	**4697**	**8081**	**22102**

PASS

Code Compliance Checklist

Residential Whole Building Performance Method A - Details

ADDRESS: , , FL,	PERMIT #:

6A-21 INFILTRATION REDUCTION COMPLIANCE CHECKLIST

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

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

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

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE SCORE* = 86.0

The higher the score, the more efficient the home.

HORTON HOMES, , , FL,

1.	New construction or existing		New			
2.	Single family or multi-family		Single family			
3.	Number of units, if multi-family		1			
4.	Number of Bedrooms		3			
5.	Is this a worst case?		Yes			
6.	Conditioned floor area (ft²)		1760 ft²			
7.	Glass type[1] and area: (Label reqd. by 13-104.4.5 if not default)					
	a. U-factor:	Description	Area			
	(or Single or Double DEFAULT)	7a.	(Dble, U=0.5)	38.0 ft²		
	b. SHGC:					
	(or Clear or Tint DEFAULT)	7b.	(Clear)	83.0 ft²		
8.	Floor types					
	a. Raised Wood, Stem Wall		R=22.0, 1760.0ft²			
	b. N/A					
	c. N/A					
9.	Wall types					
	a. Frame, Wood, Exterior		R=15.0, 1175.0 ft²			
	b. N/A					
	c. N/A					
	d. N/A					
	e. N/A					
10.	Ceiling types					
	a. Under Attic		R=30.0, 1796.0 ft²			
	b. N/A					
	c. N/A					
11.	Ducts					
	a. Sup: Unc. Ret: Con. AH(Sealed):Interior		Sup. R=6.0, 185.0 ft			
	b. N/A					
12.	Cooling systems					
	a. Central Unit				Cap: 36.0 kBtu/hr	
					SEER: 11.00	
	b. N/A					
	c. N/A					
13.	Heating systems					
	a. Electric Heat Pump				Cap: 34.0 kBtu/hr	
					HSPF: 7.80	
	b. N/A					
	c. N/A					
14.	Hot water systems					
	a. Electric Resistance				Cap: 50.0 gallons	
					EF: 0.90	
	b. N/A					
	c. Conservation credits (HR-Heat recovery, Solar DHP-Dedicated heat pump)					
15.	HVAC credits (CF-Ceiling fan, CV-Cross ventilation, HF-Whole house fan, PT-Programmable Thermostat, MZ-C-Multizone cooling, MZ-H-Multizone heating)					

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

Builder Signature: _____ Date: _____

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

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

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

Summary Energy Code Results

Residential Whole Building Performance Method A

HORTON HOMES
, FL

Project Title:
1447-4819 F

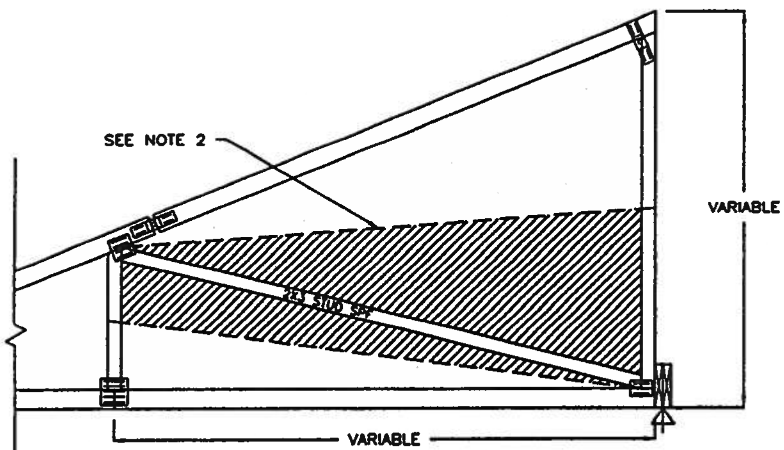
Class 3 Rating
Registration No. 0
Climate: North

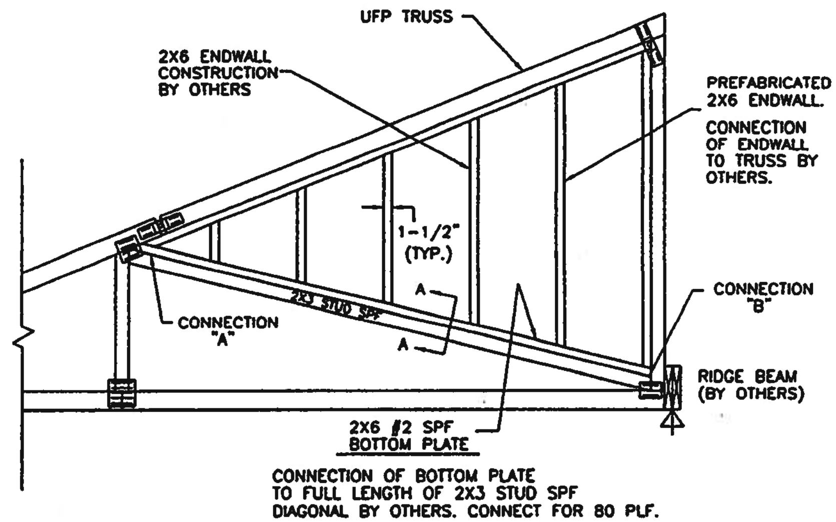
10/4/2005

Building Loads			
Base		As-Built	
Summer:	**22582 points**	Summer:	**28037 points**
Winter:	**13135 points**	Winter:	**9813 points**
Hot Water:	**7273 points**	Hot Water:	**7273 points**
Total:	**42990 points**	Total:	**45123 points**

Energy Use			
Base		As-Built	
Cooling:	**9634 points**	Cooling:	**9325 points**
Heating:	**8241 points**	Heating:	**4697 points**
Hot Water:	**7905 points**	Hot Water:	**8081 points**
Total:	**25779 points**	Total:	**22102 points**

PASS
e-Ratio: 0.86



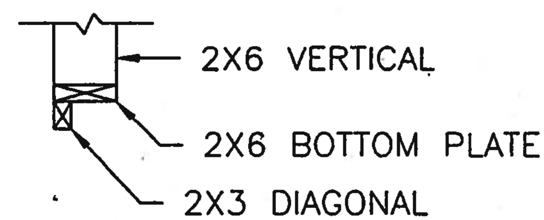


DESIGN PARAMETERS:
1) THE END TRUSS IS FULLY SUPPORTED ALONG THE LENGTH OF THE BOTTOM CHORD.
2) THE HATCHED REGION DENOTES THE AREA WHERE WIND PRESSURES ACT PERPENDICULAR TO THE FACE OF THE 2X3 STUD SPF DIAGONAL AND THE EDGE OF THE BOTTOM PLATE.
3) POSITIVE AND NEGATIVE WIND PRESSURES MAY BE APPLIED TO THE END TRUSS LOCATED AT THE END WALL OF A HOME.
4) DESIGN PRESSURES WERE TAKEN FROM THE WIND LOAD CHARTS LOCATED IN IBC 2000.
5) 130 MPH WIND, EXPOSURE C, ZONE 4, 30 FT. MEAN ROOF HEIGHT.

THE 2X6 #2 SPF BOTTOM PLATE NEEDS TO TRANSFER A POINT LOAD (PERPENDICULAR TO PLANE OF TRUSS) AT CONNECTIONS "A" AND "B" BY OTHERS. SEE CHART FOR SPECIFIC LOADS APPLIED TO NOTED TRUSSES AT RIGHT.

354 LBS AT CONNECTIONS "A" AND "B"	282 LBS AT CONNECTIONS "A" AND "B"
HM230902	HM228602
HC182002	HC1910R01

SECTION A-A



APPROVED NOV 14 2003 HWC HILBORN, WERNER, CARTER & ASSOC.

SEP 30 2003

9/30/03

9-30-03

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 20854 KEVIN W. FREEMAN

GEORGIA REGISTERED No. 26639 PROFESSIONAL ENGINEER KEVIN W. FREEMAN

ALABAMA LICENSED No. 23922 PROFESSIONAL ENGINEER KEVIN W. FREEMAN

KEVIN WESLEY FREEMAN REGISTERED ENGINEER XVI AGRICULTURE COMMERCE STATE OF TENNESSEE

NORTH CAROLINA PROFESSIONAL SEAL 028074 ENGINEER KEVIN W. FREEMAN

UNIVERSAL FOREST PRODUCTS, INC.		
SCALE:	APPROVED BY:	DRAWN BY: JPK
DATE: 10/21/02		REVISED:
MODULAR 2X6 ENDWALL DETAIL		
HORTON HOMES	GA 209	DRAWING NO. G001801

Georgia-Pacific

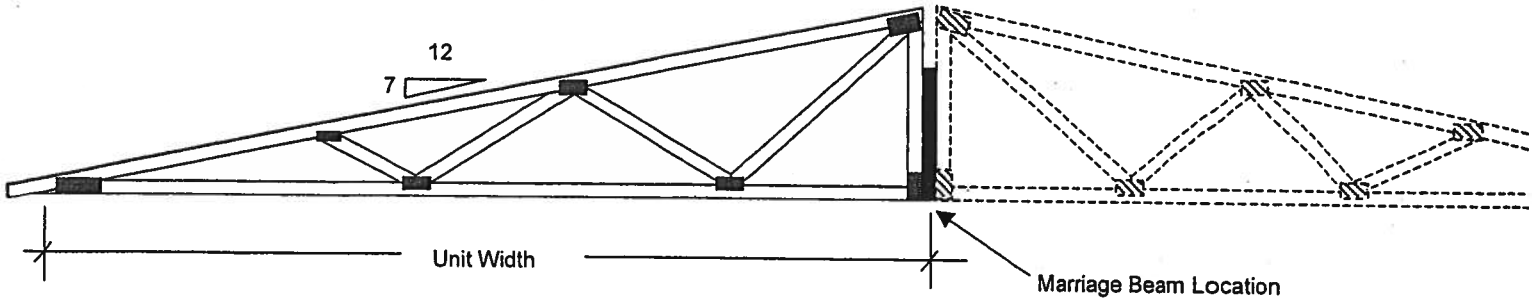
1 3/8" 1.8E G-P Lam® LVL Marriage/Ridge Beam Chart I

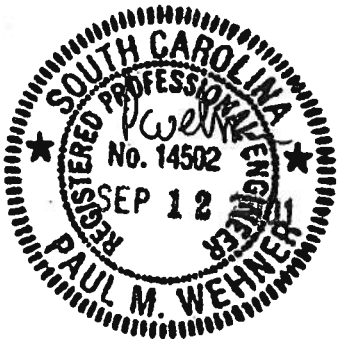
ALLOWABLE CLEAR SPANS (feet-inches) L/240 Live L/180 Total ASCE

Roof Load (psf)		Beam Depth	Wind Zone	Unit Width					
				Simple Span Only			Multiple Spans Only		
				13'- 4"	14'- 0"	14'- 9"	13'- 4"	14'- 0"	14'- 9"
				160"	168"	177"	160"	168"	177"
Non-Snow Area (125%)	20 LL + 10 DL	9 1/4"	130 mph	13'- 1"	12'- 11"	12'- 8"	15'- 2"	14'- 10"	14'- 5"
			Bearing	2.4 in.	2.4 in.	2.5 in.	6.8 in.	7 in.	7.2 in.
		11 7/8"	130 mph	16'- 10"	16'- 7"	16'- 3"	19'- 2"	18'- 9"	18'- 3"
			Bearing	3 in.	3.1 in.	3.2 in.	8.7 in.	8.9 in.	9.1 in.
		14"	130 mph	19'- 10"	19'- 6"	19'- 2"	22'- 5"	21'- 10"	21'- 3"
			Bearing	3.6 in.	3.7 in.	3.8 in.	10.1 in.	10.4 in.	10.7 in.
		16"	130 mph	22'- 7"	22'- 3"	21'- 10"	25'- 4"	24'- 9"	24'- 1"
			Bearing	4.1 in.	4.2 in.	4.4 in.	11.5 in.	11.8 in.	12.1 in.
		18"	130 mph	25'- 5"	25'- 0"	24'- 7"	28'- 3"	27'- 7"	26'- 10"
			Bearing	4.6 in.	4.8 in.	4.9 in.	12.9 in.	13.2 in.	13.5 in.
		23.88"	130 mph	33'- 7"	33'- 1"	32'- 6"	36'- 9"	35'- 10"	34'- 11"
			Bearing	6.1 in.	6.3 in.	6.6 in.	16.9 in.	17.3 in.	17.7 in.

Notes:

1 Beam spans shown are clear distances, measured from the inside of supports.
2 Adjacent span(s) cannot be less than 1/3 the maximum span or greater than the maximum span.
3 Beam self-weight has been included in gravity loads, but not used for wind uplift.
4 This chart presumes that trusses spaced @ 24" o/c maximum, framing full-depth into the side of this beam, is sufficient support to prevent lateral displacement, and the ends at points of bearing to prevent rotation.
5 Deflection criteria used: L/240 live load and L/180 total load.
6 ASCE 7-98 Wind Load based on: Exp C, V=130 mph, Hurricane, Enclosed bldg., mean roof ht. = 19 ft. max, MWFRS, roof zone 3.
7 Bearing lengths based on SPF plate material (425 psi), for vertical stud material (725 psi), multiply bearing lengths by 0.60.
8 Select appropriate strap per uplift chart.
9 Use field connection by manufactured housing customer to assemble units together.





Georgia-Pacific

G-P Lam® LVL Marriage/Ridge Beam DESIGN PROPERTIES

1.8E 1 1/2" G-P Lam® LVL Allowable Design Properties

DEPTH (IN.)	MAXIMUM VERTICAL SHEAR (LBS.)				MAXIMUM RESISTIVE MOMENT [1] (FT.-LBS.)				EI (10^6IN.^{2}LBS)	WEIGHT [2] (PLF)
	100%	115%	125%	160%	100%	115%	125%	160%		
9.25	2,636	3,032	3,295	4,218	5,413	6,225	6,766	8,661	178	3.6
11.875	3,384	3,892	4,230	5,415	8,677	9,978	10,846	13,883	377	4.6
14.00	3,990	4,589	4,988	6,384	11,841	13,617	14,802	18,946	617	5.5
16.00	4,560	5,244	5,700	7,296	15,238	17,524	19,048	24,381	922	6.3
18.00	5,130	5,900	6,413	8,208	19,035	21,891	23,794	30,457	1,312	7.0
23.875	6,804	7,825	8,505	10,887	32,454	37,322	40,568	51,927	3,062	9.3

1. Table assumes beam has compression edge being supported throughout its length to prevent lateral displacement, and the ends at points of bearing have lateral support to prevent rotation.
2. Properties apply to 1.8E Eastern Species G-P Lam® LVL.

1.8E G-P Lam® LVL Allowable Design Stresses

Modulus of Elasticity $E = 1.8 \times 10^6$ psi[(1)]

Shear Modulus $G = 115{,}875$ psi[(1)]

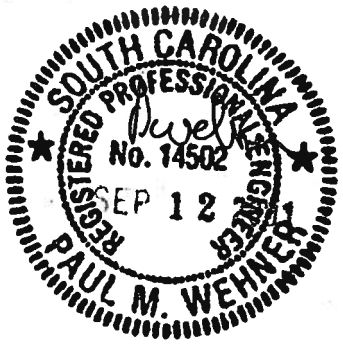
Flexural Stress $F_b = 2950$ psi[(2)]

Horizontal Shear (joist) $F_v = 285$ psi

Compression Perpendicular to Grain (joist) $F_{c\perp} = 750$ psi[(1)]

1. No increase is allowed to E, G or $F_{c\perp}$ for duration of load.
2. For depths (d) other than 12", multiply F_b by $(12/d)^{1/9}$

GP06-20-01PS



Georgia-Pacific

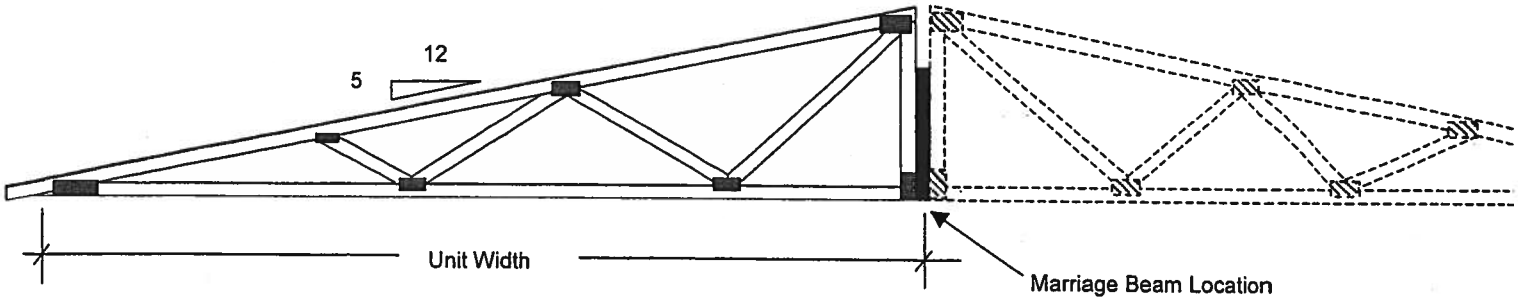
1 3/8" 1.8E G-P Lam® LVL Marriage/Ridge Beam Chart I

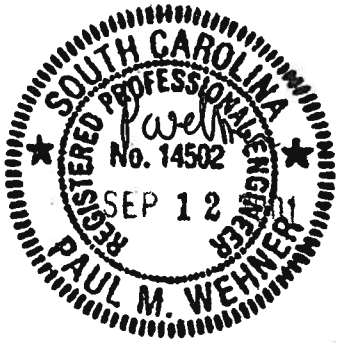
ALLOWABLE CLEAR SPANS (feet-inches) L/240 Live L/180 Total ASCE

Roof Load (psf)		Beam Depth	Wind Zone	Unit Width					
				Simple Span Only			Multiple Spans Only		
				13'- 4"	14'- 0"	14'- 9"	13'- 4"	14'- 0"	14'- 9"
				160"	168"	177"	160"	168"	177"
Non-Snow Area (125%)	20 LL + 10 DL	9 1/4"	130 mph	12'- 10"	12'- 8"	12'- 5"	15'- 2"	14'- 10"	14'- 5"
			Bearing	2.4 in.	2.4 in.	2.5 in.	6.8 in.	7 in.	7.2 in.
		11 7/8"	130 mph	16'- 6"	16'- 3"	15'- 11"	19'- 2"	18'- 9"	18'- 3"
			Bearing	3 in.	3.1 in.	3.2 in.	8.7 in.	8.9 in.	9.1 in.
		14"	130 mph	19'- 6"	19'- 2"	18'- 10"	22'- 5"	21'- 10"	21'- 3"
			Bearing	3.6 in.	3.7 in.	3.8 in.	10.1 in.	10.4 in.	10.7 in.
		16"	130 mph	22'- 3"	21'- 11"	21'- 6"	25'- 4"	24'- 9"	24'- 1"
			Bearing	4.1 in.	4.2 in.	4.4 in.	11.5 in.	11.8 in.	12.1 in.
		18"	130 mph	25'- 1"	24'- 7"	24'- 2"	28'- 3"	27'- 7"	26'- 10"
			Bearing	4.6 in.	4.8 in.	4.9 in.	12.9 in.	13.2 in.	13.5 in.
		23.88"	130 mph	33'- 3"	32'- 8"	32'- 1"	36'- 9"	35'- 10"	34'- 11"
			Bearing	6.1 in.	6.3 in.	6.6 in.	16.9 in.	17.3 in.	17.7 in.

Notes:

1 Beam spans shown are clear distances, measured from the inside of supports.
2 Adjacent span(s) cannot be less than 1/3 the maximum span or greater than the maximum span.
3 Beam self-weight has been included in gravity loads, but not used for wind uplift.
4 This chart presumes that trusses spaced @ 24" o/c maximum, framing full-depth into the side of this beam, is sufficient support to prevent lateral displacement, and the ends at points of bearing to prevent rotation.
5 Deflection criteria used: L/240 live load and L/180 total load.
6 ASCE 7-98 Wind Load based on: Exp C, V=130 mph, Hurricane, Enclosed bldg., mean roof ht. = 17 ft. max, MWFRS, roof zone 2.
7 Bearing lengths based on SPF plate material (425 psi), for vertical stud material (725 psi), multiply bearing lengths by 0.60.
8 Select appropriate strap per uplift chart.
9 Use field connection by manufactured housing customer to assemble units together.





Georgia-Pacific

G-P Lam® LVL Marriage/Ridge Beam DESIGN PROPERTIES

1.8E 1 3/8" G-P Lam® LVL Allowable Design Properties

DEPTH (IN.)	MAXIMUM VERTICAL SHEAR (LBS.)				MAXIMUM RESISTIVE MOMENT [1] (FT.-LBS.)				EI (10^6IN.^{2}LBS)	WEIGHT (PLF)
	100%	115%	125%	160%	100%	115%	125%	160%		
9.25	2,417	2,779	3,021	3,867	4,962	5,706	6,202	7,939	163	3.3
11.875	3,102	3,568	3,878	4,964	7,954	9,147	9,942	12,726	345	4.3
14.00	3,658	4,206	4,572	5,852	10,854	12,483	13,568	17,367	566	5.0
16.00	4,180	4,807	5,225	6,688	13,969	16,064	17,461	22,350	845	5.7
18.00	4,703	5,408	5,878	7,524	17,449	20,066	21,811	27,918	1,203	6.4
23.875	6,237	7,173	7,797	9,980	29,750	34,212	37,187	47,600	2,807	8.5

1. Table assumes beam has compression edge being supported throughout its length to prevent lateral displacement, and the ends at points of bearing have lateral support to prevent rotation.
2. Properties apply to 1.8E Eastern Species G-P Lam® LVL.

1.8E G-P Lam® LVL Allowable Design Stresses

Modulus of Elasticity E = 1.8×10^6 psi[(1)]
Shear Modulus G = 115,875 psi[(1)]
Flexural Stress F_b = 2950 psi[(2)]
Horizontal Shear (joist) F_v = 285 psi
Compression Perpendicular to Grain (joist) $F_{c\perp}$ = 750 psi[(1)]

1. No increase is allowed to E, G or $F_{c\perp}$ for duration of load.
2. For depths (d) other than 12", multiply F_b by $(12/d)^{1/9}$

GP06-20-01PS

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 14502 SEP 12 2001 PAUL M. WEHNER

Georgia-Pacific

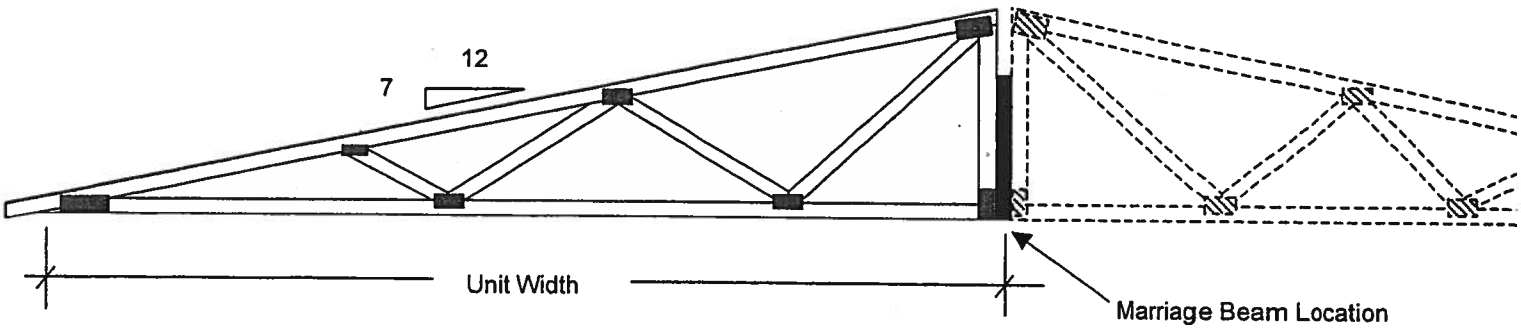
1 1/2" 1.8E G-P Lam® LVL Marriage/Ridge Beam Chart

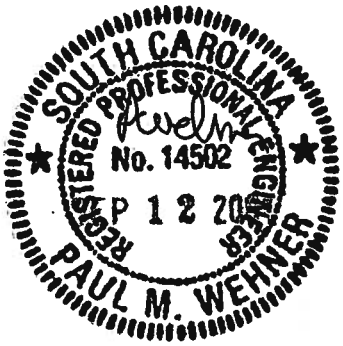
ALLOWABLE CLEAR SPANS (feet-inches) L/240 Live L/180 Total ASCE

Roof Load (psf)		Beam Depth	Wind Zone	Unit Width					
				Simple Span Only			Multiple Spans Only		
				13'- 4"	14'- 0"	14'- 9"	13'- 4"	14'- 0"	14'- 9"
				160"	168"	177"	160"	168"	177"
Non-Snow Area (125%)	20 LL + 10 DL	9 1/4"	130 mph	13'- 6"	13'- 3"	13'- 1"	15'- 9"	15'- 6"	15'- 1"
			Bearing	2.2 in.	2.3 in.	2.4 in.	6.5 in.	6.7 in.	6.9 in.
		11 7/8"	130 mph	17'- 4"	17'- 0"	16'- 9"	20'- 1"	19'- 7"	19'- 1"
			Bearing	2.9 in.	3 in.	3.1 in.	8.3 in.	8.5 in.	8.7 in.
		14"	130 mph	20'- 5"	20'- 1"	19'- 9"	23'- 5"	22'- 10"	22'- 3"
			Bearing	3.4 in.	3.5 in.	3.6 in.	9.7 in.	10 in.	10.2 in.
		16"	130 mph	23'- 4"	22'- 11"	22'- 6"	26'- 6"	25'- 10"	25'- 2"
			Bearing	3.9 in.	4 in.	4.1 in.	11 in.	11.3 in.	11.6 in.
		18"	130 mph	26'- 2"	25'- 9"	25'- 4"	29'- 7"	28'- 10"	28'- 1"
			Bearing	4.4 in.	4.5 in.	4.7 in.	12.4 in.	12.7 in.	13 in.
		23.88"	130 mph	34'- 7"	34'- 1"	33'- 6"	38'- 5"	37'- 6"	36'- 6"
			Bearing	5.8 in.	6 in.	6.2 in.	16.2 in.	16.6 in.	17 in.

Notes:

1 Beam spans shown are clear distances, measured from the inside of supports.
2 Adjacent span(s) cannot be less than 1/3 the maximum span or greater than the maximum span.
3 Beam self-weight has been included in gravity loads, but not used for wind uplift.
4 This chart presumes that trusses spaced @ 24" o/c maximum, framing full-depth into the side of this beam, is sufficient support to prevent lateral displacement, and the ends at points of bearing to prevent rotation.
5 Deflection criteria used: L/240 live load and L/180 total load.
6 ASCE 7-98 Wind Load based on: Exp C, V=130 mph, Hurricane, Enclosed bldg., mean roof ht. = 19 ft. max, MWFRS, roof zone 3.
7 Bearing lengths based on SPF plate material (425 psi), for vertical stud material (725 psi), multiply bearing lengths by 0.60.
8 Select appropriate strap per uplift chart.
9 Use field connection by manufactured housing customer to assemble units together.





Georgia-Pacific

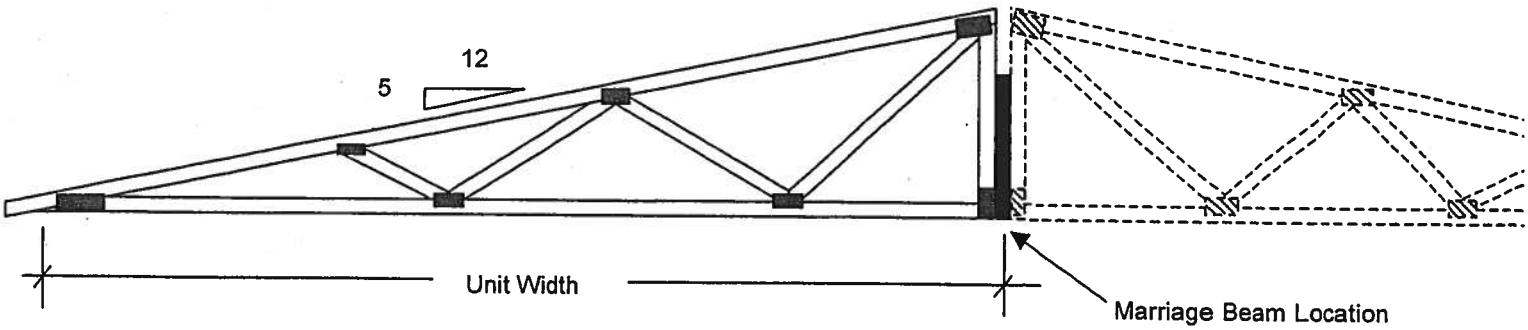
1 1/2" 1.8E G-P Lam® LVL Marriage/Ridge Beam Chart

ALLOWABLE CLEAR SPANS (feet-inches) L/240 Live L/180 Total ASCE

Roof Load (psf)		Beam Depth	Wind Zone	Unit Width					
				Simple Span Only			Multiple Spans Only		
				13'- 4"	14'- 0"	14'- 9"	13'- 4"	14'- 0"	14'- 9"
				160"	168"	177"	160"	168"	177"
Non-Snow Area (125%)	20 LL + 10 DL	9 1/4"	130 mph	13'- 3"	13'- 0"	12'- 10"	15'- 9"	15'- 6"	15'- 1"
			Bearing	2.2 in.	2.3 in.	2.4 in.	6.5 in.	6.7 in.	6.9 in.
		11 7/8"	130 mph	17'- 0"	16'- 9"	16'- 5"	20'- 1"	19'- 7"	19'- 1"
			Bearing	2.9 in.	3 in.	3.1 in.	8.3 in.	8.5 in.	8.7 in.
		14"	130 mph	20'- 1"	19'- 9"	19'- 5"	23'- 5"	22'- 10"	22'- 3"
			Bearing	3.4 in.	3.5 in.	3.6 in.	9.7 in.	10 in.	10.2 in.
		16"	130 mph	22'- 11"	22'- 7"	22'- 2"	26'- 6"	25'- 10"	25'- 2"
			Bearing	3.9 in.	4 in.	4.1 in.	11 in.	11.3 in.	11.6 in.
		18"	130 mph	25'- 10"	25'- 5"	24'- 11"	29'- 7"	28'- 10"	28'- 1"
			Bearing	4.4 in.	4.5 in.	4.7 in.	12.4 in.	12.7 in.	13 in.
		23.88"	130 mph	34'- 3"	33'- 8"	33'- 1"	38'- 5"	37'- 6"	36'- 6"
			Bearing	5.8 in.	6 in.	6.2 in.	16.2 in.	16.6 in.	17 in.

Notes:

1 Beam spans shown are clear distances, measured from the inside of supports.
2 Adjacent span(s) cannot be less than 1/3 the maximum span or greater than the maximum span.
3 Beam self-weight has been included in gravity loads, but not used for wind uplift.
4 This chart presumes that trusses spaced @ 24" o/c maximum, framing full-depth into the side of this beam, is sufficient support to prevent lateral displacement, and the ends at points of bearing to prevent rotation.
5 Deflection criteria used: L/240 live load and L/180 total load.
6 ASCE 7-98 Wind Load based on: Exp C, V=130 mph, Hurricane, Enclosed bldg., mean roof ht. = 17 ft. max, MWFRS, roof zone 2.
7 Bearing lengths based on SPF plate material (425 psi), for vertical stud material (725 psi), multiply bearing lengths by 0.60.
8 Select appropriate strap per uplift chart.
9 Use field connection by manufactured housing customer to assemble units together.



Georgia-Pacific

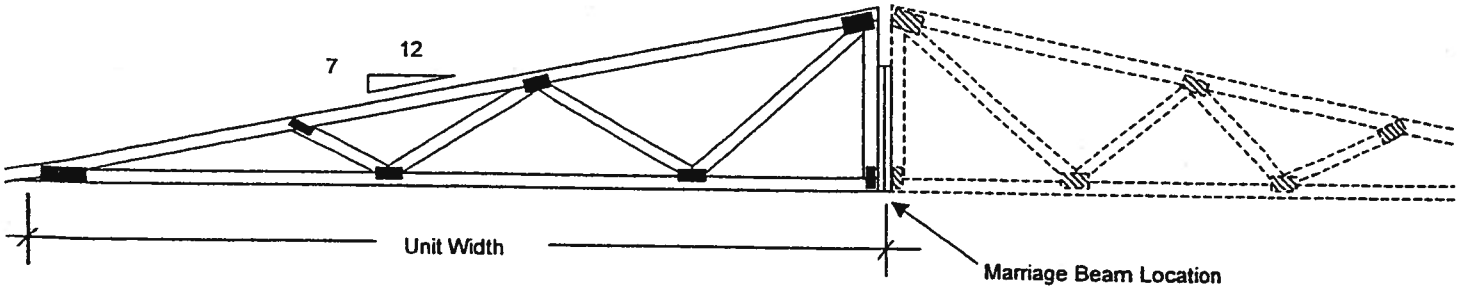
1-1/2" 1.8E G-P Lam® LVL Marriage/Ridge Beam Chart

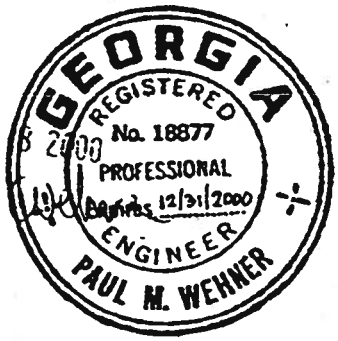
ALLOWABLE CLEAR SPANS (feet-inches) L/240 Live L/180 Total ASCE 7-88 wind

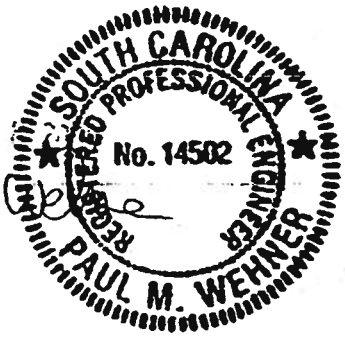
Roof Load (psf)		Beam Depth	Wind Zone	Unit Width					
				Simple Span Only			Multiple Spans Only		
				13'- 4"	14'- 0"	14'- 9"	13'- 4"	14'- 0"	14'- 9"
				160"	168"	177"	160"	168"	177"
Non - Snow Area (125%)	20LL + 10 DL	9 ¼"	90 mph	13'- 6"	13'- 3"	13'- 1"	15'- 4"	14'- 11"	14'- 7"
			100 mph	13'- 6"	13'- 3"	13'- 0"	15'- 4"	14'- 11"	14'- 7"
			110 mph	12'- 6"	12'- 3"	12'- 1"	15'- 4"	14'- 11"	14'- 7"
			Bearing	2.2 in.	2.3 in.	2.4 in.	6.3 in.	6.5 in.	6.7 in.
		11 7/8"	90 mph	17'- 4"	17'- 0"	16'- 9"	19'- 4"	18'- 11"	18'- 5"
			100 mph	17'- 4"	17'- 0"	16'- 8"	19'- 4"	18'- 11"	18'- 5"
			110 mph	16'- 0"	15'- 9"	15'- 6"	19'- 4"	18'- 11"	18'- 5"
			Bearing	2.9 in.	3 in.	3.1 in.	8 in.	8.2 in.	8.4 in.
		14"	90 mph	20'- 5"	20'- 1"	19'- 9"	22'- 7"	22'- 0"	21'- 5"
			100 mph	20'- 5"	20'- 1"	19'- 8"	22'- 7"	22'- 0"	21'- 5"
			110 mph	18'- 11"	18'- 7"	18'- 3"	22'- 7"	22'- 0"	21'- 5"
			Bearing	3.4 in.	3.5 in.	3.6 in.	9.4 in.	9.6 in.	9.9 in.
		16"	90 mph	23'- 4"	22'- 11"	22'- 6"	25'- 7"	24'- 11"	24'- 4"
			100 mph	23'- 4"	22'- 11"	22'- 6"	25'- 7"	24'- 11"	24'- 4"
			110 mph	21'- 7"	21'- 3"	20'- 10"	25'- 7"	24'- 11"	24'- 4"
			Bearing	3.9 in.	4 in.	4.1 in.	10.7 in.	10.9 in.	11.2 in.
		18"	90 mph	26'- 2"	25'- 9"	25'- 4"	28'- 6"	27'- 10"	27'- 1"
			100 mph	26'- 2"	25'- 9"	25'- 4"	28'- 6"	27'- 10"	27'- 1"
			110 mph	24'- 4"	23'- 11"	23'- 6"	28'- 6"	27'- 10"	27'- 1"
			Bearing	4.4 in.	4.5 in.	4.7 in.	11.9 in.	12.2 in.	12.5 in.
		23.88"	90 mph	34'- 7"	34'- 1"	33'- 6"	37'- 1"	36'- 2"	35'- 3"
			100 mph	34'- 7"	34'- 1"	33'- 6"	37'- 1"	36'- 2"	35'- 3"
			110 mph	32'- 3"	31'- 9"	31'- 2"	37'- 1"	36'- 2"	35'- 3"
			Bearing	5.8 in.	6 in.	6.2 in.	15.7 in.	16 in.	16.4 in.

otes:

1 Beam spans shown are clear distances, measured from the inside of supports.
2 Adjacent span(s) cannot be less than 1/3 the maximum span or greater than the maximum span.
3 Beam self-weight has been included in gravity loads, but not used for wind uplift.
4 Full beam depth lateral bracing at 24" o.c. maximum by roof trusses required.
5 Deflection criteria used was L/240 live load and L/180 total load.
6 ASCE 7-88 Wind load based on: Exp C, Oceanline, Enclosed bldg., mean roof ht. = 15 ft. max, MWFRS, full roof DL.
7 Bearing lengths based on SPF plate material (425 psi), for vertical stud material (725 psi) multiply bearing lengths by 0.60.
8 Select appropriate strap for uplift.
9 Use field connection by manufactured housing customer to assemble units together.







Georgia-Pacific

G-P Lam® LVL Marriage/Ridge Beam DESIGN PROPERTIES

1.8E 1-1/2" G-P Lam® LVL Allowable Design Properties [1]

DEPTH [2] (IN.)	MAXIMUM VERTICAL SHEAR (LBS.)				MAXIMUM RESISTIVE MOMENT (FT.-LBS.)				EI (10^6IN.^{2}LBS)	WEIGHT [3] (LBS./FT.)
	100%	115%	125%	160%	100%	115%	125%	160%		
9.25	2,636	3,032	3,295	4,218	5,046	5,803	6,307	8,073	178	3.6
11.88	3,384	3,892	4,230	5,415	8,088	9,302	10,111	12,941	377	4.6
14	3,990	4,589	4,988	6,384	11,038	12,694	13,798	17,662	617	5.5
16	4,560	5,244	5,700	7,296	14,205	16,336	17,757	22,728	922	6.3
18	5,130	5,900	6,413	8,208	17,745	20,407	22,181	28,392	1,312	7.0
23.88	6,804	7,825	8,505	10,887	30,254	34,792	37,817	48,406	3,062	9.3

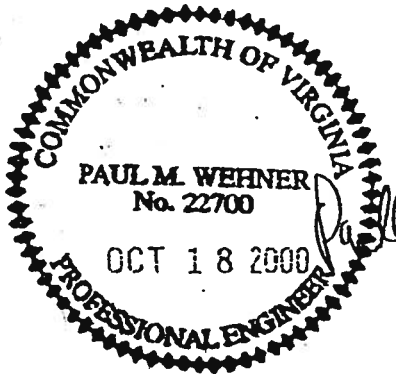
1. Table assumes beam has lateral support at bearing points and continuous lateral support along the compression edge of the beam.
2. 11.88" & deeper beams must only be used in multiple piece members.

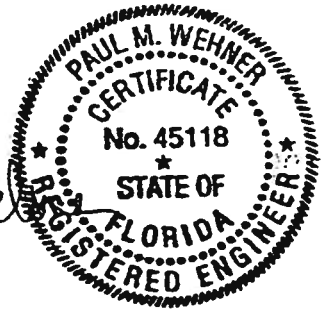
1.8E G-P Lam® LVL Allowable Design Stresses

Modulus of Elasticity $E = 1.8 \times 10^6$ psi[(1)]
Shear Modulus $G = 115{,}875$ psi
Flexural Stress $F_b = 2750$ psi[(2)]
Horizontal Shear (joist) $F_v = 285$ psi
Compression Perpendicular to Grain (joist) $F_{c\perp} = 750$ psi[(1)]

1. No increase is allowed to E, G or $F_{c\perp}$ for duration of load.
2. For depths (d) other than 12", multiply F_b by $(12/d)^{1/9}$.

GP11-10-99DH





Georgia-Pacific

1 3/8" 1.8E G-P Lam® LVL Marriage/Ridge Beam Chart 2

ALLOWABLE BEAM SPANS (feet-inches) L/240 Live L/180 Total

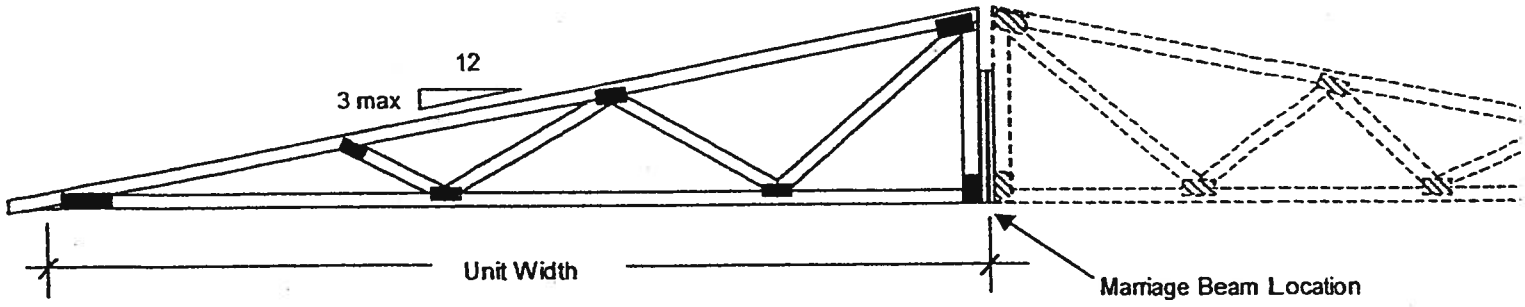
Roof Load (psf)		Beam Depth	Wind Zone	Unit Width					
				Simple Span Only			Multiple Spans Only		
				11'-8"	14'-0"	15'-8"	11'-8"	14'-0"	15'-8"
				140"	168"	188"	140"	168"	188"
Snow Area (115%)	20 LL + 10 DL	30"	110 mph	43'-1"	40'-6"	39'-0"	46'-10"	42'-10"	40'-7"
			Bearing	4.1 in.	4.6 in.	4.9 in.	11.2 in.	12.2 in.	12.8 in.
		23 7/8"	110 mph	34'-4"	32'-3"	31'-0"	38'-0"	34'-9"	32'-10"
			Bearing	3.2 in.	3.6 in.	3.9 in.	9 in.	9.8 in.	10.3 in.
		20"	110 mph	28'-9"	27'-0"	26'-0"	32'-3"	29'-6"	27'-10"
			Bearing	2.7 in.	3 in.	3.2 in.	7.5 in.	8.2 in.	8.7 in.

UPLIFT VALUES (lbs.)

Wind Area (160%)	Beam Depth	Wind Zone	Unit Width								
			Simple Span Ends			Multiple Spans Interior			Multiple Spans Ends		
			11'-8"	14'-0"	15'-8"	11'-8"	14'-0"	15'-8"	11'-8"	14'-0"	15'-8"
			140"	168"	188"	140"	168"	188"	140"	168"	188"
	30"	110 mph	3,270	3,692	3,980	8,932	9,835	10,433	2,680	2,950	3,130
	23 7/8"	110 mph	2,602	2,938	3,167	7,245	7,969	8,449	2,173	2,391	2,535
	20"	110 mph	2,180	2,461	2,653	6,154	6,765	7,169	1,846	2,029	2,151

Notes:

1 Beam spans shown are clear distances, measured from the inside of supports.
2 Adjacent span(s) cannot be less than 1/3 the maximum span or greater than the maximum span.
3 Beam self-weight has been included in gravity loads, but not used for wind uplift.
4 Full beam depth lateral bracing at 24" o.c. maximum by roof trusses required.
5 Deflection criteria used was L/240 live load and L/180 total load.
6 ASCE 7-88 Wind load based on: Exp C, V=110 mph, Oceanline, Enclosed bldg., ht. = 15 ft. max, MWFRS.
7 Bearing lengths based on SPF vertical stud material (725 psi) for plate material (425 psi), multiply bearing lengths by 1.70.
8 Select appropriate strap per uplift chart above.
9 Use field connection by manufactured housing customer to assemble units together.



G-P Lam® LVL Marriage/Ridge Beam DESIGN PROPERTIES

1.8E 1 3/8" G-P Lam® LVL Allowable Design Properties [1]

DEPTH [2] (IN.)	MAXIMUM VERTICAL SHEAR (LBS.)				MAXIMUM RESISTIVE MOMENT (FT.-LBS.)				EI (10^6IN.^{2}LBS)	WEIGHT [3] (LBS./FT.)
	100%	115%	125%	160%	100%	115%	125%	160%		
9.25	2,417	2,779	3,021	3,867	4,962	5,706	6,202	7,939	163	3.5
11.88	3,102	3,568	3,878	4,964	7,954	9,147	9,942	12,726	345	4.5
14	3,658	4,206	4,572	5,852	10,854	12,483	13,568	17,367	566	5.3
16	4,180	4,807	5,225	6,688	13,969	16,064	17,461	22,350	845	6.1
18	4,703	5,408	5,878	7,524	17,449	20,066	21,811	27,918	1,203	6.9
23.88	6,237	7,173	7,797	9,980	29,750	34,212	37,187	47,600	2,807	9.1

1. Table assumes beam has lateral support at bearing points and continuous lateral support along the compression edge of the beam.
2. 11.88" & deeper beams must only be used in multiple piece members.
3. For Eastern Species (mixture of Southern Pine and Yellow Poplar), increase weight by 9%.

1.8E G-P Lam® LVL Allowable Design Stresses

Modulus of Elasticity	$E = 1.8 \times 10^6$ psi[(1)]
Shear Modulus	$G = 115{,}875$ psi
Flexural Stress	$F_b = 2950$ psi[(2)]
Horizontal Shear (joist)	$F_v = 285$ psi
Compression Perpendicular to Grain (joist)	$F_{c^\perp} = 750$ psi[(1)]

1. No increase is allowed to E or $F_{c^\perp}$ for duration of load.
2. For depths (d) other than 12", multiply F_b by $(12/d)^{1/9}$.

GP090299DH.001

Georgia-Pacific

G-P Lam® LVL Marriage/Ridge Beam DESIGN PROPERTIES

1.8E 1 3/8" G-P Lam® LVL Allowable Design Properties

DEPTH (IN.)	MAXIMUM VERTICAL SHEAR (LBS.)				MAXIMUM RESISTIVE MOMENT [1] (FT.-LBS.)				EI (10^6IN.^{2}LBS)	WEIGHT [2] (PLF)
	100%	115%	125%	160%	100%	115%	125%	160%		
9.25	2,417	2,779	3,021	3,867	4,962	5,706	6,202	7,939	163	3.3
11.875	3,102	3,568	3,878	4,964	7,954	9,147	9,942	12,726	345	4.3
14.00	3,658	4,206	4,572	5,852	10,854	12,483	13,568	17,367	566	5.0
16.00	4,180	4,807	5,225	6,688	13,969	16,064	17,461	22,350	845	5.7
00	4,703	5,408	5,878	7,524	17,449	20,066	21,811	27,918	1,203	6.4
.875	6,237	7,173	7,797	9,980	29,750	34,212	37,187	47,600	2,807	8.5

. Table assumes beam has compression edge being supported throughout its length to prevent lateral displacement, and the ends at points of bearing have lateral support to prevent rotation.

. Properties apply to 1.8E Eastern Species G-P Lam® LVL.

1.8E G-P Lam® LVL Allowable Design Stresses

Modulus of Elasticity E = 1.8×10^6 psi(1)

Shear Modulus G = 115,875 psi(1)

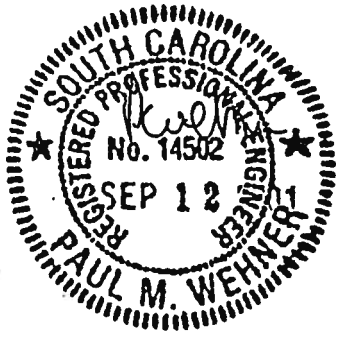
Flexural Stress F_b = 2950 psi(2)

Horizontal Shear (joist) F_v = 285 psi

Compression Perpendicular to Grain (joist) $F_{c\perp}$ = 750 psi(1)

1. No increase is allowed to E, G or $F_{c\perp}$ for duration of load.
2. For depths (d) other than 12", multiply F_b by $(12/d)^{1/9}$

GP06-20-01PS



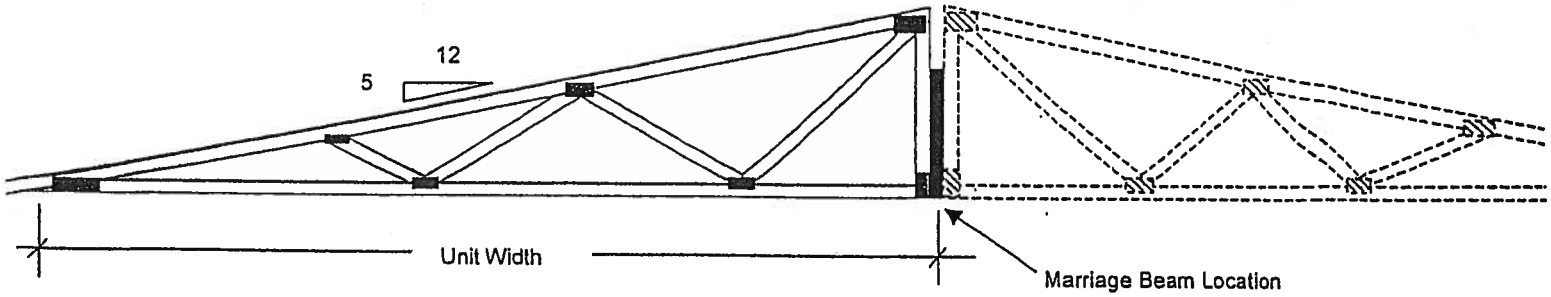
Georgia-Pacific

1 3/8" 1.8E G-P Lam® LVL Marriage/Ridge Beam Chart I

ALLOWABLE CLEAR SPANS (feet-inches) L/240 Live L/180 Total ASCE

Roof Load (psf)		Beam Depth	Wind Zone	Unit Width					
				Simple Span Only			Multiple Spans Only		
				13'- 4"	14'- 0"	14'- 9"	13'- 4"	14'- 0"	14'- 9"
				160"	168"	177"	160"	168"	177"
Non-Snow Area (125%)	20 LL + 10 DL	9 1/4"	130 mph	12'- 10"	12'- 8"	12'- 5"	15'- 2"	14'- 10"	14'- 5"
			Bearing	2.4 in.	2.4 in.	2.5 in.	6.8 in.	7 in.	7.2 in.
		11 7/8"	130 mph	16'- 6"	16'- 3"	15'- 11"	19'- 2"	18'- 9"	18'- 3"
			Bearing	3 in.	3.1 in.	3.2 in.	8.7 in.	8.9 in.	9.1 in.
		14"	130 mph	19'- 6"	19'- 2"	18'- 10"	22'- 5"	21'- 10"	21'- 3"
			Bearing	3.6 in.	3.7 in.	3.8 in.	10.1 in.	10.4 in.	10.7 in.
		16"	130 mph	22'- 3"	21'- 11"	21'- 6"	25'- 4"	24'- 9"	24'- 1"
			Bearing	4.1 in.	4.2 in.	4.4 in.	11.5 in.	11.8 in.	12.1 in.
		18"	130 mph	25'- 1"	24'- 7"	24'- 2"	28'- 3"	27'- 7"	26'- 10"
			Bearing	4.6 in.	4.8 in.	4.9 in.	12.9 in.	13.2 in.	13.5 in.
		23.88"	130 mph	33'- 3"	32'- 8"	32'- 1"	36'- 9"	35'- 10"	34'- 11"
			Bearing	6.1 in.	6.3 in.	6.6 in.	16.9 in.	17.3 in.	17.7 in.

1 Beam spans shown are clear distances, measured from the inside of supports.
2 Adjacent span(s) cannot be less than 1/3 the maximum span or greater than the maximum span.
3 Beam self-weight has been included in gravity loads, but not used for wind uplift.
4 This chart presumes that trusses spaced @ 24" o/c maximum, framing full-depth into the side of this beam, is sufficient support to prevent lateral displacement, and the ends at points of bearing to prevent rotation.
5 Deflection criteria used: L/240 live load and L/180 total load.
6 ASCE 7-98 Wind Load based on: Exp C, V=130 mph, Hurricane, Enclosed bldg., mean roof ht. = 17 ft. max, MWFRS, roof zone 2.
7 Bearing lengths based on SPF plate material (425 psi), for vertical stud material (725 psi), multiply bearing lengths by 0.60.
8 Select appropriate strap per uplift chart.
9 Use field connection by manufactured housing customer to assemble units together.



SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 14502
SEP 12
PAUL M WEHNER

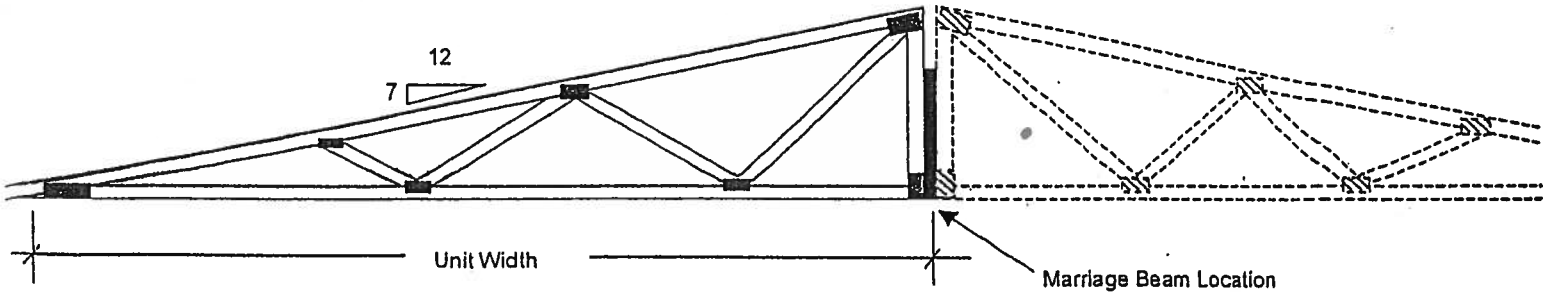
Georgia-Pacific

1 3/8" 1.8E G-P Lam® LVL Marriage/Ridge Beam Chart I

ALLOWABLE CLEAR SPANS (feet-inches) L/240 Live L/180 Total ASCE

Roof Load (psf)		Beam Depth	Wind Zone	Unit Width					
				Simple Span Only			Multiple Spans Only		
				13'- 4"	14'- 0"	14'- 9"	13'- 4"	14'- 0"	14'- 9"
				160"	168"	177"	160"	168"	177"
Non-Snow Area (125%)	20 LL + 10 DL	9 1/4"	130 mph	13'- 1"	12'- 11"	12'- 8"	15'- 2"	14'- 10"	14'- 5"
			Bearing	2.4 in.	2.4 in.	2.5 in.	6.8 in.	7 in.	7.2 in.
		11 7/8"	130 mph	16'- 10"	16'- 7"	16'- 3"	19'- 2"	18'- 9"	18'- 3"
			Bearing	3 in.	3.1 in.	3.2 in.	8.7 in.	8.9 in.	9.1 in.
		14"	130 mph	19'- 10"	19'- 6"	19'- 2"	22'- 5"	21'- 10"	21'- 3"
			Bearing	3.6 in.	3.7 in.	3.8 in.	10.1 in.	10.4 in.	10.7 in.
		16"	130 mph	22'- 7"	22'- 3"	21'- 10"	25'- 4"	24'- 9"	24'- 1"
			Bearing	4.1 in.	4.2 in.	4.4 in.	11.5 in.	11.8 in.	12.1 in.
		18"	130 mph	25'- 5"	25'- 0"	24'- 7"	28'- 3"	27'- 7"	26'- 10"
			Bearing	4.6 in.	4.8 in.	4.9 in.	12.9 in.	13.2 in.	13.5 in.
		23.88"	130 mph	33'- 7"	33'- 1"	32'- 6"	36'- 9"	35'- 10"	34'- 11"
			Bearing	6.1 in.	6.3 in.	6.6 in.	16.9 in.	17.3 in.	17.7 in.

1 Beam spans shown are clear distances, measured from the inside of supports.
2 Adjacent span(s) cannot be less than 1/3 the maximum span or greater than the maximum span.
3 Beam self-weight has been included in gravity loads, but not used for wind uplift.
4 This chart presumes that trusses spaced @ 24" o/c maximum, framing full-depth into the side of this beam, is sufficient support to prevent lateral displacement, and the ends at points of bearing to prevent rotation.
5 Deflection criteria used: L/240 live load and L/180 total load.
6 ASCE 7-98 Wind Load based on: Exp C, V=130 mph, Hurricane, Enclosed bldg., mean roof ht. = 19 ft. max, MWFRS, roof zone 3.
7 Bearing lengths based on SPF plate material (425 psi), for vertical stud material (725 psi), multiply bearing lengths by 0.60.
8 Select appropriate strap per uplift chart.
9 Use field connection by manufactured housing customer to assemble units together.



SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 14502
SEP 12
PAUL M. WEHNER

Georgia-Pacific

G-P Lam® LVL Marriage/Ridge Beam DESIGN PROPERTIES

1.8E 1 1/2" G-P Lam® LVL Allowable Design Properties

DEPTH (IN.)	MAXIMUM VERTICAL SHEAR (LBS.)				MAXIMUM RESISTIVE MOMENT [1] (FT.-LBS.)				EI (10^6IN.^{2}LBS)	WEIGHT [2] (PLF)
	100%	115%	125%	160%	100%	115%	125%	160%		
9.25	2,636	3,032	3,295	4,218	5,413	6,225	6,766	8,661	178	3.6
11.875	3,384	3,892	4,230	5,415	8,677	9,978	10,846	13,883	377	4.6
14.00	3,990	4,589	4,988	6,384	11,841	13,617	14,802	18,946	617	5.5
16.00	4,560	5,244	5,700	7,296	15,238	17,524	19,048	24,381	922	6.3
18.00	5,130	5,900	6,413	8,208	19,035	21,891	23,794	30,457	1,312	7.0
20.875	6,804	7,825	8,505	10,887	32,454	37,322	40,568	51,927	3,062	9.3

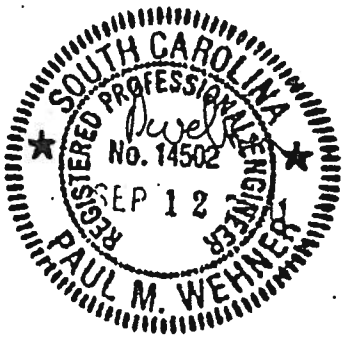
Table assumes beam has compression edge being supported throughout its length to prevent lateral displacement, and the ends at points of bearing have lateral support to prevent rotation.
Properties apply to 1.8E Eastern Species G-P Lam® LVL

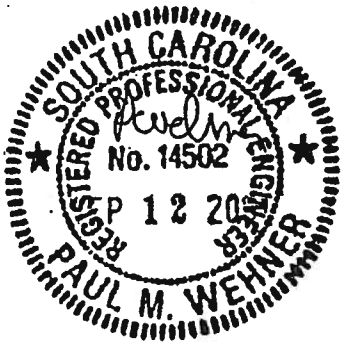
1.8E G-P Lam® LVL Allowable Design Stresses

Modulus of Elasticity E = 1.8×10^6 psi[1]
Shear Modulus G = 115,875 psi[1]
Flexural Stress F_b = 2950 psi[2]
Horizontal Shear (joist) F_v = 285 psi
Compression Perpendicular to Grain (joist) $F_{c\perp}$ = 750 psi[1]

1. No increase is allowed to E, G or $F_{c\perp}$ for duration of load.
2. For depths (d) other than 12", multiply F_b by $(12/d)^{1/9}$

GP06-20-01PS





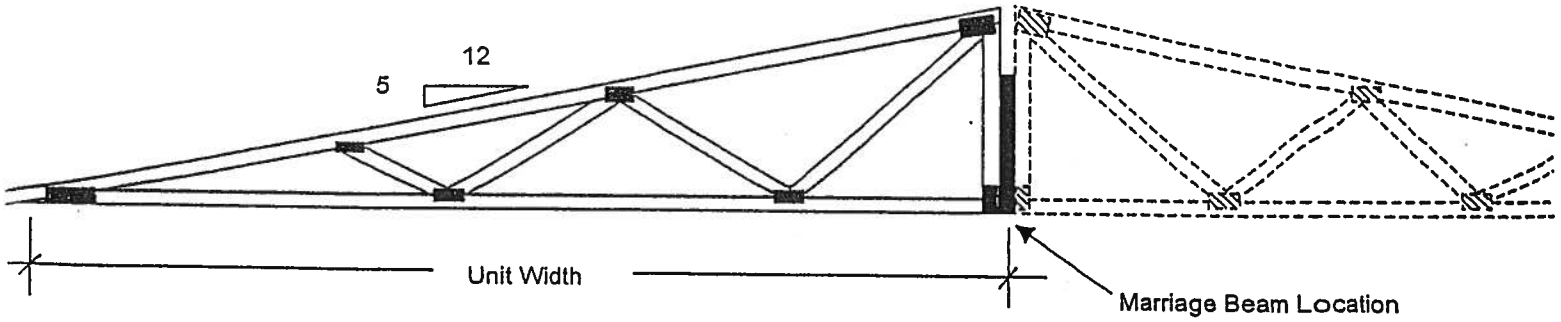
Georgia-Pacific

1 1/2" 1.8E G-P Lam® LVL Marriage/Ridge Beam Chart

ALLOWABLE CLEAR SPANS (feet-inches) L/240 Live L/180 Total ASCE

Roof Load (psf)		Beam Depth	Wind Zone	Unit Width					
				Simple Span Only			Multiple Spans Only		
				13'- 4"	14'- 0"	14'- 9"	13'- 4"	14'- 0"	14'- 9"
				160"	168"	177"	160"	168"	177"
Non-Snow Area (125%)	20 LL + 10 DL	9 1/4"	130 mph	13'- 3"	13'- 0"	12'- 10"	15'- 9"	15'- 6"	15'- 1"
			Bearing	2.2 in.	2.3 in.	2.4 in.	6.5 in.	6.7 in.	6.9 in.
		11 7/8"	130 mph	17'- 0"	16'- 9"	16'- 5"	20'- 1"	19'- 7"	19'- 1"
			Bearing	2.9 in.	3 in.	3.1 in.	8.3 in.	8.5 in.	8.7 in.
		14"	130 mph	20'- 1"	19'- 9"	19'- 5"	23'- 5"	22'- 10"	22'- 3"
			Bearing	3.4 in.	3.5 in.	3.6 in.	9.7 in.	10 in.	10.2 in.
		16"	130 mph	22'- 11"	22'- 7"	22'- 2"	26'- 6"	25'- 10"	25'- 2"
			Bearing	3.9 in.	4 in.	4.1 in.	11 in.	11.3 in.	11.6 in.
		18"	130 mph	25'- 10"	25'- 5"	24'- 11"	29'- 7"	28'- 10"	28'- 1"
			Bearing	4.4 in.	4.5 in.	4.7 in.	12.4 in.	12.7 in.	13 in.
		23.88"	130 mph	34'- 3"	33'- 8"	33'- 1"	38'- 5"	37'- 6"	36'- 6"
			Bearing	5.8 in.	6 in.	6.2 in.	16.2 in.	16.6 in.	17 in.

1 Beam spans shown are clear distances, measured from the inside of supports.
2 Adjacent span(s) cannot be less than 1/3 the maximum span or greater than the maximum span.
3 Beam self-weight has been included in gravity loads, but not used for wind uplift.
4 This chart presumes that trusses spaced @ 24" o/c maximum, framing full-depth into the side of this beam, is sufficient support to prevent lateral displacement, and the ends at points of bearing to prevent rotation.
5 Deflection criteria used: L/240 live load and L/180 total load.
6 ASCE 7-98 Wind Load based on: Exp C, V=130 mph, Hurricane, Enclosed bldg., mean roof ht. = 17 ft. max, MWFRS, roof zone 2.
7 Bearing lengths based on SPF plate material (425 psi), for vertical stud material (725 psi), multiply bearing lengths by 0.60.
8 Select appropriate strap per uplift chart.
9 Use field connection by manufactured housing customer to assemble units together.



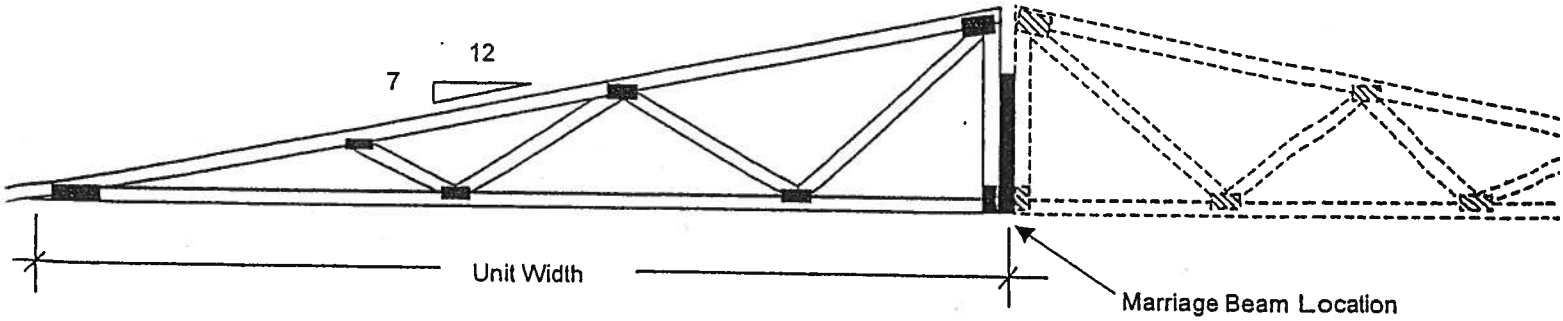
Georgia-Pacific

1 1/2" 1.8E G-P Lam® LVL Marriage/Ridge Beam Chart

ALLOWABLE CLEAR SPANS (feet-inches) L/240 Live L/180 Total ASCE

Roof Load (psf)		Beam Depth	Wind Zone	Unit Width					
				Simple Span Only			Multiple Spans Only		
				13'- 4"	14'- 0"	14'- 9"	13'- 4"	14'- 0"	14'- 9"
				160"	168"	177"	160"	168"	177"
Non-Snow Area (125%)	20 LL + 10 DL	9 1/4"	130 mph	13'- 6"	13'- 3"	13'- 1"	15'- 9"	15'- 6"	15'- 1"
			Bearing	2.2 in.	2.3 in.	2.4 in.	6.5 in.	6.7 in.	6.9 in.
		11 7/8"	130 mph	17'- 4"	17'- 0"	16'- 9"	20'- 1"	19'- 7"	19'- 1"
			Bearing	2.9 in.	3 in.	3.1 in.	8.3 in.	8.5 in.	8.7 in.
		14"	130 mph	20'- 5"	20'- 1"	19'- 9"	23'- 5"	22'- 10"	22'- 3"
			Bearing	3.4 in.	3.5 in.	3.6 in.	9.7 in.	10 in.	10.2 in.
		16"	130 mph	23'- 4"	22'- 11"	22'- 6"	26'- 6"	25'- 10"	25'- 2"
			Bearing	3.9 in.	4 in.	4.1 in.	11 in.	11.3 in.	11.6 in.
		18"	130 mph	26'- 2"	25'- 9"	25'- 4"	29'- 7"	28'- 10"	28'- 1"
			Bearing	4.4 in.	4.5 in.	4.7 in.	12.4 in.	12.7 in.	13 in.
		23.88"	130 mph	34'- 7"	34'- 1"	33'- 6"	38'- 5"	37'- 6"	36'- 6"
			Bearing	5.8 in.	6 in.	6.2 in.	16.2 in.	16.6 in.	17 in.

1 Beam spans shown are clear distances, measured from the inside of supports.
2 Adjacent span(s) cannot be less than 1/3 the maximum span or greater than the maximum span.
3 Beam self-weight has been included in gravity loads, but not used for wind uplift.
4 This chart presumes that trusses spaced @ 24" o/c maximum, framing full-depth into the side of this beam, is sufficient support to prevent lateral displacement, and the ends at points of bearing to prevent rotation.
5 Deflection criteria used: L/240 live load and L/180 total load.
6 ASCE 7-98 Wind Load based on: Exp C, V=130 mph, Hurricane, Enclosed bldg., mean roof ht. = 19 ft. max, MWFRS, roof zone 3.
7 Bearing lengths based on SPF plate material (425 psi), for vertical stud material (725 psi), multiply bearing lengths by 0.60.
8 Select appropriate strap per uplift chart.
9 Use field connection by manufactured housing customer to assemble units together.

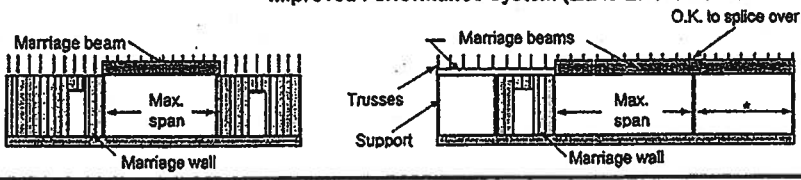


Factory-Built Structures

(1) 1-1/2" TimberStrand® LSL (1.7E)

Simple or Two-Span Marriage Beam Span Table

Improved Performance System (L/240 Live Load Deflection)



* Adjacent spans must be at least ⅓ of the maximum span.

Allowable Beam Clear Spans

Beam Depth	Unit Width 11'-8" 140"	13'-4" 160"	14'-9" 177"	15'-0" 180"									
Improved HUD & Modular 20/10 PSF Roof Loading (125%)													
7-1/4"	10'-8"	10'-3"	9'-10"	9'-9"									
Brg Req'd	1.5" / 3.8"	1.7" / 4.1"	1.8" / 4.4"	1.8" / 4.5"									
9-5/8"	12'-9"	12'-2"	11'-9"	11'-8"									
Brg Req'd	1.8" / 4.6"	2.0" / 4.9"	2.1" / 5.3"	2.1" / 5.3"									
9-1/2"	14'-0"	13'-4"	12'-11"	12'-10"									
Brg Req'd	2.0" / 5.0"	2.2" / 5.4"	2.3" / 5.8"	2.4" / 5.9"									
11-7/8"	17'-6"	16'-8"	16'-1"	16'-0"									
Brg Req'd	2.5" / 6.3"	2.7" / 6.8"	2.9" / 7.3"	2.9" / 7.4"									
14"	20'-7"	19'-8"	19'-0"	18'-10"									
Brg Req'd	3.0" / 7.4"	3.2" / 8.1"	3.4" / 8.6"	3.5" / 8.7"									
16"	23'-6"	22'-5"	21'-8"	21'-6"									
Brg Req'd	3.4" / 8.5"	3.7" / 9.3"	4.0" / 9.9"	4.0" / 10.0"									
18"	26'-4"	25'-2"	24'-4"	24'-2"									
Brg Req'd	3.8" / 9.6"	4.2" / 10.5"	4.5" / 11.1"	4.5" / 11.3"									
24"	34'-11"	33'-4"	32'-2"	32'-0"									
Brg Req'd	5.9" / 13.9"	6.7" / 16.1"	7.6" / 17.9"	7.6" / 18.3"									

General Notes:

- This table is a supplement to Trus Joist technical literature piece number 2834. Refer to this literature for additional design information and installation details.
- Table is based on:
  - Uniform loads and distributions - No "Cape" roofs.
  - Clear distance between supports.
  - Worst case simple or two-span conditions.
  - Deflection criteria of L/240 live load and L/180 total load.
  - Lateral bracing for full depth of beam by trusses spaced at 24" on-center (or closer).
  - All wind zones as defined in the HUD *Manufactured Home Construction and Safety Standards*
  - Maximum wind pressure for zones 2 & 3 of MWFRS based on ASCE 7-2002 low rise method for Enclosed structures in Exp. C with mean roof height = 30', min. roof pitch = 3/12, max. roof pitch = 12/12, 130 mph 3-second gust wind speed, Kzt = 1,Kd = 1, and I = 1.
  - plate bearing stress = 425 psi.
- Refer to ICBO ES 4979 or HUD MR 1265b for design values.
- Manufacturer must provide for roof slope with adequate drainage where design spans exceed 30'.

NORTH CAROLINA PROFESSIONAL SEAL 029367 ENGINEER ERIC RUSSELL JOHNSON 6-11-04

APPROVED JUL 20 2004 HWC HILBORN, WERNER, CARTER & ASSOC.

COMMONWEALTH OF VIRGINIA LLOYD RICHARD CHALKER #0402 036695 6-11-04 PROFESSIONAL ENGINEER

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 19789 LLOYD RICHARD CHALKER 6-11-04

WILLIAM A. LEWIS REGISTERED ENGINEER STATE OF GEORGIA No. 19752 PROFESSIONAL ENGINEER WILLIAM A. LEWIS III

STATE OF WEST VIRGINIA REGISTERED 11502 PROFESSIONAL ENGINEER WILLIAM A. LEWIS III

APPROVED JUL 20 2004 HWC

11020 David Taylor Drive
Suite 300
Charlotte, NC 28262
Phone: 704-357-3291
E-Mail: johnsoe@trusjoist.com

6/11/2004
MRBv3.xls

Marriage Beam Span Table

Sample Calculations

Description	Value	Units	Variable	Equation
GIVEN:				
Beam material	TimberStrand® LSL (1.7E)			
Thickness	1.5	in	b	
E	1700000	psi	E	
F_b	2600	psi	Fb	
F_v	400	psi	Fv	
$F_{cL\ beam}$	880	psi	FcP	
G	106250	psi	G	
VERIFY:				
Maximum allowable clear span listed on the Marriage Beam Span Table for the following conditions:				
Unit Width	13 - 4/12	ft	Unit_width	= Trib_Width * 2
Beam Depth	16	in	d	
Roof Live Load	20	psf	Live	
Roof Dead Load	10	psf	Dead	
ASCE 7-98 MWFRS criteria				
3-sec gust wind speed	130	mph		
Exposure	C			
Enclosure Classification	Enclosed			
Kzt	1.0			
Kd	1.0			
Importance Factor	1.0			
Minimum Roof Pitch	3/12			
Maximum Roof Pitch	12/12			
Mean Roof Height	30	ft		
ASSUME:				
Truss Spacing	24	in		
NDS Adjustments:				
Load Duration Factor				
Gravity Load	1.25		Cd	
ASCE Wind Load	1.6		Cd_ASCE	
Wet Service Factor	1.00		Cm	
Temperature Factor	1.00		Ct	
Volume Factor	0.97		Cv	
Repetitive Member Factor	1.00		Cr	
Form Factor	1.00		Cform	
Euler Buckling Coefficient	0.609		Kbe	
F_{cPERP} of top plate material	425	psi	Fc_Plate	Assumes Spruce-Pine-Fir or better
Plate bearing control	425	psi	Fc_Perp	
CALCULATION OF SECTION PROPERTIES & PLF LOADS:				
Section Properties				
Cross Sectional Area	24.00	in^2	A	= b * d
Moment of Inertia	512.00	in^4	Ix	= (1/12) * b * d^3
Section Modulus	64.00	in^3	Sx	= (1/6) * b * d^2
Beam Weight	7.5	plf	Beam_Wt	= A * 45 pcf / (144 in^2 / ft^2)
Loads				
Gravity				
Tributary Width	6.666667	ft	Trib_Width	
Uniform Live Load	133.3333	plf	Wl	= Trib_Width * Live
Uniform Dead Load	74	plf	Wd	= Trib_Width * Dead + Beam_Wt
Uniform Total Load	208	plf	Wt	= Wl + Wd
ASCE Uplift				
Gross Uplift Load	36.9	psf	ASCE_Gross	Per Low Rise Method (MWFRS)
Roof Dead Load	6	psf	ASCE_Dead	= 0.6*Dead
Net Uplift Pressure	30.9	psf	ASCE_Wind	= ASCE_Gross - ASCE_Dead
Uniform Wind Uplift Load	206	plf	ASCE_Wt	= Trib_Width * ASCE_Wind
CALCULATION OF ALLOWABLE MOMENT				
Lateral Stability Constant				
Determine the lateral stability constant (Cl) based on the following two provisions:				
1. For beams not fastened to adjacent beams, the effective thickness of the beam for stability calculations is:				
Number of effective plies	1		Plies	
Effective Beam Thickness	1.50	in	b_Model	= b*Plies^(1/3)
2. The effective unbraced length (le) is taken as the distance BETWEEN adjacent trusses.				
Truss Spacing	24.0	in	Truss_oc	
Truss Thickness	1.5	in	Truss_Thick	
Effective Length	22.5	in	le	= Truss_oc - Truss_Thick
Beam Slenderness Ratio	12.65		Rb	= SQRT(le * d / (b_Model^2))
Critical Buckling Stress	6471	psi	Fbe	= Kbe * E / (Rb^2)
Stability Factor				
Gravity Load	0.98		Cl	= ((1+(Fbe/Fb_Star))/1.9)-SQRT(((((1+(Fbe/Fb_Star))/1.9)^2)-(Fbe/Fb_Star/0.95)))
ASCE Uplift	0.93		Cl_ASCE	= ((1+(Fbe/Fb_Star_ASCE))/1.9)-SQRT(((((1+(Fbe/Fb_Star_ASCE))/1.9)^2)-(Fbe/Fb_Star_ASCE/0.95)))
Allowable Moment				
Size Factor	0.974		Cv	= (12/d)^0.092
Fb*				
Gravity Load	3250	psi	Fb_Star	= Fb * Cd * Cm * Ct * Cr * Cform
ASCE Uplift	4160	psi	Fb_Star_ASCE	= Fb * Cd_ASCE * Cm * Ct * Cr * Cform
Allowable Bending Stress				
Gravity Load	3107	psi	Fb_Prime	= Fb_Star * If(AND(Cl<1, Cv<1), min(Cl, Cv), Cl * Cfu)
ASCE Uplift	3872	psi	Fb_Prime_ASCE	= Fb_Star_ASCE * If(AND(Cl_ASCE<1, Cv<1), min(Cl_ASCE, Cv), Cl_ASCE * Cfu)
Allowable Moment				
Gravity Load	16568	ft-lb	Mall	= Sx * Fb_Prime / 12
ASCE Uplift	20649	ft-lb	Mall_ASCE	= Sx * Fb_Prime_ASCE / 12

Marriage Beam Span Table

Sample Calculations

Description	Value	Units	Variable	Equation
CALCULATION OF ALLOWABLE SHEAR				
Allowable Shear Stress				
Gravity Load	500	psi	Fv_Prime	= Fv * Cd * Cm * Ct
ASCE Uplift	640	psi	Fv_Prime_ASCE	= Fv * Cd_ASCE * Cm * Ct
Allowable Shear				
Gravity Load	8000	lb	Vall	= 2 * Fv_Prime * A / 3
ASCE Uplift	10240	lb	Vall_ASCE	= 2 * Fv_Prime_ASCE * A / 3
Verify Clear Span for Improved HUD & Modular Gravity Load Case 1: Simple & 2-Span Condition (L/240)				
Clear Span Shown in Table	22'-5"		C Span Imp	
Step 1: Determine Design Span				
The Design Span for moment, shear and deflection calculations is taken as the clear span plus one half of the end plate bearing length added to each end of the beam.				
Calculate Bearing Length				
Length for plate control	3.71	in	BL_Imp	= MAX(1.5, Wt * (C_Span_Imp / 2) / b / Fc_Perp)
Design Span	22.77	ft	D Span Imp	= C_Span_Imp + (BL_Imp / 12)
Step 2: Check moment capacity				
Design Moment	13449	ft-lb	Mact_Imp	= Wt * D_Span_Imp^2 / 8
Compare Allowable to Design	0.812			= Mact_Imp / Mall
Therefore, OK				
Step 3: Check shear capacity				
Design shear increased 25% to account for multi-span conditions				
Uniform load for a distance 'd' (beam depth) from the support ignored in shear calculations				
Design Shear	2676	lb	Vact_Imp	= Wt * [(5 * D_Span_Imp / 8) - (d/12in/ft)]
Compare Allowable to Design	0.335			= Vact_Imp / Vall
Therefore, OK				
Step 4: Check deflection				
Live Load Deflection				
Bending Deflection	0.927	in	DL_Bend_Imp	= 5 * Wl * D_Span_Imp^4 / (384 * E * Ix) * (12in/ft)^3
Shear Deflection	0.049	in	DL_Shear_Imp	= 3 * Wl * D_Span_Imp^2 / (20 * G * A) * (12in/ft)
Total Deflection	0.975	in	D_LL_Imp	= DL_Bend_Imp + DL_Shear_Imp
Deflection Ratio	280		LL Ratio Imp	= D_Span_Imp / D_LL_Imp
Therefore, O.K.				
Total Load Deflection				
Bending Deflection	1.442	in	DT_Bend_Imp	= 5 * Wt * D_Span_Imp^4 / (384 * E * Ix) * (12in/ft)^3
Shear Deflection	0.076	in	DT_Shear_Imp	= 3 * Wt * D_Span_Imp^2 / (20 * G * A) * (12in/ft)
Total Deflection	1.518	in	D_TL_Imp	= DT_Bend_Imp + DT_Shear_Imp
Deflection Ratio	180		TL Ratio Imp	= D_Span_Imp / D_TL_Imp
Therefore, O.K.				
Step 5: Check bearing criteria				
End bearing	3.71	in	Brg_End_Imp	= BL_Imp
Intermediate bearing	9.26	in	Brg_Int_Imp	= MAX(3.5, Wt * 1.25 * C_Span_Imp / b / Fc_Perp)
VERIFY CLEAR SPAN FOR: ASCE wind criteria for Simple & 2-Span Conditions (L/180)				
Clear Span Developed (Does not control.)				
Step 1: Determine Design Span				
For wind control cases, required bearing length is not considered.				
Design Span	22.83	ft	D ASCE	
Step 2: Check moment capacity				
Design Moment	13419	ft-lb	Mact_ASCE	= ASCE_Wt * D_ASCE^2 / 8
Compare Allowable to Design	0.650			= Mact_ASCE / Mall_ASCE
Therefore, OK				
Step 3: Check shear capacity				
Design shear increased 25% to account for multi-span conditions				
Uniform load for a distance 'd' (beam depth) from the support ignored in shear calculations				
Design Shear	2664	lb	Vact_ASCE	= ASCE_Wt * [(5 * D_ASCE / 8) - (d/12in/ft)]
Compare Allowable to Design	0.260			= Vact_ASCE / Vall_ASCE
Therefore, OK				
Step 4: Check deflection				
Total Load Deflection				
Bending Deflection	1.446	in	DT_Bend_ASCE	= 5 * ASCE_Wt * D_ASCE^4 / (384 * E * Ix) * (12in/ft)^3
Shear Deflection	0.076	in	DT_Shear_ASCE	= 3 * ASCE_Wt * D_ASCE^2 / (20 * G * A) * (12in/ft)
Total Deflection	1.522	in	D_TL_ASCE	= DT_Bend_ASCE + DT_Shear_ASCE
Deflection Ratio	180		TL Ratio ASCE	= D_Span_ASCE / D_ASCE
Therefore, O.K.				
END OF CALCULATIONS				

APPROVED
JUL 20 2004
HWC
HILBORN, WERNER, CARTER & ASSOC.

NORTH CAROLINA PROFESSIONAL SEAL 029367 ENGINEER ERIC RUSSELL JOHNSON
6-11-04

COMMONWEALTH OF VIRGINIA
LLOYD RICHARD CHALKER
#0402 036695
6-11-04
PROFESSIONAL ENGINEER

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 19789 LLOYD RICHARD CHALKER
6-11-04

GEORGIA REGISTERED No. 19752 PROFESSIONAL ENGINEER WILLIAM A. LEWIS III
WILLIAM A. LEWIS III REGISTERED 11502 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
WILLIAM A. LEWIS III REGISTERED ENGINEER AGRICULTURE COMMERCE 109045 STATE OF TENNESSEE
6-11-04

FL

HORTON HOMES, INC.

DYNASTY HOMES, INC.

Modular Home/Building Setup Manual

Table of Contents

APPROVED
DEC 0 2 2002
HWC
HILBORN, WERNER, CARTER & ASSOC.

Modular Construction VS. H.U.D. Code Construction

On the surface, modular homes are very similar to those known as "H.U.D. Code" homes. There are, however, distinct differences between the two types of housing.

The primary difference is that H.U.D. Code homes are built to the federal H.U.D. code. This code encompasses all states of the United States and the homes are subject to federal inspection and approval. H.U.D. Code homes can only be single family residences.

On the other hand, modular units are built to the building codes that have jurisdiction for the particular state in which the modular unit is destined. For example, in some Southern states, the Standard Building Code (SBCCI) is enforced. Therefore, the modular buildings constructed for these states must comply with this code. It is important to note that these are the same codes utilized by the Contractors who site build their structures. Modular construction (unlike H.U.D.) includes occupancies other than Residential (IE: Assembly, Educational, Mercantile, Business.).

It is also important to note that Modular construction is not categorized by Windzones as is done for H.U.D. code construction. Instead, modular construction is produced according to specific windspeeds.

The actual required windspeed for an area should be obtained from the local building official prior to construction. Horton Industries currently builds it modulars to a maximum windspeed of 110 mph.

Purpose of the Modular Program

Typically, each state has a modular construction program which oversees the approval, construction, and inspection of modular buildings. Horton Industries cannot construct a modular building for a state until the state agency has reviewed and approved the set of plans submitted. During construction, the state agency inspects (using a state appointed inspection agency) the units for compliance with the applicable codes.

Once the units pass inspection, a state label and inspection agency label are affixed to an approved location in the building. These labels are intended to show the local building officials that the home has passed the requirements of the building codes. Therefore, it is not necessary for the local building official to re-inspect the construction of the building itself. However, the local building official is responsible for inspecting the foundation, setup, and any porches, decks, patios, garages, ramps, etc. that may be built after the building is set.

Modular Construction Checklist

Basically, the completion of a Modular Home can be broken down into three main categories. Additional information regarding each category is in the pages that follow.

1. **Plan Approval and Building Permits:** An approved set of plans must be presented to the local building official in order to obtain the necessary permits. Such approved plans must be obtained from the Horton Industries Engineering Dept. New home approvals can take two to four weeks to obtain, however, existing approvals can be sent without a waiting period. *Refer to Overview: Plan Approval and Building Permits.*
2. **Site Preparation and Foundation Construction:** Once it is determined whether a building is to be "on frame" or "off frame", the site should be properly prepared and the foundation system installed according to the approved prints. *Refer to Overview: Site Preparation and Foundation Construction.*
3. **Setting, anchoring, and fastening units to the Foundation:** Following the completion and inspection of the foundation, the unit is ready to be set on the foundation, units fastened together, and the building fastened to the foundation. *Refer to Overview: Setting, Anchoring, and Fastening Units to the Foundation.*

Overview: Plan Approval and Building Permits:

Prior to ordering a modular home, it is necessary that a set of approved plans be submitted to the local building official for approval and to acquire the needed building permits. The retailer can obtain a set of these drawings by contacting his/her sales representative at Horton Industries, Inc. A set of drawings is printed on large (11"x17" or larger) paper. Therefore it is not feasible for them to be faxed. Be sure to plan ahead and ask for a set of drawings as early as possible to avoid delays.

Typically (not always) a set of drawings consists of the following pages:

1.	Cover Sheet:	Includes code synopsis and building information.
2.	Elevations:	Includes front, rear, and side views.
3.	Floor Plan:	3/16"=1'-0" layout with dimensions.
4.	Electrical Plan:	Includes switch, receptacle, and light locations with circuits.
5.	Plumbing Plan:	Includes waste water lines, fresh water lines, and gas supply lines.
6.	H.V.A.C. Plan:	Indicates duct location, size, etc.
7.	Foundation Plan:	Indicates footing and pier locations and sizes. May include "off frame" and "on frame" layouts.
8.	Cross Section	Indicates a section of the modular building outlining materials and methods of construction.

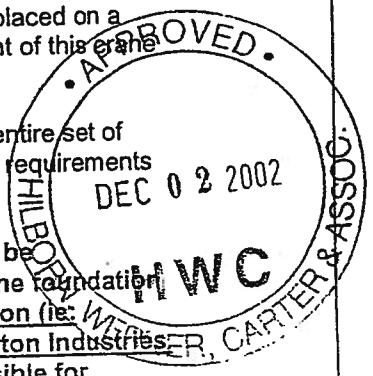
Overview: Site preparation and foundation construction

FOUNDATION SYSTEM: OVERVIEW

Modular homes built by Horton Homes are designed to be remain on the chassis (also know as **"on frame modular"**) OR to be removed from the chassis and placed on a permanent crawlspace foundation (also known as**"off frame modular"**) .

> **On frame modulars** utilize the steel undercarriage as an integral part of the foundation system. The weight of the home is supported by the undercarriage, which is placed on a series of "columns" or "piers."
> **Off frame modulars** are designed to exist without the aid of the chassis. Therefore, the home is removed from the chassis (commonly with the use of a crane) and placed on a permanent, perimeter foundation system. (Note: The rental and procurement of this crane is the responsibility of the Retailer.) – see also: **Addendum A.**

All foundations are subject to local approval prior to the construction. A copy of the entire set of plans must be submitted to the local building official to ensure that there are no local requirements that supercede the requirements of the building code.



Important Note: The foundation plans provided by Horton Industries, Inc. may be superceded by the requirements of local building officials. You should have the foundation plan checked prior to construction. <u>ANY deviation from the provided foundation (ie: basement, high piers, etc.) must be procurred and paid for by the retailer. Horton Industries, Inc. can only provide one suggested foundation layout and cannot be responsible for foundations that deviate from it.</u>

FOUNDATION SYSTEM: MOISTURE CONTROL

The area beneath and around the home (whether on frame or off frame) should be graded and sloped to avoid surface water accumulation. It is necessary to control the flow of rain and irrigation water from under the home. Should moisture be allowed to stand under the home for long periods of time, the unavoidable result will be deterioration of the home and an adverse affect to the comfort level of the home.

If the underside of the modular home is to be closed in, ventilation must be provided for by installing openings with a net area of at least one square foot for each 150 square feet of under home area. The openings should be equally distributed along the length of the home on the opposite sides with some of the openings to be located close to the corners to provide cross ventilation. **It is recommended that a 4 mil. (minimum) polyethylene is installed over the ground surface beneath the home.** In doing so, the required vent area can be reduced to one square foot for each 1500 square feet of crawl space.[1] (provided that a least one vent is located within 3 feet of each foundation corner).

FOUNDATION SYSTEM: SOIL REQUIREMENTS

Foundation prints (available from the manufacturer), whether "on frame" or "off frame", are based on a minimum soil bearing capacity of 2000 psf. Where the bearing capacity of soil is not definitely known or is in question, local building officials may require load test or other adequate proof as to the permissible safe bearing capacity at that particular location.

FOOTING REQUIREMENTS:

All footings MUST be made of precast or cast in place concrete (ABS pads are not acceptable for modular homes). In some cases, reinforcing steel rods may be required. This applies to both "on

[1] 1997 Standard Building Code (1804.6.2 #3)

frame" and "off frame" modulars. Refer to the foundation prints provided for specific footing sizes and any other requirements.

PIER and PERIMETER FOUNDATION WALL REQUIREMENTS:

All piers can be 32" (whether for "on frame" or "off frame") high (from top of footing to bottom of floor system) and must be constructed of 8x8x16 concrete masonry units (or approved equal). All pier blocks must be **laid in type M or S mortar or covered with a surface bonding cement installed in accordance with the manufacturer's instructions.**

Perimeter foundation walls ("off frame" modular) can be 34" high (maximum) from the top of the footing to the bottom of the floor system. Walls must be must be constructed of 8x8x16 concrete masonry units (or approved equal) and **laid in type M or S mortar or covered with a surface bonding cement installed in accordance with the manufacturer's instructions.**

Overview: Setting, anchoring, and fastening the units to the foundation

Prior to setting the units on the foundation, the setup contractor must verify the location of all electrical crossovers, plumbing drops, plumbing crossovers, etc.

Homes with hinged roofs must have the roof section raised prior to setting the units on the foundation (Exception: Cape Cod Homes). See **Addendum B** for information regarding hinged roof trusses.

"ON FRAME" Modulars:
Setting up a modular building must be performed by qualified personnel. Be sure that the setup contractor is qualified and licensed (if necessary) by the state in which the building is being set. Actual procedures used to set an "on frame" modular may vary depending upon the practices of the setup contractor.

"OFF FRAME" Modulars:
This is typically done with a large capacity lifting crane. The crane, spreader bars, and setup crew are the responsibility of the retailer. Horton Industries does, however, offer the use of a crew and spreader bars. See **Addendum A** for more information.

Once the home is set on the foundation (either "on frame" or "off frame"), the following must be performed:

1. Fasten units together at the roof line and floor line. Reference the typical cross section detail of the typical set of plans.
2. Anchor home to foundation according to the foundation plan. **"On frame" modulars** require frame ties and vertical ties at marriage wall openings or exterior wall openings that are 48" wide or greater. Refer to the foundation plan for more information. **"Off frame" modulars** DO NOT require ground anchors. However, perimeter joists of the home must be toenailed into the pressure treated sill plate as shown on the foundation plan.
3. Install shingles at the building's ridge line. For hinged roofs, see Addendum B . For Cape Cod Homes see Addendum E.
4. Connect electical wires using permanent connection devices (factory attached to ends of wires). See Addendum B.
5. Install exterior siding at hitch and tail ends of building.
6. Install fresh water crossovers, connect to water supply and complete waste line plumbing. Note that modular buildings often have a waste line drop at each fixture and therefore require that all of the horizontal piping be installed on site. See Addendum D.
7. Connect furnace cross over duct. For overhead duct systems, the cross over must be installed prior to setting the units together. See Addendum E.
8. Connect clothes dryer vent lines and extend to exterior of home.
9. Install marriage wall doors, trimout, carpeting, etc.
10. Construct porches, patios, stoops, steps, etc. These items are subject to local jurisdiction.

It is the responsibility of the person(s) performing the setup of the home, (ie: retailer, setup contractor, uitility installation representative, or customer) to inspect the various aspects of the electrical and plumbing systems to determine proper functioning. Horton Industries, Inc. cannot be responsible for ancillary damage to the home resulting from a failure to make such inspections.

Addendum – A.10
Horton "Swing Charge"

The Horton Trucking Division offers an optional "swing charge" for all "off frame" modular buildings. The price is based upon the size of the home. This charge must be added at the time the production order is written. Modular buildings which have included this option have the following tasks performed by the Horton Trucking.

- ✓ Lag bolts that connect the floor to the transport chassis are removed.
- ✓ Spreader bars (provided by Horton Industries, Inc.) are assembled.
- ✓ Protective plastic covering is removed (where applicable).
- ✓ Connection of the spreader bars to the lifting crane and the home to the spreader bars.
- ✓ Supervision and direction of the crane operator to ensure that the halves are properly placed on the foundation.
- ✓ Once on the foundation the halves are pulled closer together (if necessary) with come-alongs.
- ✓ A temporary ridge cap (standard roofs only) is then installed to prevent water damage. For hinged roofs, poly is placed over the home.
- ✓ The spreader bars are disassembled and placed in the storage truck.
- ✓ Lifting straps are removed when possible.

Please note that the duties performed by the Horton Trucking crew does not include any other aspects of setup (including but not limited to roofing, raising hinged roofs, racking, lagging together, plumbing and electrical hookup, crossovers, trimout, etc.). Also, it should be noted that Horton Industries, Inc. is not responsible for removing the transport frames from the site. We do not buy back these frames for re-use.

Horton Trucking reserves the right to refuse to set a home in conditions that warrant such action. For example, the site must be accessible and include enough room to accommodate the crane, foundation, and home during the setting process. The site should be free of any overhead obstructions (powerlines, trees, etc.). The foundation must be square, level, and built to the specifications (provided upon request) outlined in the home plans.

Horton Industries, Inc. is not responsible for any damage due to the failure to install exterior siding, roofing, flashing, etc. in a timely manner. It is the retailers responsibility to ensure that the home is protected from damage.

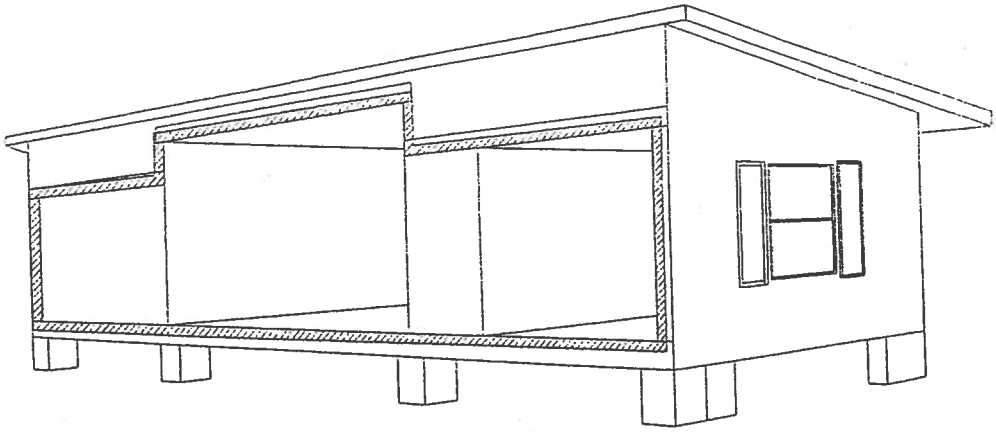
This information is not intended to cover every situation that may occur. If you are unsure about additional costs or information that you may incur please be sure to call us to ask any questions you may have.

Addendum - A.20
Sealing at Marriage Wall

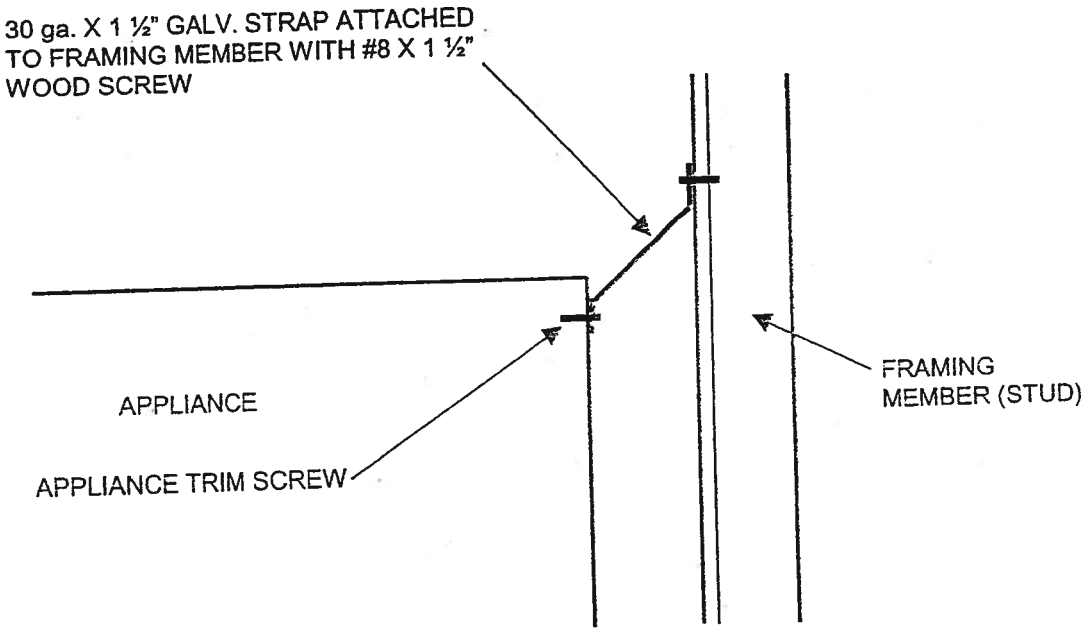
In certain areas, the customer may experience difficulty with excessive condensation, and loss of conditioned air if the following procedure is not followed.
Install insulation between gap at floor on underside of house, and cover with bottom board of polyethylene along the entire length of the house. If no gap is between the units, cover with bottom board of polytthylene aing the entire length of the house

If this insulation is not applied prior to setup, an expandable foam sealant (available at builder supply stores) is an excellent method for sealing the marriage lines of buildings.

Hatched areas on the drawing below, indicate typical locations where insulation/sealant may be required.



Addendum - A.30
Fastening of Appliances for Shipping – Factory Installed

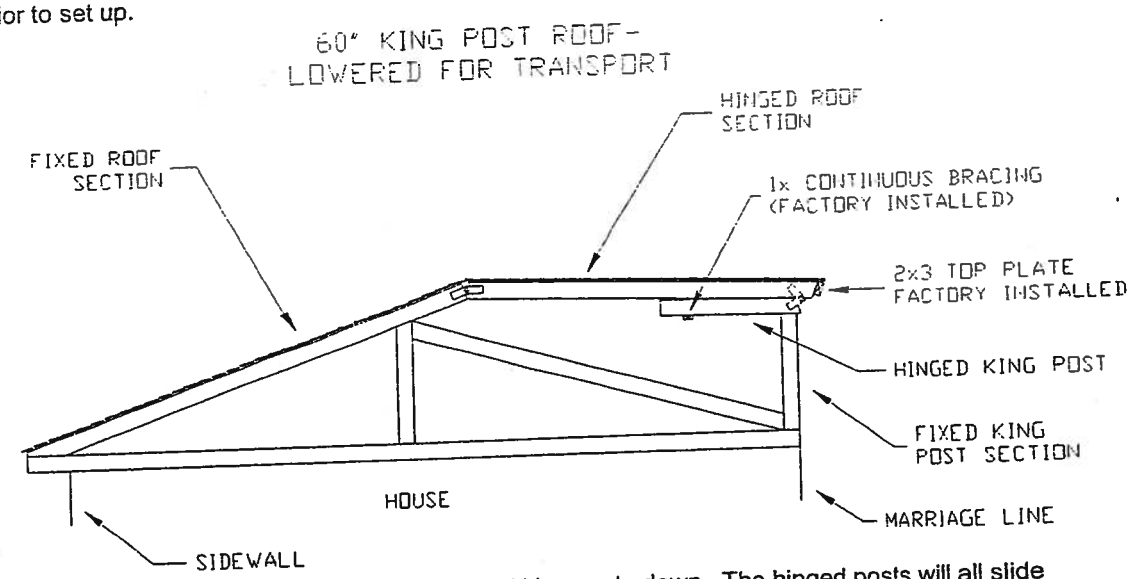


Addendum – B.10
Hinged Roof Set-up Procedure
Single Hinge Truss

This set up procedure must be used for all Horton Homes, Inc. 60 inch king post hinged roof set ups. All figures and drawings referenced in this procedure are included with this manual. Refer to the Home Owner's Manual for the complete multi-section home set-up procedure.

This hinged roof set-up procedure must be followed exactly to ensure proper set up. Carefully read the following instructions prior to raising the hinged roof.

1. Prior to raising the roof, position one half of the unit in its proper location according to the procedure outlined in the Home Owner's Manual. Be certain that the appropriate instructions are followed for the house's designated wind zone.
2. After setting the first half and removing all plastic, raise the hinged section of the roof using a crane, hydraulic jacks, or any equivalent lifting device. The lifting device should be securely positioned to lift the roof from the 2x3 top rail. The number of lift points along the roof will depend on the length of the house. The entire roof on one half of the house must be lifted simultaneously to prevent permanent roof damage. The following drawing displays the different components of the roof system, as well as the appearance and position of the roof components prior to set up.



As the roof is raised, carefully swing the hinged king posts down. The hinged posts will all slide down simultaneously since they are all connected with a 1x continuous runner. When the roof is fully raised, position each post in line with the stationary portion of the king post.

3. After aligning the two ends of the king post, install 2x4 scab blocks spanning the joint between the stationary and the hinged portion of the king post using a minimum of 3 #8 box nails on each side of the block. This block should be a minimum of 12" in length to provide a 6" minimum coverage on each side of the splice.

Addendum – A.10
Horton "Swing Charge"

The Horton Trucking Division offers an optional "swing charge" for all "off frame" modular buildings. The price is based upon the size of the home. This charge must be added at the time the production order is written. Modular buildings which have included this option have the following tasks performed by the Horton Trucking.

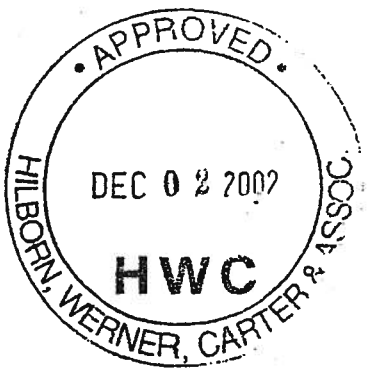
- ✓ Lag bolts that connect the floor to the transport chassis are removed.
- ✓ Spreader bars (provided by Horton Industries, Inc.) are assembled.
- ✓ Protective plastic covering is removed (where applicable).
- ✓ Connection of the spreader bars to the lifting crane and the home to the spreader bars.
- ✓ Supervision and direction of the crane operator to ensure that the halves are properly placed on the foundation.
- ✓ Once on the foundation the halves are pulled closer together (if necessary) with come-alongs.
- ✓ A temporary ridge cap (standard roofs only) is then installed to prevent water damage. For hinged roofs, poly is placed over the home.
- ✓ The spreader bars are disassembled and placed in the storage truck.
- ✓ Lifting straps are removed when possible.

Please note that the duties performed by the Horton Trucking crew does not include any other aspects of setup (including but not limited to roofing, raising hinged roofs, racking, lagging together, plumbing and electrical hookup, crossovers, trimout, etc.). Also, it should be noted that Horton Industries, Inc. is not responsible for removing the transport frames from the site. We do not buy back these frames for re-use.

Horton Trucking reserves the right to refuse to set a home in conditions that warrant such action. For example, the site must be accessible and include enough room to accommodate the crane, foundation, and home during the setting process. The site should be free of any overhead obstructions (powerlines, trees, etc.). The foundation must be square, level, and built to the specifications (provided upon request) outlined in the home plans.

Horton Industries, Inc. is not responsible for any damage due to the failure to install exterior siding, roofing, flashing, etc. in a timely manner. It is the retailers responsibility to ensure that the home is protected from damage.

This information is not intended to cover every situation that may occur. If you are unsure about additional costs or information that you may incur please be sure to call us to ask any questions you may have.

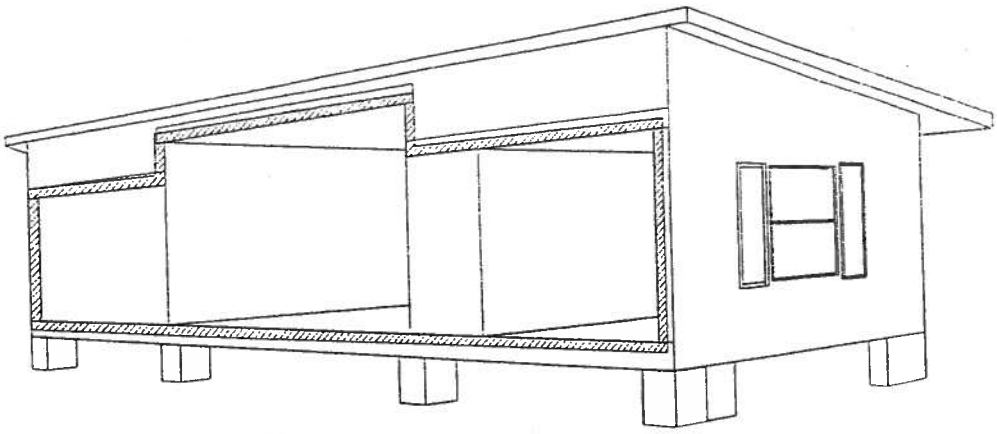


Addendum - A.20
Sealing at Marriage Wall

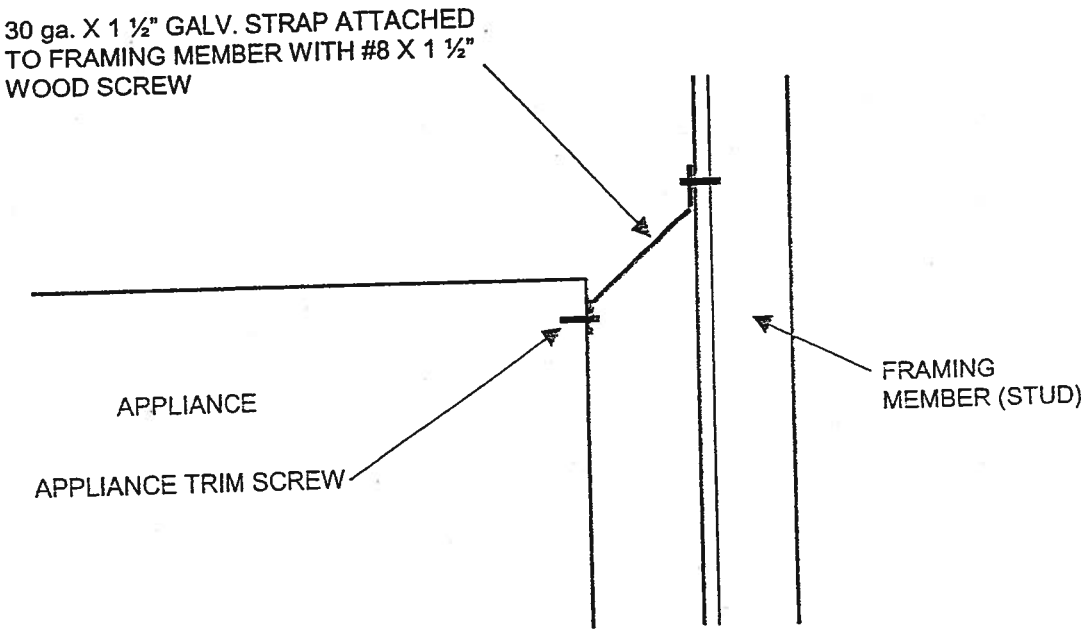
In certain areas, the customer may experience difficulty with excessive condensation, and loss of conditioned air if the following procedure is not followed.
Install insulation between gap at floor on underside of house, and cover with bottom board of polyethylene along the entire length of the house. If no gap is between the units, cover with bottom board of polytthylene alng the entire length of the house

If this insulation is not applied prior to setup, an expandable foam sealant (available at builder supply stores) is an excellent method for sealing the marriage lines of buildings.

Hatched areas on the drawing below, indicate typical locations where insulation/sealant may be required.



Addendum - A.30
Fastening of Appliances for Shipping – Factory Installed



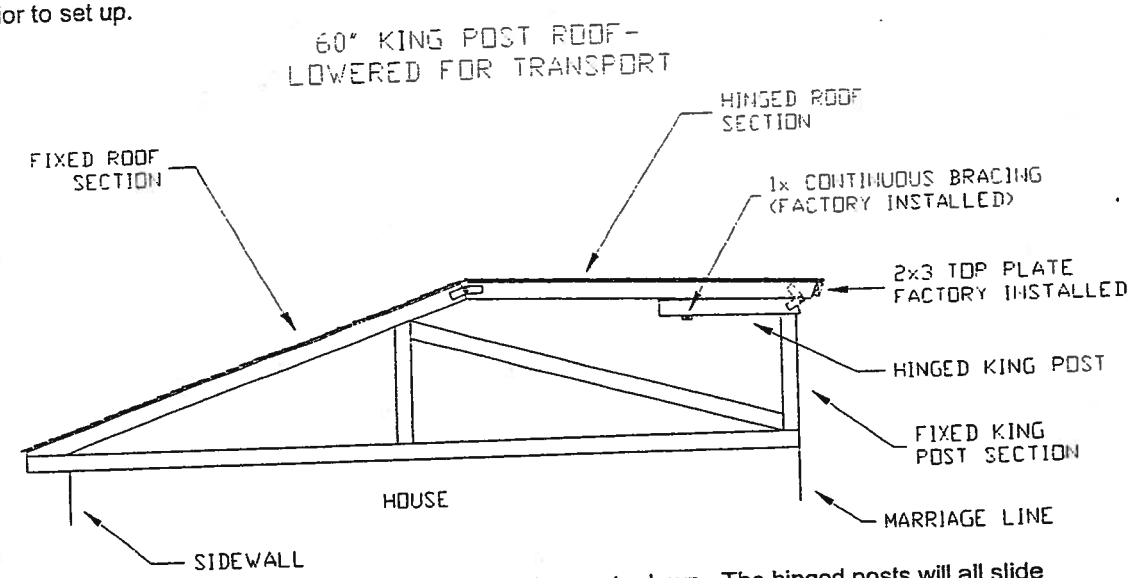
APPROVED
DEC 0 2 2002
HWC
HILBORN, WERNER, CARTER & ASSOC.

Addendum – B.10
Hinged Roof Set-up Procedure
Single Hinge Truss

This set up procedure must be used for all Horton Homes, Inc. 60 inch king post hinged roof set ups. All figures and drawings referenced in this procedure are included with this manual. Refer to the Home Owner's Manual for the complete multi-section home set-up procedure.

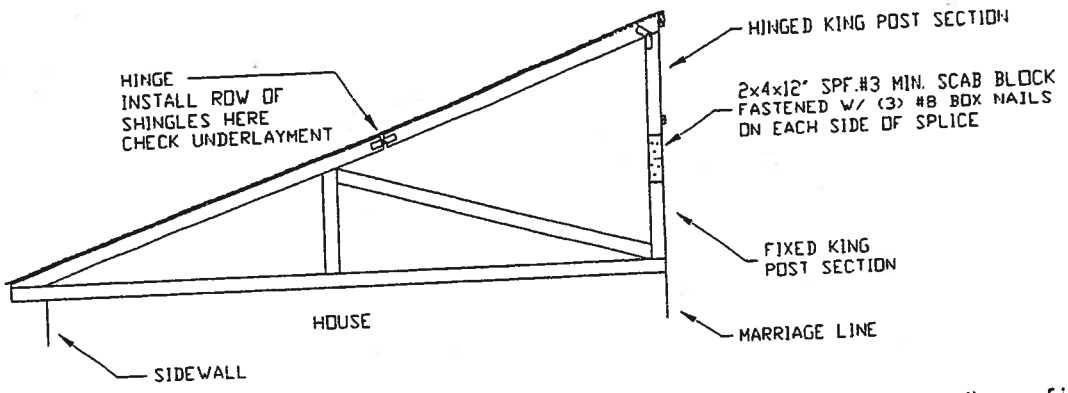
This hinged roof set-up procedure must be followed exactly to ensure proper set up. Carefully read the following instructions prior to raising the hinged roof.

1. Prior to raising the roof, position one half of the unit in its proper location according to the procedure outlined in the Home Owner's Manual. Be certain that the appropriate instructions are followed for the house's designated wind zone.
2. After setting the first half and removing all plastic, raise the hinged section of the roof using a crane, hydraulic jacks, or any equivalent lifting device. The lifting device should be securely positioned to lift the roof from the 2x3 top rail. The number of lift points along the roof will depend on the length of the house. The entire roof on one half of the house must be lifted simultaneously to prevent permanent roof damage. The following drawing displays the different components of the roof system, as well as the appearance and position of the roof components prior to set up.



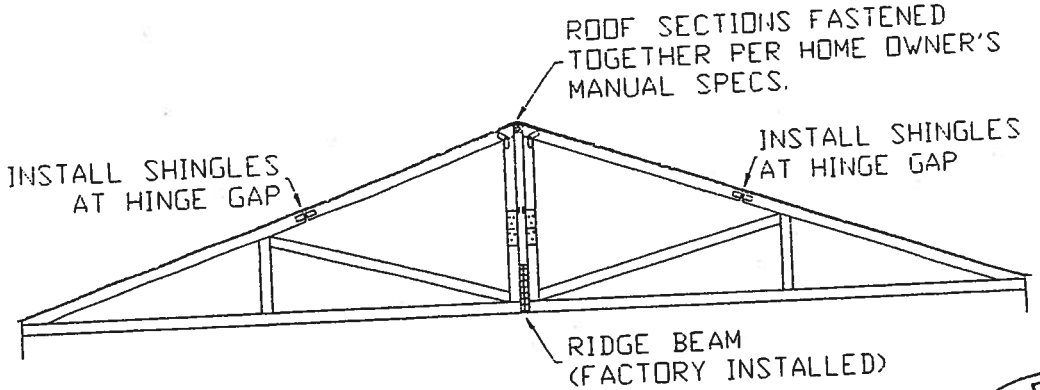
As the roof is raised, carefully swing the hinged king posts down. The hinged posts will all slide down simultaneously since they are all connected with a 1x continuous runner. When the roof is fully raised, position each post in line with the stationary portion of the king post.

3. After aligning the two ends of the king post, install 2x4 scab blocks spanning the joint between the stationary and the hinged portion of the king post using a minimum of 3 #8 box nails on each side of the block. This block should be a minimum of 12" in length to provide a 6" minimum coverage on each side of the splice.



4. Once the splice blocks have been installed, the lifting devices may be removed since the roof is capable of sustaining its own weight.
5. Now that the roof is secure, the trusses over the designated shearwalls must be blocked and sheathed with OSB structural sheathing. See the attached instructions for shearwall truss fastening and sheathing.
6. Check along the hinge line carefully for wrinkles, tears, etc. in the shingle underlayment or shingles and repair according to the single manufacturer's specifications.
7. Install the final row of shingles in the hinge area. These shingles have been provided by Horton Homes.
8. This section of the home is now complete. Repeat steps 2 thru 9 for the second half of the home.
9. Once the second roof has been raised, continue to set up the two halves as shown in the Home Owner's Manual. The figure on the next page shows the completed assembly.

Completed 60 Inch King Post Roof Assembly

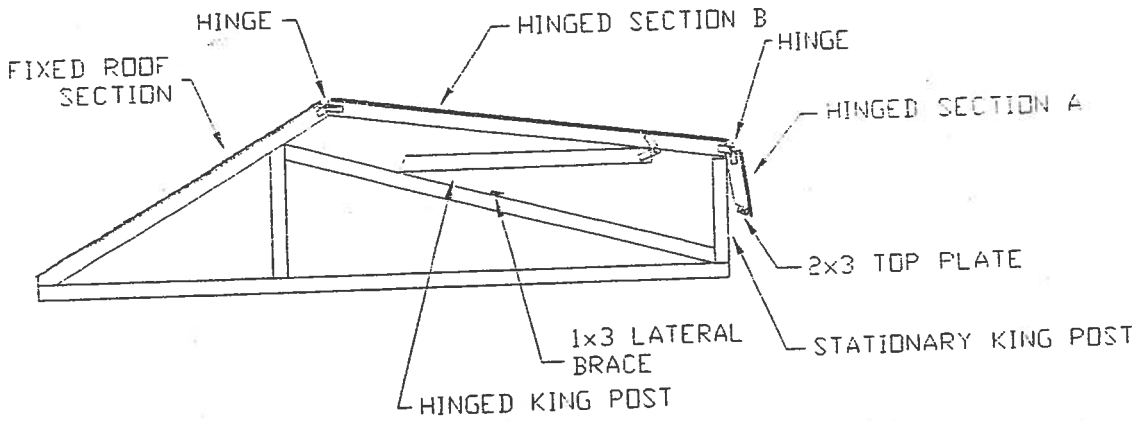


Addendum - B.20
Hinged Roof Set-up Procedure
Double Hinge Truss

This set up procedure must be used for all Horton Homes, Inc. 7/12 hinged roof set ups. All figures and drawings referenced in this procedure are included with this manual. Refer to the Home Owner's Manual for the complete multi-section home set-up procedure.
This hinged roof set-up procedure must be followed exactly to ensure proper set up. Carefully read the following instructions prior to raising the hinged roof.

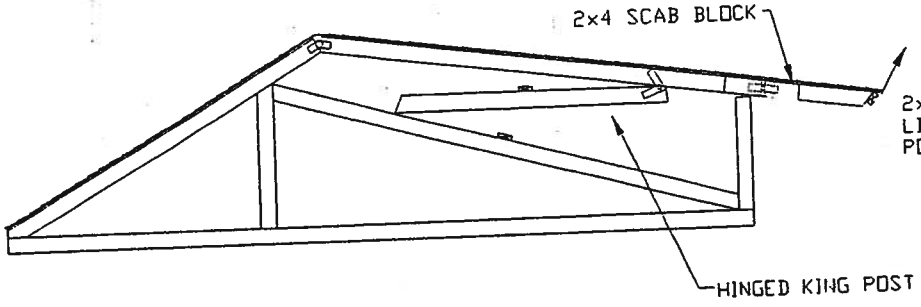
1. Prior to raising the roof, position one half of the unit in its proper location according to the procedure outlined in the Home Owner's Manual. Be certain that the appropriate instructions are followed for the house's designated wind zone. Figure 1 below shows the different parts of the 7/12 roof in the lowered position

Figure 1. 7/12 Roof in Transport Position



2. After setting the first half and removing all plastic, raise the smaller hinged section, labeled "hinged section A" on Fig. 1. The smaller hinge section must be raised high enough to form a straight, flush seam with the larger hinged section. Install 2x4 scab blocks every 4 feet to secure the small hinged section in place while raising the roof. See Fig 2. on the next page.

Figure 2. Small Hinged Section Fastening

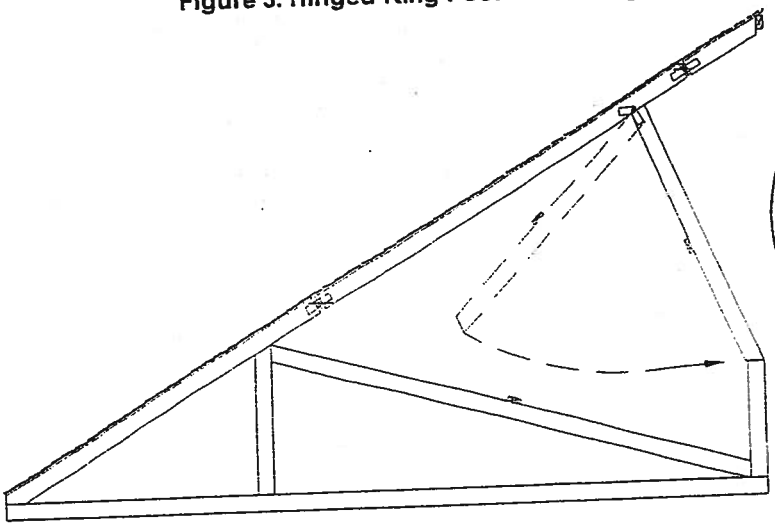


Continued on next page.....

3. After securing the small hinged section in place, raise the two hinged sections together using a crane or equivalent lifting device. The 2x3 roof end rail is the designated lifting point for the roof. The number of lifting points for the roof will depend on the length of the house. The roof for the entire half of the house must be lifted simultaneously to prevent any roof damage. The required capacity for your lifting device is approximately 55lbs per linear foot. (e.g. a 76' house will require 76'x55PLF = 4180lbs)

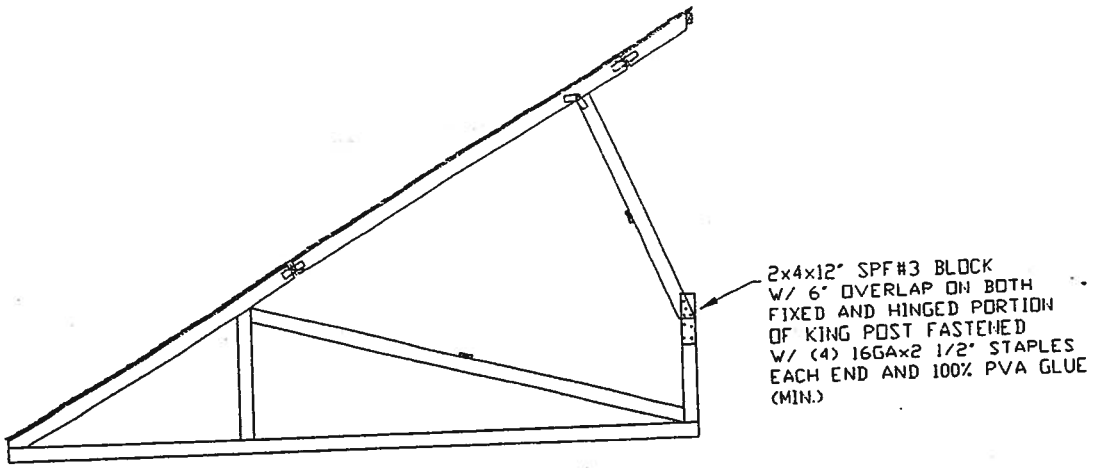
4. As the roof is raised, carefully swing the hinged king posts down. The hinged posts will all slide down simultaneously since they are all connected with a 1x continuous runner. When the roof is fully raised, position each post in line with the stationary portion of the king post.

Figure 3. Hinged King Post Positioning



5. After aligning the two ends of the king post, install 2x4 scab blocks spanning the joint between the stationary and the hinged portion of the king post using a minimum of (4) 16GA x 2 1/2" staples on each side of the block with 100% coverage PVA glue. This block should be a minimum of 12" in length to provide a 6" minimum coverage on each side of the splice.

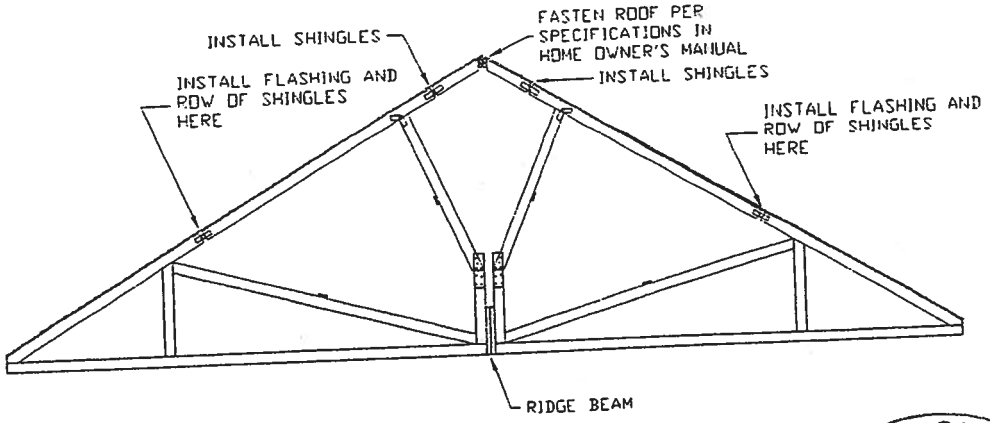
Figure 4. Scab Block Installation



Continued next page.....

6. Once the splice blocks have been installed, the lifting devices may be removed since the roof is capable of sustaining its own weight.
7. Now that the roof is secure, the trusses over the designated shearwalls must be blocked and sheathed with OSB structural sheathing. See the attached instructions for shearwall truss fastening and sheathing.
8. Check along the hinge line carefully for wrinkles, tears, etc. in the shingle underlayment or shingles and repair according to the single manufacturer's specifications. If the shingle underlayment is severely buckled, it is acceptable to cut the underlayment and reposition it as long as the shingles completely cover the underlayment. Install the strip of flashing provided by Horton Homes in the gap between the decking at the lower hinge using the typical fastening specifications for flashing in the Home Owner's Manual. This flashing will prevent buckling of the shingles.
9. Install the final row of shingles in the two hinge areas. These shingles have been provided by Horton Homes.
10. This section of the home is now complete. Repeat steps 2 thru 9 for the second half of the home.
11. Once the second roof has been raised, continue to set up the two halves as shown in the Home Owner's Manual. The figure on the next page shows the completed assembly.

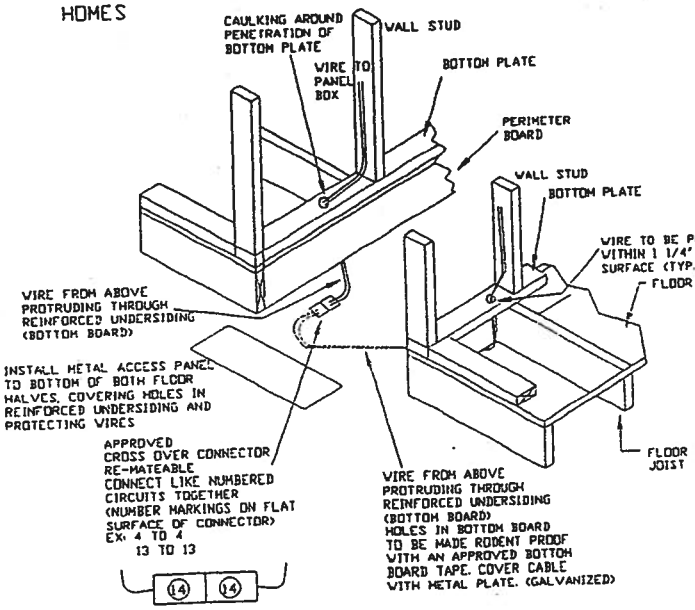
Figure 5. Completed 7/12 Roof Assembly



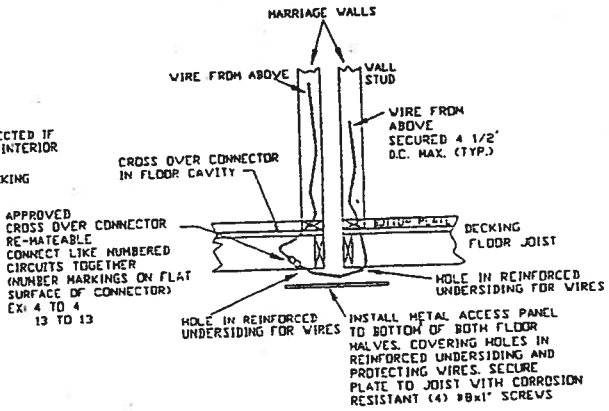
Addendum - C.10
Electrical Crossover Connection

ELECTRICAL WIRING INSTALLATION OF CROSS OVER CONNECTORS AT MARRIAGE WALL.

HORTON HOMES



MARRIAGE WALL-ISOMETRIC VIEW



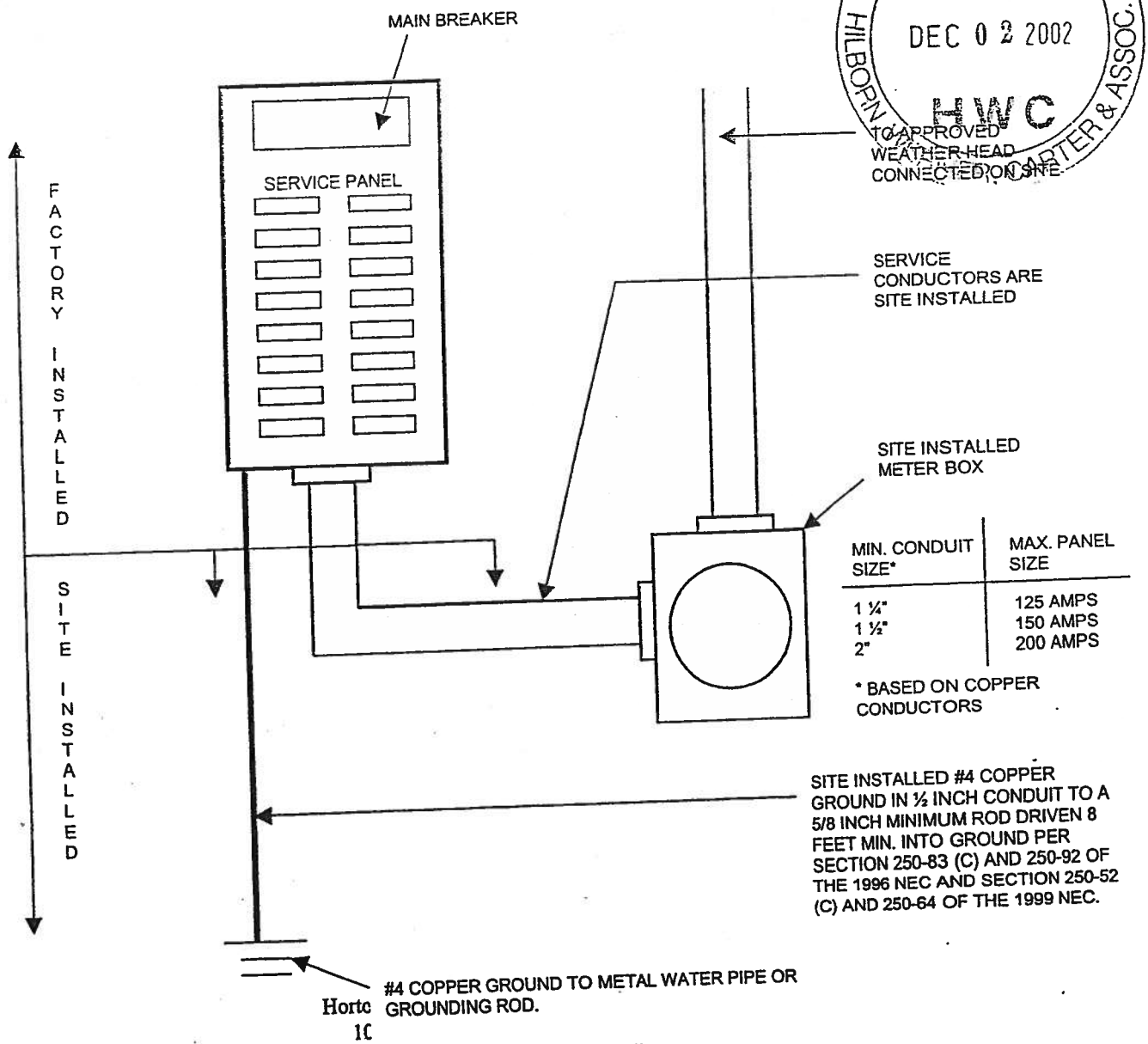
MARRIAGE WALL -SIDE VIEW

Addendum - C.20
Typical Single Panel Service

Note:

1. All electrical materials and contstruction must be in accordance with the National Electric Code (NEC) NFPA 70.
2. All electrical equipment to be UL listed or tested by independent laboratories in compliance with UL standards.
3. Service drop clearances above roof and ground must comply with section 230-24 of the NEC.
4. Electrical wires installed within 6'-0" of the attic access must be intalled per section 333-12 of the NEC.
5. Wires are to be fastened 4 feet o.c. and 12 inches from metal boxes and 8 inches from non-metal boxes.
6. All site installed items are designed by others and are subject to the approval of the local jurisdiction.

APPROVED
DEC 0 2 2002
HWC
HILBORN & WORCESTER & ASSOC.



MIN. CONDUIT SIZE*	MAX. PANEL SIZE
1 ¼"	125 AMPS
1 ½"	150 AMPS
2"	200 AMPS

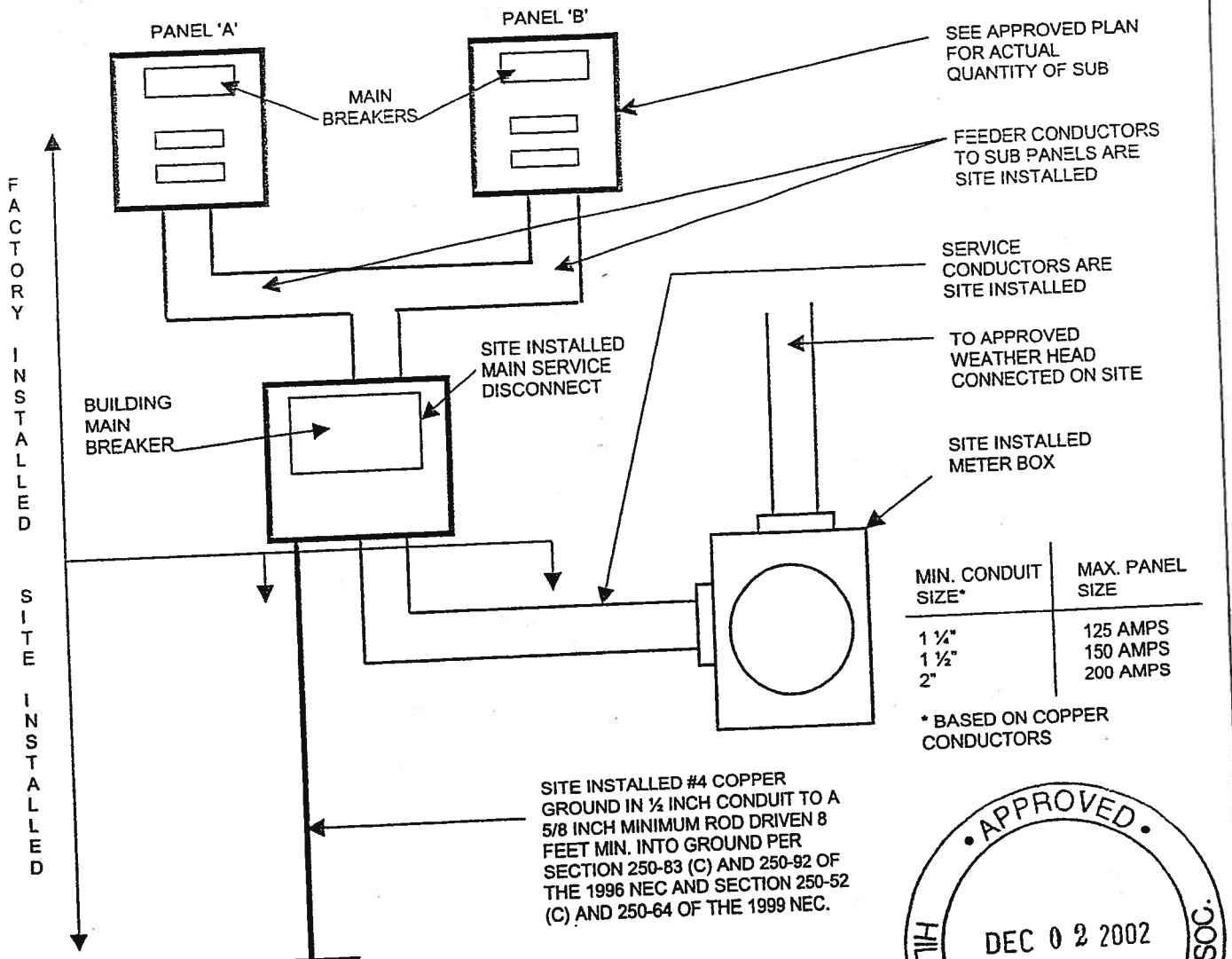
* BASED ON COPPER CONDUCTORS

Horto
1C

Addendum - C.30
Typical Multi Panel Service

Note:

1. All electrical materials and contstruction must be in accordance with the National Electric Code (NEC) NFPA 70.
2. All electrical equipment to be UL listed or tested by independent laboratories in compliance with UL standards.
3. Service drop clearances above roof and ground must comply with section 230-24 of the NEC.
4. Electrical wires installed within 6'-0" of the attic access must be intalled per section 333-12 of the NEC.
5. Wires are to be fastened 4 feet o.c. and 12 inches from metal boxes and 8 inches from non-metal boxes.
6. All site installed items are designed by others and are subject to the approval of the local jurisdiction.



MIN. CONDUIT SIZE*	MAX. PANEL SIZE
1 ¼"	125 AMPS
1 ½"	150 AMPS
2"	200 AMPS

* BASED ON COPPER CONDUCTORS

•APPROVED•
DEC 0 2 2002
HWC
HILBORN, WERNER, CARTER & ASSOC.

Addendum - C.40
Electrical Feeder and Equipment Sizes

Feeder Size (see main breaker and label on distribution panel) (Amps)	Minimum Sizes			Feeder Conductor Sizes						Max Calculated Neutral Feeder Load (AMPS)
		Flex Conduit (in.)		Copper Conductors (Note 1)			Aluminum Conductors			
	Junction Box (in)	Copper Conductors	Aluminum Conductors	Red & Black (Power)	White (Neutral)	Green (Ground)	Red & Black (Power)	White (Neutral)	Green (Ground)	
50	10x10x4	1	1	No.8 THW	No. 8 THW	No. 8 THW	No. 6 THW	No. 6 THW	No. 6 THW	50
100	10x10x4	1 ½	1 ½	No. 3 THW	No. 3 THW	No. 8 THW	No. 1 THW	No. 1 THW	No. 4 THW	100
125	12x12x8	1 ½	2	No. 1 THW	No. 3 THW	No. 6 THW	No. 2/0 THW	No. 1/0 THW	No. 2 THW	115
150	12x12x6	1 ½	2	No. 1/0 THW	No. 2 THW	No. 6 THW	No. 3/0 THW	No.1/0 THW	No. 1/0 THW	115
200	12x12x6	2	2	No. 3/0 THW	No. 2 THW	No. 6 THW	250 MCM THW	No. 1/0 THW	No. 1/0 THW	115

Note: Copper feeder conductor sizes No. 3 may be replaced by No. 2, No. 1 may be replaced by No. 1/0 & No. 1/0 may be replaced by No. 2/0.

Addendum - D.10
CPVC Crossover Connection

Crossover Procedure for CPVC Fresh Water Lines

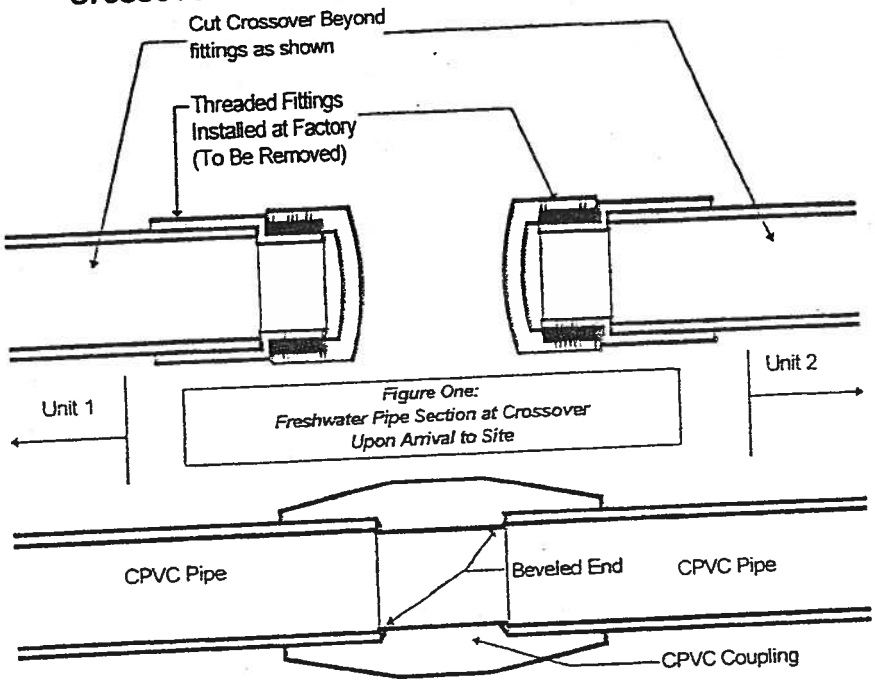


Figure One:
Freshwater Pipe Section at Crossover
Upon Arrival to Site

Figure Two:
Freshwater Pipe Section at Crossover
(After Crossover Procedure is Completed)

Instructions for Joining CPVC Piping at Crossover

1. Cut CPVC pipe (Square Cut) beyond the factory installed fittings at all units which have a crossover (as shown in Figure One).
2. Remove any ridges and/or burrs from the inside and outside diameter of the newly cut pipe in order to prepare the pipe for fittings. Then bevel edges as shown (Figure One) and clean the inside and outside diameters of the pipe tubing and fittings using a clean and dry cotton rag. DO NOT ATTEMPT TO SOLVENT WELD WET SURFACES.
3. Apply CPVC Cement ends of CPVC Piping and to the socket of the Couplings provided.
4. Join Pipe and Fitting at once and give pipe a ¼ turn.
5. Repeat Steps 3 and 4 to complete the connection from one unit to the other.

IMPORTANT NOTE: Be sure to connect Hot Water Lines to Hot Water Lines and Cold to Cold.
(Hot Water Lines are denoted at the factory with RED tape wrapped around the end.)

HORTON HOMES, INC. DYNASTY HOMES, INC.

UNIVERSAL FOREST PRODUCTS, INC.

DHP™ (PATENT PENDING) Hinged Roof Set-up Procedure

(Hinged Section "A" Lifting Method)

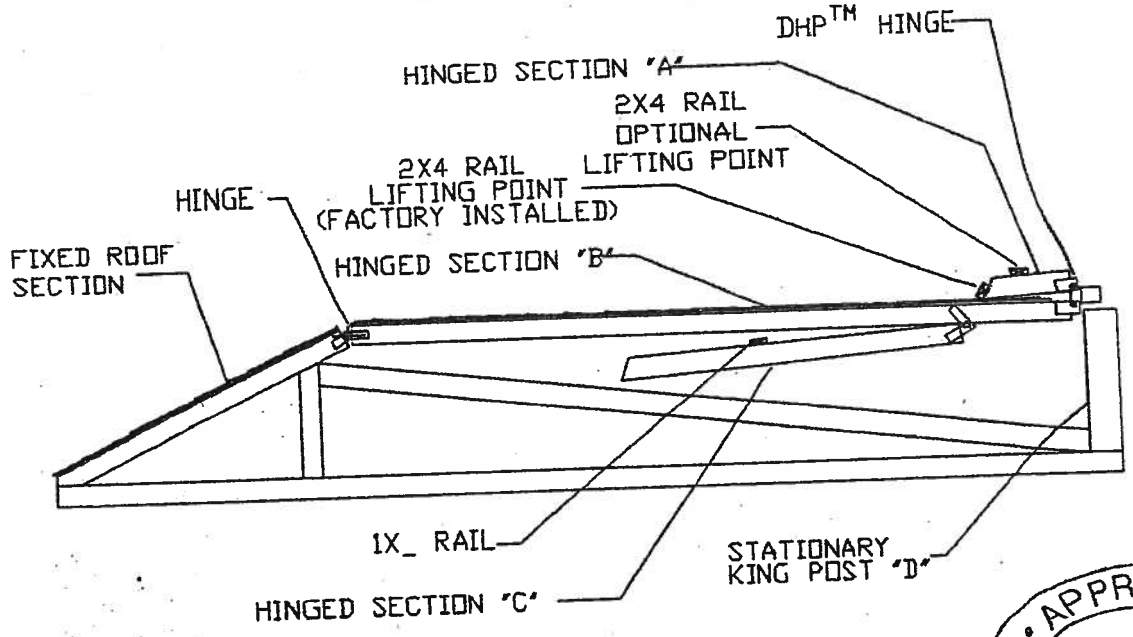
MODULAR

This set up procedure is for Horton Homes, Inc. and Dynasty Homes, Inc. Double hinged roof truss set ups. All figures and drawings referenced in this procedure are included with this manual. Refer to the Home Owner's Manual for the complete multi-section home set-up procedure. This hinged roof set-up procedure must be followed exactly to ensure proper set up. Carefully read the following instructions prior to raising the hinged roof.

CAUTION: Set-up of rafters utilizing the DHP™ should only be performed by personnel that have been trained on proper lifting procedures and are supervised by qualified personnnel.

1. Prior to raising the roof, position one half of the unit in its proper location according to the procedure outlined in the Home Owner's Manual. Be certain that the appropriate instructions are followed for the house's designated wind zone. Figure 1 below shows the different parts of the hinged roof truss system, with DHP™ flip back section, in the transport position.

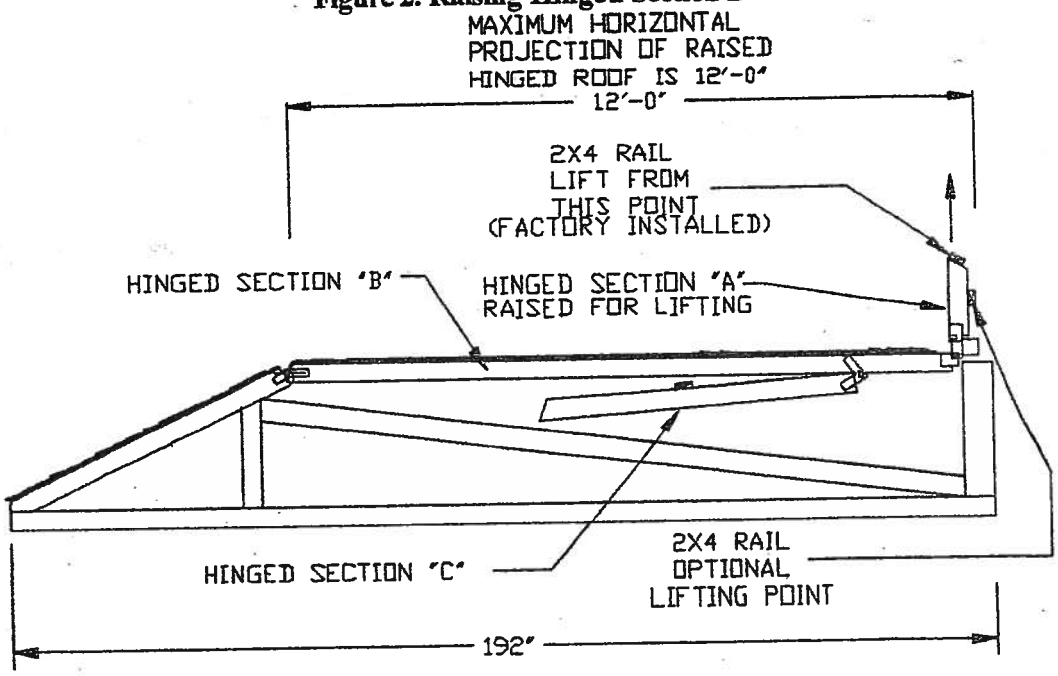
Figure 1. Roof in Transport Position



D2.0

2. After setting the first half of the house and removing all plastic, raise the hinged section "A" to a vertical position to allow for the lifting of hinged section "B". Hinged section "B" should be raised by using the 2x4 rail, which is the designated lifting point for the roof. (See Figure 2 drawing for location.) The number of lifting points for the roof will depend on the length of the house. The roof for the entire half of the house must be lifted simultaneously to prevent any roof damage. The required capacity for the lifting device is approximately 60lbs per linear foot. (e.g. a 76' house will require 76'x60PLF = 4,560lbs)
(12'/2)(10PSF)=60PLF
(60PLF)(76')=4,560LBS

Figure 2. Raising Hinged Section B

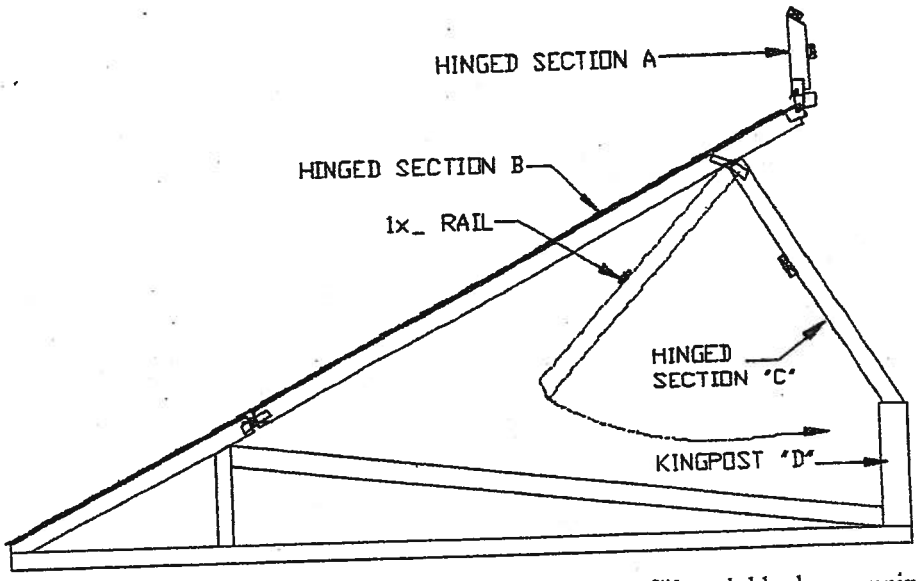


3. As the roof is raised, carefully swing the hinged section "C" down. All hinged section "C"s will slide down simultaneously since they are all connected with a 1x_ rail. When the roof is fully raised, position each section "C" in line with the stationary portion of the king post.

CAUTION: FOR SAFETY REASONS. Workers must not be under hinged section "B" until hinged section "C" has been set and secured

D2.1

Figure 3. Hinged Section "C" Positioning



4. After aligning hinged section "C" with the king post, install 2x4 spf#3 scab blocks spanning the joint between the stationary king post "D" and the hinged section "C" with 100% PVA glue coverage or structural adhesive that meets CA-25. This block should be a minimum of 12" in length to provide a 6" minimum coverage on each side of the splice.(See Figure 4) See Fastener Chart "A" below for fastener type and amount required on each side of kingpost "D" and hinged section "C" joint.

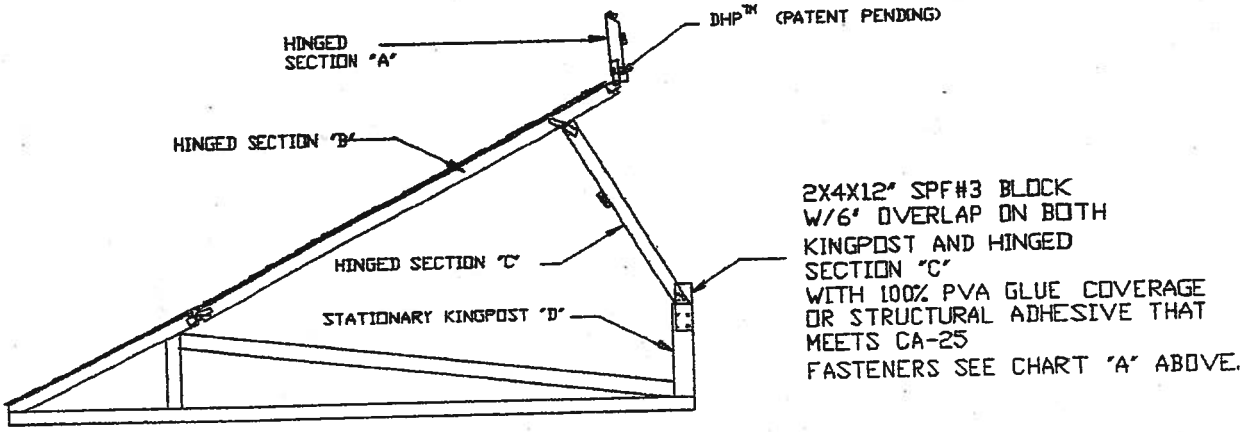
Fastener Chart A.

	STAPLE	NAIL	SCREW
WIND MPH	15GAX2-1/2 STAPLE	#8BOX NAIL .113DIA 2-7/8" LONG	#8 WOOD SCREW 1-3/8 PEN.
100MPH			
110MPH			
130MPH	9	8	8

1. Staple design based on HUD bulletin UM-25D
2. Nail and screw design based on 2001 NDS.
3. Maximum uplift force for Zone 1 is 350 lbs.
4. Maximum uplift force for Zone 2 is lbs.
5. Maximum uplift force for Zone 3 is lbs.

D2.2

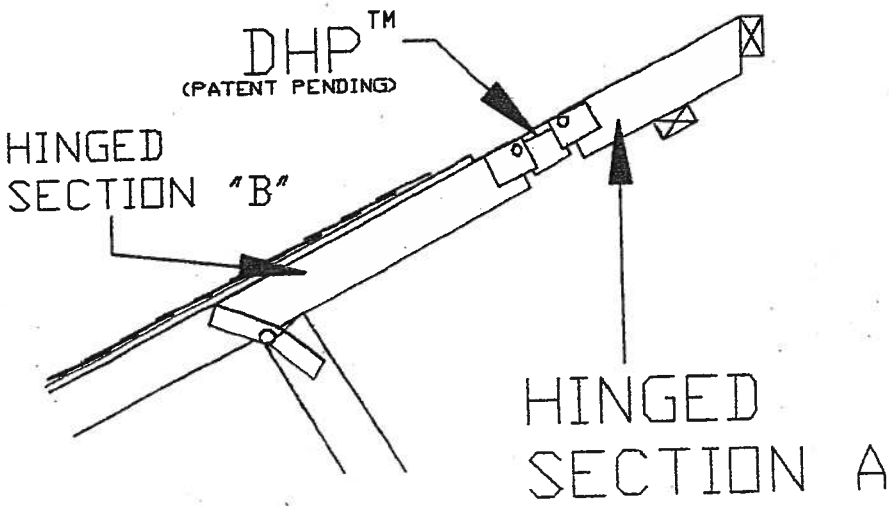
Figure 4. Scab Block Installation



5. Once the splice blocks have been installed, the roof is capable of supporting its own weight. The lifting devices may be removed.

6. After hinged section and kingpost are secured with scab block, lower the smaller hinged section, labeled "hinged section A". The smaller hinge section must be lowered to form a straight, flush seam with the larger hinged section "B". (See Figure 5).

Figure 5. Hinged Section A

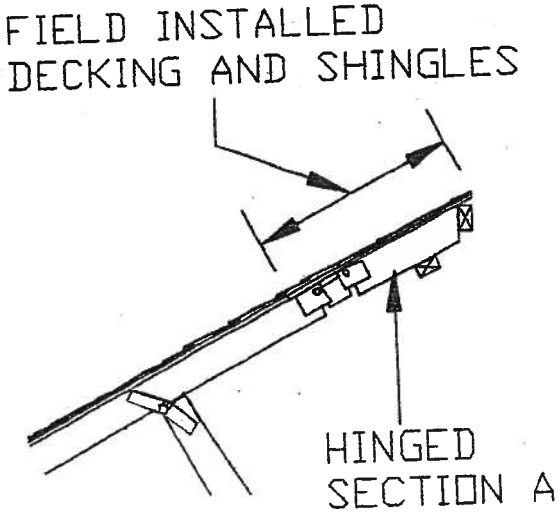


7. Now that the roof is secure, the trusses over the designated shearwalls must be blocked and sheathed with OSB structural sheathing. See the Home Owner's Manual for shearwall truss fastening and sheathing.

8. Check along the hinge line carefully for wrinkles, tears, etc. in the shingle underlayment or shingles and repair according to the shingle manufacturer's specifications. Install decking and the final row of shingles in the two hinge areas. Install 7/16" OSB roof decking to trusses w/ 15GA. X 1-1/2" staples 4"o.c. at edge and 4"o.c. in field. At shearwall truss locations, staple spacing is 4"o.c. at edge and 2-1/2"o.c. in field. Install shingle underlayment and shingles as per shingle manufacturers' instructions. The decking and shingles have been provided by the Horton Homes, Inc. or Dynasty Homes, Inc. As an option, metal flashing maybe installed over hinged joint.

D2.4

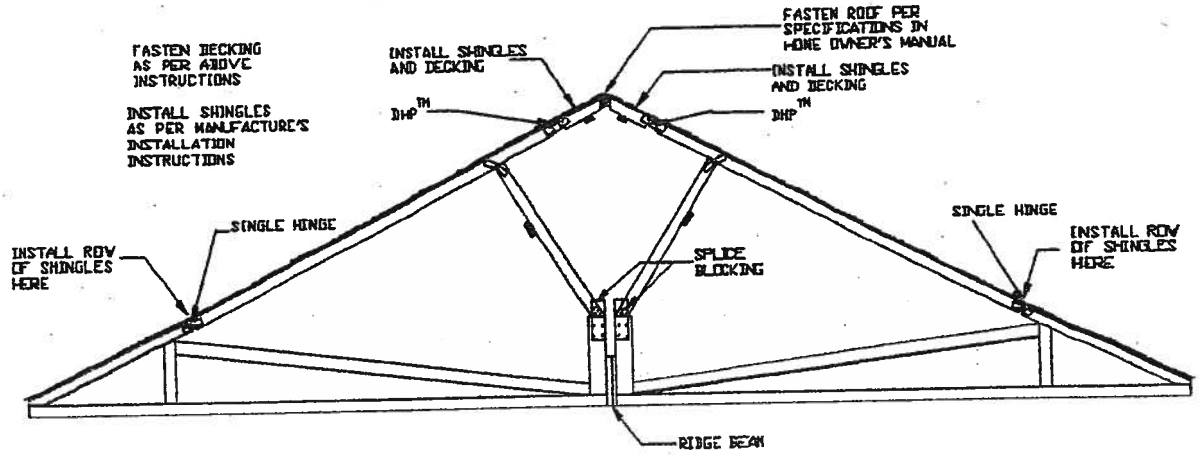
Figure 5. Hinged Section A (Decking and Shingles)



9. This section of the home is now complete. Repeat steps 1 thru 9 for the second half of the home.
10. Once the second roof has been raised, continue to set up the two halves as shown in the Home Owner's Manual. The figure below shows the completed assembly.

Figure 6. Completed Roof Assembly

02.5



D2.6

HORTON HOMES, INC.

DYNASTY HOMES, INC.
A Division of Horton Industries, Inc.

Modular Material Specifications

Material Specifications are arranged using the CSI Masterformat method for categorizing listed materials. The CSI Masterformat is as follows:

Division 1 — General Requirements	NOT CURRENTLY USED
Division 2 — Site Construction	NOT CURRENTLY USED
Division 3 — Concrete	NOT CURRENTLY USED
Division 4 — Masonry	NOT CURRENTLY USED
Division 5 — Metals	NOT CURRENTLY USED
Division 6 — Wood and Plastics	NOT CURRENTLY USED
Division 7 —Thermal and Moisture Protection	NOT CURRENTLY USED
Division 8 — Doors and Windows	
Division 9 — Finishes	NOT CURRENTLY USED
Division 10 — Specialties	
Division 11 — Equipment	
Division 12 — Furnishing	NOT CURRENTLY USED
Division 13 — Special Construction	NOT CURRENTLY USED
Division 14 — Conveying Systems	NOT CURRENTLY USED
Division 15 — Mechanical (includes Plumbing)	
Division 16 — Electrical	

REVIEWED BY: C. BARROWS
APPROVED
DEC 0 4 2002
HWCNC, P.C.

SIEMENS

INSTRUCTIONS FOR INSTALLATION OF THE ARC FAULT CIRCUIT INTERRUPTER (AFCI) & CIRCUIT BREAKER

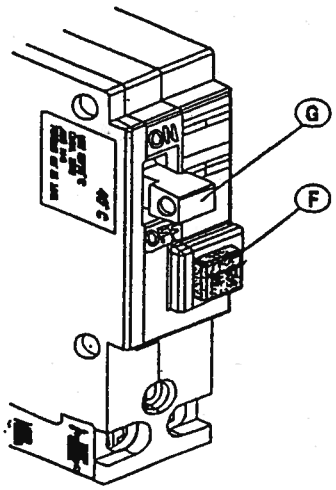


Figure 2

TESTING INSTRUCTIONS

See Figure 2.

1. Turn on power to load center or panelboard.
2. Turn "ON" the AFCI handle.
3. Press blue test button (F) as shown in Fig.2.

The AFCI breaker is functioning properly when:

1. The circuit is interrupted.
2. The handle moves to the tripped center position (G) as shown in Fig.2.

If breaker does not trip, check the troubleshooting section below.

TROUBLESHOOTING

PROBLEM	SOLUTIONS	IF SOLUTIONS DO NOT WORK
Breaker does not trip after pressing the test button.	1. Check that power is available. 2. Make sure that handle is in the "ON" position. 3. Check that the load power wire, panel neutral (pig-tail) wire and load neutral wire are properly connected.	AFCI circuit breaker must be replaced.
Breaker trips immediately or shortly after it has been turned on.	1. Make sure that the AFCI circuit breaker has been installed properly. 2. Check that there is not an arcing fault in the circuit. 3. Make sure that there is not an overload condition on the circuit.	In case of an arcing fault or an overload in the system, a qualified electrician should make the repairs. If there is not an arcing fault or an overload condition, the breaker must be replaced.

#25127

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

LABORATORIES

P.O. Box 1625 • Lake City, FL 32056 | Tel. (386) 755-3633 • Fax (386) 752-5456
4784 Rosselle Street • Jacksonville, FL 32254 | Tel. (904) 381-8901 • Fax (904) 381-8902
2230 Greensboro Highway • Quincy, FL 32351 | Tel. (850) 442-3495 • Fax (850) 442-4008

October 9, 2006

Eugene Royals
550 SW Gabriel Place
Lake City, Florida 32024

Reference: Royals Residence
Gabriel Place
Lake City, Florida
Cal-Tech Project No. 06-578

Dear Mr. Royals,

Cal-Tech Testing, Inc. has completed the subsurface investigation and engineering evaluation for the proposed residence at the above referenced location. Our work was performed in conjunction with and authorized by you.

Introduction

We understand you will assemble a single-story, modular residential structure with a plan area of approximately 1,000 square feet. Support for the structure is to be provided by conventional, shallow spread footings, with low concrete block walls above. We understand that the design bearing pressure for the foundations is 2,000 pounds per square foot (psf). Detailed foundation loads have not been provided; however, we assume wall loads will not exceed 2.0 kips per foot.

The purposes of our investigation were to evaluate the existing subgrade soils for an allowable bearing pressure of 2,000 psf and to present recommendations for foundation design and construction.

Site Investigation

The subsurface conditions were investigated by performing two (2) Standard Penetration Test borings advanced to a depth of 10 feet. The borings were performed at the approximate locations indicated on the attached Report of Soil Borings, and were located in the field from corner stakes placed by you.

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

Both soil borings initially encountered a one foot thick layer of silty fine sands with trace amounts of organics. This was underlain by very loose to loose fine sands to four feet, then loose to dense clayey to very clayey fine sands to the termination depth of 10 feet.

Ground water was not encountered at the maximum boring depth of 10 feet.

For a more detailed description of the subsurface conditions encountered, please refer to the attached Report of Soil Borings. Note that the transition between soil layers may be gradual and not abrupt as indicated by the logs; therefore, the thickness of soil layers should be considered approximate.

Discussion and Recommendations

The site soils appear to be very loose to loose to a depth of about 4 feet and then loose to dense below. Based upon these findings, moderate site improvement should be performed; however, it is our opinion the site soils are suitable to provide support for the structure using conventional, shallow spread footings. We concur that the foundations may be sized using a maximum soil bearing pressure of 2,000 psf; however, we recommend foundations have minimum widths of 18 and 24 inches for strip and isolated footings, respectively, even though the allowable soil bearing pressure may not be developed. The bottoms of foundations should be embedded a minimum of 18 inches below the lowest adjacent grade (finished surface grade, for example).

Due to the generally very loose to loose condition of the immediate bearing soils, we believe it would be beneficial to proof-roll and then proof-compact the bearing soils throughout the building area. These 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 below the foundation bearing level. Compaction of the bearing soils will reduce settling of the foundations and thereby reduce the likelihood of distress in the structure.

Our evaluation is based upon subsurface conditions encountered at this site 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 further assistance.

Respectfully submitted,
Cal-Tech Testing, Inc.

Linda Creamer
President / CEO

Robert W. Clark, P.E. 10/11/06
Geotechnical Engineer
Registered Florida No. 52210

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 05-4S-16-02781-000 **Building permit No.** 000025127

Use Classification MODULAR **Fire:** 61.38

Permit Holder KEVIN BEDENBAUGH **Waste:** 184.25

Owner of Building EUGENE & NANCY ROYALS **Total:** 245.63

Location: 550 SW GABRIAL PLACE,LAKE CITY,FL 32055

Date: 11/16/2006

Harry Dicks

Building Inspector

POST IN A CONSPICUOUS PLACE
(Business Places Only)

TYPICAL CONSTRUCTION DETAILS

DWG. NO.	DWG. NAME	REVISED DATE
FL-1	TYPICAL FLOOR DETAILS	01-11-05
RF-1	TYPICAL ROOF DETAILS	01-11-05
BC-1	RIDGE BEAM AND HEADER DETAILS	01-11-05
TF-1	TYPICAL FRAMING INFORMATION	01-11-05
TF-2	TYPICAL FRAMING INFORMATION	01-11-05
EXS-1	TYPICAL EXTERIOR SIDING DETAILS	01-11-05
CHS-1	ON FRAME CROSS SECTION	01-11-05
PFS-1	OFF FRAME CROSS SECTION	01-11-05
ED-1	END WALL DETAILS	01-11-05
OD-1	OVERHANG DETAILS	01-11-05
SW-1	SHEAR WALL & ROOF DIAPHRAGM DETAILS	01-11-05

STRUCTURAL DRAWING REFERENCE:

FLOORS FL-1
WALLS AND OPENINGS TO-1
CORNER BRACING AND PARTITIONS CWB-1
BEAMS AND CATHEDRAL BC-1
EXTERIOR SYSTEMS EXS-1
CROSS SECTIONS CS-2
ROOF SYSTEM RF-1
SHEAR WALL LOCATION
SHEAR WALL DESIGNATION
MINIMUM INSULATION VALUES:
ROOF: R-38
WALLS: R-15
FLOOR: R-22
EXPOSED AIR DUCT WORK: R-6
WINDOWS SHALL BE DOUBLE PANE OR STORM TYPE

PLAN REVIEW AND INSPECTION REQUIRED BY CHAPTER 633 F.S., TO BE PERFORMED BY LOCAL FIRE SAFETY INSPECTOR.

CODE SUMMARY:

STATE	RESIDENTIAL	ELECTRICAL	MECHANICAL	PLUMBING	ACCESSIBILITY	ENERGY
FLORIDA	RESIDENTIAL 2004 FBC.	2002 NEC	RESIDENTIAL 2004 FBC	RESIDENTIAL 2004 FBC	2004 FBC CHAPTER 11	2004 FBC CHAPTER 11

ATTENTION LOCAL INSPECTIONS DEPARTMENT

SET-UP INSTRUCTIONS FOR THIS MODULAR UNIT ARE INCLUDED BY ATTACHMENT TO THESE PLANS. ANY PLANS SET WHICH DOES NOT INCLUDE AN ATTACHMENT ENTITLED "INSTALLATION INSTRUCTIONS" ARE INCOMPLETE.

THE FOLLOWING ITEMS HAVE NOT BEEN COMPLETED BY THE MANUFACTURER, HAVE NOT BEEN INSPECTED BY HWC-AHWCNCP, AND ARE NOT CERTIFIED BY THE MODULAR LABEL. NOTE THAT THIS LIST DOES NOT NECESSARILY LIMIT THE ITEMS OF WORK AND MATERIALS THAT MAY BE REQUIRED FOR A COMPLETE INSTALLATION. ALL SITE RELATED ITEMS ARE SUBJECT TO LOCAL JURISDICTION APPROVAL. CODE COMPLIANCE MUST BE DETERMINED AT THE LOCAL LEVEL:

SITE INSTALLED ITEMS:

NOTE THAT THIS LIST DOES NOT NECESSARILY LIMIT THE ITEMS OF WORK AND MATERIALS THAT MAY BE REQUIRED FOR A COMPLETE INSTALLATION. ALL SITE RELATED ITEMS ARE SUBJECT TO LOCAL JURISDICTION APPROVAL.

1. THE COMPLETE FOUNDATION SUPPORT AND TIE DOWN SYSTEM.
2. RAMPS, STAIRS AND GENERAL ACCESS TO THE BUILDING.
3. PORTABLE FIRE EXTINGUISHER(S).
4. BUILDING DRAINS, CLEANOUTS, AND HOOK-UP TO PLUMBING SYSTEM.
5. ELECTRICAL SERVICE HOOK-UP (INCLUDING FEEDERS) TO THE BUILDING.
6. THE MAIN ELECTRICAL PANEL AND SUB-FEEDERS (MULTI-UNITS ONLY).
7. CONNECTION OF ELECTRICAL CIRCUITS CROSSING OVER MODULE MATING LINE(S) - (MULTI-UNITS ONLY).
8. STRUCTURAL AND AESTHETIC INTERCONNECTIONS BETWEEN MODULES (MULTI-UNITS ONLY).
9. EXTERIOR WALL FINISH AND SOFT MATERIAL
10. WINDOWS , STORM SHUTTERS.
11. BOTTOM OF FLOOR WIND PROTECTION (IF APPLICABLE)
12. AT MATELINES, FIRESTOPPING . FIRE BLOCKING AT MATELINE AND AIR INFILTRATION STOPPING SHALL BE INSTALLED BETWEEN MODULES IN ACCORDANCE WITH IRC(R602.8) & IBC.(716.2) (FBC-R,602-83) SECTIONS 705.3 AND 2305.FIRE BLOCKING MATERIAL SHALL BE FIRE SAFING INSULATION AND / OR U/L LISTED FIRE CAULK FOR GAPS OF 1/2" WIDTH AND LESS FOR LARGER GAPS FIRE SAFING INSULATION SHALL BE SUPPORTED ON NON-COMBUSTIBLE SUPPORTS, SUCH AS METAL FLASHING.
13. CROSS-OVER DUCT (HVAC)
14. PERIMETER DUCT LAYOUT (HVAC)
15. WATER HEATER

ELECTRICAL SCHEDULE

BRKR.	NO.	NOMENCLATURE	VOLTS	WIRE CU. NM	DESCRIPTION	KVA
20	5	PORTABLE APPLIANCE	120	12/2 GFI	FLOOR AREA (2006.6 SF x 3 VA.) / 1000 =	6.0 KVA
20	6	PORTABLE APPLIANCE	120	12/2 GFI	(2) SMALL APPLIANCES AT 1500 VA / 1000 =	3.0 KVA
					OVEN AT 8.0 KW.(NAMEPLATE) =	8.0 KVA
					WATER HEATER AT 5.5 KW. =	5.5 KVA
15	2,4	GENERAL LIGHTING	120	14/2 AFCI	DISHWASHER AT 1.4 KW. = (Opt)	1.4 KVA
15	14,16	GENERAL LIGHTING	120	14/2 AFCI	WASHER AT 1500 VA. / 1000 =	1.5 KVA
15	15	GENERAL LIGHTING	120	14/2	DRYER AT 5.0 KW. =	5.0 KVA
					GARBAGE DISPOSAL AT 1.9 KW. =	1.9 KVA
20	7	BATHROOM RECEPT'S	120	12/2 GFI	STOVE TOP AT 8.0 KW.(NAMEPLATE) =	8.0 KVA
25 (2P)	1	WATER HEATER	240	12/3		KVA
20	3	WASHER	120	12/2 GFI		KVA
30 (2P)	10	DRYER	240	10/3		KVA
15	11	DISHWASHER(Opt)	120	14/2		
40 (2P)	12,13	OVEN/STOVE TOP	240	8/3		
20(OPT)	17	GARBAGE DISPOSAL	120	12/2		
15	18	SMOKE DETECTORS	120	14/2 AFCI		
	19/21	HVAC /HEAT PUMP	SIZED PER MFR. SPECS.			
	9	BLOWER/IF SPLIT SYS	SIZED PER MFR. SPECS.			
					TOTAL LOAD	40.3 KVA
					FIRST 10 KVA AT 100%	10.0 KVA
					REMAINDER AT 40%	12.12 KVA
					HVAC AT 100%	15.6 KVA

PANEL SIZING

TOTAL 37.9
TOTAL ÷ 240
x 1000 = 157.9
INSTALL 200 MIN AMP PANEL 120/240 V., 1Ø

200 AMP PANEL

FLORIDA STRUCTURAL LOAD LIMITATIONS:

FLOOR LIVE LOAD:
1. 40 PSF.

ROOF LIVE LOAD:
2. 20 PSF.

WIND LOAD:
1. 130 MPH WIND SPEED.
2. Iw = 1.0 WIND IMPORTANCE FACTOR. BUILDING CAT. II (ASCE 7-98)
3. C WIND EXPOSURE CATEGORY..ENCLOSED
4. GCpi = 0.18 INTERNAL PRESSURE COEFFICIENT.
5. D.W.P. FOR C/C PSF

Pr = ROOF COMPONENT & CLADDING LOAD.(EA=50PSF)

ZONE 1 = - 31.4 PSF

ZONE 2,3 = - 55.0 PSF

ROOF OVERHANG

ZONE 2 = - 68.6PSF

ZONE 3 = - 115.3 PSF

Pw = WALL COMPONENT & CLADDING LOAD.

WALL : (WINDOWS, DOORS)

ZONE 4 = - 40.0 PSF

ZONE 5 = - 49.2 PSF

6. THIS BUILDING IS NOT DESIGNED FOR PLACEMENT ON THE UPPER HALF OF A HILL OR ESCARPMENT EXCEEDING 15 FEET IN HEIGHT.
7. FLOOD LOAD: THIS BUILDING IS NOT DESIGNED TO BE LOCATED IN A FLOOD HAZARD AREA.

GENERAL NOTES: 2004 - FBC. RESIDENTIAL

1. ALL GLAZING WITHIN 24 INCH ARC OF DOORS, WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR, AND ALL GLAZING IN DOORS SHALL BE SAFETY, TEMPERED OR ACRYLIC PLASTIC SHEET.
2. FLOOR DESIGN LIVE LOAD - 40 PSF.
3. MAXIMUM WIND SPEED - 130 MPH. *
4. OCCUPANCY IS RESIDENTIAL. (R-3)
5. OCCUPANT LOAD IS BASED ON 1 PERSON PER 200 SQUARE FEET OF FLOOR AREA.
6. CONSTRUCTION IS TYPE VB
7. CEILING FANS SHALL BE 80 INCHES MINIMUM FROM BOTTOM OF BLADES TO FINISH FLOOR.
8. MINIMUM CORRIDOR WIDTH IS 36 INCHES.
9. WINDOWS , GLASS, DOORS, SHALL COMPLY WITH AAMA / NWWDA 101 / I.S.2.-97
10. THIS BUILDING IS NOT DESIGNED TO BE LOCATED IN A COASTAL HIGH HAZARD AREAS, AND REGULATORY FLOOD PLAIN AREAS.
11. ALL MATERIALS USE IN THIS CONSTRUCTION OF THE BUILDING WHICH ARE COVERED BY THE FLORIDA BUILDING COMMISSION CHAPTER 9B-72 RULES SHALL HAVE CURRENT FLORIDA PRODUCT APPROVAL.

MODULAR CODES: SEE NOTES LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
archreg@aol.com
FLA. 9927

SEAL

APPROVED JUL 14 2005

ELECTRICAL NOTES: 2002 NEC

1. ALL CIRCUITS AND EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH THE APPROPRIATE ARTICLES OF THE NATIONAL ELECTRICAL CODE (NEC).
2. WHEN LIGHT FIXTURES ARE INSTALLED IN CLOSETS THEY SHALL BE SURFACE MOUNTED OR RECESSED. INCANDESCENT FIXTURES SHALL HAVE COMPLETELY ENCLOSED LAMPS. SURFACE MOUNTED INCANDESCENT FIXTURES SHALL HAVE A MINIMUM CLEARANCE OF 12 INCHES AND ALL OTHER FIXTURES SHALL HAVE A MINIMUM CLEARANCE OF 6 INCHES FROM "STORAGE AREA" AS DEFINED BY NEC 410-8(a).
3. WHEN WATER HEATERS ARE INSTALLED THEY SHALL BE PROVIDED WITH READILY ACCESSIBLE DISCONNECTS ADJACENT TO THE WATER HEATERS SERVED. THE BRANCH CIRCUIT SWITCH OR CIRCUIT BREAKER SHALL BE PERMITTED TO SERVE AS THE DISCONNECTING MEANS ONLY WHERE THE SWITCH OR CIRCUIT BREAKER IS WITHIN SIGHT FROM THE WATER HEATER OR IS CAPABLE OF BEING LOCKED IN THE OPEN POSITION.
4. HVAC EQUIPMENT SHALL BE PROVIDED WITH READILY ACCESSIBLE DISCONNECTS ADJACENT TO THE EQUIPMENT SERVED. A UNIT SWITCH WITH A MARKED "OFF" POSITION THAT IS A PART OF THE HVAC EQUIPMENT AND DISCONNECTS ALL UNGROUNDED CONDUCTORS SHALL BE PERMITTED AS THE DISCONNECTING MEANS WHERE OTHER DISCONNECTING MEANS ARE ALSO PROVIDED BY A READILY ACCESSIBLE CIRCUIT BREAKER.
5. PRIOR TO ENERGIZING THE ELECTRICAL SYSTEM THE INTERRUPTING RATING OF THE MAIN BREAKER MUST BE DESIGNED AND VERIFIED AS BEING IN COMPLIANCE WITH SECTION 110-9 OF THE NEC BY LOCAL ELECTRICAL CONSULTANT.
6. THE MAIN ELECTRICAL PANEL AND FEEDERS ARE DESIGNED BY OTHERS, SITE INSTALLED AND SUBJECT TO LOCAL JURISDICTION APPROVAL.
7. ALL CIRCUITS CROSSING OVER MODULE MATING LINE(S) SHALL BE SITE CONNECTED WITH APPROVED ACCESSIBLE JUNCTION BOXES, OR CABLE CONNECTORS.
8. ALL OUTLETS LOCATED WITHIN 6 FEET OF A SINK OR BASIN SHALL BE EQUIPPED WITH GFCI PROTECTION.
9. SMOKE DETECTORS SHALL BE WIRED SO THAT THE OPERATION OF ANY ONE SMOKE DETECTOR WILL CAUSE SIMULTANEOUS ACTIVATION OF ALL OTHERS.
10. ALL RECEPTACLES INSTALLED IN WET LOCATIONS (EXTERIOR) SHALL BE IN WEATHER PROOF (WP) ENCLOSURES, THE INTEGRITY OF WHICH IS NOT AFFECTED WHEN AN ATTACHMENT PLUG CAP IS INSERTED OR REMOVED.
11. ALL BRANCH CIRCUITS SUPPLYING 15 AND 20 AMPERE OUTLETS IN BEDROOM ARE PROTECTED BY AN ARC- FAULT CIRCUIT INTERRUPTER IN ACCORDANCE WITH SECTION 210.12,2002 NEC.

Date: JUL 15 2005
Plan Number: 1447-4819F
Approved by James A. Lyons
Modular Building Plans Examiner
Florida License Number: SMP-12

PLUMBING NOTES: 2004 - FBC. RESIDENTIAL

1. ALL PLUMBING FIXTURES SHALL HAVE SEPARATE SHUT-OFF VALVES.
2. WATER HEATER SHALL HAVE SAFETY PAN WITH 1 INCH DRAIN TO EXTERIOR, T & P RELIEF VALVE WITH DRAIN TO EXTERIOR, AND A SHUT OFF VALVE WITHIN 3 FEET ON A COLD WATER SUPPLY LINE.
3. WATER PIPES INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION. WATER PIPING INSTALLED IN AN UNCONDITIONED ATTIC SHALL BE INSULATED WITH AN INSULATION OF R-6.5 MINIMUM.
4. DWV SYSTEM SHALL BE EITHER ABS OR PVC - DWV.
5. WATER SUPPLY LINES SHALL BE POLYBUTYLENE, CPVC, OR COPPER; WHEN POLY-BUTYLENE SUPPLY LINES ARE INSTALLED THE MAXIMUM WATER HEATER TEMPERATURE SETTING IS 180° F. THE POLYBUTYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS LIMITATIONS AND INSTRUCTIONS.
6. BUILDING DRAIN AND CLEANOUTS ARE DESIGNED AND SITE INSTALLED BY OTHERS, SUBJECT TO LOCAL JURISDICTION APPROVAL.
7. TUB ACCESS PROVIDED UNDER HOME, UNLESS OTHERWISE NOTED.
8. SHOWER STALLS SHALL BE COVERED WITH NON-ABSORBENT MATERIAL TO A HEIGHT OF 70 INCES ABOVE FINISH FLOOR.
9. THERMAL EXPANSON DIVICE IF REQUIRD BY THE WATER HEATER MANUFACTURER IS DEIGNED & SITE INSTALLED BY OTHERS.
10. A WATER HAMMER ARRESTOR SHALL BE INSTALLED WHERE QUICK-CLOSING VALVES ARE UTILIZED, UNLESS OTHERWISE APPROVED. WATER HAMMER ARRESTORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

MECHANICAL NOTES: 2004 - FBC. RESIDENTIAL

1. ALL SUPPLY AIR REGISTERS ARE ADJUSTABLE, EXCEPT WHERE OTHERWISE SPECIFIED.
2. INTERIOR DOORS SHALL BE UNDERCUT 1.5 INCHES ABOVE FINISHED FLOOR FOR AIR RETURN AND/OR AS NOTED ON FLOOR PLAN. PRESSURE DIFFERNTIAL ACROSS CLOSED DOORS SHALL BE LIMITED TO 0.01 INCH WC (2.5 PASCALS) OR LESS.
3. BATHROOM VENT FANS SHALL PROVIDE 50 CFM MINIMUM OF VENTILATION.
4. VENT FANS SHALL BE DUCTED TO THE EXTERIOR AND TERMINATE AT AN APPROVED VENT CAP.
5. HVAC EQUIPMENT SHALL BE EQUIPPED WITH OUTSIDE FRESH AIR INTAKES TO PROVIDE 20 CFM PER PERSON.

MODULAR CODES: SEE NOTES LABELS: FLA

LISTING AGENCY APPROVAL
THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
DWG#	:1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

IIWC COA # 1025

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES
1627 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756

DWG# :1447-4819F
Horton Homes, Horton Homes6/24/2005 1:50 PM32X56 ADI (SMH115).dwg

MODULAR

0 6'12" 2' 4' 8' 12'

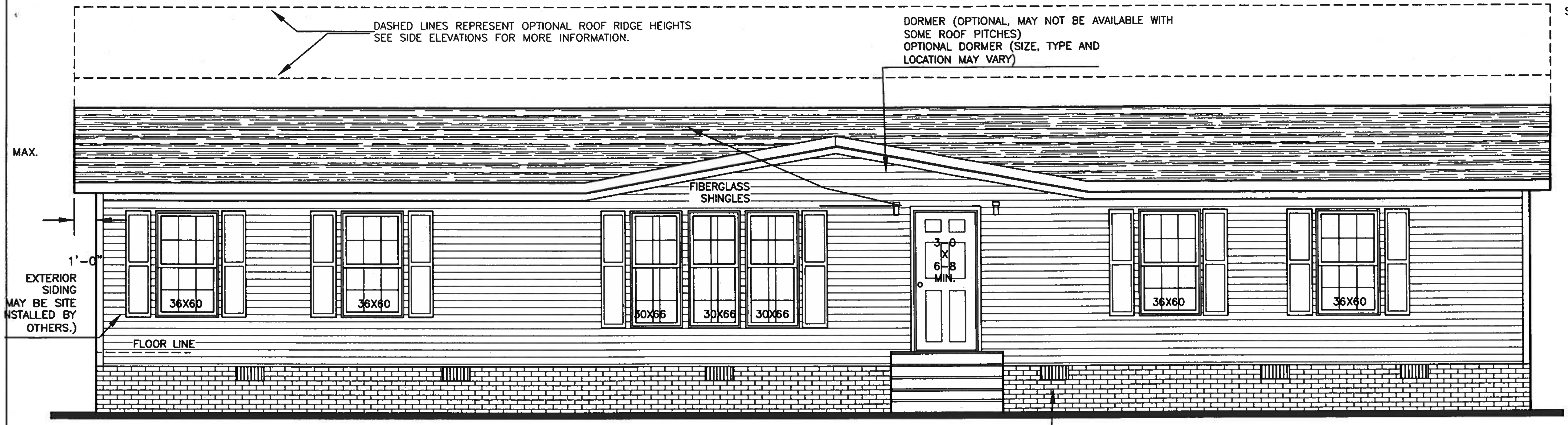
THIS BUILDING IS DESIGNED FOR A PERMANENT FOUNDATION AND IS NOT A HUD BUILDING

MODULAR32x683+2 (BOSS)(Fla)

DRAWN BY: R.E.G.
SCALE: AS NOTED
DATE 06-06-05
REV.:
DWG. #: 1

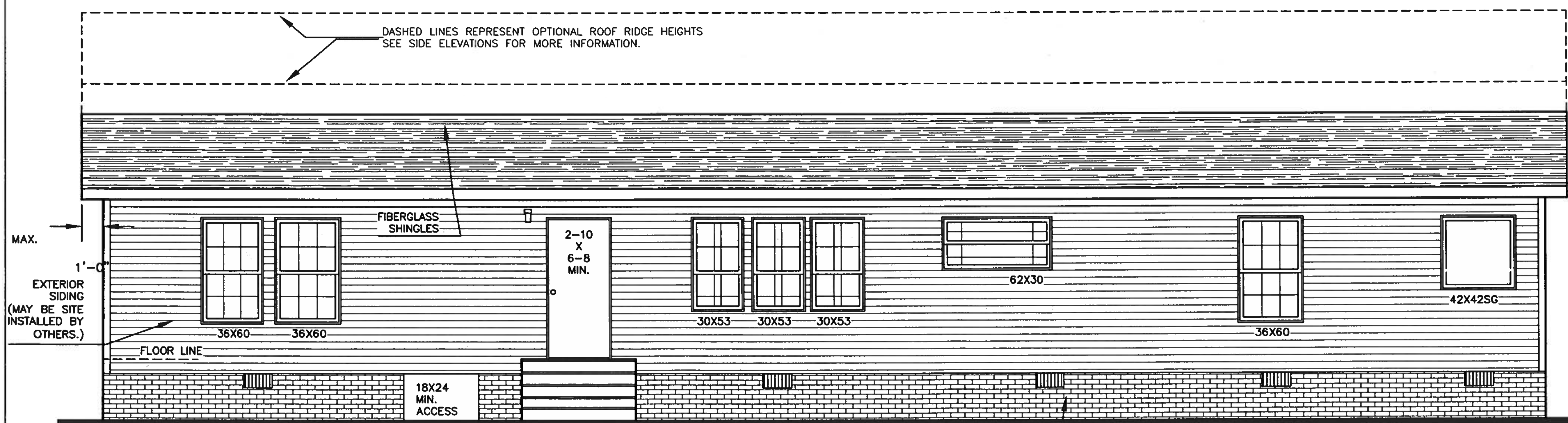
HORTON HOMES, INC
EATONTON, GA 31024

COVER SHEET



1/2 FRONT ELEVATION

SEE PAGE 3



2/2 REAR ELEVATION

SEE PAGE 3

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942

SEAL FLA.

APPROVED JUL 14 2005

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING
AGENCY APPROVAL
THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
DWG. NO.	#:1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

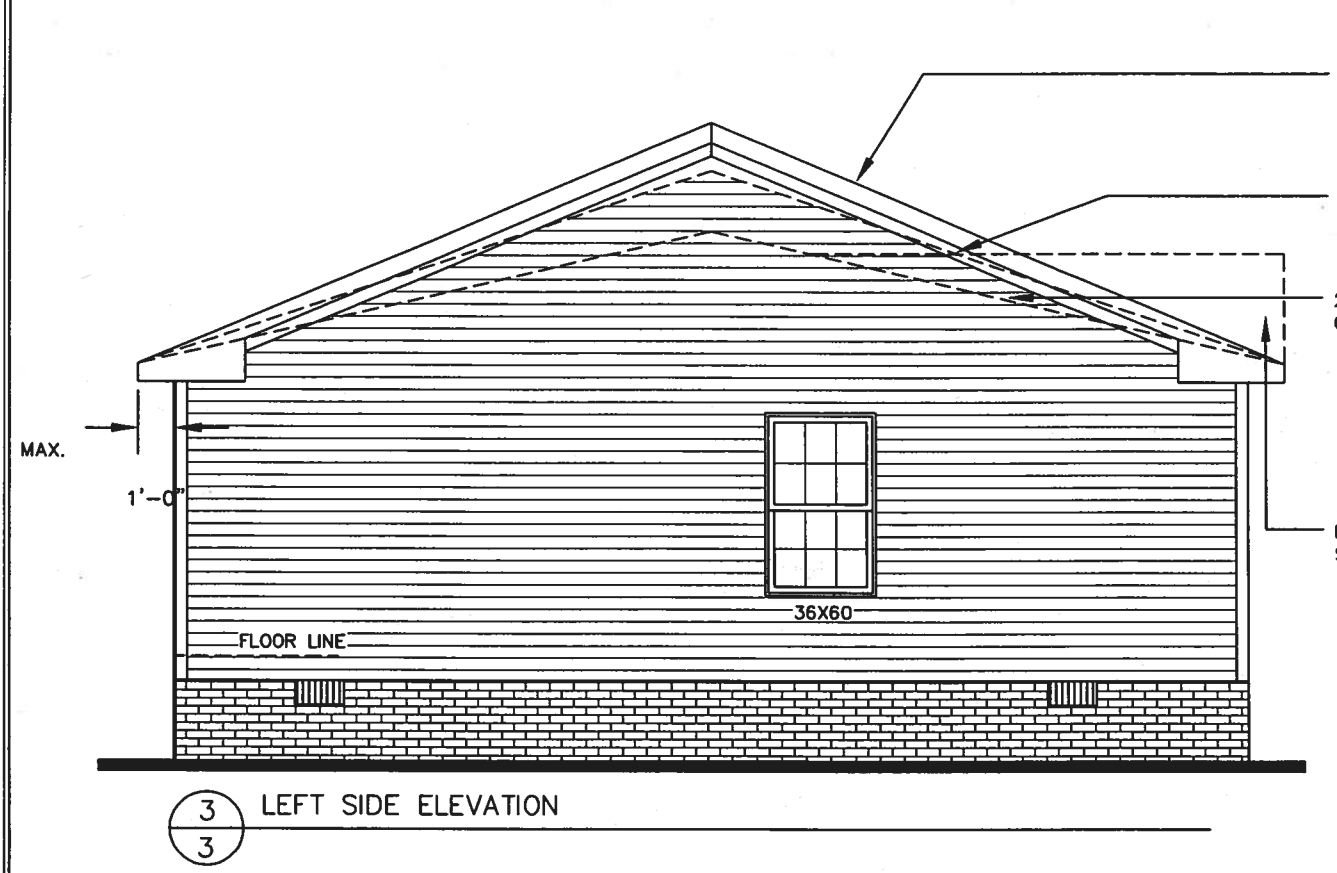
HWC
COA # 1025

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES 1627 SOUTH MYRTLE AVE. CLEARWATER, FL 33756

0 6" 12" 2' 4' 8' 12'

HORTON HOMES, INC.
EATONTON, GA 31024
MODULAR32x683+2(BOSS)(Fla)
EXTERIOR ELEVATIONS

DRAWN BY:	J.B.
SCALE:	
DATE	01-21-05
REV:	
PAGE :	2
DWG.	#:1447-4819F



3/3 LEFT SIDE ELEVATION

ELEVATION NOTES:

SEE CROSS SECTION FOR METHOD OF ROOF VENTILATION.

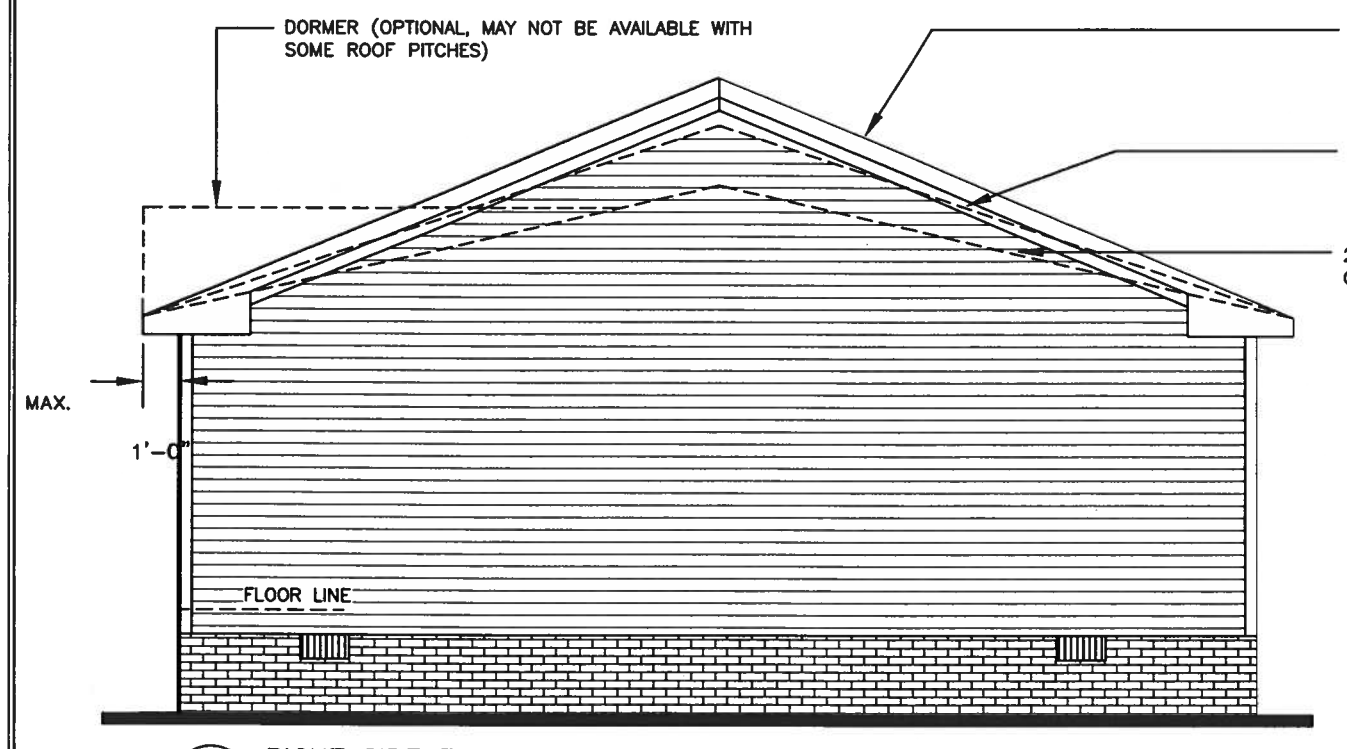
UNDERPINNING AND STOOPS ON SITE BY OTHERS (TYPICAL ONLY)

FOUNDATION ENCLOSURE (WHEN PROVIDED) MUST HAVE 1 SQUARE FOOT NET VENT AREA PER 1/150th OF THE FLOOR AREA, AND A 18"x24" MINIMUM CRAWL SPACE ACCESS, SITE INSTALLED BY OTHERS AND SUBJECT TO LOCAL JURISDICTION.

NET VENT AREA MAY BE REDUCED IF VAPOR BARRIER IS INSTALLED IN THE CRAWL SPACE AREA. REFER TO CODES.

STAIR(S) AND HANDRAILS ARE SITE INSTALLED, DESIGNATED BY ITHERS AND SUBJECT TO LOCAL JUSRISDICTION.

ROOFING, SIDING, WINDOW, DOOR & UNDERPINNING STYLES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. ACTUAL STYLES MAY VARY.



4/3 RIGHT SIDE ELEVATION

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
PH/727-796-8774
FAX/727-791-6942
FLA. 5927

APPROVED JUL 14 2005
SEAL: FLA.

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING AGENCY APPROVAL

THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
IWC PLAN NO.	#:1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

IWC COA # 1025

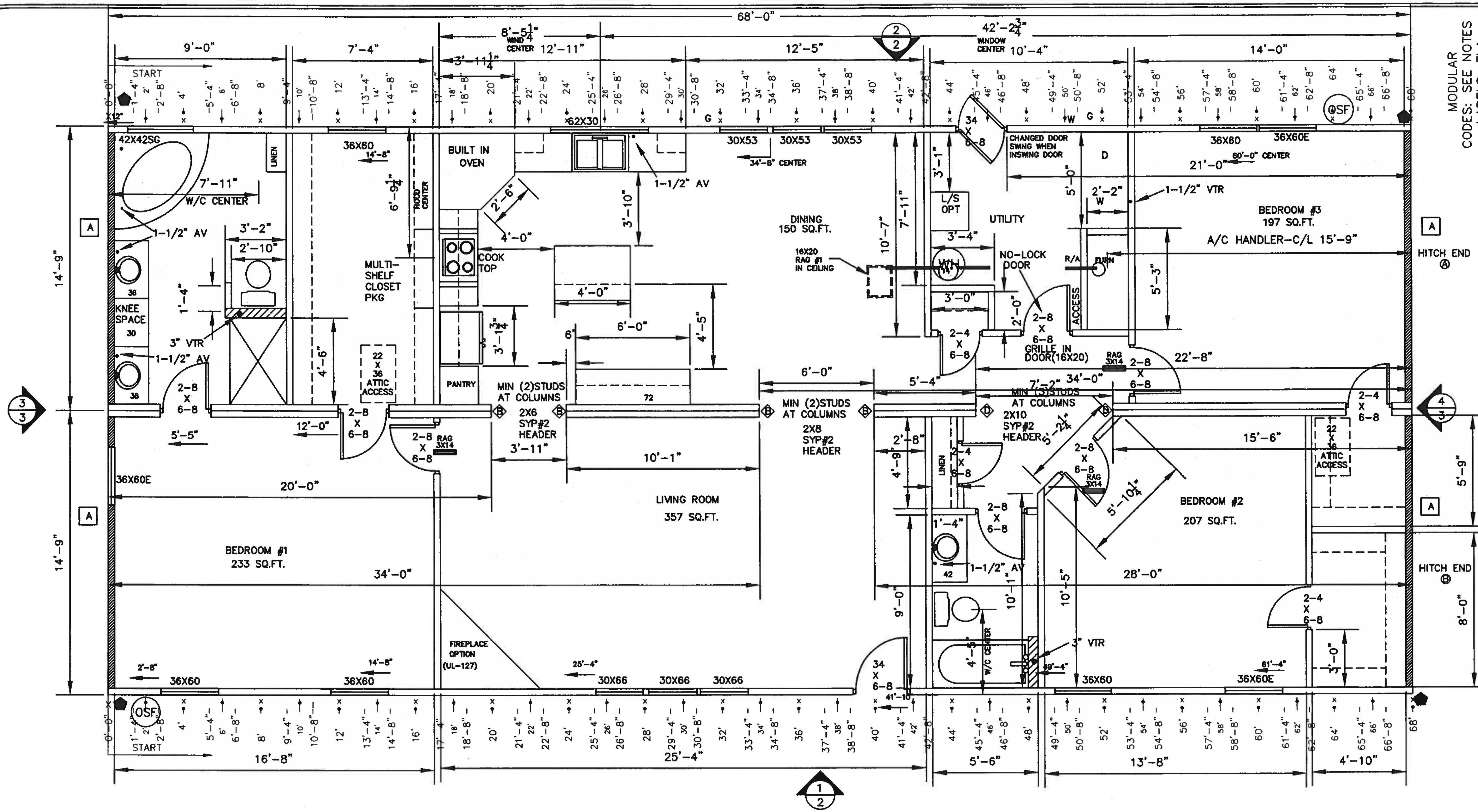
THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES
1827 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756

0 6"12" 2' 4' 8' 12'

HORTON HOMES, INC.
EATONTON, GA 31024

MODULAR32x683+2 (BOSS)(Fla)
EXTERIOR ELEVATIONS

DRAWN BY:	J.B.
SCALE:	
DATE	01-21-05
REV:	
PAGE :	3
DWG. #:	1447-4819F



FLOOR PLAN

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
FLA 9927

APPROVED JUL 14 2005

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING AGENCY APPROVAL

THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
PLAN NO.	DWG. #:1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

IWC
COA # 1026

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES
1627 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756

0 6" 12" 2' 4' 8' 12'

COLUMN STRAPPING SCHEDULE:

(A) (2) 2X4 SPF #2 THIS HALF	(B) (2) 2X4 SPF #2 EACH HALF W/ RIDGE BEAM BEARING STIFFENER
(C) (3) 2X4 SPF #2 THIS HALF	(D) (3) 2X4 SPF #2 EACH HALF
(E) (4) 2X4 SPF #2 THIS HALF	(F) (4) 2X4 SPF #2 EACH HALF
(G) (5) 2X4 SPF #2 THIS HALF	(H) (5) 2X4 SPF #2 EACH HALF

NOTES:
1. ALL COLUMN STUDS SHALL GLUE/NAILED TOGETHER. PVA GLUE WITH 100% COVERAGE SHALL BE USED.
2. INSTALL TWO STEEL STRAPS AT EACH STUD OF EACH COLUMN.
3. COLUMN STUDS SHALL NOT BE NOTCHED OR BORED.
4. RIDGE TO COLUMN STUDS AND COLUMN STUD TO FLOOR RIM JOIST. W/ RIDGE BEAM BEARING STIFFENER

RIDGE BEAM CONSTRUCTION △

1 LAYER OF 1.5'x__' LVL, EACH MODULE(SEE CHART)

NOTES:
1. LVL Fb=2500 PSI
2. LVL MUST BE CONTINUOUS OVER CLEARSPANS.
3. BEAMS SUPPORTED BY ENDWALL COLUMNS MUST EXTEND CONTINUOUS OVER COLUMNS TO EXTERIOR FACE OF ENDWALL.
4. FASTEN ROOF SHEATHING INTO TOP EDGE OF LVL TO PROVIDE CONTINUOUS LATERAL SUPPORT OF BEAM (WHERE APPLICABLE)
5. INSTALL (2x4) x20' SPF#3 RIDGE BEAM BEARING STIFFENER OVER SUPPORT COLUMNS WHEN SPECIFIED ON FLOOR PLAN; FASTEN THE FACE OF THE STIFFENER TO THE RIDGE BEAM WITH 100% GLUE COVERAGE AND 5- 16GA. STAPLES WITH 3/4" MINIMUM PENETRATION INTO LVL BEAM.
6. WHEN MORE THAN ONE LAYER OF LVL IS INSTALLED ON EITHER SIDE OF THE MATING LINE, LAYERS ON THAT SIDE OF THE MATING LINE MUST BE FASTENED TOGETHER WITH 16 GA. STAPLES x 7/16" MINIMUM CROWN (INSTALLED PARALLEL TO BEAM SPAN) x3/4" MINIMUM PENETRATION INTO CONNECTING LAYER. STAPLES SHALL BE PLACED AT 6" O.C. MAXIMUM VERTICALLY AND HORIZONTALLY WITH FIRST AND LAST ROW OF STAPLES LOCATED 1" FROM TOP AND BOTTOM EDGE OF BEAM RESPECTIVELY.

STRUCTURAL DRAWING REFERENCE:

FLOORS FL-1
WALLS AND OPENINGS TO-1
CORNER BRACING AND PARTITIONS CWB-1
BEAMS AND CATHEDRAL BC-1
EXTERIOR SYSTEMS EXS-1
ROOF SYSTEM RF-1
MINIMUM INSULATION VALUES:
ROOF: R-38
WALLS: R-15
FLOOR: R-22
EXPOSED AIR DUCT WORK: R-6
WINDOWS SHALL BE DOUBLE PANE OR STORM TYPE.
SHEAR WALL LOCATION
SHEAR WALL DESIGNATION

INDICATES 2X6 PLUMBING WALL

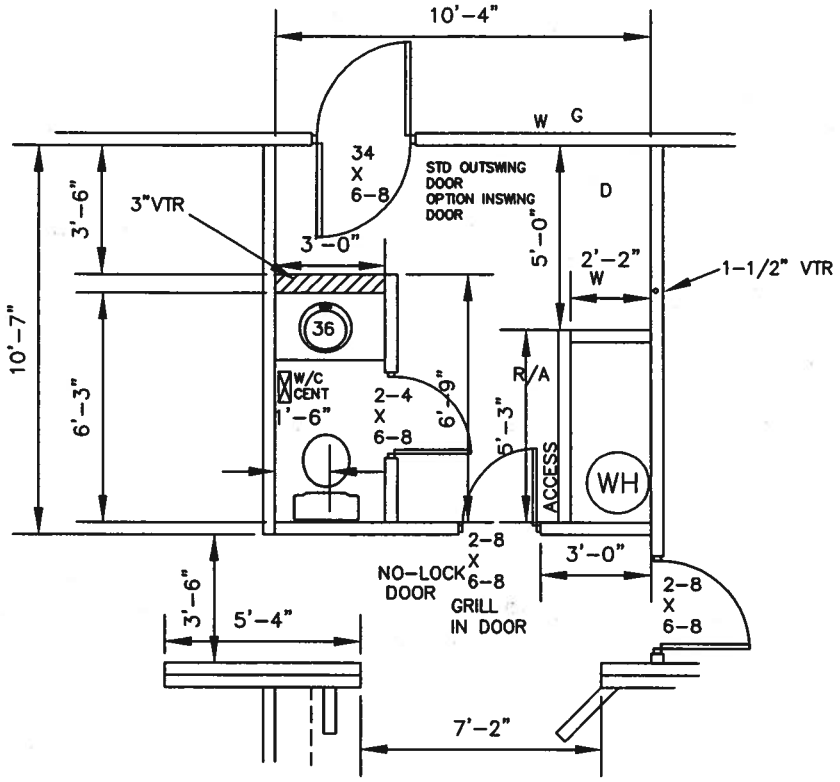
S-20 ANCHOR BRACKET (FACTORY INSTALLED) FOR ON FRAME MODELS - TYP ALL FOUR CORNERS OF HOME.

RAG 3X14 =RETURN AIR GRILLE OVER DOOR

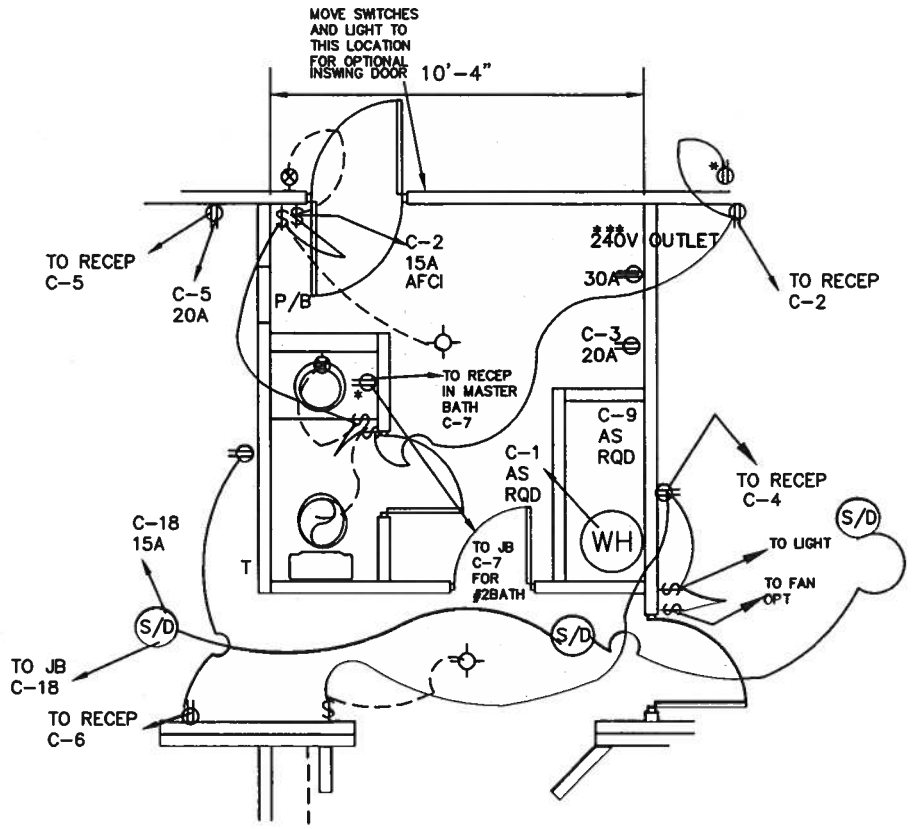
16X20 RAG IN FLOOR OR CLG.

HORTON HOMES, INC.
EATONTON, GA 31024
MODULAR32x683+2 (BOSS)(Fla)
FLOOR PLAN

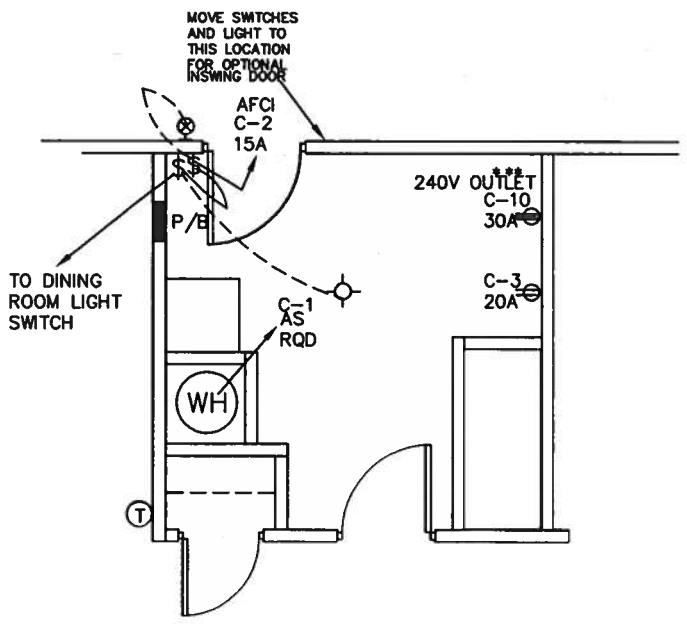
DRAWN BY:	J.B.
SCALE:	AS NOTED
DATE	01-21-05
REV:	
PAGE :	4
DWG.	#:1447-4819F



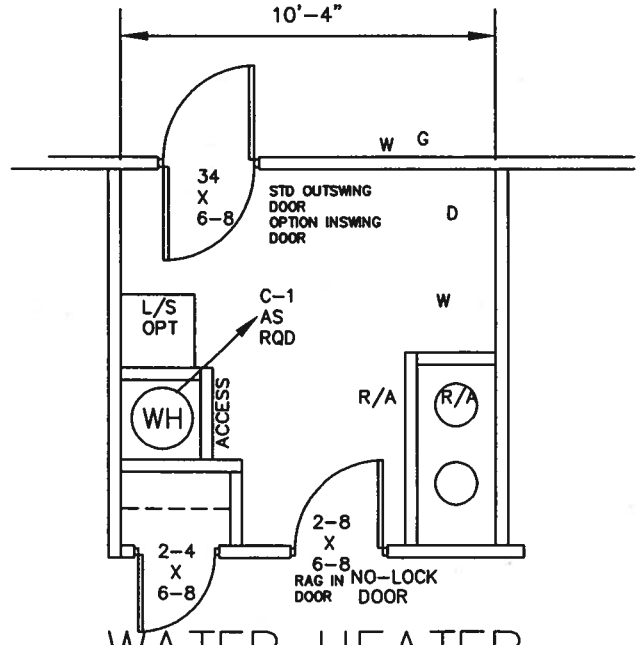
HALF BATH OPTION
IN UTILITY ROOM



HALF BATH OPTION
IN UTILITY ROOM



WATER HEATER
OPTIONAL LOCATION
DUE TO OVERHEAD DUCT



WATER HEATER
OPTIONAL LOCATION
DUE TO OVERHEAD DUCT

MODULAR
CODES: SEE NOTES
LABELS:: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
bobfreg@aol.com
FLA. 0022

APPROVED JUL 14 2005
SEAL: FLA.

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING
AGENCY APPROVAL
THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
DWG. #/ FOAM NO.	1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

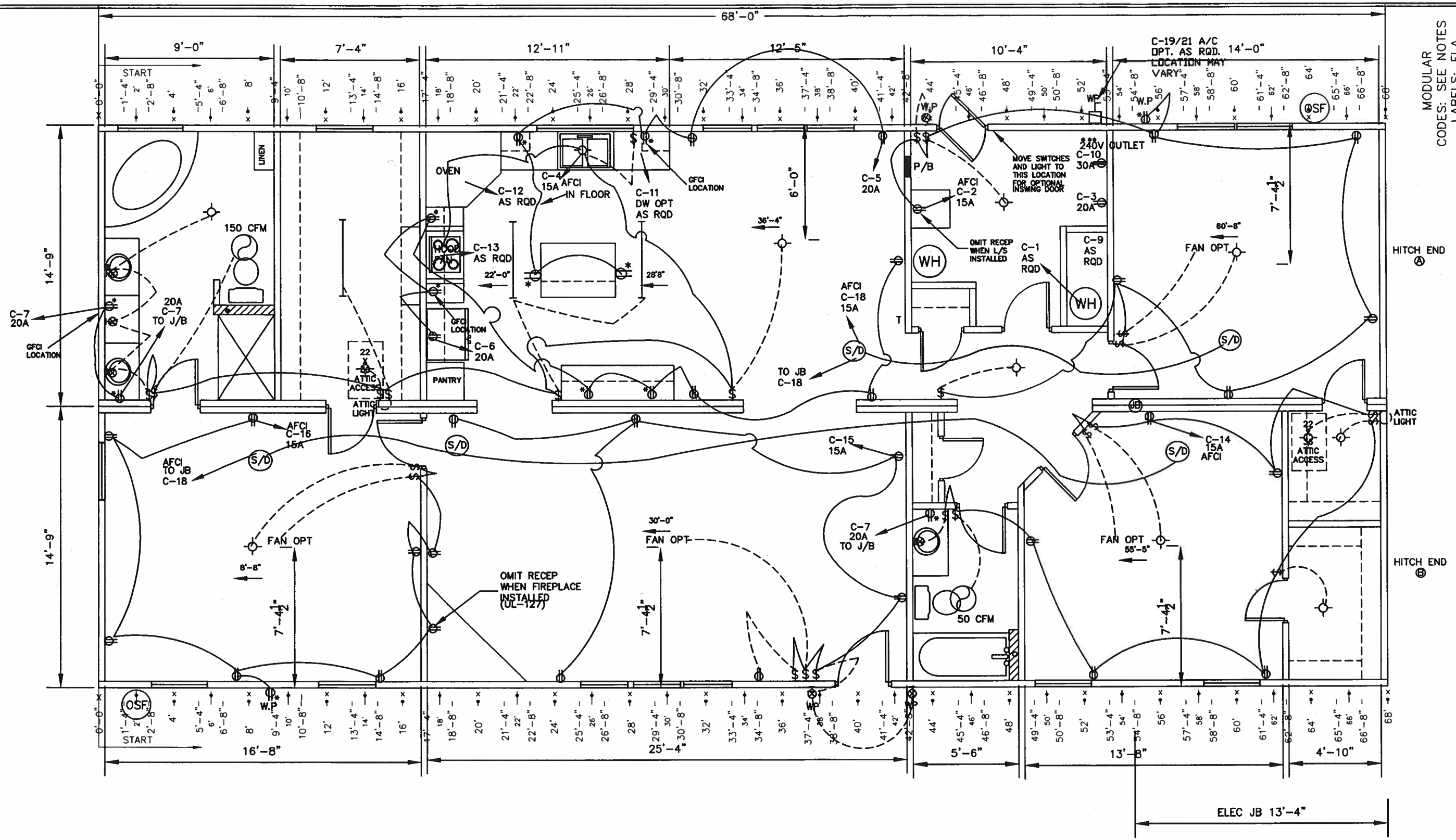
IWC
COA # 1025

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES
1627 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756

0 6" 12" 2' 4' 8' 12'

HORTON HOMES, INC.
EATONTON, GA 31024

DRAWN BY:	J.B.
SCALE:	
DATE	01-21-05
REV:	
MODULAR32x683+2 (BOSS)(Fla)	PAGE : 4A
OPTIONAL LAYOUTS	DWG. #:1447-4819F



1 ELECTRICAL PLAN
2 3/16"=1'-0"

NOTES:
1. ALL BATH RECEPTACLES ARE GFCI PROTECTED AND ON A 20A CIRCUIT. (GFCI DENOTES GFCI PROTECTED RECEPTACLE) EXAMPLE: BATH, OUTSIDE RECEPTACLE, KITCHEN COUNTER.

2. ALL BEDROOM RECEPTACLES CIRCUITS TO BE ARC FAULT PROTECTED AS PER ELECTRICAL CODE. (CIRCUIT IS DENOTED BY THE LETTERS "AFCI" FOLLOWING THE CIRCUIT NUMBER ON THE ELECTRICAL SCHEMATIC.)

SYMBOL LEGEND

- PANEL BOX (P/B/)
- SWITCH
- DUPLEX OUTLETS ON 15 OR 20 AMP CIRCUITS
- 240V OUTLET
- GROUND FAULT CIRCUIT INTERRUPTER RECEIPT
- JUNCTION BOX
- –●– PHOTOELECTRIC TYPE SMOKE DETECTOR
- CEILING MTD. LIGHT FIXTURE
- EXTERIOR APPROVED WALL MTD. LIGHT FIXTURE
- EXHAUST, VENT FAN
- SD SMOKE DETECTOR WITH BATTERY BACK UP S/D = SMOKE ALARM (INTERCONNECTED) 14/3 NM W/GROUND
- T THERMOSTAT
- FLUORESCENT LIGHT FIXTURE
- CUT OFF
- WP C-19 A/C OPT. AS RQD. LOCATION MAY VARY
- W WATER LINE LOCATION MAY VARY
- FL =FLOOD LIGHT
- PJ =PHONE JACK
- TV =TV JACK

* SITE INSTALLED PAD MOUNT HEAT PUMP, DESIGNED BY OTHERS, SUBJECT TO LOCAL JURISDICTION.
C-19/21 A/C OPT. AS RQD. LOCATION MAY
ONE EXTERIOR RECEIPT MUST BE WITHIN 25'-0" OF HVAC. EQUIPMENT

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-796-8942
orcfreg@aol.com
FLA, 9927

APPROVED JUL 14 2005 SEAL FLA.

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING AGENCY APPROVAL
THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
DWG. PGM No.	#:1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

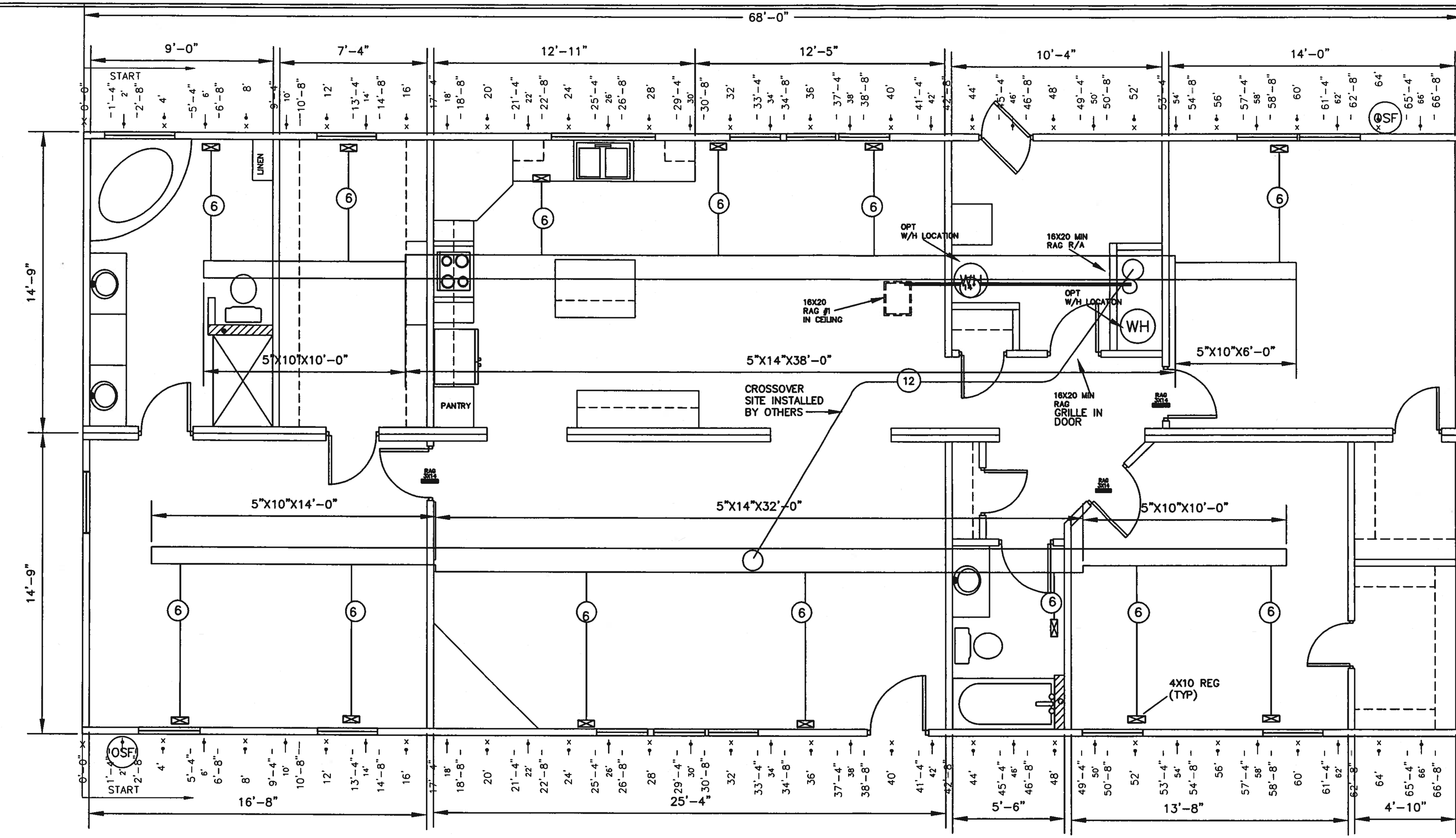
IWC COA # 1025

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES
1027 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756

0 6"12" 2' 4' 8' 12'

HORTON HOMES, INC.
EATONTON, GA 31024

MODULAR32x683+2 (BOSS)(Fla)	DRAWN BY: J.B.
ELECTRICAL LAYOUT	SCALE: AS NOTED
	DATE 01-21-05
	REV:
	PAGE : 5
	DWG. #:1447-4819



OPTIONAL PERIMETER DUCT PLAN

16"x20" IN FLOOR OR CLG. OPTIONAL

RAG 3X14 =RETURN AIR GRILLE OVER DOOR

RETURN AIR BALANCE REQUIREMENT FOR BEDROOMS OF 50 SQ. FT. OR MORE IS ACHIEVED WITH 1 SQ.IN. RETURN AIR VENT FOR EVERY 5 SQ.FT. OF ROOM AREA.

MECHANICAL NOTES:

1. INTERIOR DOOR SHALL BE UNDERCUT 1.5 INCHES ABOVE THE FINISHED FLOOR FOR AIR RETURN.
2. RESTROOM VENT FANS SHALL PROVIDE 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS.
3. DUCT SHALL BE INSULATED ALUMINUM.
4. 16"x20" RETURN AIR GRILLE (MIN).

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
grchregg@aol.com
FLA 9927

APPROVED JUL 14 2005

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING AGENCY APPROVAL
THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
PLAN NO.	DWG. #:1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

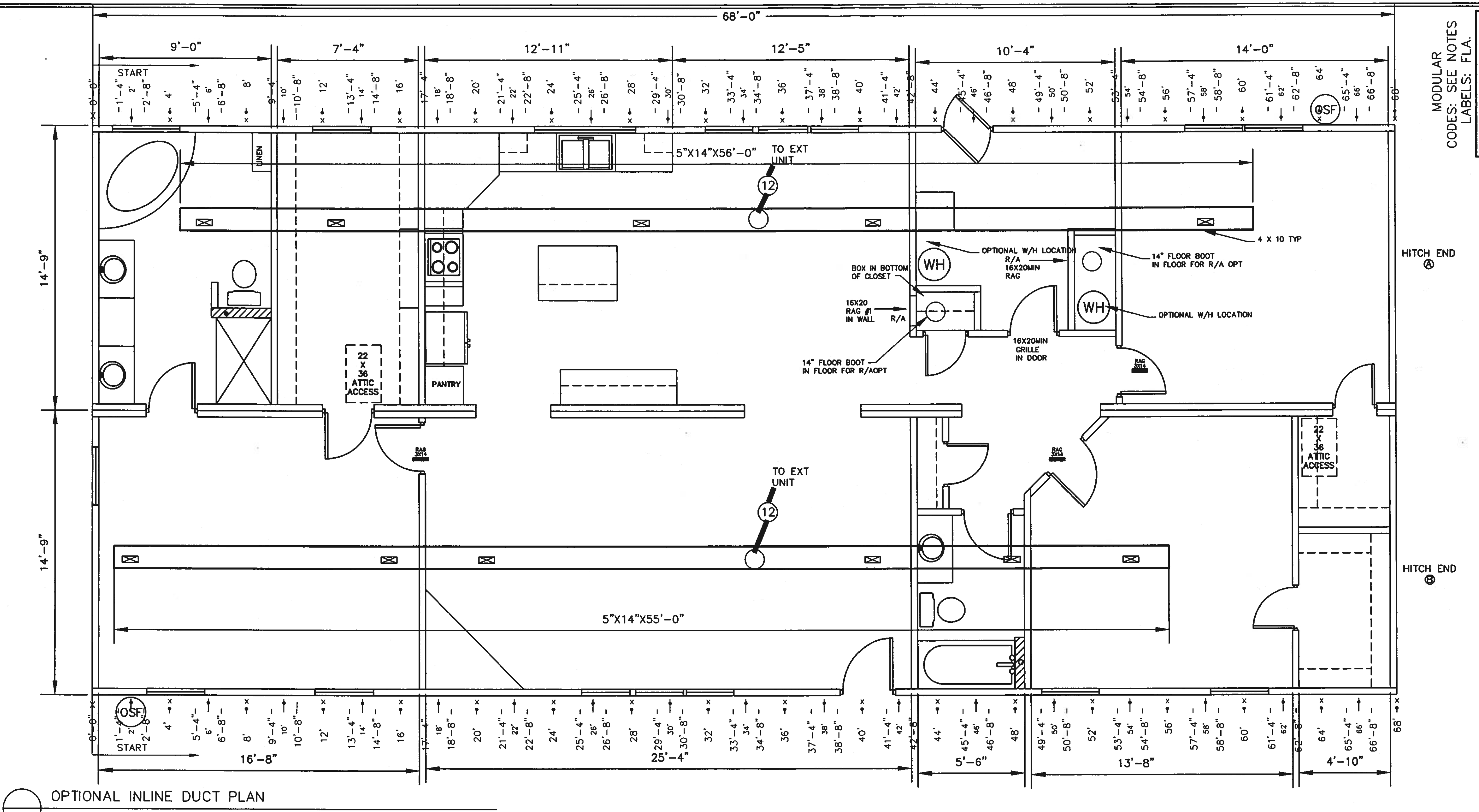
IWC
COA # 1025

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES
1627 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756

0 6" 12" 2' 4' 8' 12'

HORTON HOMES, INC.
EATONTON, GA 31024
MODULAR32x683+2 (BOSS)(Fla)
PERIMETER DUCT SYSTEM

DRAWN BY:	J.B.
SCALE:	AS NOTED
DATE	01-21-05
REV:	
PAGE :	6
DWG.	#:1447-4819F



16"x20" IN FLOOR OR CLG. OPTIONAL

RAG 3X14 =RETURN AIR GRILLE OVER DOOR

RETURN AIR BALANCE REQUIREMENT FOR BEDROOMS OF 50 SQ. FT. OR MORE IS ACHIEVED WITH 1 SQ.IN. RETURN AIR VENT FOR EVERY 5 SQ.FT. OF ROOM AREA.

MECHANICAL NOTES:

1. INTERIOR DOOR SHALL BE UNDERCUT 1.5 INCHES ABOVE THE FINISHED FLOOR FOR AIR RETURN.
2. RESTROOM VENT FANS SHALL PROVIDE 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS.
3. FLOOR DUCT SHALL BE INSULATED ALUMINUM.
4. 16"x20" RETURN AIR GRILLE (MIN).

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax.727-791-6942

APPROVED JUL 14 2005

SEAL: FLA.

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING AGENCY APPROVAL

THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
DWG.	#:1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

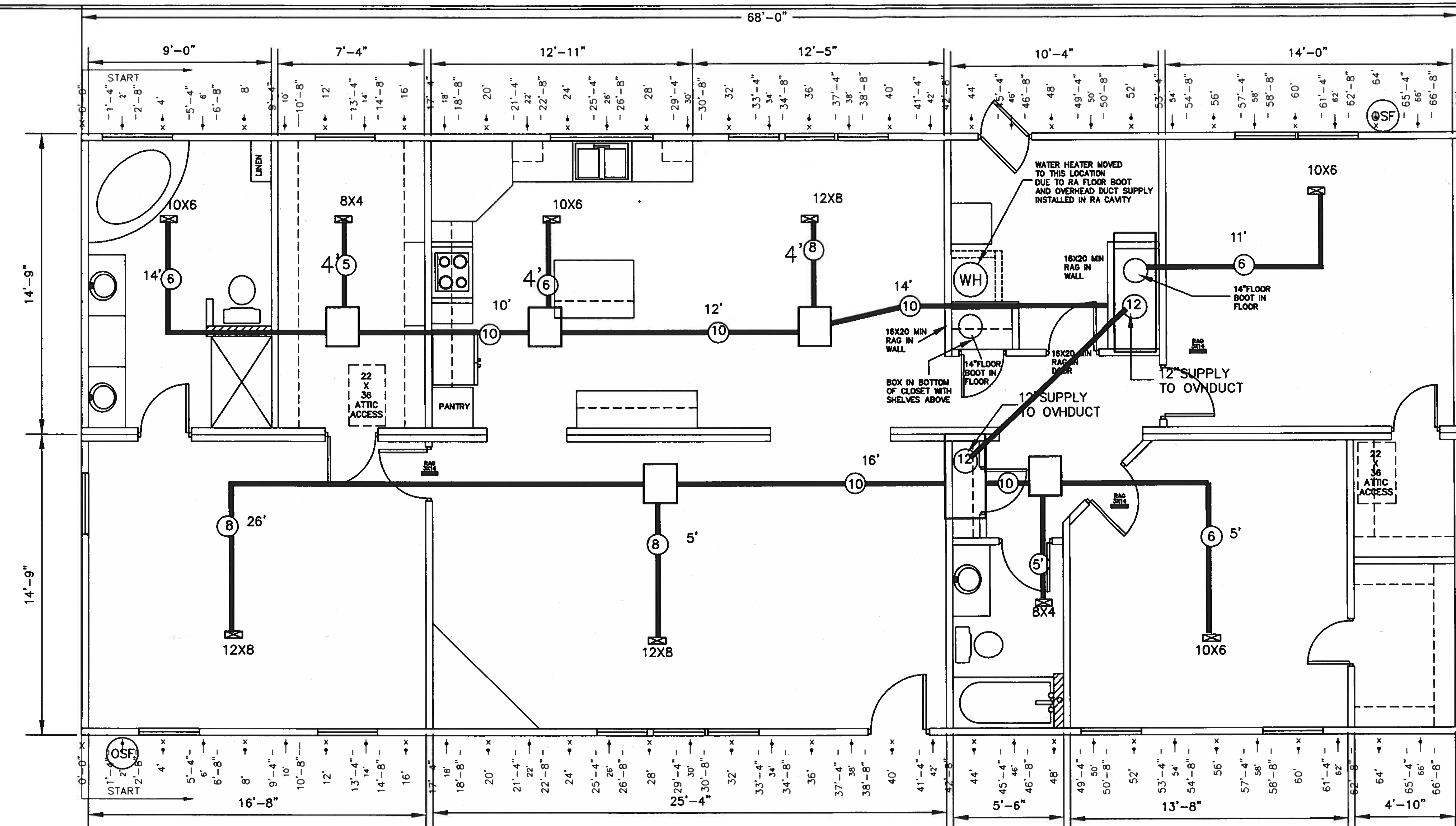
IIWC
COA # 1025

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES 1627 SOUTH MYRTLE AVE. CLEARWATER, FL 33756

0 6" 12" 2' 4' 8' 12'

HORTON HOMES, INC.
EATONTON, GA 31024
MODULAR32x683+2 (BOSS)(Fla)
PERIMETER DUCT SYSTEM

DRAWN BY:	J.B.
SCALE:	AS NOTED
DATE	01-21-05
REV:	
PAGE :	7
DWG.	#:1447-4819F



OPTIONAL OVERHEAD DUCT PLAN–WITHOUT FURNACE

16"x20" IN FLOOR OR CLG. OPTIONAL

RAG =RETURN AIR GRILLE OVER DOOR

RETURN AIR BALANCE REQUIREMENT FOR BEDROOMS OF 50 SQ. FT. OR MORE IS ACHIEVED WITH 1 SQ,IN. RETURN AIR VENT FOR EVERY 5 SQ,FT. OF ROOM AREA.

MECHANICAL NOTES:

1. INTERIOR DOOR SHALL BE UNDERCUT 1.5 INCHES ABOVE THE FINISHED FLOOR FOR AIR RETURN.
2. RESTROOM VENT FANS SHALL PROVIDE 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS.
3. DUCT SHALL BE INSULATED ALUMINUM.
4. 16"x20" RETURN AIR GRILLE OHND.

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
archreg@aol.com
FLA. 8927

APPROVED JUL 14 2005
SEAL: FLA.

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING
AGENCY APPROVAL
THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
PLAN NO.	DWG. #:1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

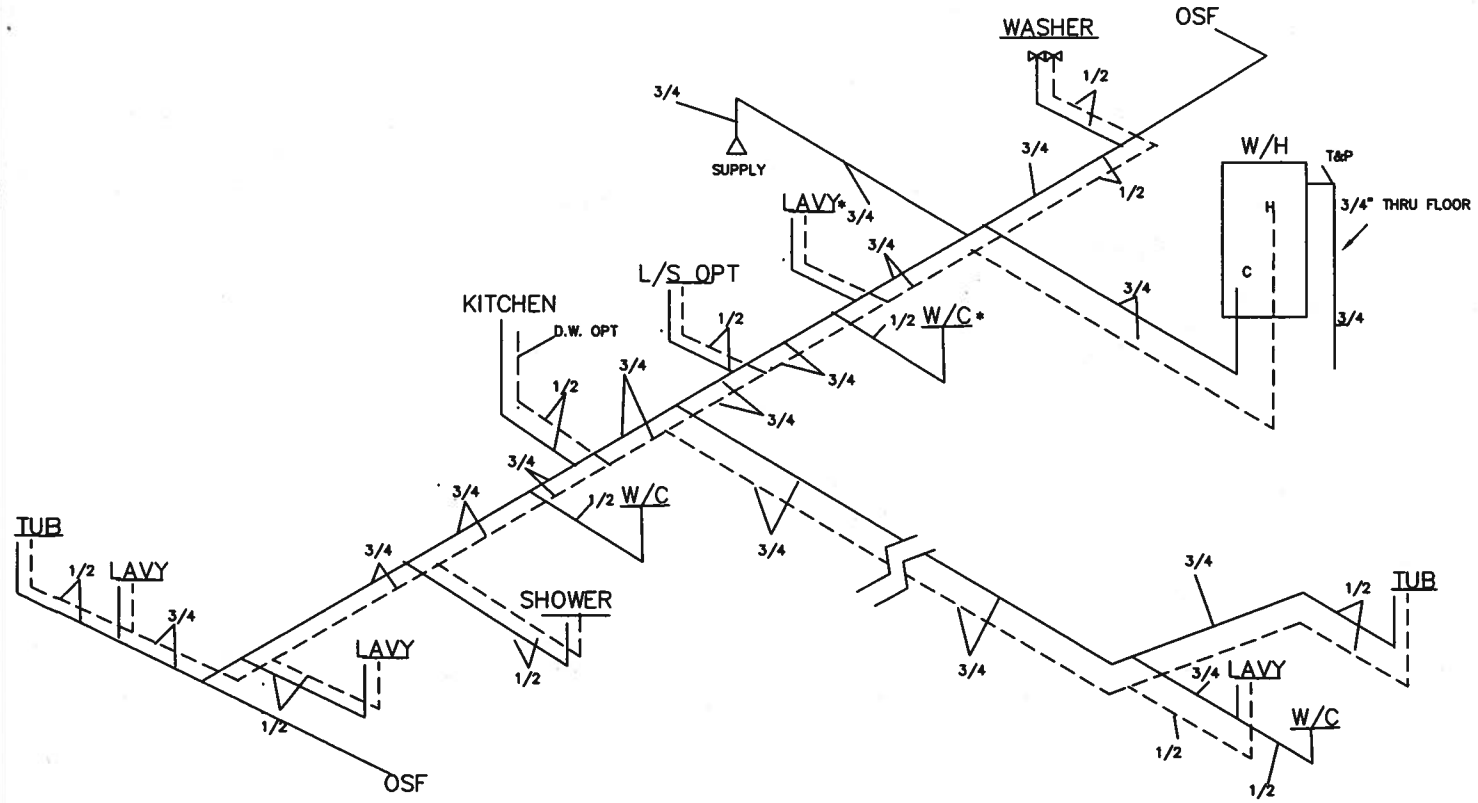
IIWC
COA # 1025

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES
1627 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756

0 6" 12" 2' 4' 8' 12'

HORTON HOMES, INC.
EATONTON, GA 31024
MODULAR32x683+2 (BOSS)(Fla)
OPTIONAL OVERHEAD DUCT PLAN–WITHOUT FURNACE

DRAWN BY:	J.B.
SCALE:	AS NOTED
DATE	01-21-05
REV:	
PAGE :	8
DWG.	#:1447-4819F



OSF=OUTSIDE FAUCET WITH BACK FLOW PREVENTOR

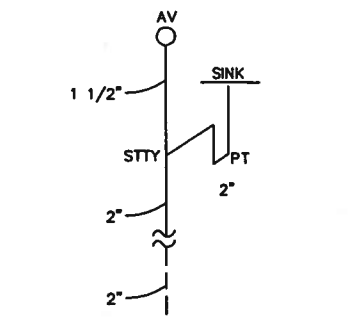
WATER SUPPLY LINES

NOTE: PIPING BELOW ≈ TO BE SITE INSTALLED BY OTHERS.

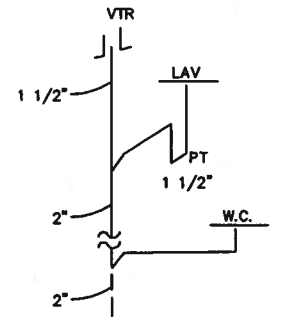
SUPPLY NOTES:

SUPPLY LINE SIZING IS BASED ON AN ASSUMED AVAILABLE PRESSURE OF 46 TO 60 PSI AT MAIN INLET AND SHOULD BE VERIFIED PRIOR TO CONSTRUCTION.

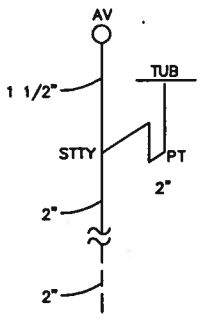
ALL SUPPLY LINES SHALL BE 3/4"
ALL STUB-UPS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
ALL SUPPLY RISERS INSTALLED WITH CUT-OFFS UNLESS OTHERWISE NOTED.



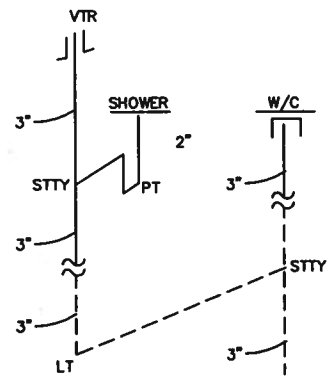
OPT L/SINK (DWV)



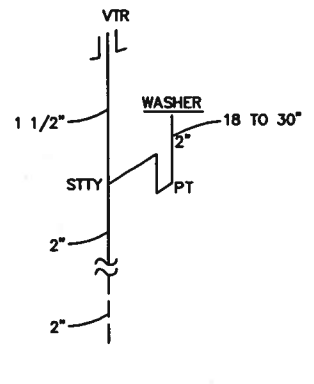
OPT HALF BATH (DWV)



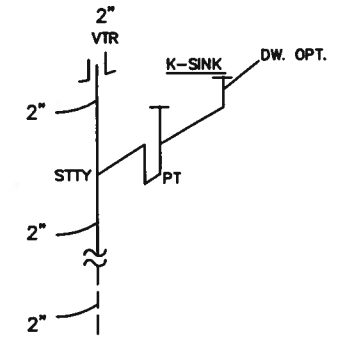
TYPICAL TUB (DWV)



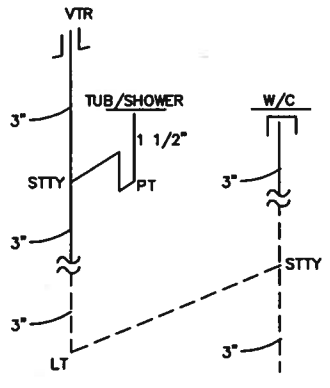
TYP. W/C & SHOWER (DWV)
REF. MASTER BATH



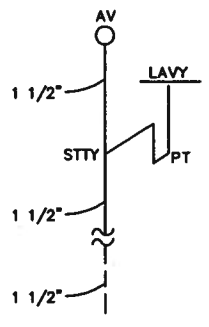
TYP. WASHER (DWV)



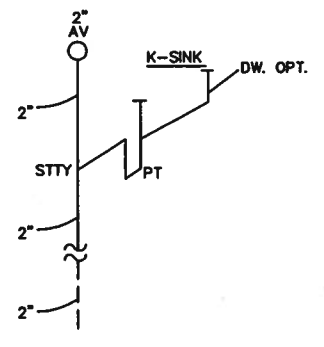
KITCHEN SINK (DWV)-VTR



TYP. W/C & TUB/SHOWER (DWV)
REF. SECOND BATH



TYP. LAVY (DWV)



KITCHEN SINK (DWV)-AV

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
830 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-799-8774
Fax:727-791-6942
rgregg@tampabay.rr.com

STATE OF FLORIDA
ROBERT E. GREGG
No. 9922
REGISTERED ARCHITECT

APPROVED JUL 14 2005

SEAL: FLA.

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING AGENCY APPROVAL

THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
DWG. #/FOAM NO.	#1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

IWC
CDA # 1025

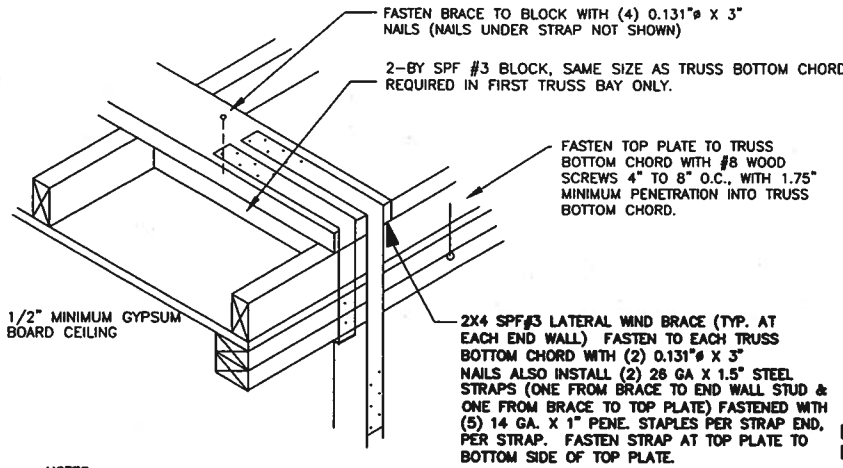
THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES
1827 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756

0 6"12" 2' 4' 8' 12'

HORTON HOMES, INC.
EATONTON, GA 31024

MODULAR32x683+2 (BOSS)(Fla)
PLUMBING SCHEMATICS

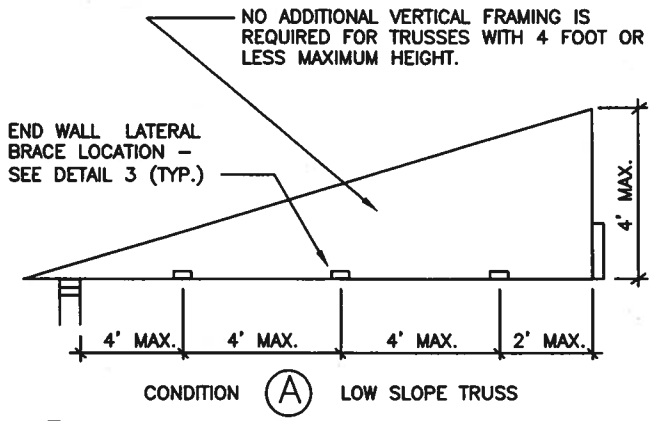
DRAWN BY:	J.B.
SCALE:	N.T.S.
DATE	01-21-05
REV:	
PAGE :	9
DWG. #:	1447-4819F



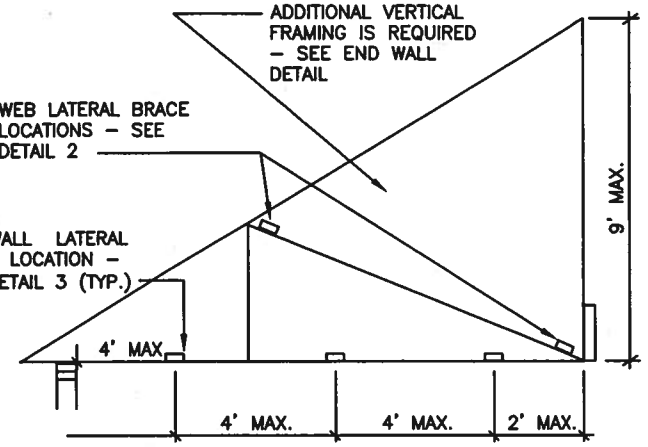
NOTES:
1. SEE DETAIL 4 FOR REQUIRED LATERAL BRACE LOCATIONS.
2. ALL LATERAL BRACES SHALL BE 8 FEET LONG MINIMUM EXCEPT WHEN TRUSS HEIGHT EXCEEDS 4 FEET AT LEAST TWO OF THE REQUIRED BRACES SHALL BE A MINIMUM OF 16 FEET LONG. BRACES MAY BE SPLICED WITH A 2X4 SPF#3 X 24" LONG BLOCK FASTENED WITH (5) 0.131"ø X 3" NAILS EACH SIDE OF SPLICE.
3. THE MODEL PLAN DESIGNER SHALL DETERMINE THE APPLICABILITY OF THIS BRACING SYSTEM ON A MODEL BY MODEL BASIS. SEE APPROVED MODEL PLANS FOR ADDITIONAL REQUIREMENTS.
4. THIS DETAIL IS NOT APPLICABLE TO DROPPED T-GRID CEILINGS.
5. ALL TRUSSES ARE DESIGNED BY OTHERS.

3 — END WALL LATERAL BRACE
N.T.S.

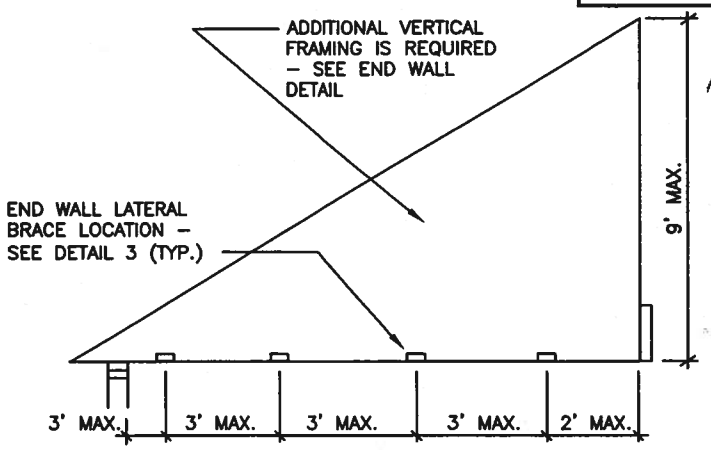
NOTES:
1. ADD ADDITIONAL LATERAL BRACES AS NEEDED SO AS NOT TO EXCEED THE MAXIMUM SPACING SHOWN.
2. ALL END WALL TRUSSES SHALL BE SHEATHED WITH MINIMUM 7/16" OSB RATED SHEATHING WITH ALL EDGES SUPPORTED BY 2" NOMINAL LUMBER. SHEATHING SHALL BE FASTENED TO TRUSS TOP & BOTTOM CHORDS PER SHEAR WALL REQUIREMENTS BUT NOT LESS THAN 8d COMMON NAILS 4" O.C. NO HORIZONTAL JOINTS ARE PERMITTED OVER TRUSSES FOR TRUSS THAT ARE 4 FOOT OR LESS IN HEIGHT.



CONDITION (A) LOW SLOPE TRUSS

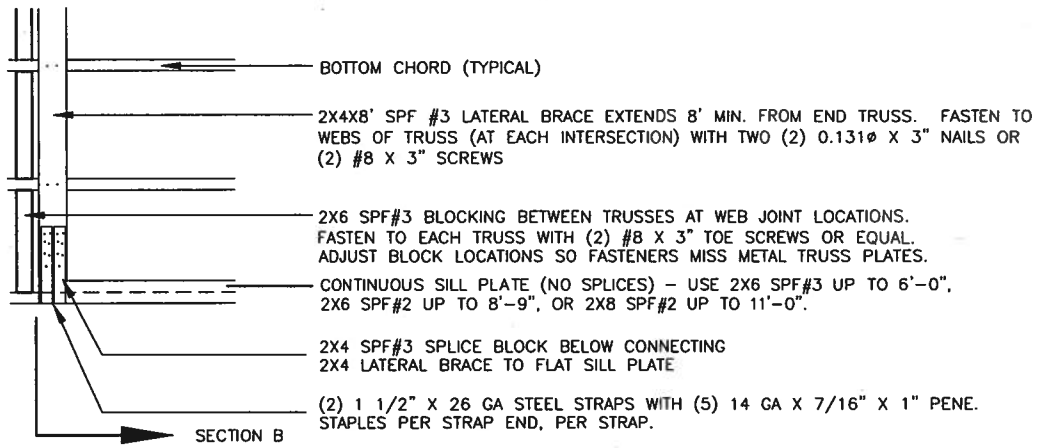


CONDITION (B) TRUSS WITH HORIZONTAL OR DIAGONAL WEB



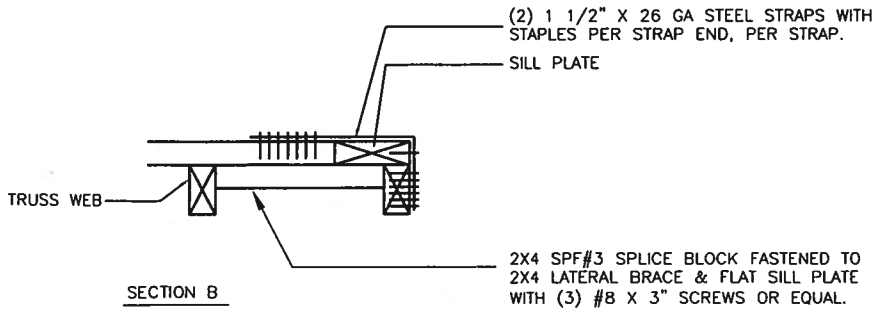
CONDITION (C) TRUSS WITHOUT HORIZONTAL OR DIAGONAL WEB

4 — LATERAL BRACE REQUIRED LOCATIONS
N.T.S.

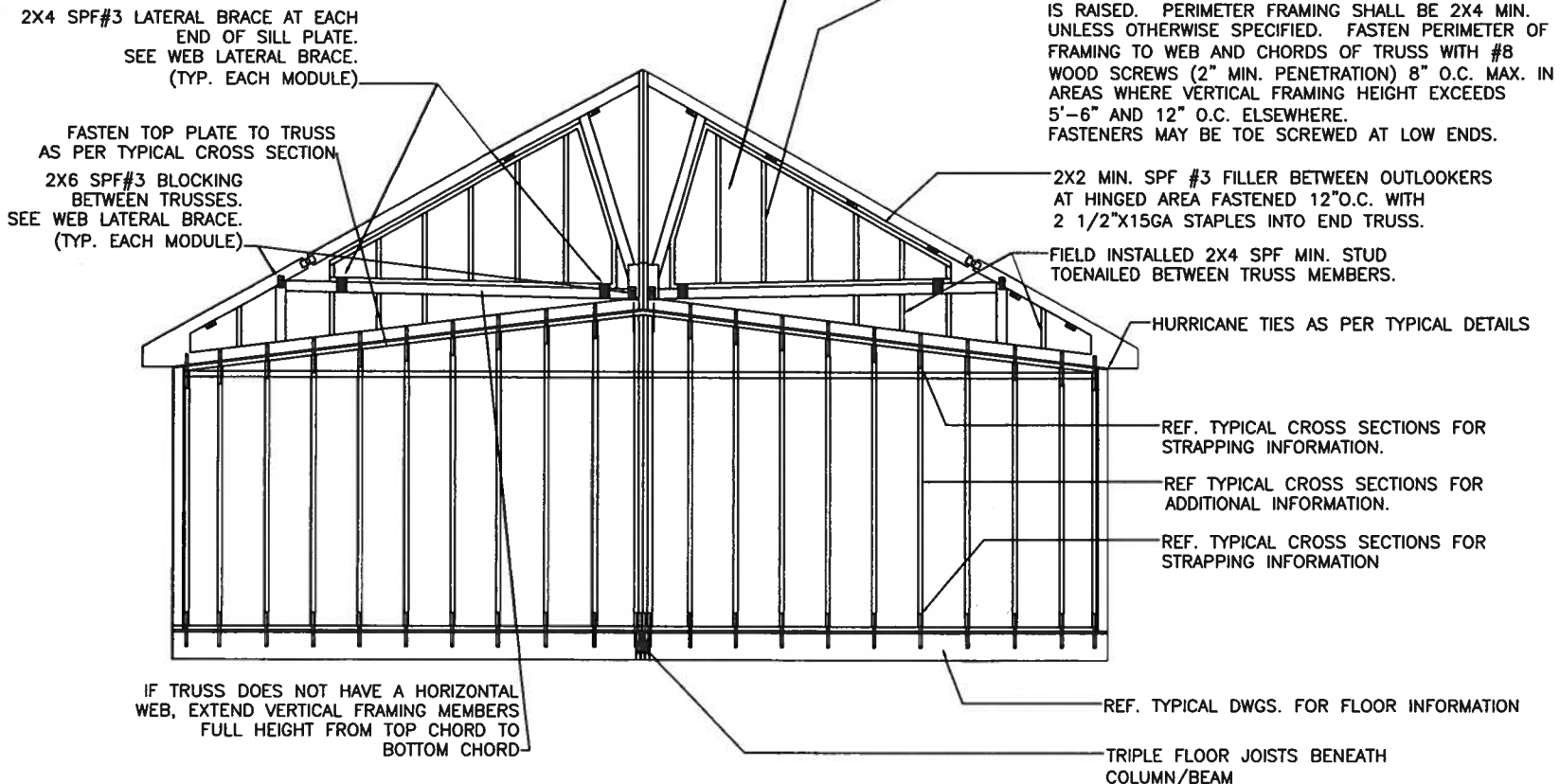


2 — TRUSS WEB LATERAL BRACE
N.T.S.

PLAN VIEW – TYPICAL BOTH ENDS OF TRUSS WEB AT EACH END OF BUILDING.



SECTION B



1 — END WALL DETAIL (ROOF PITCH 2.25:12 MINIMUM, 7:12 MAXIMUM)
N.T.S.

THIS DETAIL IS APPLICABLE TO FLAT CEILINGS AS WELL AS CATHEDRAL CEILINGS. 1/2" MINIMUM GYPSUM BOARD MAY BE USED AS THE REQUIRED CEILING DIAPHRAGM PROVIDED IT IS FASTENED WITH 5d COOLER NAILS WITH 1 5/8" LENGTH AND 0.086" SHANK AT 7" O.C. AT ALL FRAMING SUPPORTS AND ALL EDGES ARE BLOCKED WITH 2X6 MINIMUM LUMBER AND THE BUILDING DOES NOT EXCEED 30'-8" IN WIDTH AND HAS A MINIMUM LENGTH OF 40'. ALTERNATE CEILING DIAPHRAGMS MAY BE DESIGNED BY THE BUILDING DESIGNER. THE BUILDING DESIGNER IS RESPONSIBLE FOR DESIGN OF ADEQUATE SHEAR WALLS AT THE SIDE WALL AND MATE WALL TO RESIST LOADS FROM THE CEILING DIAPHRAGM.

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
arcfreg@aol.com
FLA. 9927

APPROVED JUL 14 2005

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING AGENCY APPROVAL
THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
DWG. NO.	#1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

IWC
COA # 1025

THIRD PARTY: WILBORN, WERNER, CARTER & ASSOCIATES 1627 SOUTH MYRTLE AVE. CLEARWATER, FL 33756

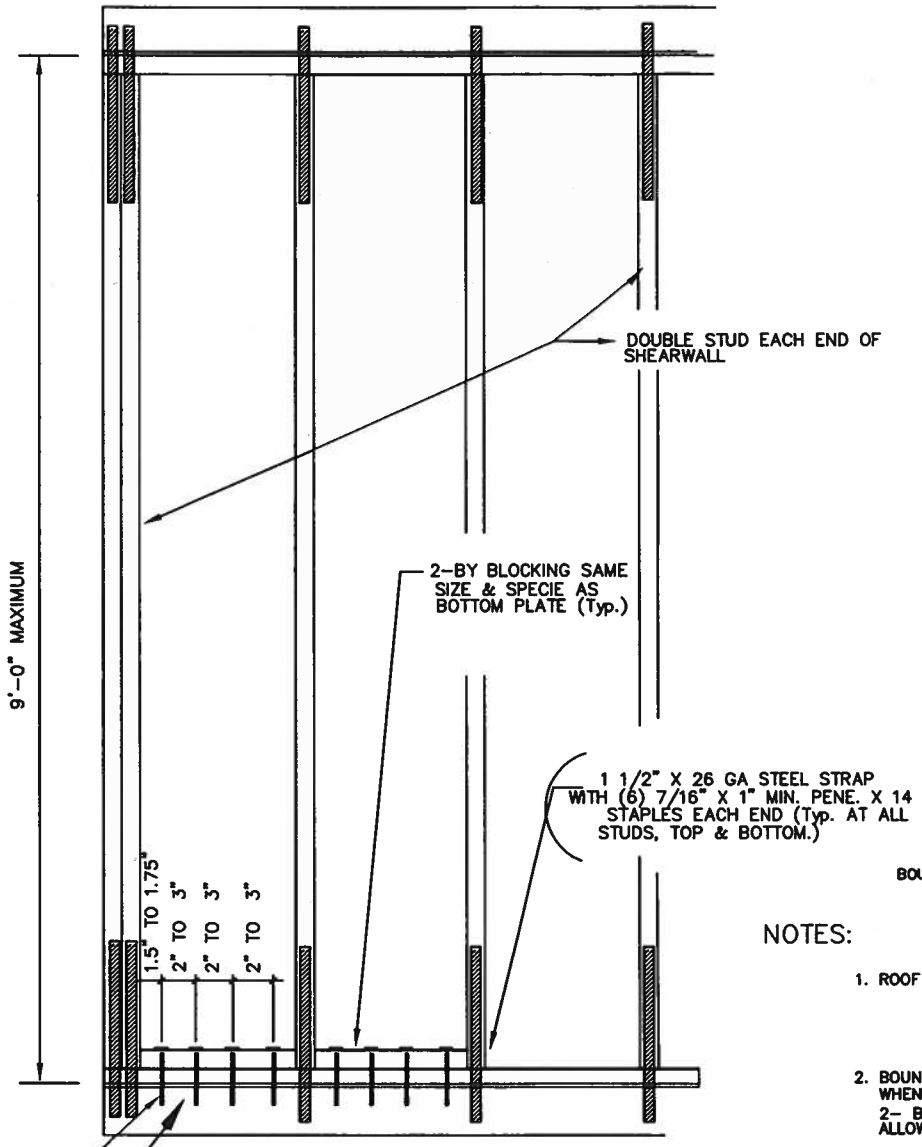
HORTON HOMES, INC.
101 INDUSTRIAL BLVD.
EATONTON, GEORGIA 31024

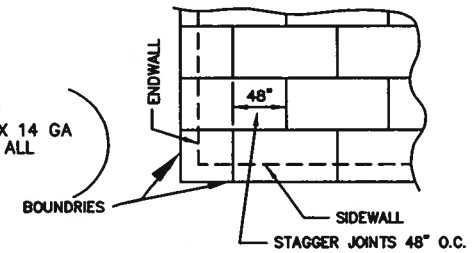
DRAWN BY:	J.B.
SCALE:	N.T.S.
DATE	01-21-05
REV:	
MODULAR32x683+2 (BOSS)(Fla)	PAGE : 10
END WALL DETAILS DWG. ED-1	DWG. #1447-4819F

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
archfreg@aol.com
FLA. 9927

APPROVED JUL 14 2005





WALL SHEATHING EDGE FASTENING CHART

WALL DESIGNATION:	A	B	C	D *	E **	F **
FASTENER EDGE SPACING :	6"	4"	3"	2"	4"	3"
PLF CAPACITY:	230	350	451	588	700	902

* EDGE SUPPORTS SHALL BE DOUBLE 2- BY MEMBER GLUE / NAILED TOGETHER TO ALLOW STAGGERING OF FASTENERS

** E + F ASSEMBLIES REQUIRES SHEATHING ON BOTH SIDES OF THE WALL.

NOTES:
1. SPACE FASTENERS 12" O.C. MAXIMUM AT INTERMEDIATE SUPPORTS.
2. FRAMING SUPPORTS SHALL BE 16" O.C. MAXIMUM, SPF OR BETTER 2" NOMINAL LUMBER. ALL EDGES OF SHEATHING SHALL BE SUPPORTED.
3. ALL FASTENERS SHALL BE 8d COMMON OR GALVANIZED NAILS.
4. SHEATHING MATERAIL SHALL BE 3/8" OR 7/16" RATED STRUCTURAL WOOD PANEL EXP. I OR EXTERIOR GRADE, APPLIED DIRECTLY TO FRAMING.
5. SEE CROSS SECTION FOR INSTALLATION REQUIREMENTS.

B SHEARWALL FASTENING CHART
N.T.S.

SHEARWALL DESIGNATION	LAG SCREWS PER CORNER	MIN. SHEARWALL SEGMENT LENGTH
A	2	2'-6"
B	3	3'-6"
C	4	4'-0"
D	6	4'-0"
E	6	6'-0"
E	7	4'-6"
F	8	7'-6"

C SHEARWALL DETAIL
N.T.S.

NOTES:

1. ROOF SHEATHING : 15/32" PLYWOOD OR 7/16" OSB RATED SHEATHING , EXP. I , FASTENED WITH 8d COMMON NAILS.
2. BOUNDRIY BLOCKING SHALL BE 2 X 6 SPF # 2 MIN. EXCEPT WHEN FASTENER SPACING IS 2 1/2" OR 2" O.C. AND ADDITIONAL 2- BY MEMBER SHALL BE GLUE / NAILED TO 2 X 6 TO ALLOW STAGGERING OF FASTENERS.
3. EDGE BLOCKING SHALL BE 2- BY MEMBERS EXCEPT WHEN FASTENER SPACING IS 2 1/2" OR 2" O.C. BLOCKING SHALL BE DOUBLE 2- BY MEMBERS GLUE / NAILED TOGETHER TO ALLOW STAGGERING OF FASTENERS.
4. FASTENER SPACING CHART

	A	B	C	D
BOUNDRIES :	6"	6"	4"	2 1/2"
EDGES :	6"	6"	6"	4
FIELD :	12"	12"	12"	12"
ROOF PITCH (a)				
(1) 6.92:12< a ≤7:12 PER ASCE 7-98 (2000 IBC)	25'	29'	39'	40'
(2) 2.25: 12< a ≤6.92:12 PER ASCE 7-98 (2000 IBC)	40'	40'	40'	40'
(1) 6.11:12< a ≤7:12 PER ASCE 7-02 (2003 IBC)	25'	29'	39'	40'
(2) 2.25: 12< a ≤6.11:12 PER ASCE 7-02 (2003 IBC)	40'	40'	40'	40'

ALL EDGES MUST BE BLOCKED EXCEPT FOR (A) FASTENING

MAXIMUM DISTANCE FROM CENTERLINE OF BUILDING

NOTE : FASTENER SPACING CHART ABOVE IS BASED ON:
- 26'-8" MINIMUM BUILDING WIDTH
- NO OPENING IN ROOF SHEATHING EXCEEDING 12"ø
- MAXIMUM SIDEWALL HEIGHT OF 9'-0"
- MAXIMUM WIND SPEED OF 130 MPH

D ROOF SHEATHING DETAIL
N.T.S.

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING AGENCY APPROVAL
THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
DWG. PRINT NO.	#:1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

IWC COA # 1025

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES 1627 SOUTH MYRTLE AVE. CLEARWATER, FL 33756

HORTON HOMES, INC.
EATONTON, GA 31024

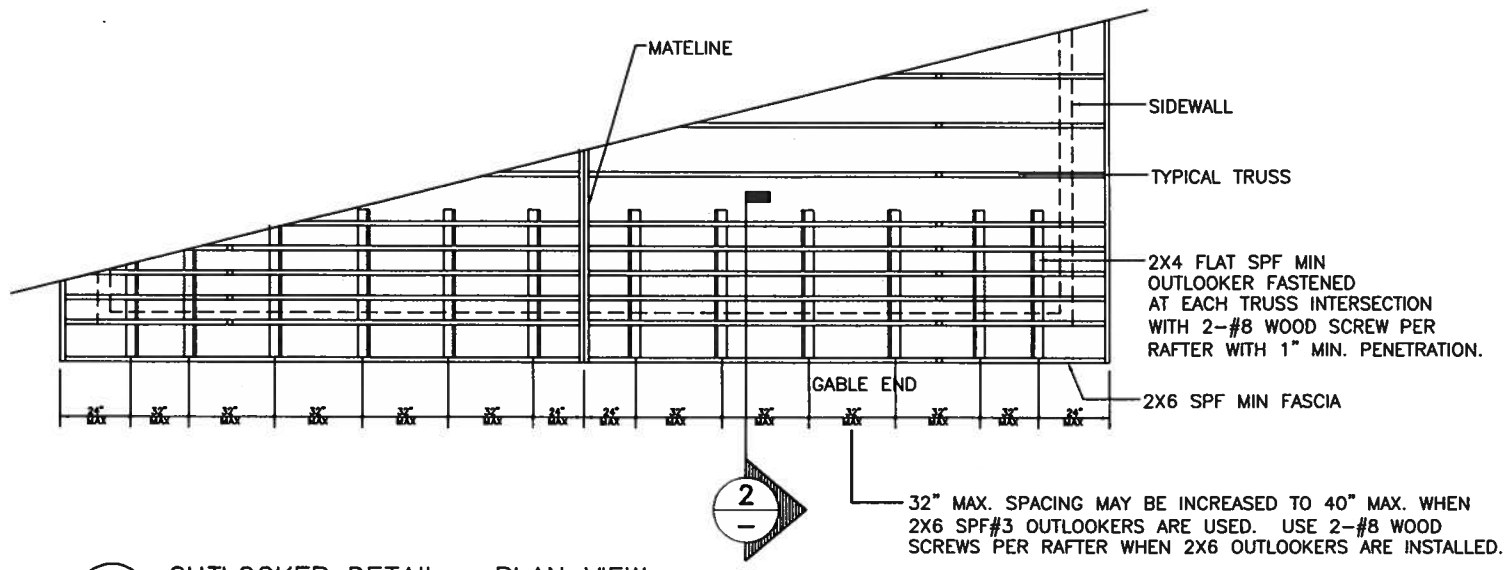
DRAWN BY:	J.B.
SCALE:	AS NOTED
DATE	01-21-05
REV:	
PAGE:	11
DWG. #:	1447-4819F

MODULAR32x683+2 (BOSS)(Fla)
SHEARWALLS AND ROOF DIAPHRAGM
DWG. SW-1

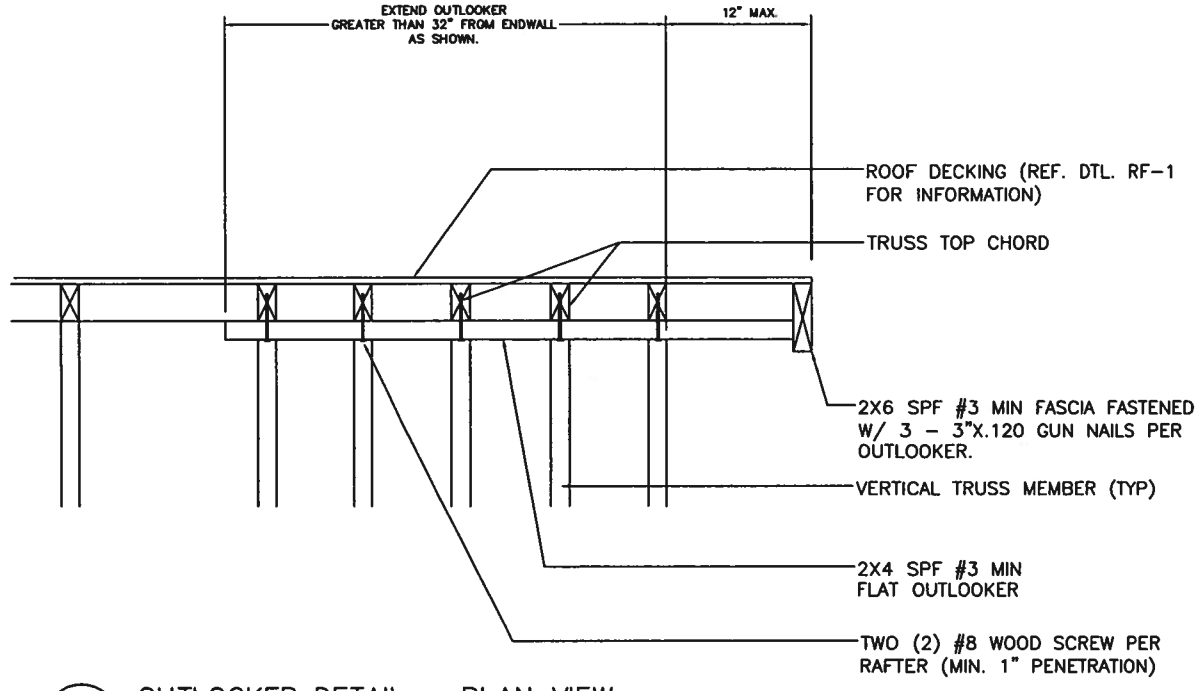
MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
archreg@aol.com
FLA. 9927

APPROVED JUL 14 2005



1 OUTLOOKER DETAIL - PLAN VIEW



2 OUTLOOKER DETAIL - PLAN VIEW

MODULAR
CODES: SEE NOTES
LABELS: FLA

LISTING
AGENCY APPROVAL
THESE PRINTS COMPLY WITH THE FLORIDA MANUFACTURED BUILDING ACT OF 1979 CONSTRUCTION CODE AND ADHERE TO THE FOLLOWING CRITERIA.

CONST. TYPE	VB
OCCUPANCY	R-3
ALLOWABLE NO. OF FLOORS	1
WIND VELOCITY	130
FIRE RATING OF EXT. WALLS	0
DWG. PO/M No.	#:1447-4819F
ALLOW. FLOOR LOAD	40
APPROVAL DATE	JUL 15 2005
MANUFACTURER	HORTON
HIGH VELOCITY HURRICANE ZONE	NO

IWC
COA # 1025

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES
1627 SOUTH MYRTLE AVE.
CLEARWATER, FL 33756

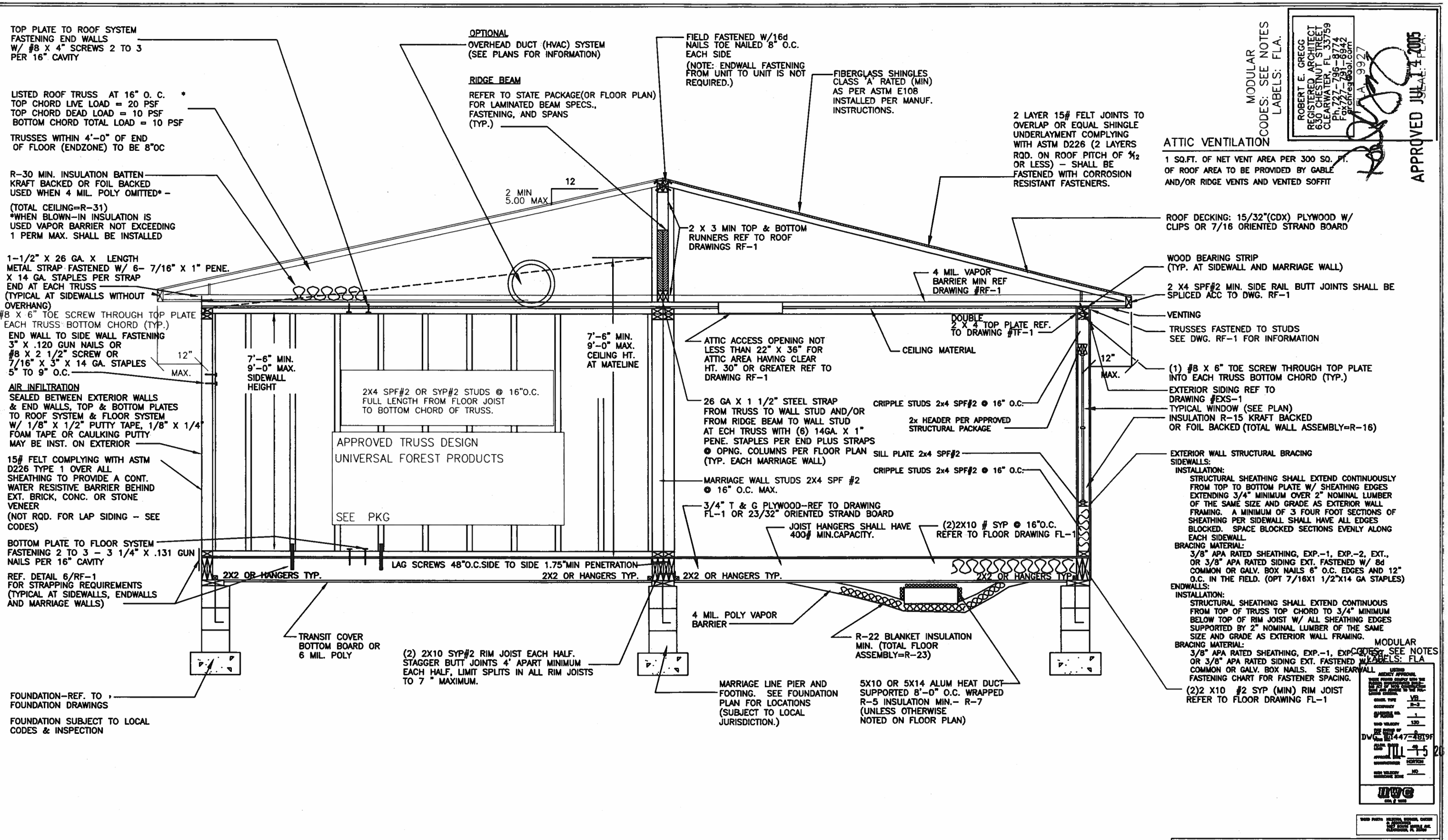
HORTON HOMES, INC.
101 INDUSTRIAL BLVD.
EATONTON, GEORGIA 31024

DRAWN BY:	J.B.
SCALE:	N.T.S.
DATE	01-21-05
REV:	
PAGE:	12

MODULAR32x683+2 (BOSS)(Fla)

OUTLOOKER DETAIL DWG. OD-1
ENDWALL PORCH DETAIL

DWG. #:1447-4819F



NOTE:

ALL PLUMBING IN EXTERIOR WALLS PROTECTED FROM FREEZING WITH INSULATION .

INTERIOR FINISH MATERIAL:

CEILING: 1/2 INCH GYPSUM BOARD INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS. (STIPPLE FINISH)

WALLS: 3/8" THICK (MIN) VINYL COVERED GYPSUM BOARD
3/8" THICK (MIN) UNFINISHED (PAPERBACK) GYPSUM

FLOOR: BLOCK, TILE, OR LINOLEUM IN BATHROOM AND OTHER WET AREAS.
CARPET, BLOCK TILE, OR LINOLEUM INSTALLED IN ALL OTHER AREAS.
(IN ALL BATH AREAS INSTALL WATER PROTECTION)

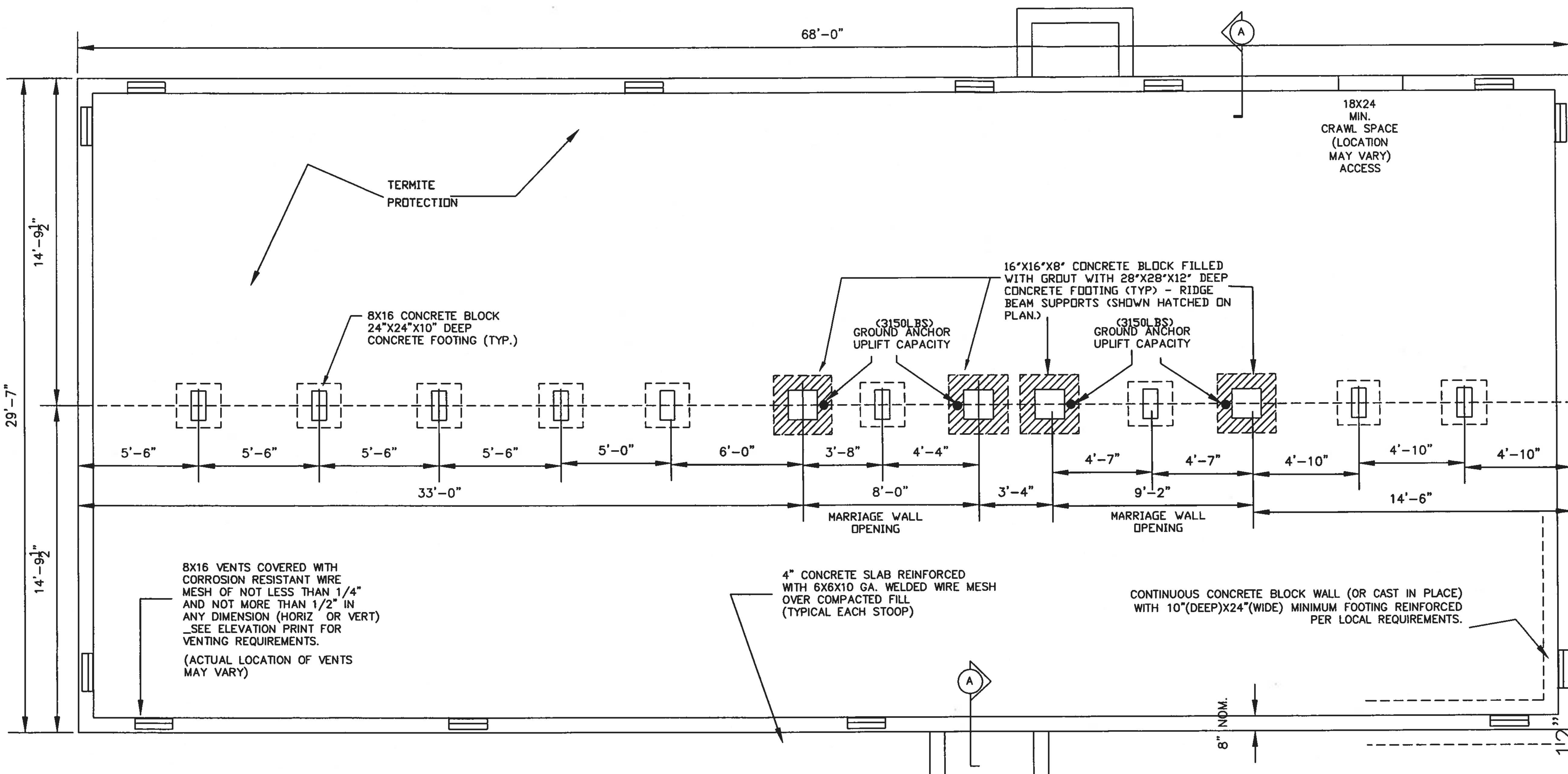
EXTERIOR FINISH MATERIAL:

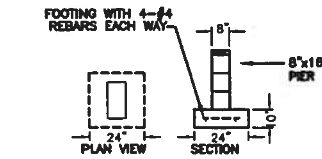
ROOF: FIBERGLASS SHINGLES OVER 2 LAYERS OF 15# FELT FOR ROOF PITCHES OF 2:12 TO 4:10 AND 1 LAYER FOR PITCHES GREATER THAN 4:12.
ROOF OPTION: 45 MIL. BLACK RUBBER ROOF MEMBRANE COVERING INSTALLED PER MANUFACTURER'S INST.
ROOF OPTION: 29 GA.(G90 0.0179) GALVANIZED METAL ROOF COVERING INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

WALL: REFER TO TYPICAL DRAWING # EXS-1.

HORTON HOMES, INC.
EATONTON, GA 31024
MODULAR32x683+2 (BOSS)(Fla)
OFF FRAME CROSS SECTION PFS-1

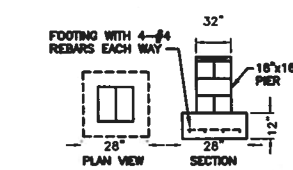
DRAWN BY:	R.E.G.
SCALE:	AS NOTED
DATE	06-06-05
REV:	
PAGE:	13
DWG. #:	1447-4819F





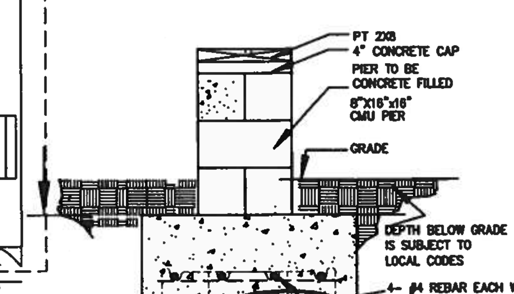
PIER TYPE A

8X16 CONCRETE BLOCK 24"X24"X10" DEEP

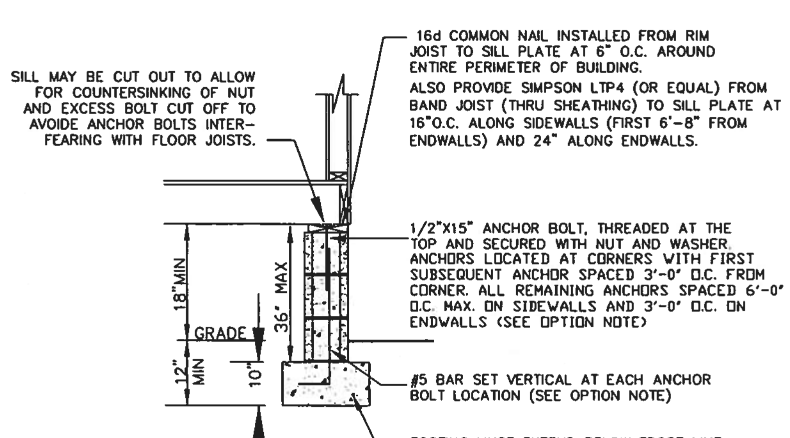


PIER TYPE B

16"X16"X8" CONCRETE BLOCK FILLED WITH GROUT WITH 28"X28"X12" DEEP



HATCHED MATE LINE PIERS



SECTION A (SEE PLAN THIS PAGE)

OPTION NOTE: IN LIEU OF VERTICAL REBAR AND ANCHOR BOLTS, PRE-MANUFACTURED MUDSILL ANCHORS (IE: SIMPLEX, USP) MAY BE USED. IF USED, MUDSILL ANCHORS MUST BE INSTALLED ACCORDING TO MFRS INSTRUCTIONS AND ARE SUBJECT TO LOCAL JURISDICTION.

IMAGE CAN BE MIRRORED

MIN. SOIL BEARING CAPACITY 2000 PSF

CONCRETE COMPRESSION STRENGTH 2500 PSI IN 28 DAYS (FOUNDATION SUBJECT TO LOCAL APPROVAL)

FOUNDATION PLAN – PERMANENT (OFF FRAME)

THIS PLAN INDICATES A TYPICAL CRAWL SPACE FOUNDATION ONLY. OTHER TYPE FOUNDATIONS (IE: PIER, BASEMENT, SLAB, ETC.) MUST BE DESIGNED, BUILT AND APPROVED ON SITE BY OTHERS AND ARE SUBJECT TO LOCAL JURISDICTION.

1. ALL FOUNDATION CONSTRUCTION MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES.
2. ALL PIERS SHALL BE CONSTRUCTED OF 8"x8"x16" CONCRETE MASONRY UNITS CONFORMING TO ASTM C90. MASONRY UNITS SHALL BE LAID IN TYPE M OR S MORTAR OR COVERED WITH SURFACE BONDING CEMENT INSTALLED IN ACCORDANCE WITH ITS LISTING. PIER FOOTING SHALL BE AS DESCRIBED ABOVE.
3. ALL REINFORCEMENT BARS SHALL COMPLY WITH ASTM A615 GRADE 60. REINFORCEMENT BARS SHALL BE EQUALLY SPACED AND PLACED WITH 3" CLEARANCE FROM BOTTOM AND SIDES OF THE FOOTING.
4. ALL PIERS SHALL BE CAPPED WITH A 4" CONC CAP (AND 2X8 SYP PRESSURE TREATED SILL PLATES,) FULL LENGHT OF PIER)IF NEEDED.
5. SOIL CAPACITY SHOWN ON THE PLAN IS ASSUMED. IF THE ACTUAL SOIL BEARING CAPACITY IS LESS THAN 2000PSF, THE ARCHITECT/ENGINEER MUST BE CONSULTED FOR REQUIRED ALTERNATE FOUNDATION DESIGN. FOOTING SHALL BE PLACED ON NON-EXPANSIVE SOILS ONLY.
6. BOLTS SHALL HAVE NUT AND WASHERS INSTALLED. BOLTS SHALL BE ASTM A307.
7. THE AREA UNDER FOOTINGS AND FOUNDATIONS SHALL HAVE ALL VEGETATION, STUMPS, ROOTS, AND FOREIGN MATERIAL REMOVED PRIOR TO THEIR CONSTRUCTION.
8. THE FOUNDATION DIMENSIONS SHOWN ARE NOMINAL. AN INCREASE IN MODULE WIDTH SHOULD BE EXPECTED DUE TO TO MODULAR EXPANSION, SETTING TOLERANCES, ETC. THE FOUNDATION CONTRACTOR SHOULD CONSULT WITH THE MANUFACTURER OF THE MODULES PRIOR TO CONSTRUCTION OF THE FOUNDATION TO DETERMINE THE AMOUNT OF INCREASED WIDTH TO BE ADDED TO THE NOMINAL DIMENSIONS SHOWN ABOVE.
9. TERRAIN SURROUNDING THE FOUNDATION WALL SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM THE FOUNDATION WALLS.

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942

APPROVED JUL 14 2005

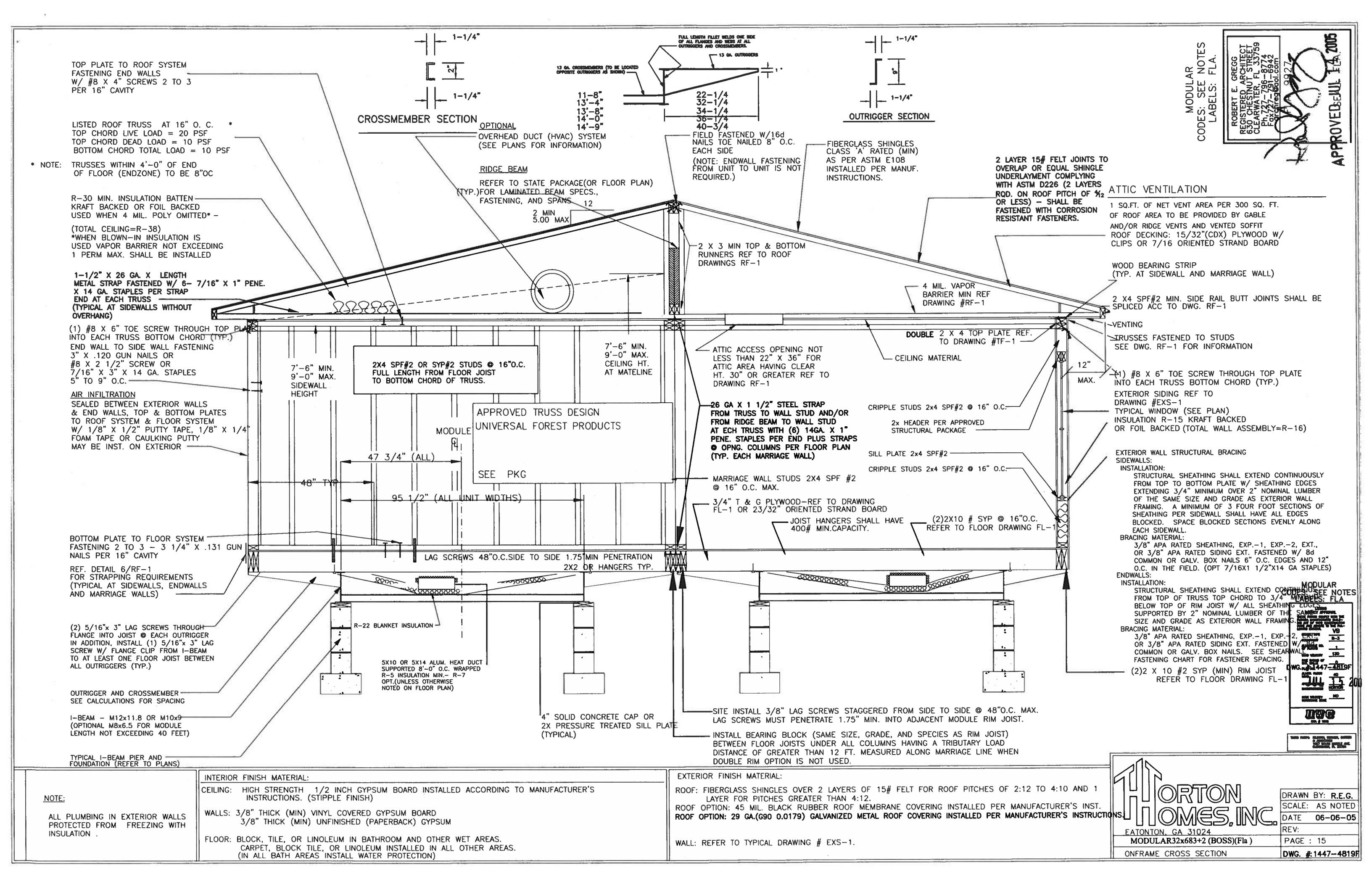
APPROVED JUL 15 2005. HWC MODULAR CODES: SEE NOTES LABELS: FLA. HILBORN, WERNER, CARTER

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES 1627 SOUTH MYRTLE AVE. CLEARWATER, FL 33756

0 6" 12" 2' 4' 12'

HORTON HOMES, INC.
EATONTON, GA 31024
MODULAR32x683+2 (BOSS)(Fla)
OFF FRAME FOUNDATION PLAN

DRAWN BY:	R.E.G.
SCALE:	
DATE	06-06-05
REV:	
PAGE :	14
DWG. #:	1447-4819F



NOTE:

ALL PLUMBING IN EXTERIOR WALLS PROTECTED FROM FREEZING WITH INSULATION .

INTERIOR FINISH MATERIAL:

CEILING: HIGH STRENGTH 1/2 INCH GYPSUM BOARD INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS. (STIPPLE FINISH)

WALLS: 3/8" THICK (MIN) VINYL COVERED GYPSUM BOARD
3/8" THICK (MIN) UNFINISHED (PAPERBACK) GYPSUM

FLOOR: BLOCK, TILE, OR LINOLEUM IN BATHROOM AND OTHER WET AREAS.
CARPET, BLOCK TILE, OR LINOLEUM INSTALLED IN ALL OTHER AREAS.
(IN ALL BATH AREAS INSTALL WATER PROTECTION)

EXTERIOR FINISH MATERIAL:

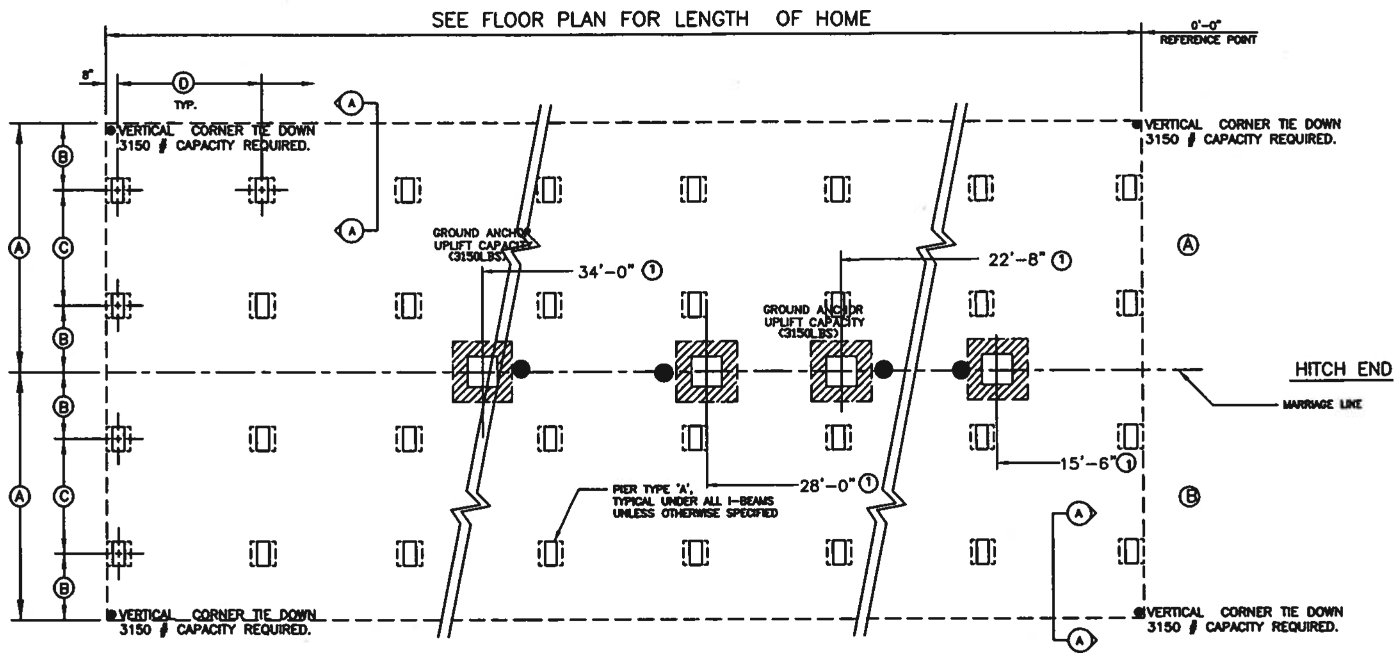
ROOF: FIBERGLASS SHINGLES OVER 2 LAYERS OF 15# FELT FOR ROOF PITCHES OF 2:12 TO 4:10 AND 1 LAYER FOR PITCHES GREATER THAN 4:12.
ROOF OPTION: 45 MIL. BLACK RUBBER ROOF MEMBRANE COVERING INSTALLED PER MANUFACTURER'S INST.
ROOF OPTION: 29 GA.(G90 0.0179) GALVANIZED METAL ROOF COVERING INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

WALL: REFER TO TYPICAL DRAWING # EXS-1.

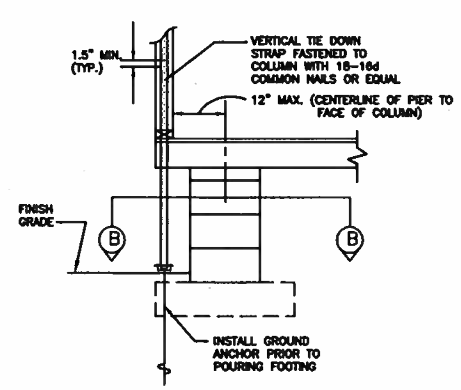
HORTON HOMES, INC.
EATONTON, GA 31024

MODULAR32x683+2 (BOSS)(Fla)	DRAWN BY: R.E.G.
ONFRAME CROSS SECTION	SCALE: AS NOTED
	DATE 06-06-05
	REV:
	PAGE : 15
	DWG. #:1447-4819F

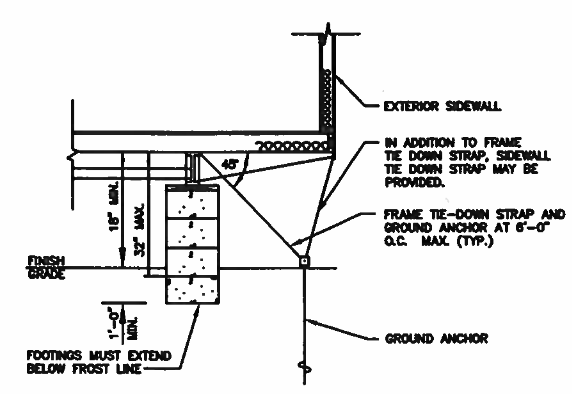
VERTICAL TIE DOWN ANCHOR
TO CORNER COLUMN
VERTICAL CORNER TIE DOWN
3150 # CAPACITY REQUARD.



NOTE:
THIS FOUNDATION PLAN IS PROVIDED FOR REFERENCE AS A TYPICAL STANDARD. ACTUAL FOUNDATION CONDITIONS MUST BE EVALUATED FOR APPLICABILITY IF THIS PLAN IS TO BE USED. ALTERNATE FOUNDATION PLANS MAY BE DESIGNED BY OTHERS IN ACCORDANCE WITH THE REQUIREMENTS OF THE JURISDICTION HAVING AUTHORITY.

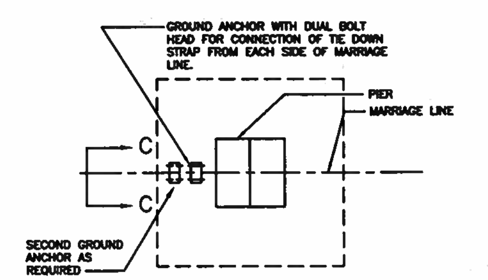


VERTICAL TIE DOWN STRAP DETAIL

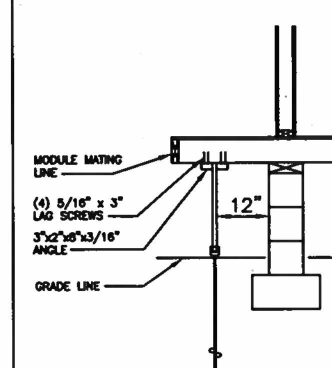


SECTION A-A

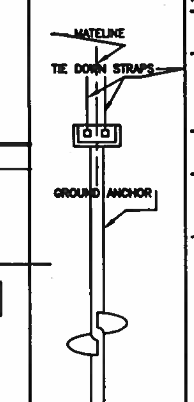
TYP GROUND ANCHORS ●



SECTION B-B
PLAN VIEW OF VERTICAL TIE DOWN STRAP AT MARRIAGE LINE COLUMNS.



SECTION 'X'-'X'

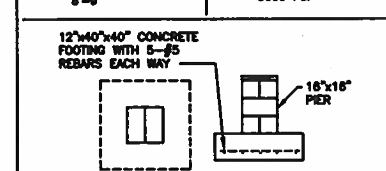


SECTION C-C

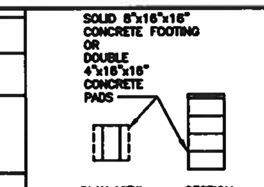
FOUNDATION DIMENSIONS

A MODULE WIDTH	B PIER TO MODULE EDGE	C STEEL BEAM SPACING
14'-9½"	40-3/4"	95-1/2"

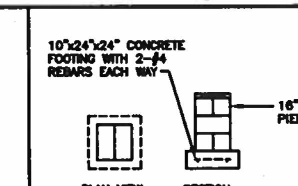
D MAXIMUM PIER SPACING	MINIMUM SOIL BEARING CAPACITY
5'-6"	2000 PSF
6'-9"	3000 PSF



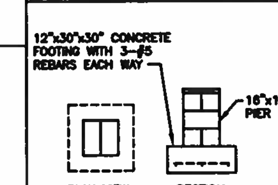
PIER TYPE E



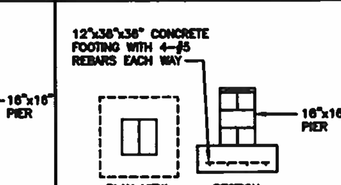
PIER TYPE A



PIER TYPE B



PIER TYPE C



PIER TYPE D

FOUNDATION NOTES:

1. ALL FOUNDATION CONSTRUCTION, MATERIALS, AND INSTALLATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODES.
2. TIE-DOWN STRAPS TO BE 1-1/4"x .035" TYPE-1, FINISH B, GRADE 1 ZINC COATED STEEL STRAPPING CERTIFIED BY A REGISTERED ENGINEER OR ARCHITECT AS CONFORMING WITH ASTM D3953-91. TIE DOWN STRAPS AND CONNECTING HARDWARE SHALL HAVE 3150# MINIMUM WORKING CAPACITY.
3. EACH GROUND ANCHOR SHALL HAVE A WORKING CAPACITY NO LESS THAN THE SUM OF THE REQUIRED WORKING CAPACITIES OF ALL TIE DOWN STRAPS CONNECTED TO THE GROUND ANCHOR, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. DESIGN OF GROUND ANCHOR, INCLUDING SHAFT LENGTH, NUMBER AND DIAMETER OF HELIXES, ETC., TO BE AS SPECIFIED BY THE GROUND ANCHOR MANUFACTURER FOR THE ACTUAL SOIL TYPE ENCOUNTERED. IF THE HOLDING OR PULLOUT CAPACITIES OF GROUND ANCHORS ARE BELOW THE ASSUMED DESIGN VALUES, THE ARCHITECT/ENGINEER MUST BE CONSULTED FOR AN ALTERNATE ANCHORAGE DESIGN.
4. THE FIRST TIE-DOWN STRAP FROM ENDWALLS SHALL NOT EXCEED 1/2 THE MAXIMUM SPACING INDICATED.
5. ALL PIERS SHALL BE CONSTRUCTED OF 8"x 8"x 16" CONCRETE MASONRY UNITS CONFORMING TO ASTM C90. MASONRY UNITS SHALL BE LAID IN TYPE M OR S MORTAR OR COVERED WITH SURFACE BONDING CEMENT INSTALLED IN ACCORDANCE WITH ITS LISTING. PIER FOOTINGS SHALL BE AS DESCRIBED ABOVE.
6. MINIMUM CONCRETE FOOTING COMPRESSIVE STRENGTH 2,500 PSI AT 28 DAYS.
7. ALL REINFORCEMENT BARS SHALL COMPLY WITH ASTM A615, GRADE 60. REINFORCEMENT BARS SHALL BE EQUALLY SPACED AND PLACED WITH 3" CLEARANCE FROM BOTTOM AND SIDES OF THE FOOTING.
8. ALL PIERS SHALL BE CAPPED WITH a 4" CONCRETE CAP BLOCK AND A 2x8 SYP PRESSURE TREATED SILL PLATES,FULL LENGTH OF PIERS (IF NEEDED) FULL LENGTH OF PIER. PIERS SHALL PROVIDE A TRUE AND EVEN BEARING SURFACE.
9. I-BEAM SUPPORT PIERS MAY BE INSTALLED LATERALLY (90° FROM THE ORIENTATION SHOWN ON THE FOUNDATION PLAN). CENTERLINE OF EACH PIER MUST BE LOCATED DIRECTLY BELOW THE I-BEAM CENTERLINE.
10. SOIL BEARING CAPACITY SHOWN ON THIS PLAN IS ASSUMED. IF THE ACTUAL SOIL BEARING CAPACITY IS LESS THAN 2,000 PSF, THE ARCHITECT/ENGINEER MUST BE CONSULTED FOR REQUIRED ALTERNATE FOUNDATION DESIGN. FOOTINGS SHALL BE PLACED ON NON-EXPANSIVE SOILS ONLY.
11. INSTALL BLOCK PIER ON EACH SIDE OF ALL EXTERIOR DOOR OPENINGS. (MANUFACTURER'S RECOMMENDATION ONLY - OPTIONAL WHEN NOT SHOWN) SLIGHT ADJUSTMENT MAY BE REQUIRED TO INSURE OPENABILITY AFTER INSTALLATION OF BUILDING IS COMPLETE.
12. THE AREA UNDER FOOTINGS AND FOUNDATIONS SHALL HAVE ALL VEGETATION, STUMPS, ROOTS, AND FOREIGN MATERIALS REMOVED PRIOR TO THEIR CONSTRUCTION.
13. THE FOUNDATION DIMENSIONS SHOWN ARE NOMINAL. AN INCREASE IN MODULE WIDTH SHOULD BE EXPECTED DUE TO MODULE EXPANSION, SETTING TOLERANCES, ETC. THE FOUNDATION CONTRACTOR SHOULD CONSULT WITH THE MANUFACTURER OF THE MODULES PRIOR TO CONSTRUCTION OF THE FOUNDATION TO DETERMINE THE AMOUNT OF INCREASED WIDTH TO BE ADDED TO THE NOMINAL DIMENSIONS SHOWN ABOVE.

MARRIAGE WALL PIER REQUIREMENTS

PIER NUMBER ①	MINIMUM SOIL BEARING CAPACITY	PIER TYPE	NUMBER OF VERTICAL TIE DOWN STRAPS REQ'D (EACH MODULE)
①	2000 PSF	B	1
	3000 PSF	B	1
	2000 PSF		
	3000 PSF		
	2000 PSF		
	3000 PSF		

HORTON HOMES, INC.
EATONTON, GA 31024
MODULAR32x683+2 (BOSS)(Fla)
(OPT.) FOUNDATION PLAN

DRAWN BY:	R.E.G.
SCALE:	AS NOTED
DATE	06-06-05
REV:	
PAGE :	16
DWG. #:	1447-4819F

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
archreg@aol.com
FLA. 9927

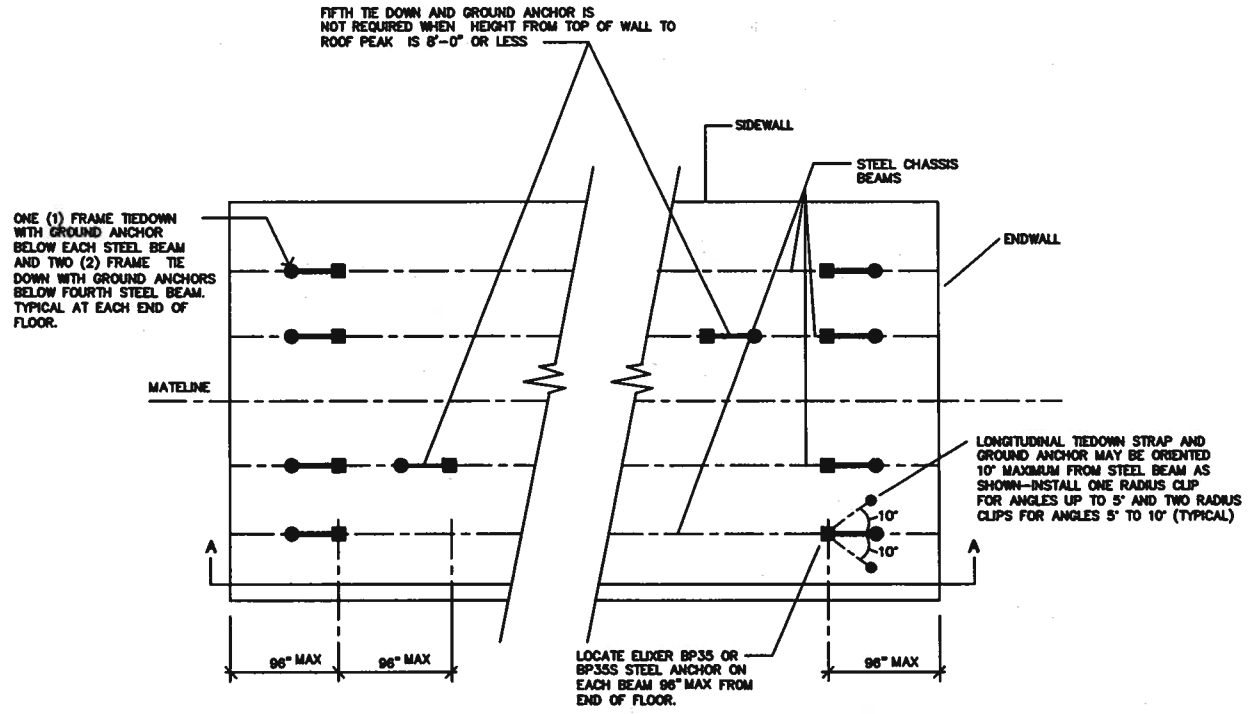
SEAL: FLA.
APPROVED JUL 1 4 2005

MODULAR
CODES: SEE NOTES
LABELS: FLA.
THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES 1627 SOUTH MYRTLE AVE. CLEARWATER, FL 33756

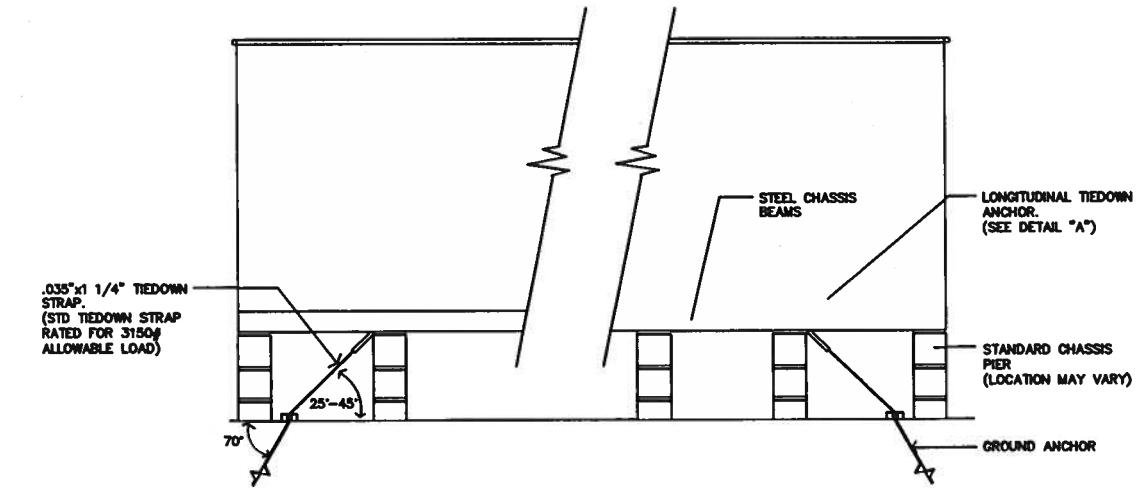
MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
rgarfreg@aol.com

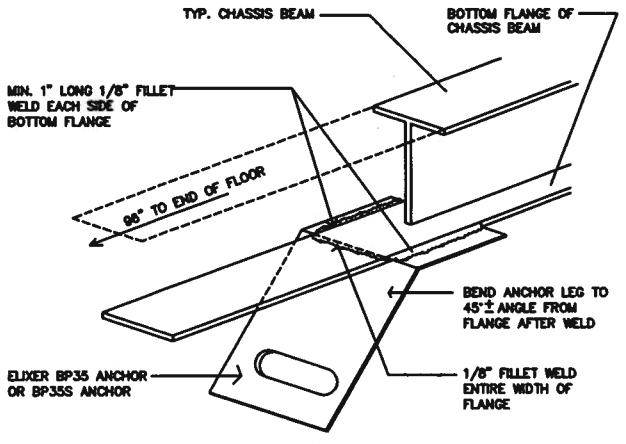
APPROVED JUL 14 2005



PLAN VIEW



SECTION A-A

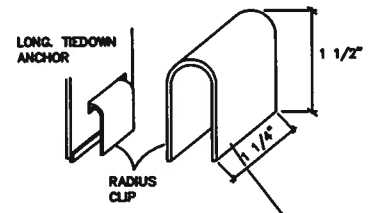


DETAIL A

NOTES
1. MAXIMUM WIND SPEED = 130 MPH
2. DESIGN DOES NOT INCLUDE COASTAL OR OCEAN HAZARD AREAS, OR REGULATORY FLOOD PLAIN AREAS.
3. MAXIMUM WALL HEIGHT = 8'-0"
4. MAXIMUM GABLE HEIGHT AT ENDWALL = 11'-8" - THRU- 15'-9"
5. MAXIMUM MODULE WIDTHS = 11'-8" -THRU-15'-9"
6. REFER TO FOUNDATION NOTES ON MODEL PLANS FOR ADDITIONAL INFORMATION.

7. IN WIND ZONES OF 90 MPH OR LESS THE QUANTITY OF LONGITUDINAL TIE DOWN STRAPS AND GROUND ANCHORS MAYBE REDUCED TO TWO (2) PER EACH END OF BUILDING.** STRAPS SHOULD BE INSTALLED ON I-BEAMS LOCATED NEAREST THE EXTERIOR SIDEWALLS.

** WHEN MAXIMUM WALL HEIGHT IS 8'-0" AND THREE (3) PER-EACH END OF BUILDING WHEN MAXIMUM WALL HEIGHT IS 9'-0"



TIEDOWN RADIUS CLIP

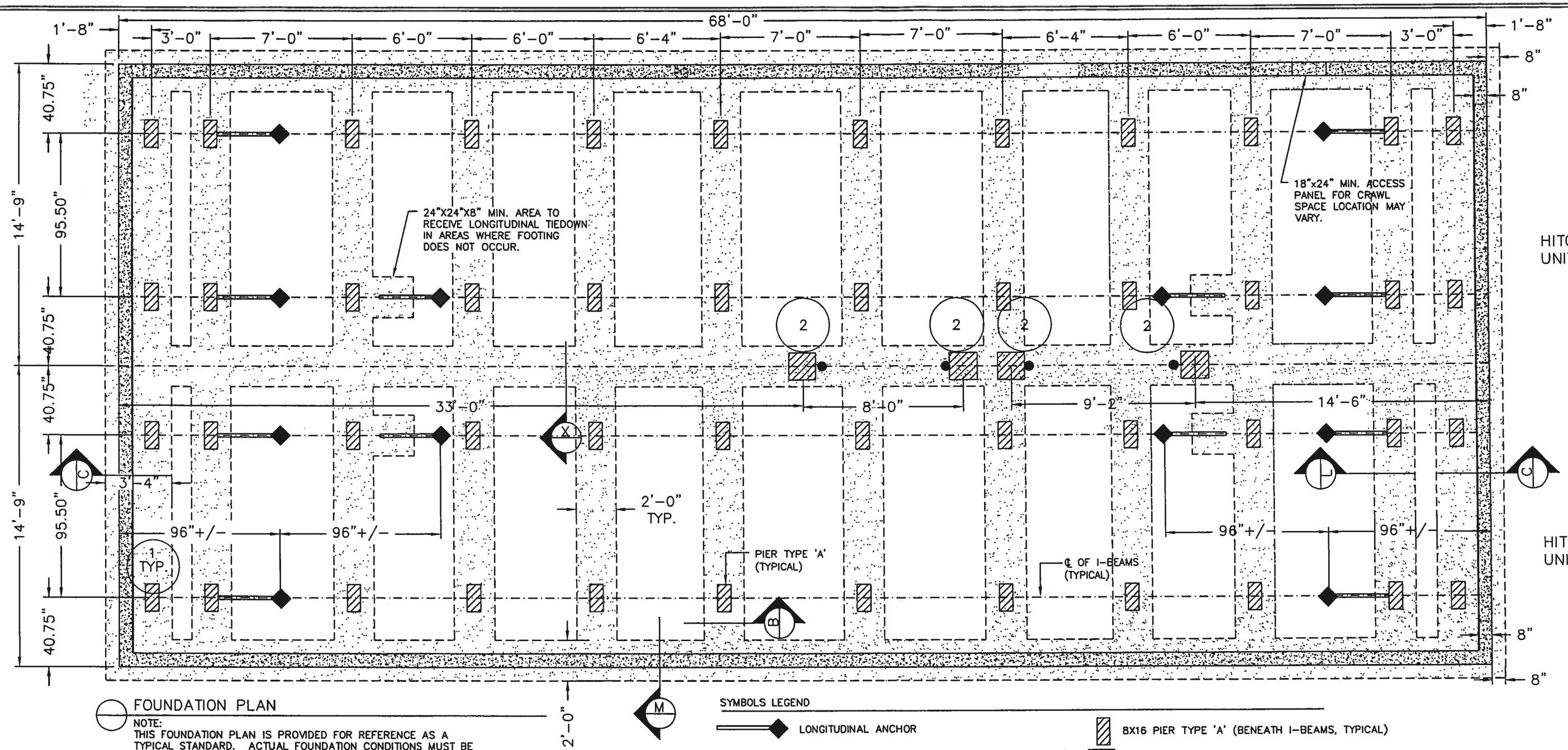
INSTALLER TO FABRICATE RADIUS CLIP BY PLACING STRAIGHT 3" LENGTH OF 1 1/4"x.035" TIEDOWN STRAP IN ANCHOR SLOT AND MANUALLY BENDING THE STRAP TO THE CONFIGURATION SHOWN.
2018-14

MODULAR
CODES: SEE NOTES
LABELS: FLA.

THIRD PARTY: HILDORN, WERNER, CARTER & ASSOCIATES 8 EAST MYRTLE AVE. CLEARWATER, FL 33756

HORTON HOMES, INC.
EATONTON, GA 31024

DRAWN BY: R.E.G.	
SCALE: AS NOTED	
DATE 06-06-05	
REV:	
MODULAR32x683+2 (BOSS)(Fla)	PAGE : 17
LONGITUDINAL FRAME	DWG. #:1447-4819F



FOUNDATION PLAN

NOTE:
THIS FOUNDATION PLAN IS PROVIDED FOR REFERENCE AS A TYPICAL STANDARD. ACTUAL FOUNDATION CONDITIONS MUST BE EVALUATED FOR APPLICABILITY IF THIS PLAN IS TO BE USED. ALTERNATE FOUNDATION PLANS MAY BE DESIGNED BY OTHERS IN ACCORDANCE WIHT THE REQUIREMENTS OF THE JURISDICTION HAVING AUTHORITY.

SYMBOLS LEGEND

- LONGITUDINAL ANCHOR
- VERTICAL ANCHOR AT COLUMN (4500 LBS. UPLIFT)
- 8X16 PIER TYPE 'A' (BENEATH I-BEAMS, TYPICAL)
- 16X16 MATELINE PIER - SEE PLAN FOR TYPE

MARRIAGE WALL PIER REQUIREMENTS SEE PIER TYPE DETAILS ON NEXT PAGE			
◯ PIER NUMBER	MINIMUM SOIL BEARING CAPACITY	PIER TYPE	NUMBER OF VERTICAL TIE DOWN STRAPS REQ'D (EACH MODULE)
1	2000 PSF	A	0
	3000 PSF	A	0
2	2000 PSF	B	1
	3000 PSF	B	1

FOUNDATION NOTES

1. ALL FOUNDATION CONSTRUCTION MATERIALS, AND INSTALLATION SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.
2. TIE-DOWN STRAPS TO BE 1-1 1/4" X .035" TYPE-1, FINISH B, GRADE 1 ZINC COATED STEEL STRAPPING CERTIFIED BY A REGISTERED ENGINEER OR ARCHITECT AS CONFORMING WITH ASTM D3953-91. TIE DOWN STRAPS AND CONNECTING HARDWARE SHALL HAVE 3150# MINIMUM WORKING CAPACITY.
3. EACH CONCRETE ANCHOR SHALL HAVE A WORKING CAPACITY AS SHOWN ON DRAWINGS. BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
4. MASONRY UNITS FOR STAND ALONE PIERS SHALL BE LAID IN TYPE M OR S MORTAR, OR SHALL BE COVERED WITH SURFACE BONDING CEMENT COMPLYING WITH ASTM C 887. SURFACE BONDING CEMENT SHALL BE APPLIED IN STRICT COMPLIANCE WITH THE CEMENT MANUFACTURER'S INSTRUCTIONS. BOTTOM COURSE SHALL BE LAID IN TYPE M OR S MORTAR.
5. MINIMUM CONCRETE FOOTING COMPRESSIVE STRENGTH 3,000 PSI AT 28 DAYS.
6. ALL REINFORCEMENT BARS SHALL COMPLY WITH ASTM A615, GRADE 60. REINFORCEMENT BARS SHALL BE EQUALLY SPACED AND PLACED WITH 3" CLEARANCE FROM BOTTOM AND SIDES OF THE FOOTING.
7. ALL PIERS SHALL BE CAPPED WITH 2X8 SYP PRESSURE TREATED SILL PLATES, FULL LENGTH OF PIER, PIERS SHALL PROVIDE A TRUE AND EVEN BEARING SURFACE.
8. I-BEAM SUPPORT PIERS MUST BE LOCATED DIRECTLY BELOW THE I-BEAM CENTERLINE.
9. SOIL BEARING CAPACITY SHOWN ON THIS PLAN IS ASSUMED. IF THE ACTUAL SOIL BEARING CAPACITY IS LESS THAN 2000 PSF, THE ENGINEER MUST BE CONSULTED FOR REQUIRED ALTERNATE FOUNDATION DESIGN. FOOTING SHALL BE PLACED ON NON-EXPANSIVE SOILS ONLY.
10. INSTALL BLOCK PIER ON EACH SIDE OF ALL EXTERIOR DOOR OPENINGS. (MANUFACTURER'S RECOMMENDATION ONLY - OPTIONAL WHEN NOT SHOWN) SLIGHT ADJUSTMENT MAY BE REQUIRED TO INSURE OPENABILITY AFTER INSTALLATION OF BUILDING IS COMPLETE.
11. THE AREA UNDER FOOTINGS AND FOUNDATIONS SHALL HAVE ALL VEGETATION, STUMPS, ROOTS, AND FOREIGN MATERIALS REMOVED PRIOR TO THEIR CONSTRUCTION.
12. THE FOUNDATION DIMENSIONS SHOWN ARE NOMINAL. AN INCREASE IN MODULE WIDTH SHOULD BE EXPECTED DUE TO MODULE EXPANSION, SETTING TOLERANCES, ETC., THE FOUNDATION CONTRACTOR SHOULD CONSULT WITH THE MANUFACTURER OF THE MODULES PRIOR TO CONSTRUCTION OF THE FOUNDATION TO DETERMINE THE AMOUNT OF INCREASED WIDTH TO BE ADDED TO THE NOMINAL DIMENSIONS SHOWN ABOVE.
13. BUILDING TO BE A DOUBLE WIDE MODULAR SINGLE FAMILY DWELLING CONSTRUCTED WITH TWO 177" WIDE FLOOR MODULES, WITH 12" MAXIMUM ROOF EAVES OVERHANGS. A 9' MAXIMUM SIDEWALL HEIGHT AND STEEL CHASSIS BEAMS SPACED 95-1/2" O.C. IN EACH MODULE.
14. MAXIMUM 130 MPH WIND SPEED (EXP C) THE 2004 INTERNATIONAL RESIDENTIAL CODE. (FBC)
15. CURTAIN WALL CONSTRUCTION MUST BE PROVIDED WITH AIR VENTS WITH A NET FREE AREA EQUAL TO THE GROSS FLOOR AREA DIVIDED BY 150. THE AIR VENTS MUST BE UNIFORMLY DISTRIBUTED ALONG THE PERIMETER OF THE BUILDING WITH ONE VENT LOCATED WITHIN 3 FEET OF EACH CORNER. CURTAIN WALL CONSTRUCTION MUST ALSO BE PROVIDED WITH A 18"x24" MIN. CRAWL SPACE ACCESS DOOR.
16. LAP ALL BARS MIN. 24" AT SPLICES - OFFSET SPLICES MINIMUM 30" WITHIN SAME FOOTING.
17. ALL PIERS BELOW STEEL BEAMS TO BE CONSTRUCTED WITH 8"x16" CMU BLOCKS WITH CELLS VERTICAL; ALL BLOCKS TO BE PLACED IN TYPE M OR S MORTAR WITH EITHER TOP COURSE FULLY GROUTED OR USE 4" THICK CONCRETE CAP BLOCK.

ROBERT E. GREGG
REGISTERED ENGINEER
1551 SUNSET POINT ROAD
CLEARWATER, FL 33759
PHONE (727)-796-8774
FAX (727)-791-0942
FL - 56527

HITCH END UNIT 'A'

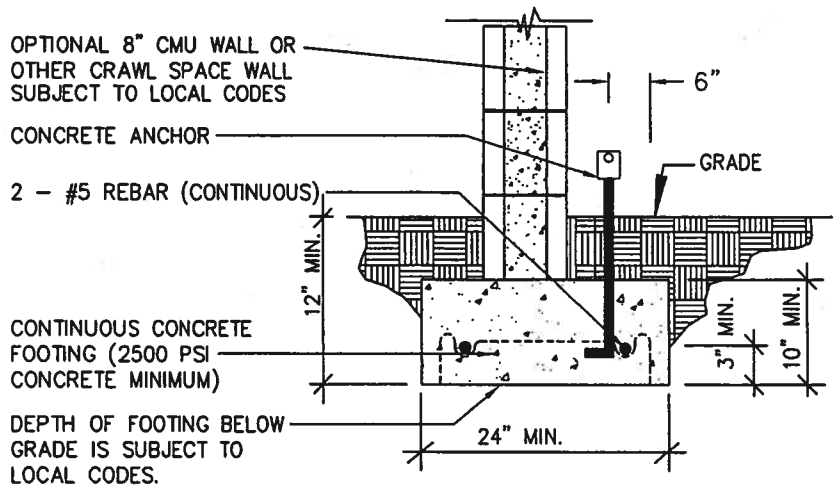
HITCH END UNIT 'B'

APPROVED OCT 04 2005

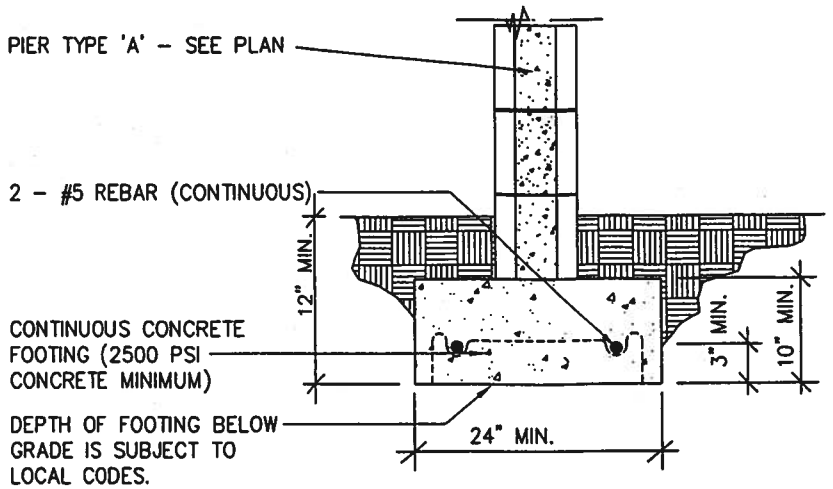
NOTE:
THIS FOUNDATION DESIGN IS IN ACCORDANCE WITH 2002 FBC AND IS BASED ON 130 MPH. WIND, EXPOSURE 'C'.

HORTON HOMES, INC.
EATONTON, GA 31024

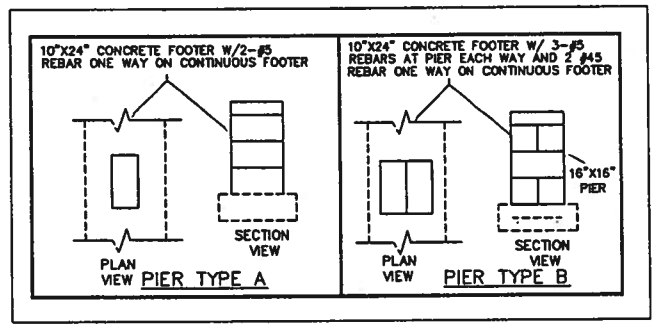
32X68 3+2 BOSS	DRAWN BY: R.E.G.
OPTIONAL FOUNDATION PLAN (ON FRAME)	SCALE: AS NOTED
	DATE 9-27-05
	REV:
	PAGE : 1
	DWG. #: 1447-4B19B



SECTION A–A – SIDEWALL DETAIL

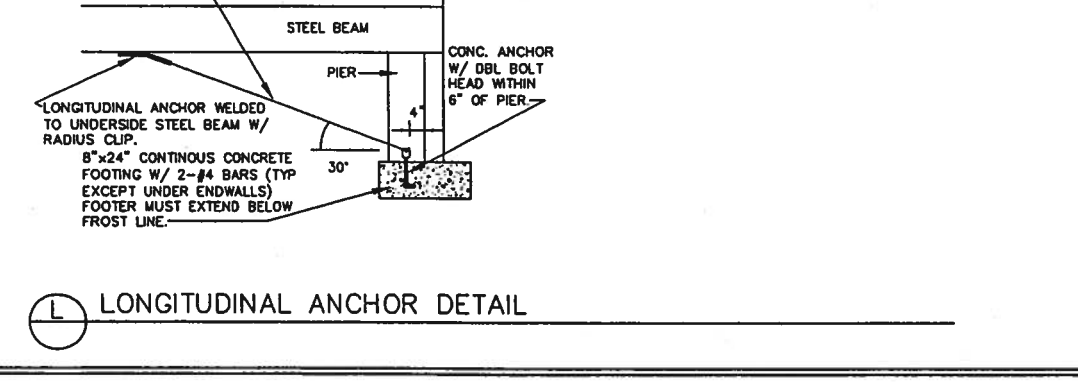


SECTION B–B – TYPICAL PIER TYPE 'A'

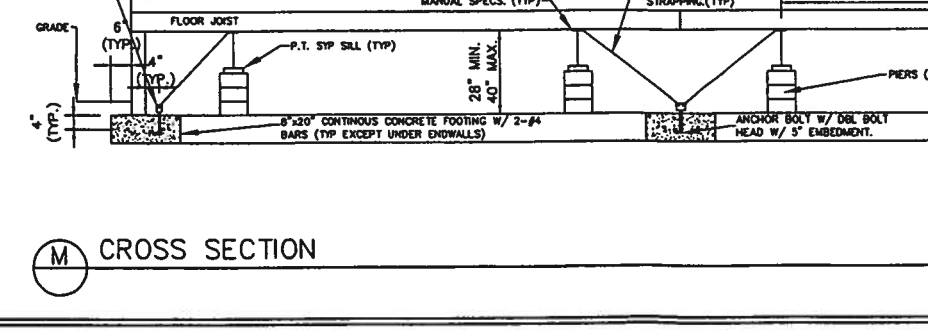


ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
PHONE (727) 796-8774
FAX (727) 791-6942
FL (727) 9927

APPROVED OCT 04 2005

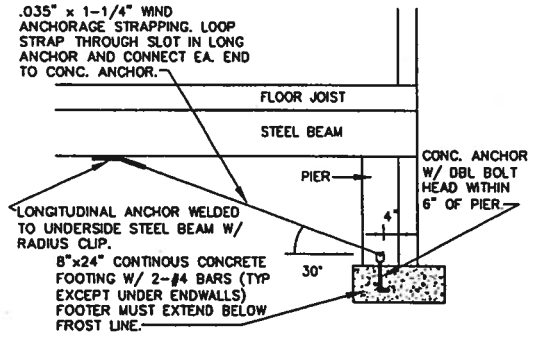


SECTION C–C – ENDWALL PIER AND CURTAIN WALL DETAIL

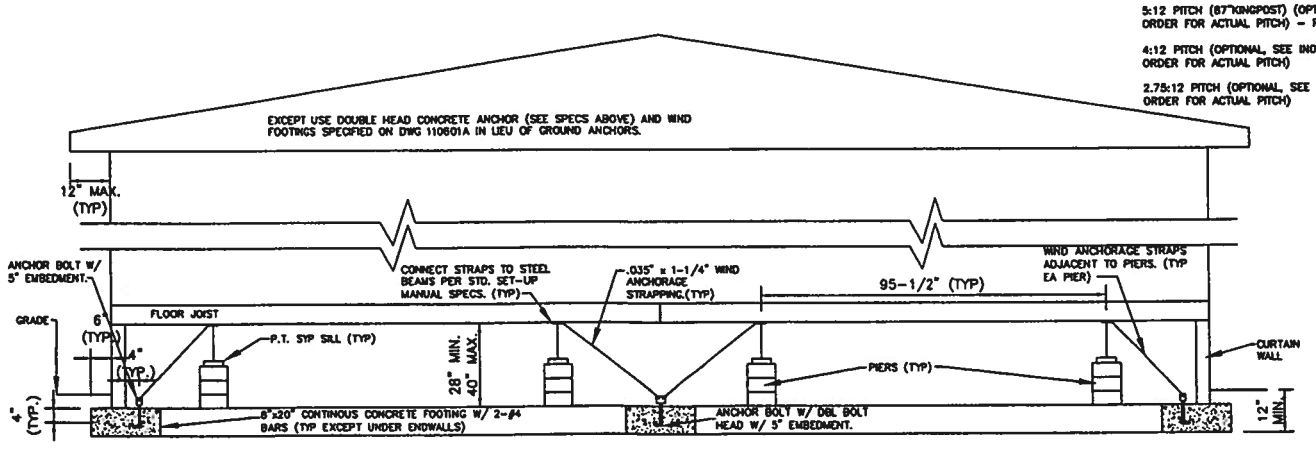


SECTION X–X – MATELINE PIER AND ANCHOR DETAIL

NOTE:
THIS FOUNDATION DESIGN IS IN ACCORDANCE WITH 2002 FBC AND IS BASED ON 130 MPH. WIND, EXPOSURE 'C'.



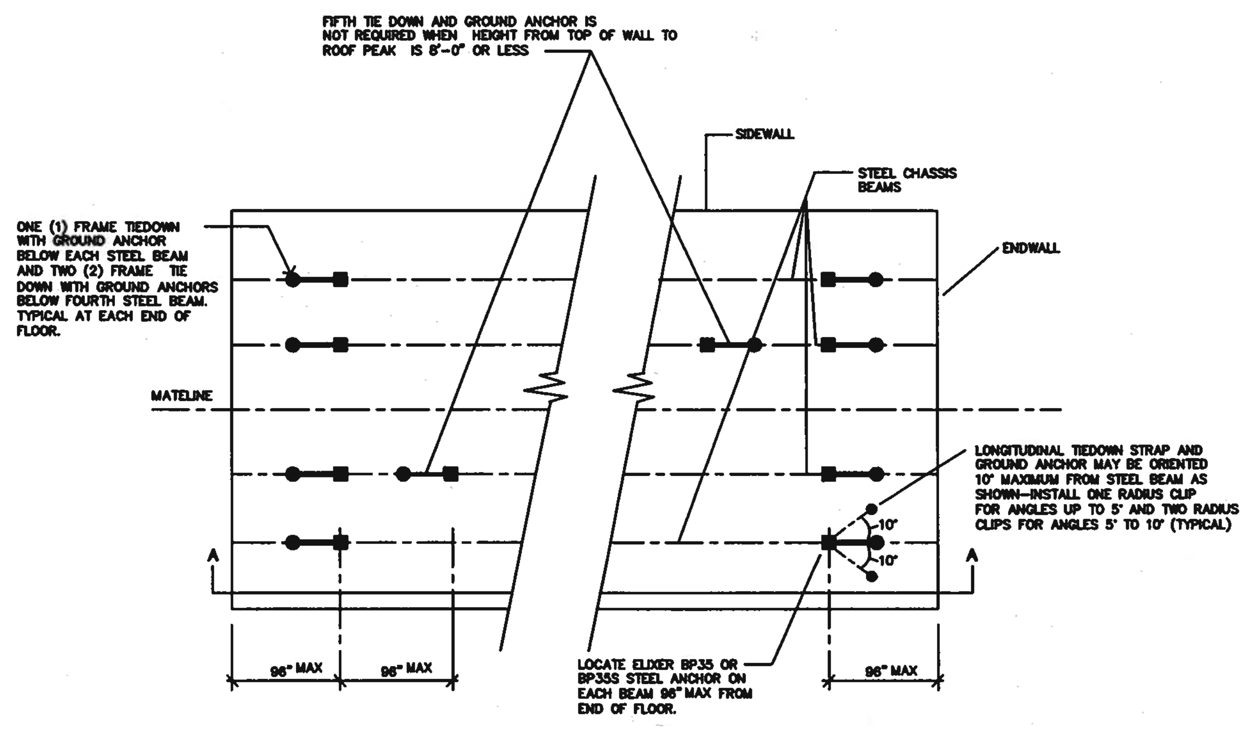
LONGITUDINAL ANCHOR DETAIL



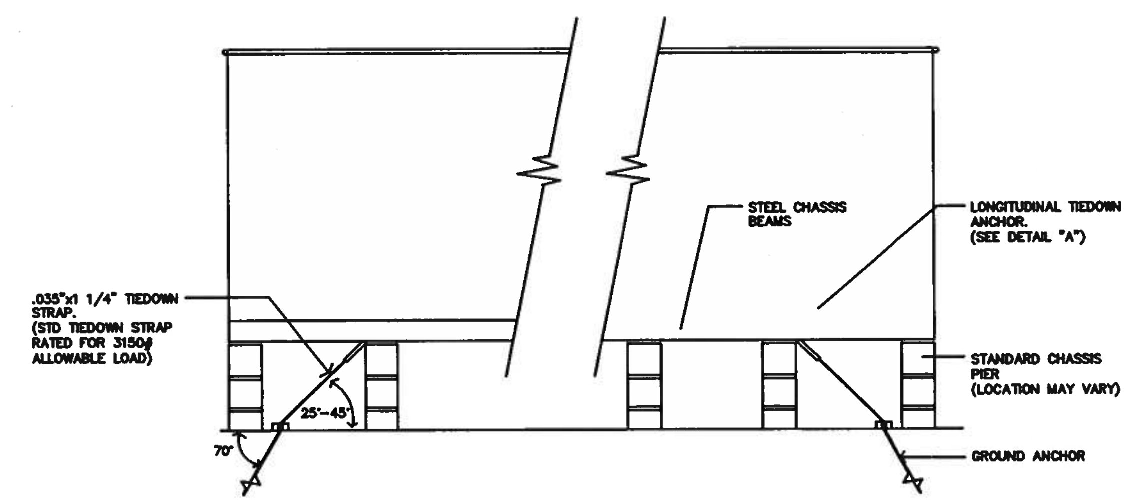
CROSS SECTION

HORTON HOMES, INC.
EATONTON, GA 31024

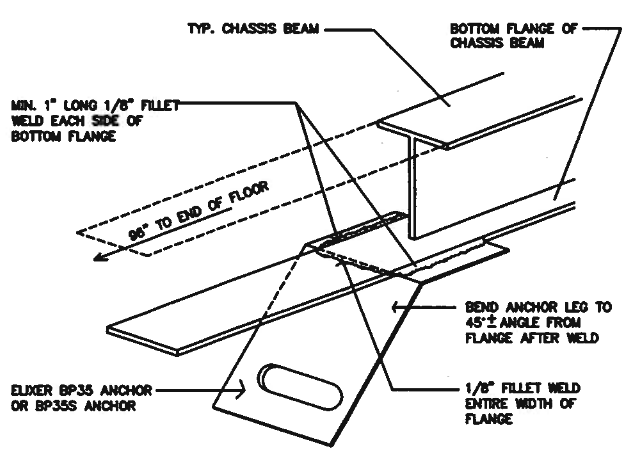
DRAWN BY: R.E.G.	
SCALE: AS NOTED	
DATE 9–27–05	
REV:	
32X68 3+2 BOSS	PAGE : 2
OPTIONAL FOUNDATION PLAN (ON FRAME)	DWG. #:1447–4819R



PLAN VIEW



SECTION A-A

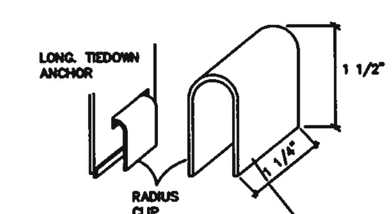


DETAIL A

NOTES
1. MAXIMUM WIND SPEED = 130 MPH
2. DESIGN DOES NOT INCLUDE COASTAL OR OCEAN HAZARD AREAS, OR REGULATORY FLOOD PLAIN AREAS.
3. MAXIMUM WALL HEIGHT = 8'-0"
4. MAXIMUM GABLE HEIGHT AT ENDWALL = 11'-8" - THRU- 15'-9"
5. MAXIMUM MODULE WIDTHS = 11'-8" -THRU-15'-9"
6. REFER TO FOUNDATION NOTES ON MODEL PLANS FOR ADDITIONAL INFORMATION.

7. IN WIND ZONES OF 90 MPH OR LESS THE QUANTITY OF LONGITUDINAL TIE DOWN STRAPS AND GROUND ANCHORS MAYBE REDUCED TO TWO (2) PER EACH END OF BUILDING.** STRAPS SHOULD BE INSTALLED ON I-BEAMS LOCATED NEAREST THE EXTERIOR SIDEWALLS.

** WHEN MAXIMUM WALL HEIGHT IS 8'-0" AND THREE (3) PER-EACH END OF BUILDING WHEN MAXIMUM WALL HEIGHT IS 9'-0"



TIEDOWN RADIUS CLIP

INSTALLER TO FABRICATE RADIUS CLIP BY PLACING STRAIGHT 3" LENGTH OF 1 1/4"x.035" TIEDOWN STRAP IN ANCHOR SLOT AND MANUALLY BENDING THE STRAP TO THE CONFIGURATION SHOWN.
2018-14

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
gregg@aol.com

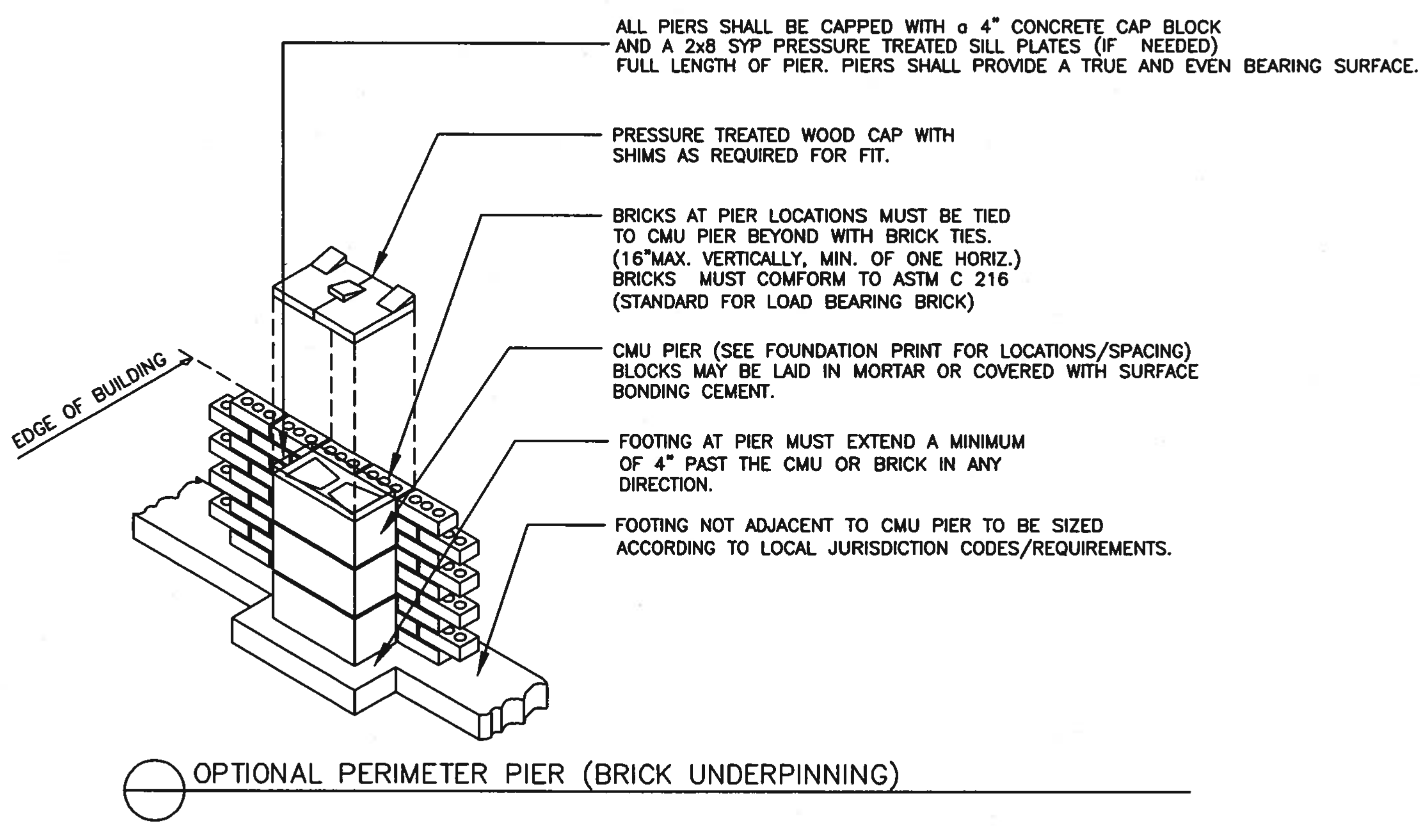
APPROVED JUL 14 2005

MODULAR
CODES: SEE NOTES
LABELS: FLA.

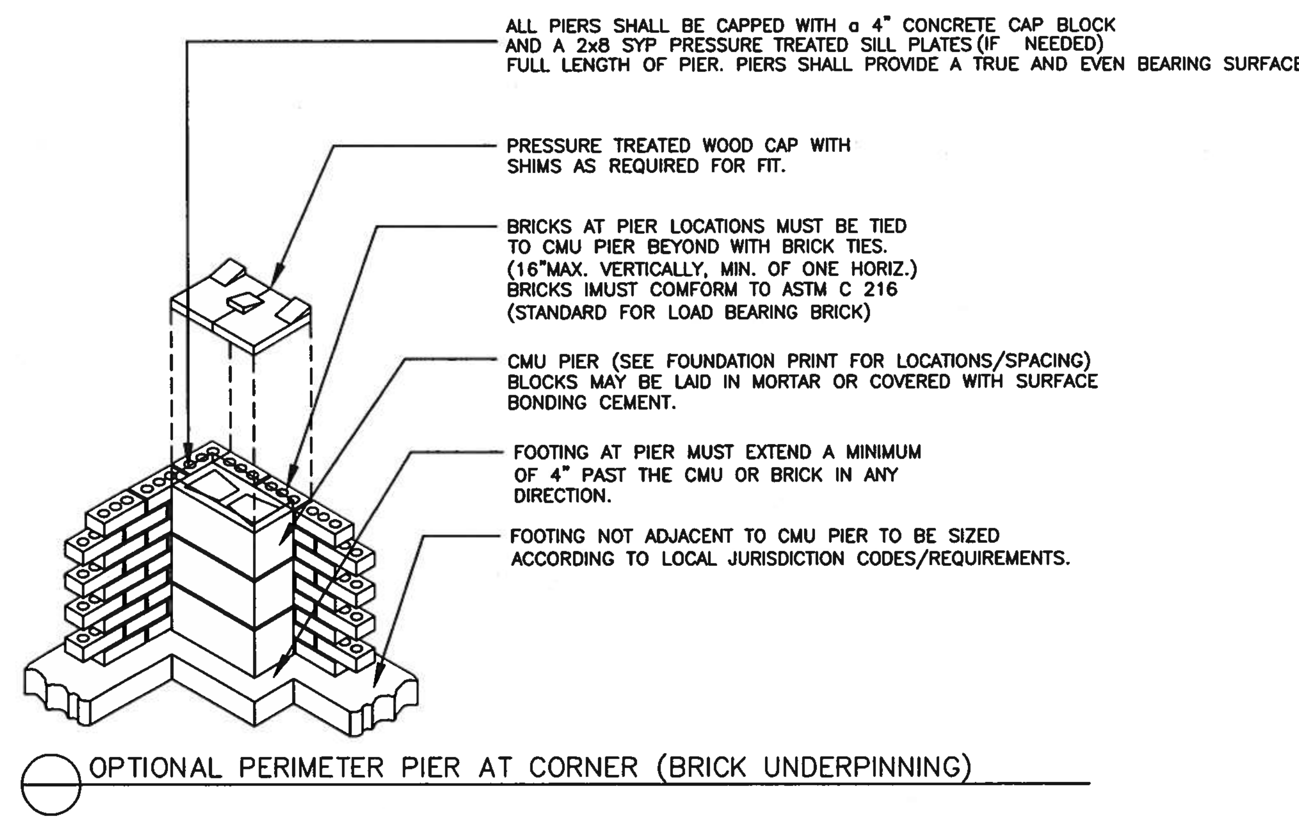
THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES 1627 SOUTH MYRTLE AVE. CLEARWATER, FL 33756

HORTON HOMES, INC.
EATONTON, GA 31024

MODULAR32x683+2 (BOSS)(Fla)	DRAWN BY: R.E.G.
	SCALE: AS NOTED
	DATE 06-06-05
	REV:
	PAGE : 17
LONGITUDINAL FRAME	DWG. #:1447-4819F



OPTIONAL PERIMETER PIER (BRICK UNDERPINNING)



OPTIONAL PERIMETER PIER AT CORNER (BRICK UNDERPINNING)

MODULAR
CODES: SEE NOTES
LABELS: FLA.

ROBERT E. GREGG
REGISTERED ARCHITECT
630 CHESTNUT STREET
CLEARWATER, FL 33759
Ph.727-796-8774
Fax727-791-6942
archreg@aol.com

APPROVED JUL 14 2005

·APPROVED· HILBORN, WERNER, CARTER & ASSOC.
JUL 15 2005
HWC

MODULAR
CODES: SEE NOTES
LABELS: FLA.

THIRD PARTY: HILBORN, WERNER, CARTER & ASSOCIATES 1627 SOUTH MYRTLE AVE. CLEARWATER, FL 33756

0 6" 12" 2' 4' 8' 12'

HORTON HOMES, INC.
EATONTON, GA 31024
MODULAR32x683+2 (BOSS)(Fla)
(BRICK UNDERPINNING)
OPTIONAL PERIMETER PIER

DRAWN BY:	R.E.G.
SCALE:	AS NOTED
DATE	06-06-05
REV:	
PAGE :	18
DWG. #:	1447-4819F