

DATE 10/03/2008

Columbia County Building Permit  
This Permit Must Be Prominently Posted on Premises During Construction

PERMIT  
000027401

APPLICANT JOHN HARRINGTON PHONE 352-316-5320  
ADDRESS 24113 NW OLD BELLAMY RD HIGH SPRINGS FL 32643  
OWNER JEFF TYRE PHONE 462-5323  
ADDRESS 5813 NW LAKE JEFFERY RD LAKE CITY FL 32055  
CONTRACTOR HOUSE CRAFT HOMES PHONE 386-462-2401  
LOCATION OF PROPERTY 90 E, R LAKE JEFFERY, GO LEFT JUST PAST OLD HUNTSVILLE  
STORE AT NEXT DRIVE ON RIGHT TO THE END  
TYPE DEVELOPMENT SFD,UTILITY ESTIMATED COST OF CONSTRUCTION 131850.00  
HEATED FLOOR AREA 2497.00 TOTAL AREA 2637.00 HEIGHT 18.00 STORIES 1  
FOUNDATION CONCRETE WALLS FRAMED ROOF PITCH 5/12 FLOOR SLB  
LAND USE & ZONING AG-3 MAX. HEIGHT 35  
Minimum Set Back Requirments: STREET-FRONT 30.00 REAR 25.00 SIDE 25.00  
NO. EX.D.U. 0 FLOOD ZONE X DEVELOPMENT PERMIT NO.

PARCEL ID 09-3S-16-02045-104 SUBDIVISION  
LOT BLOCK PHASE UNIT TOTAL ACRES 5.00

CRC058087  
Culvert Permit No. Culvert Waiver Contractor's License Number Applicant/Owner/Contractor  
EXISTING 08-0650 BK RJ N  
Driveway Connection Septic Tank Number LU & Zoning checked by Approved for Issuance New Resident

COMMENTS: NOC ON FILE, FLOOR ONE FOOT ABOVE THE ROAD

Check # or Cash 1150

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 \$ 660.00 CERTIFICATION FEE \$ 13.19 SURCHARGE FEE \$ 13.19  
MISC. FEES \$ 0.00 ZONING CERT. FEE \$ 50.00 FIRE FEE \$ 0.00 WASTE FEE \$  
FLOOD DEVELOPMENT FEE \$ FLOOD ZONE FEE \$ 25.00 CULVERT FEE \$ TOTAL FEE 761.38  
INSPECTORS OFFICE CLERKS OFFICE

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."

EVERY PERMIT ISSUED SHALL BECOME INVALID UNLESS THE WORK AUTHORIZED BY SUCH PERMIT IS COMMENCED WITHIN 180 DAYS AFTER ITS ISSUANCE, OR IF THE WORK AUTHORIZED BY SUCH PERMIT IS SUSPENDED OR ABANDONED FOR A PERIOD OF 180 DAYS AFTER THE TIME THE WORK IS COMMENCED. A VALID PERMIT RECIEVES AN APPROVED INSPECTION EVERY 180 DAYS. WORK SHALL BE CONSIDERED TO BE IN ACTIVE PROGRESS WHEN THE PERMIT HAS RECIEVED AN APPROVED INSPECTION WITHIN 180 DAYS.

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



STAFF \* 2ND PAGE WILL BE SUBMITTED PRIOR TO PERMITTING

Columbia County Building Permit Application

For Office Use Only Application # 0809-59 Date Received 9/26 By JW Permit # 27401  
Zoning Official BLK Date 01.10.08 Flood Zone X Land Use A-3 Zoning A-3  
FEMA Map # N/A Elevation N/A MFE 1st floor River N/A Plans Examiner 10/ Date 9/30/08  
Comments 100% on final ID#  
☒ NOC ☒ EH ☐ Deed or PA ☐ Site Plan ☐ State Road Info ☐ Parent Parcel #  
☐ Dev Permit # ☐ In Floodway ☒ Letter of Auth. from Contractor ☐ F W Comp. letter  
IMPACT FEES: EMS \$29.88 Fire \$78.63 Corr \$409.16 Road/Code \$1,096.00 /210  
School \$1,500.00 = TOTAL \$3,063.67

Septic Permit No. 08-0650 Fax \_\_\_\_\_

Name Authorized Person Signing Permit John Harrington Phone 352-316-5320  
24113 NW OLD BELLAMY RD HIGH SPRINGS FL 32643  
Address 12501 US HWY 441 ALACHUA FL 32615

Owners Name Jeff Tyre Phone 386-462-5323

911 Address 3813 NW LAKE JEFFERY RD LAKE CITY 32055

Contractors Name HOUSE CRAFT HOMES Phone 386-462-2401

Address 12501 US HWY 441 ALACHUA FL 32615

Fee Simple Owner Name & Address Jeff Tyre

Bonding Co. Name & Address \_\_\_\_\_

Architect/Engineer Name & Address Mark DISOSWAY PO BOX 808 LAKE CITY

Mortgage Lenders Name & Address FIRST FEDERAL SAVINGS LAKE CITY

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

Property ID Number: 09-35-16 104 RD2045- Estimated Cost of Construction 175,000

Subdivision Name \_\_\_\_\_ Lot \_\_\_\_\_ Block \_\_\_\_\_ Unit \_\_\_\_\_ Phase \_\_\_\_\_

Driving Directions EAST ON 90 TO LAKE JEFFERY RD make left <sup>Just past the</sup> ~~go to~~ old  
Hunt Jeffy store next drive ~~on~~ to end.

Number of Existing Dwellings on Property 0

Construction of SFD Total Acreage 5 Lot Size \_\_\_\_\_

Do you need a - Culvert Permit or Culvert Waiver or Have an Existing Drive Total Building Height 18'

Actual Distance of Structure from Property Lines - Front 130 Side 230 Side 257 Rear 450

Number of Stories 1 Heated Floor Area 2497 Total Floor Area 2637 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.

JW called & spoke w/ J. D. Harrington, Sr. 10.1.08



## Columbia County Building Permit Application

**TIME LIMITATIONS OF APPLICATION :** An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the building official is authorized to grant one or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause demonstrated.

### **FLORIDA'S CONSTRUCTION LIEN LAW: Protect Yourself and Your Investment**

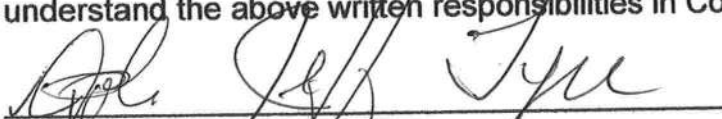
According to Florida Law, those who work on your property or provide materials, and are not paid-in-full, have a right to enforce their claim for payment against your property. This claim is known as a construction lien. If your contractor fails to pay subcontractors or material suppliers or neglects to make other legally required payments, the people who are owed money may look to your property for payment, even if you have paid your contractor in full. This means if a lien is filed against your property, it could be sold against your will to pay for labor, materials or other services which your contractor may have failed to pay.

### **NOTICE OF RESPONSIBILITY TO BUILDING PERMITEE:**


**YOU ARE HEREBY NOTIFIED** as the recipient of a building permit from Columbia County, Florida, you will be held responsible to the County for any damage to sidewalks and/or road curbs and gutters, concrete features and structures, together with damage to drainage facilities, removal of sod, major changes to lot grades that result in ponding of water, or other damage to roadway and other public infrastructure facilities caused by you or your contractor, subcontractors, agents or representatives in the construction and/or improvement of the building and lot for which this permit is issued. No certificate of occupancy will be issued until all corrective work to these public infrastructures and facilities has been corrected.

**WARNING TO OWNER:** YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

**OWNERS CERTIFICATION:** 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. I further understand the above written responsibilities in Columbia County for obtaining this Building Permit.

  
Owners Signature

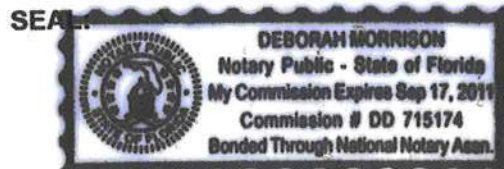
**CONTRACTORS AFFIDAVIT:** By my signature I understand and agree that I have informed and provided this written statement to the owner of all the above written responsibilities in Columbia County for obtaining this Building Permit.

  
Contractor's Signature (Permittee)

Contractor's License Number CRC 058087  
Columbia County  
Competency Card Number \_\_\_\_\_

Affirmed under penalty of perjury to by the Contractor and subscribed before me this 3<sup>rd</sup> day of October 2008  
Personally known \_\_\_\_\_ or Produced Identification FDL H152-464-73-303-0

  
State of Florida Notary Signature (For the Contractor)





# FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Community Affairs  
Residential Whole Building Performance Method A

Project Name: **TYRE RESIDENCE**  
Address: **5813 NW Lake Jeffery Rd**  
City, State: **Lake City, FL 32055-**  
Owner: **JEFF AND GIGI TYRE**  
Climate Zone: **North**

Builder: **House Craft Homes**  
Permitting Office: **Columbia County**  
Permit Number: **27401**  
Jurisdiction Number: **221500**

- |   |                      |     |  |                   |     |
|---|----------------------|-----|--|-------------------|-----|
| 1. New construction or existing   | New                  | ___ | 12. Cooling systems                    |                   |     |
| 2. Single family or multi-family  | Single family        | ___ | a. Central Unit                        | Cap: 48.0 kBtu/hr | ___ |
| 3. Number of units, if multi-family   | 1                    | ___ |  | SEER: 13.00       | ___ |
| 4. Number of Bedrooms   | 4                    | ___ | b. N/A                                 |                   | ___ |
| 5. Is this a worst case?  | Yes                  | ___ | c. N/A                                 |                   | ___ |
| 6. Conditioned floor area (ft²)   | 2497 ft²             | ___ |  |                   | ___ |
| 7. Glass type <sup>1</sup> and area: (Label reqd. by 13-104.4.5 if not default) |                      | ___ | 13. Heating systems                    |                   |     |
| a. U-factor:  | Description Area     | ___ | a. Electric Heat Pump/Package          | Cap: 48.0 kBtu/hr | ___ |
| (or Single or Double DEFAULT) 7a. (Dble Default)                                | 177.0 ft²            | ___ |  | HSPF: 8.30        | ___ |
| b. SHGC:  |                      | ___ | b. N/A                                 |                   | ___ |
| (or Clear or Tint DEFAULT) 7b. (Clear)  | 177.0 ft²            | ___ | c. N/A                                 |                   | ___ |
| 8. Floor types  |                      | ___ | 14. Hot water systems                  |                   |     |
| a. Stem Wall  | R=0.0, 2497.0ft²     | ___ | a. Electric Resistance                 | Cap: 40.0 gallons | ___ |
| b. N/A  |                      | ___ |  | EF: 0.92          | ___ |
| c. N/A  |                      | ___ | b. N/A                                 |                   | ___ |
| 9. Wall types   |                      | ___ | c. Conservation credits                |                   | ___ |
| a. Concrete, Int Insul, Exterior  | R=5.0, 1365.0 ft²    | ___ | (HR-Heat recovery, Solar               |                   | ___ |
| b. N/A  |                      | ___ | DHP-Dedicated heat pump)               |                   | ___ |
| c. N/A  |                      | ___ | 15. HVAC credits                       | CF, ___           | ___ |
| d. N/A  |                      | ___ | (CF-Ceiling fan, CV-Cross ventilation, |                   | ___ |
| e. N/A  |                      | ___ | HF-Whole house fan,                    |                   | ___ |
| 10. Ceiling types   |                      | ___ | PT-Programmable Thermostat,            |                   | ___ |
| a. Under Attic  | R=30.0, 2497.0 ft²   | ___ | MZ-C-Multizone cooling,                |                   | ___ |
| b. N/A  |                      | ___ | MZ-H-Multizone heating)                |                   | ___ |
| c. N/A  |                      | ___ |  |                   | ___ |
| 11. Ducts   |                      | ___ |  |                   | ___ |
| a. Sup: Unc. Ret: Unc. AH: Interior   | Sup. R=6.0, 129.0 ft | ___ |  |                   | ___ |
| b. N/A  |                      | ___ |  |                   | ___ |

Glass/Floor Area: 0.07

Total as-built points: 29349

Total base points: 32351

## PASS

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

PREPARED BY: John Hanyt

DATE: 9-21-08

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

OWNER/AGENT: John Hanyt

DATE: 9-21-08

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



BUILDING OFFICIAL: \_\_\_\_\_

DATE: \_\_\_\_\_

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



# Code Compliance Checklist

## Residential Whole Building Performance Method A - Details

ADDRESS: 5813 NW Lake Jeffery Rd, Lake City, FL 32055-

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.	NA
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 circuit 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.	✓



# WATER HEATING & CODE COMPLIANCE STATUS

## Residential Whole Building Performance Method A - Details

ADDRESS: 5813 NW Lake Jeffery Rd, Lake City, FL, 32055-

PERMIT #:

BASE				AS-BUILT					
WATER HEATING									
Number of Bedrooms	X	Multiplier	= Total	Tank Volume	EF	Number of Bedrooms	X	Tank X Ratio	Multiplier X Credit = Total Multiplier
4		2635.00	10540.0	40.0	0.92	4		1.00	2635.00 1.00 10540.0
				As-Built Total:					10540.0

## CODE COMPLIANCE STATUS

BASE				AS-BUILT			
Cooling Points	+	Heating Points	+ Hot Water Points = Total Points	Cooling Points	+	Heating Points	+ Hot Water Points = Total Points
10084		11727	10540 32351	7051		11758	10540 29349

PASS





# Code Compliance Checklist

## Residential Whole Building Performance Method A - Details

ADDRESS: 5813 NW Lake Jeffery Rd, Lake City, FL 32055-

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.	NA
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 circuit 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.	✓



# SUMMER CALCULATIONS

## Residential Whole Building Performance Method A - Details

ADDRESS: 5813 NW Lake Jeffery Rd, Lake City, FL, 32055-

PERMIT #:

BASE			AS-BUILT						
<b>Summer Base Points: 31026.8</b>			<b>Summer As-Built Points: 25092.5</b>						
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 48000btuh ,SEER/EFF(13.0) Ducts:Unc(S),Unc(R),Int(AH),R6.0(INS)						
			25092	1.00	(1.09 x 1.147 x 0.91)	0.260	0.950	7051.3	
<b>31026.8</b>	<b>0.3250</b>	<b>10083.7</b>	<b>25092.5</b>	<b>1.00</b>	<b>1.138</b>	<b>0.260</b>	<b>0.950</b>	<b>7051.3</b>	



# WINTER CALCULATIONS

## Residential Whole Building Performance Method A - Details

ADDRESS: 5813 NW Lake Jeffery Rd, Lake City, FL, 32055-

PERMIT #:

BASE				AS-BUILT								
GLASS TYPES												
.18 X Conditioned X BWPM = Points Floor Area				Type/SC	Overhang Ormt Len Hgt		Area X WPM X WOF = Points					
.18	2497.0	20.17	9066.0	1.Double, Clear	E	2.0	5.3	51.0	18.79	1.07	1029.0	
				2.Double, Clear	W	2.0	5.3	34.0	20.73	1.05	742.0	
				3.Double, Clear	W	2.0	5.3	50.0	20.73	1.05	1091.0	
				4.Double, Clear	S	2.0	3.7	8.0	13.30	1.76	186.0	
				5.Double, Clear	S	2.0	5.3	17.0	13.30	1.34	303.0	
				6.Double, Clear	N	2.0	5.3	17.0	24.58	1.01	420.0	
				As-Built Total:		177.0			3771.0			
WALL TYPES Area X BWPM = Points				Type	R-Value		Area X WPM = Points					
Adjacent	0.0	0.00	0.0	1. Concrete, Int Insul, Exterior	5.0		1365.0	5.70		7780.5		
Exterior	1365.0	3.70	5050.5									
Base Total:				1365.0		5050.5		As-Built Total:		7780.5		
DOOR TYPES Area X BWPM = Points				Type	Area X WPM = Points							
Adjacent	0.0	0.00	0.0	1.Exterior Insulated				23.0	8.40		193.2	
Exterior	82.0	12.30	1008.6	2.Exterior Insulated				36.0	8.40		302.4	
				3.Exterior Insulated				23.0	8.40		193.2	
Base Total:				82.0			1008.6			As-Built Total:		688.8
CEILING TYPES Area X BWPM = Points				Type	R-Value		Area X WPM X WCM = Points					
Under Attic	2497.0	2.05	5118.9	1. Under Attic	30.0		2497.0	2.05 X 1.00		5118.9		
Base Total:				2497.0		5118.9		As-Built Total:		5118.9		
FLOOR TYPES Area X BWPM = Points				Type	R-Value		Area X WPM = Points					
Slab	0.0(p)	0.0	0.0	1. Stem Wall	0.0		2497.0	3.50		8739.5		
Raised	2497.0	0.96	2397.1									
Base Total:				2397.1			As-Built Total:			8739.5		
INFILTRATION Area X BWPM = Points				Area X WPM = Points								
2497.0 -0.59 -1473.2				2497.0 -0.59 -1473.2								

# WINTER CALCULATIONS

## Residential Whole Building Performance Method A - Details

ADDRESS: 5813 NW Lake Jeffery Rd, Lake City, FL 32055-

PERMIT #:

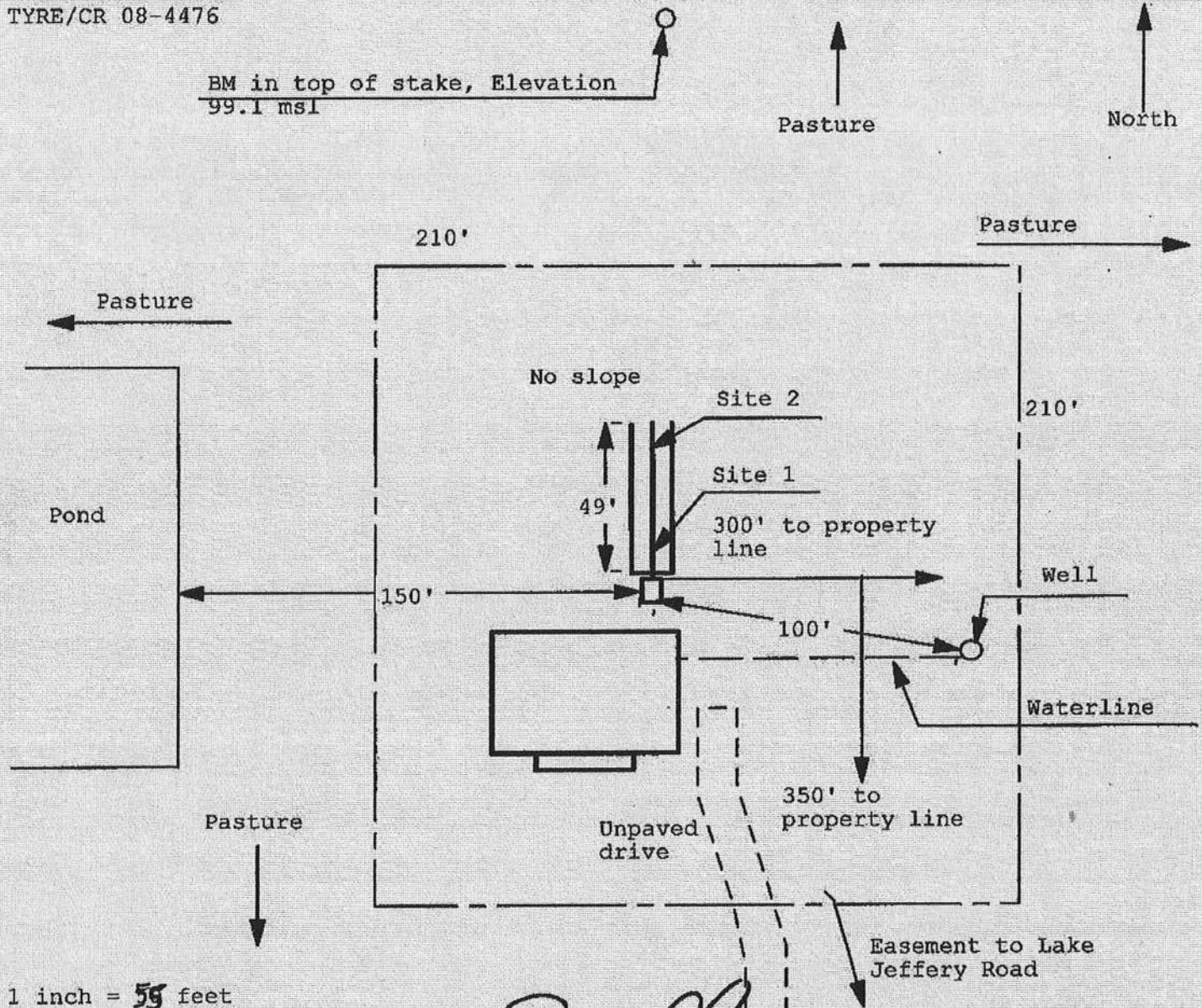
BASE				AS-BUILT									
Winter Base Points:		21167.8		Winter As-Built Points:				24625.4					
Total Winter Points	X	System Multiplier	= Heating Points	Total Component (System - Points)	X	Cap Ratio (DM x DSM x AHU)	X	Duct Multiplier	X	System Multiplier	X	Credit Multiplier	= Heating Points
21167.8		0.5540	11727.0	(sys 1: Electric Heat Pump 48000 btuh ,EFF(8.3) Ducts:Unc(S),Unc(R),Int(AH),R6.0 24625.4      1.000      (1.069 x 1.169 x 0.93) 0.411      1.000      11758.0 24625.4      1.00      1.162      0.411      1.000      11758.0									



**Application for Onsite Sewage Disposal System  
Construction Permit. Part II Site Plan**  
**Permit Application Number:** 08-0650

**ALL CHANGES MUST BE APPROVED BY THE COUNTY HEALTH UNIT**

TYRE/CR 08-4476



1 inch = 59 feet

Site Plan Submitted By Paul L. [Signature] Date 9/12/08  
 Plan Approved ☒ Not Approved ☐ Date 9/30/08

By Mr. [Signature] Columbia CPHU

Notes: \_\_\_\_\_

THIS INSTRUMENT WAS PREPARED BY:

TERRY McDAVID 02-455  
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 R02045-000

Inst:2002014888 Date:07/29/2002 Time:09:36:06

Doc Stamp-Deed : 343.70

MLK DC, P. DeWitt Cason, Columbia County B:958 P:237.

#### WARRANTY DEED

THIS INDENTURE, made this 26th day of July, 2002, BETWEEN BRUCE D. MARKHAM and GLORIA J. MARKHAM, Husband and Wife whose post office address is Route 8, Box 384, Lake City, FL 32055, of the County of Columbia, State of Florida, grantor\*, and JEFFREY R. TYRE and GIGI F. TYRE, Husband and Wife whose post office address is 403 Brady Circle, Lake City, FL 32055, 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.

SUBJECT TO RESTRICTIONS AS DESCRIBED IN EXHIBIT "B" ATTACHED HERETO AND MADE A PART HEREOF.

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.



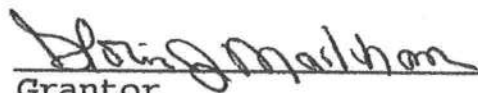
Inst:2002014888 Date:07, 2002 Time:09:36:06  
Doc Stamp-Deed : 343.70  
MCK DC, P. DeWitt Cason, Columbia County B:958 P

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  
BRUCE D. MARKHAM  
Printed Name

 (SEAL)  
Grantor  
GLORIA J. MARKHAM  
Printed Name

STATE OF Florida  
COUNTY OF Columbia

The foregoing instrument was acknowledged before me this 26th day of July, 2002, by BRUCE D. MARKHAM and GLORIA J. MARKHAM, Husband and Wife who are personally known to me or who have produced \_\_\_\_\_ as identification and who did not take an oath.

My Commission Expires:

  
Notary Public  
Printed, typed, or stamped name:



Inst:2002014888 Date:07/25/12 Time:09:36:06

Doc Stamp-Deed : 343.70

ML DC, P. DeWitt Cason, Columbia County B:958 P:

**EXHIBIT "A"**

TOWNSHIP 3 SOUTH - RANGE 16 EAST

SECTION 9: Commence at the Northeast corner of the Southeast 1/4 of the Northeast 1/4 of Section 9, Township 3 South, Range 16 East, Columbia County, Florida and run South 88 deg. 40'07" West along the North line of the Southeast 1/4 of the Northeast 1/4 of Section 9 a distance of 571.03 feet to the Point of Beginning; thence South 19 deg. 38'48" West a distance of 738.68 feet; thence North 47 deg. 40'33" West a distance of 587.72 feet to a point on the West line of the Southeast 1/4 of the Northeast 1/4 of Section 9; thence continue North 47 deg. 40'33" West a distance of 118.13 feet to a rebar and cap stamped Occupation Corner on an existing fence line; thence North 00 deg. 45'20" West along said existing fence line a distance of 202.49 feet to a concrete monument stamped Occupation Corner; thence North 88 deg. 40'07" East along the Westerly extension of the North line of the Southeast 1/4 of the Northeast 1/4 a distance of 82.53 feet to the Northwest corner of the Southeast 1/4 of the Northeast 1/4; thence continue North 88 deg. 40'07" East along said North line of the Southeast 1/4 of the Northeast 1/4 of Section 9 a distance of 688.80 feet to the Point of Beginning. Columbia County, Florida.

TOGETHER WITH an Easement 30.00 feet in width, for utilities, ingress and egress, lying 30.00 feet West of and adjacent to the following described line:

Commence at the Northeast corner of the Southeast 1/4 of the Northeast 1/4 of Section 9, Township 3 South, Range 16 East, Columbia County, Florida and run South 01 deg. 12'24" East along the East line of Section 9 a distance of 1192.48 feet; thence South 88 deg. 35'02" West a distance of 815.40 feet; thence South 01 deg. 32'45" East a distance of 759.91 feet to a point on the Northeasterly right-of-way line of County Road 250 (Lake Jeffery Road); thence North 39 deg. 28'06" West along said Northeasterly right-of-way line of County Road 250 (Lake Jeffery Road) a distance of 345.70 feet to the Point of Beginning; thence North 09 deg. 44'35" East a distance of 1011.75 feet to the Terminal Point of herein described line.



Inst:2002014888 Date:07/29/2002 Time:09:36:06

Doc Stamp-Deed : 343.70

ML DC, P. DeWitt Cason, Columbia County B:958 P:2374

### EXHIBIT "B"

For the period of time ending 20 years from the date of the Warranty Deed the property described in Exhibit "A" shall be subject to the following restrictions:

1. Only homes of not less than 1,500 sq feet of heated area may be built on the property.
2. No Mobile Homes may be placed on the property.
3. The property may not be used as a poultry farm.
4. No swine or goats may be kept on the property.
5. Horses and cattle may be kept on the property, but the total of both shall not exceed seven head plus their offspring until weaning age.
6. No junk vehicles or other abandoned personal property may be allowed on the property.
7. A travel trailer may be used as living quarters while a home is being constructed, but not after one (1) year.





0805-59



## Columbia County Property Appraiser

DB Last Updated: 8/5/2008

## 2008 Proposed Values

Tax Record

Property Card

Interactive GIS Map

Print

Parcel: 09-3S-16-02045-104

Search Result: 1 of 2

Next &gt;&gt;

### Owner & Property Info

<b>Owner's Name</b>	TYRE JEFFREY R & GIGI F		
<b>Site Address</b>			
<b>Mailing Address</b>	708 NW BRADY CIRCLE LAKE CITY, FL 32055		
<b>Use Desc. (code)</b>	NO AG ACRE (009900)		
<b>Neighborhood</b>	9316.00	<b>Tax District</b>	3
<b>UD Codes</b>	MKTA01	<b>Market Area</b>	01
<b>Total Land Area</b>	7.310 ACRES		
<b>Description</b>	COMM NE COR OF SE1/4 OF NE1/4, RUN W 571.03 FT FOR POB, RUN S 19 DEG W 738.68 FT, N 47 DEG W 587.72 FT TO W LINE OF SE1/4 OF NE1/4, CONT N 47 DEG W 118.13 FT TO A PT ON AN OCCUPATION LINE OF AN EXISTING FENCE, RUN N 202.49 FT, E 82.53 FT TO NW COR OF SE1/4 OF NE1/4, CONT E 688.80 FT TO POB. ORB 958-2371		

### GIS Aerial



### Property & Assessment Values

<b>Mkt Land Value</b>	cnt: (1)	\$58,333.00
<b>Ag Land Value</b>	cnt: (0)	\$0.00
<b>Building Value</b>	cnt: (0)	\$0.00
<b>XFOB Value</b>	cnt: (0)	\$0.00
<b>Total Appraised Value</b>		\$58,333.00

<b>Just Value</b>	\$58,333.00
<b>Class Value</b>	\$0.00
<b>Assessed Value</b>	\$58,333.00
<b>Exempt Value</b>	\$0.00
<b>Total Taxable Value</b>	\$58,333.00

### Sales History

Sale Date	Book/Page	Inst. Type	Sale VImp	Sale Qual	Sale RCode	Sale Price
7/26/2002	958/2371	WD	V	U	03	\$49,100.00

### Building Characteristics

Bldg Item	Bldg Desc	Year Blt	Ext. Walls	Heated S.F.	Actual S.F.	Bldg Value
NONE						

### Extra Features & Out Buildings

Code	Desc	Year Blt	Value	Units	Dims	Condition (% Good)
NONE						

### Land Breakdown

Lnd Code	Desc	Units	Adjustments	Eff Rate	Lnd Value
009900	AC NON-AG (MKT)	7.310 AC	1.00/1.00/1.00/1.00	\$7,980.00	\$58,333.00

Columbia County Property Appraiser

DB Last Updated: 8/5/2008

1 of 2

Next &gt;&gt;

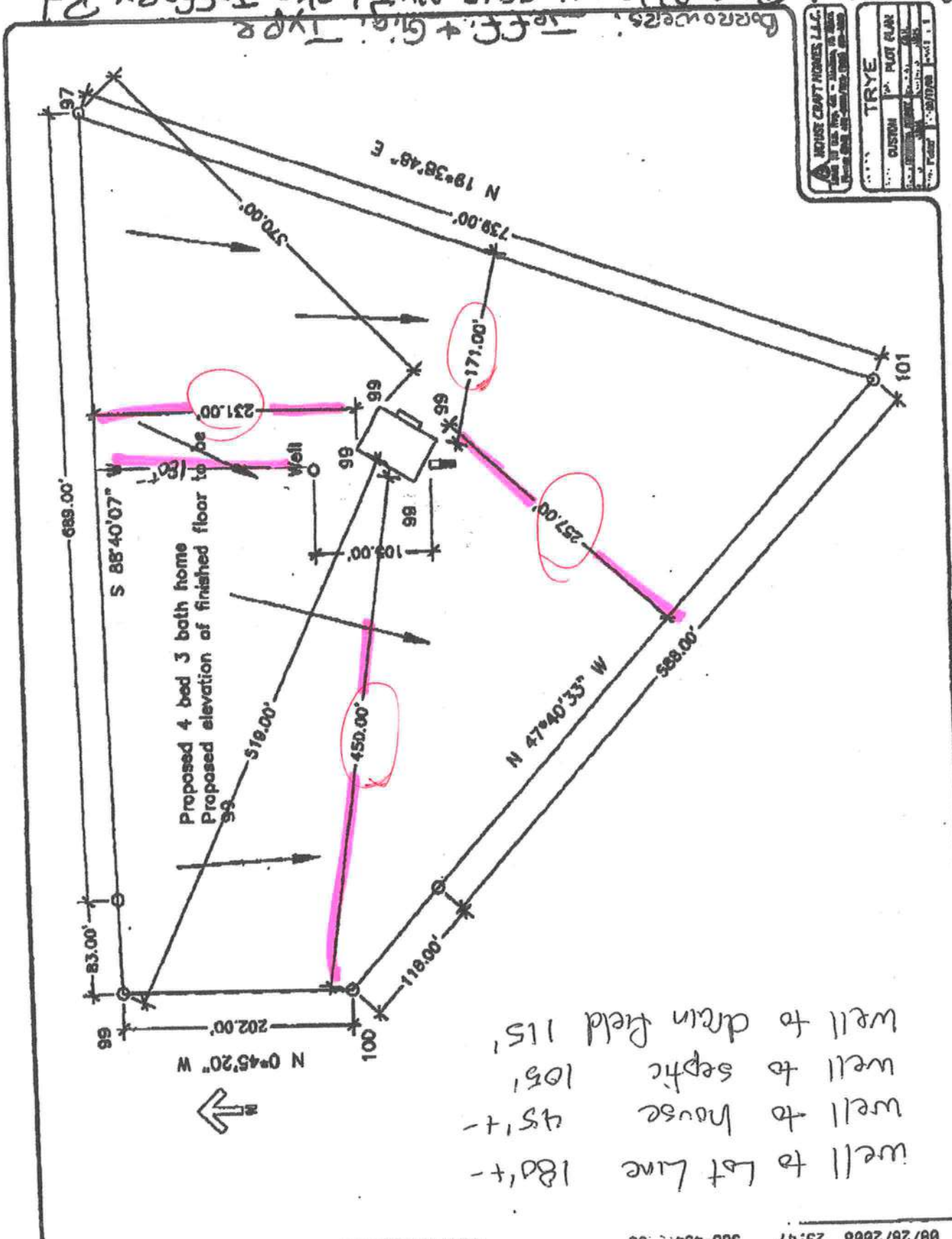
well to Lot Line	180' +-
well to house	45' +-
well to septic	105'
well to drain field	115'

PLP 2

JOHN HARRINGTON

08/28/2008 23:47

386-454-35


$$20 \times 10^3 + 35 \times 10^3 = 55 \times 10^3$$

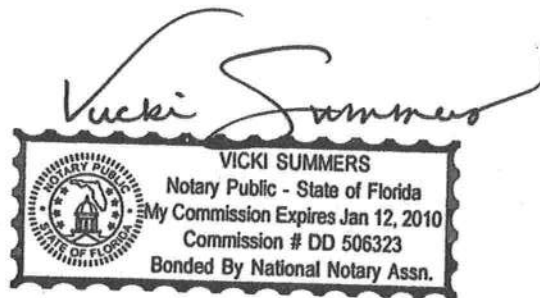
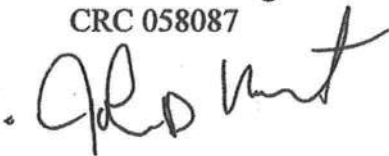
Date: 8/8/08 Prop. Address: 5813 N. Lake Jeffrey Rd.  
 Lake O.E.Y. F.I. 32055  
 Columbia County  
 Tax Parcel # 200111-1111  
 Reporter: John Harrington  
 Title: Builder

Re: Letter of Authorization  
6/30/08

Please allow my father John D. Harrington Sr. to apply and pick up permits for  
House Craft Homes.

Thank you

John D. Harrington Jr.  
CRC 058087





**Standard System:**

4" Well

1 HP Submersible Pump

60 Gallon Captive Air Tank with Cycle Stop Valve

OR

260 Gallon Tank with No Cycle Stop Valve

1 1/4" Schedule #80 PVC Drop Pipe

All Wiring to Electrical Code

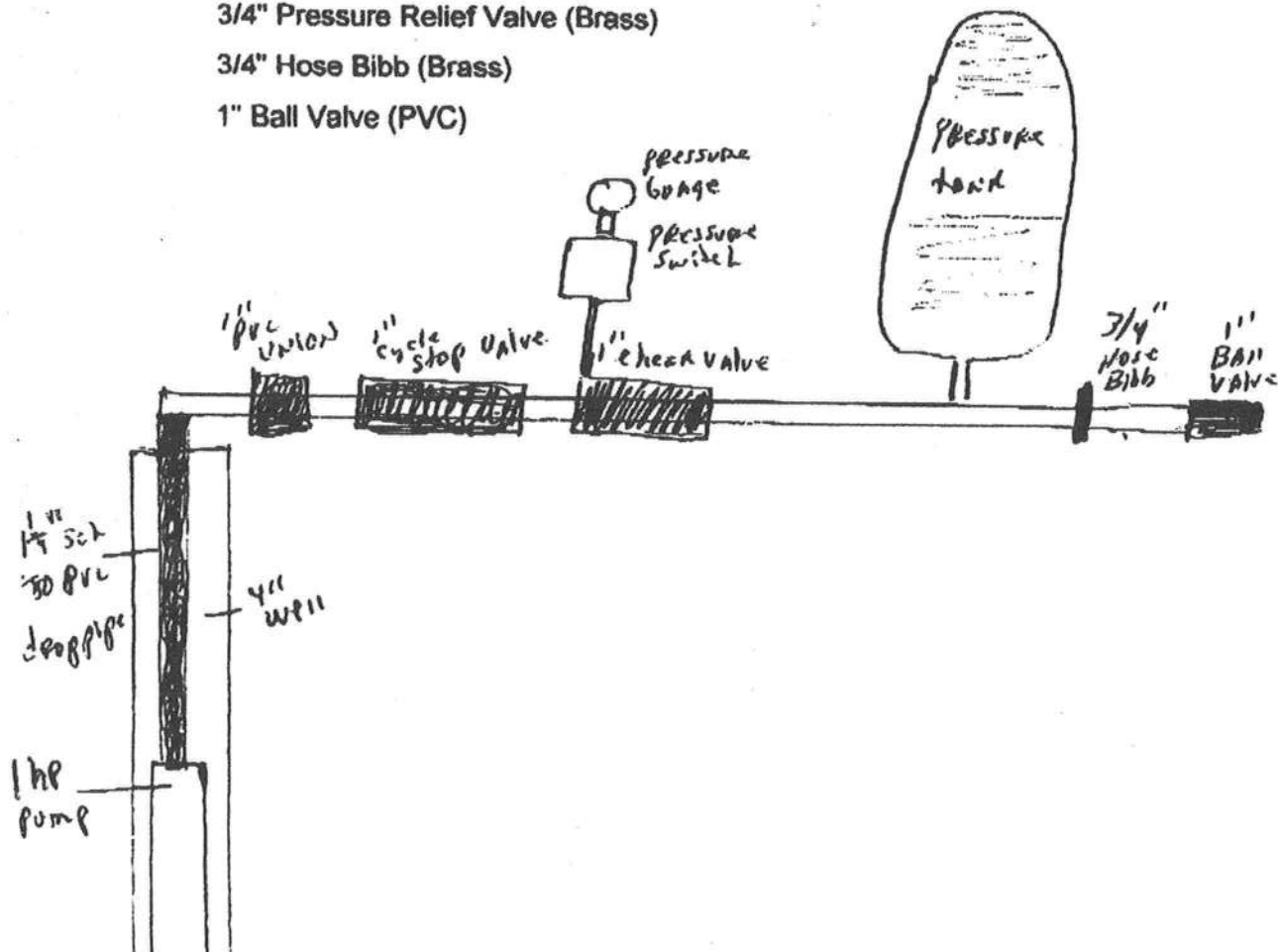
1" Union (PVC)

1" Check Valve (Brass)

3/4" Pressure Relief Valve (Brass)

3/4" Hose Bibb (Brass)

1" Ball Valve (PVC)



# ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

**ESTIMATED ENERGY PERFORMANCE SCORE\* = 87.4**

**The higher the score, the more efficient the home.**

**JEFF AND GIGI TYRE, 5813 NW Lake Jeffery Rd, Lake City, FL 32055-**

1. New construction or existing	New	___	12. Cooling systems	
2. Single family or multi-family	Single family	___	a. Central Unit	Cap: 48.0 kBtu/hr
3. Number of units, if multi-family	1	___		SEER: 13.00
4. Number of Bedrooms	4	___	b. N/A	___
5. Is this a worst case?	Yes	___	c. N/A	___
6. Conditioned floor area (ft <sup>2</sup> )	2497 ft <sup>2</sup>	___		___
7. Glass type <sup>1</sup> and area: (Label reqd. by 13-104.4.5 if not default)		___	13. Heating systems	
a. U-factor:	Description Area	___	a. Electric Heat Pump/Package	Cap: 48.0 kBtu/hr
(or Single or Double DEFAULT)	7a. (Dble Default) 177.0 ft <sup>2</sup>	___		HSPF: 8.30
b. SHGC:		___	b. N/A	___
(or Clear or Tint DEFAULT)	7b. (Clear) 177.0 ft <sup>2</sup>	___	c. N/A	___
8. Floor types		___		___
a. Stem Wall	R=0.0, 2497.0ft <sup>2</sup>	___	14. Hot water systems	
b. N/A	___	___	a. Electric Resistance	Cap: 40.0 gallons
c. N/A	___	___		EF: 0.92
9. Wall types		___	b. N/A	___
a. Concrete, Int Insul, Exterior	R=5.0, 1365.0 ft <sup>2</sup>	___	c. Conservation credits	___
b. N/A	___	___	(HR-Heat recovery, Solar	___
c. N/A	___	___	DHP-Dedicated heat pump)	___
d. N/A	___	___	15. HVAC credits	CF, ___
e. N/A	___	___	(CF-Ceiling fan, CV-Cross ventilation,	___
10. Ceiling types		___	HF-Whole house fan,	___
a. Under Attic	R=30.0, 2497.0 ft <sup>2</sup>	___	PT-Programmable Thermostat,	___
b. N/A	___	___	MZ-C-Multizone cooling,	___
c. N/A	___	___	MZ-H-Multizone heating)	___
11. Ducts		___		___
a. Sup: Unc. Ret: Unc. AH: Interior	Sup. R=6.0, 129.0 ft	___		___
b. N/A	___	___		___

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

Builder Signature: John O. Hume Date: 9-21-08

Address of New Home: 5813 NW Lake Jeffery RD City/FL Zip: Lake City



**\*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<sup>TM</sup> 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](http://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.  
EnergyGauge® (Version: FLRCSB v4.5.2)

17270

Inst 200812017730 Date 9/25/2008 Time 2:54 PM  
 P. DeWitt Cason, Columbia County Page 1 of 2 B:1150 P:200

This Instrument Prepared by:  
 Michael H. Harrell  
 Abstract & Title Services, Inc.  
 283 NW Cole Terrace  
 Lake City, Florida 32055

## NOTICE OF COMMENCEMENT

## TO WHOM IT MAY CONCERN:

The undersigned hereby give notice that improvements will be made to certain real property and in accordance with Chapter 713, Florida Statutes, the following is provided in this Notice of Commencement:

1. Description of Property: See Exhibit "A" attached hereto and by this reference made a part thereof
2. General Description of Improvement: Construction of Dwelling
3. Owner Information:
  - a. Name and Address: Jeffrey R. Tyre and Gigi F. Tyre, 706 NW Brady Circle, Lake City, FL 32055
  - b. Interest in property: Fee Simple
  - c. Name and address of fee simple title holder (if other than Owner): NONE
4. Contractor (name and address): House Craft Homes LLC, 12523 Highway 441, Alachua, FL 32615

5. Surety:

- a. Name and Address: N/A
- b. Amount of Bond: N/A

6. LENDER: First Federal Savings Bank of Florida  
 4705 West US Highway 90  
 PO Box 2029  
 Lake City, FL 32056

STATE OF FLORIDA, COUNTY OF COLUMBIA  
 I HEREBY CERTIFY, that the above and foregoing  
 is a true copy of the original filed in this office.  
 P. DeWITT CASON, CLERK OF COURTS  
 By Paula Hacker  
 Deputy Clerk  
 Date 09-25-2008



7. Persons within the State of Florida designated by Owner upon whom notices of other documents may be served as provided in Section 713.13(1)(a)7, Florida Statutes: NONE
8. In addition to himself, Owner designates PAULA HACKER, of FIRST FEDERAL SAVINGS BANK OF FLORIDA at 4705 WEST US HIGHWAY 90 / PO BOX 2029, LAKE CITY, FL 32056, to receive a copy of the Lender's Notice as provided in Section 713.13(1)(b) Florida Statutes.
9. Expiration date of Notice of Commencement (the expiration date is 1 year from the date of recording unless a different date is specified).

WARNING TO OWNER: ANY PAYMENTS MADE BY THE OWNER AFTER THE EXPIRATION OF THE NOTICE OF COMMENCEMENT ARE CONSIDERED IMPROPER PAYMENTS UNDER CHAPTER 713, PART 1 SECTION 713.13, FLORIDA STATUTES AND CAN RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU NEED TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE COMMENCING WORK OR RECORDING YOUR NOTICE OF COMMENCEMENT.  
 \*Owner is used for singular or plural as context requires.

Signed, sealed and delivered in the presence:

Donna Cox  
 WITNESS  
Traci LeMay  
 WITNESS

Jeffrey R. Tyre  
 Jeffrey R. Tyre  
Gigi F. Tyre  
 Gigi F. Tyre

STATE OF FLORIDA  
 COUNTY OF COLUMBIA

Before me, personally appeared Jeffrey R. Tyre, and his wife, Gigi F. Tyre, to me, known to be the person(s) described in and who executed the foregoing instrument, and they acknowledged to and before me that they executed said instrument for the purpose therein expressed.

Witness my hand and official seal this 24<sup>th</sup> day of September, 2008.

(SEAL)



**DONNA COX**  
 Notary Public, State of Florida  
 My Comm. Expires Jan. 18, 2010  
 Comm. No. DD 897891  
 Binded This Notary Public Under Oath

Donna Cox  
 NOTARY PUBLIC

My Commission Expires:

Verification Pursuant to Section 92.525, Florida Statutes  
 Under Penalties of perjury, I declare that I have read the foregoing and that the facts stated in it are true to the best of my knowledge and belief.

Paula Hacker  
 Signature of Natural Person Signing Above



*Tyre*  
*HVAC Load Calculations*

for

House Craft Homes  
12523 N.W US HWY 441  
Alachua Florida 32615

**Elite Software**

**RHVAC RESIDENTIAL  
HVAC LOADS**

Prepared By:

Chuck Fischer  
North Central Florida Air Conditioning I  
P. O. Box 700  
High Springs FL 32655-0700  
( 386 ) 454-4767  
Saturday, September 13, 2008





## Project Report

### General Project Information

Project Title: Tyre  
Designed By: Chuck Fischer  
Project Date: August 19th 2008  
Client Name: House Craft Homes  
Client Address: 12523 N.W US HWY 441  
Client City: Alachua Florida 32615  
Client Phone: 386-465-5323  
Client Fax: 386-462-1509  
Company Name: North Central Florida Air Conditioning I  
Company Representative: Chuck Fischer  
Company Address: P. O. Box 700  
Company City: High Springs FL 32655-0700  
Company Phone: ( 386 ) 454-4767  
Company Fax: ( 386 ) 454-4854  
Company Comment: heat load for addition

### Design Data

Reference City: Gainesville, Florida  
Daily Temperature Range: Medium  
Latitude: 29 Degrees  
Elevation: 152 ft.  
Altitude Factor: 0.995  
Elevation Sensible Adj. Factor: 1.000  
Elevation Total Adj. Factor: 1.000  
Elevation Heating Adj. Factor: 1.000  
Elevation Heating Adj. Factor: 1.000

	Outdoor Dry Bulb	Outdoor Wet Bulb	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	31	0	50	72	38
Summer:	93	77	50	75	50

### Check Figures

Total Building Supply CFM:	1,845	CFM Per Square ft.:	0.739
Square ft. of Room Area:	2,497	Square ft. Per Ton:	572
Volume (ft³) of Cond. Space:	25,350	Air Turnover Rate (per hour):	4.4

### Building Loads

Total Heating Required With Outside Air:	54,559 Btuh	54.559 MBH
Total Sensible Gain:	40,369 Btuh	85 %
Total Latent Gain:	7,332 Btuh	15 %
Total Cooling Required With Outside Air:	47,701 Btuh	3.98 Tons (Based On Sensible + Latent)
		4.37 Tons (Based On 77% Sensible Capacity)

### Notes

Calculations are based on 8th edition of ACCA Manual J.  
All computed results are estimates as building use and weather may vary.  
Be sure to select a unit that meets both sensible and latent loads.



## Load Preview Report

Scope	Area	Sens Gain	Lat Gain	Net Gain	Sens Loss	Win CFM	Sum CFM	Sys CFM	Duct Size
Building: 3.98 Net Tons, 4.37 Recommended Tons, 572 ft. <sup>2</sup> /Ton, 54.56 MBH Heating									
Building	2,497	40,369	7,332	47,701	54,559	712	1,845	1,845	
System 1: 3.98 Net Tons, 4.37 Recommended Tons, 572 ft. <sup>2</sup> /Ton, 54.56 MBH Heating									
System 1	2,497	40,369	7,332	47,701	54,559	712	1,845	1,845	19x18
AED Excursion		106		106					
Zone 1	2,497	40,263	7,332	47,595	54,559	712	1,845	1,845	
1-Master Bedroom	270	4,495	1,329	5,824	8,131	106	206	206	2-6
2-His W.i.c	38	810	158	968	1,322	17	37	37	1-4
3-Her W.i.c	37	566	0	566	125	2	26	26	1-3
4-Master Bath	144	1,936	254	2,190	2,558	33	89	89	1-6
5-Laundry Room	150	2,447	660	3,107	5,664	74	112	112	1-6
6-Nook	86	2,540	254	2,794	2,959	39	116	116	1-6
7-Kitchen	159	3,352	230	3,582	318	4	154	154	1-7
8-Dining Room	186	2,300	288	2,588	3,112	41	105	105	1-6
9-Foyer	96	1,553	148	1,701	1,523	20	71	71	1-5
10-Great Room	484	5,044	601	5,645	6,053	79	231	231	2-6
11-Study	132	3,847	702	4,549	4,315	56	176	176	1-8
12-Bedroom 4	189	3,161	896	4,057	5,977	78	145	145	1-7
13-Bath 2	67	853	148	1,001	1,312	17	39	39	1-4
14-Bedroom 3	192	2,634	547	3,181	3,216	42	121	121	1-7
15-Bedroom 2	195	3,367	969	4,336	6,588	86	154	154	1-7
16-Bath 3	45	1,298	148	1,446	1,277	17	59	59	1-4
17-Hall	27	55	0	55	109	1	3	3	1-1





## Total Building Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
1D-cb-o: Glazing-Double pane, operable window, clear, metal frame with break, ground reflectance = 0.23, outdoor insect screen with 50% coverage, external shade screen coefficient of 0.45 and 50% coverage	105	2,800	0	2,942	2,942
1D-cb-o: Glazing-Double pane, operable window, clear, metal frame with break, ground reflectance = 0.23, outdoor insect screen with 50% coverage, light color blinds at 45° with 25% coverage, external shade screen coefficient of 0.45 and 50% coverage	11	293	0	253	253
1D-cb-o: Glazing-Double pane, operable window, clear, metal frame with break, ground reflectance = 0.32, outdoor insect screen with 50% coverage, external shade screen coefficient of 0.45 and 50% coverage	20	534	0	462	462
10B-b: Glazing-French door, double pane clear glass, metal frame with break, ground reflectance = 0.23	35.4	1,088	0	1,676	1,676
1D-cm-o: Glazing-Double pane, operable window, clear, metal frame no break, ground reflectance = 0.32, outdoor insect screen with 50% coverage, external shade screen coefficient of 0.45 and 50% coverage	22	784	0	586	586
11P: Door-Polyurethane Core	40.8	486	0	344	344
13A-5ocs: Wall-Block, board insulation only, R-5 board insulation, open core, siding finish	1498.8	7,682	0	3,429	3,429
16B-30: Roof/Ceiling-Under attic or knee wall, Vented Attic, No Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-30 insulation	2497.3	3,276	0	4,235	4,235
22A-ph: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, heavy moist soil	206	11,469	0	0	0
Subtotals for structure:		28,412	0	13,927	13,927
People:	7		1,610	2,100	3,710
Equipment:			0	1,926	1,926
Lighting:	3600			12,276	12,276
Ductwork:		9,093	0	6,709	6,709
Infiltration: Winter CFM: 380, Summer CFM: 169		17,054	5,722	3,325	9,047
Ventilation: Winter CFM: 0, Summer CFM: 0		0	0	0	0
AED Excursion:		0	0	106	106
Total Building Load Totals:		54,559	7,332	40,369	47,701

### Check Figures

Total Building Supply CFM:	1,845	CFM Per Square ft.:	0.739
Square ft. of Room Area:	2,497	Square ft. Per Ton:	572
Volume (ft³) of Cond. Space:	25,350	Air Turnover Rate (per hour):	4.4

### Building Loads

Total Heating Required With Outside Air:	54,559 Btuh	54.559 MBH
Total Sensible Gain:	40,369 Btuh	85 %
Total Latent Gain:	7,332 Btuh	15 %
Total Cooling Required With Outside Air:	47,701 Btuh	3.98 Tons (Based On Sensible + Latent)
		4.37 Tons (Based On 77% Sensible Capacity)

### Notes

Calculations are based on 8th edition of ACCA Manual J.  
 All computed results are estimates as building use and weather may vary.  
 Be sure to select a unit that meets both sensible and latent loads.



## System 1 Main Floor Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
1D-cb-o: Glazing-Double pane, operable window, clear, metal frame with break, ground reflectance = 0.23, outdoor insect screen with 50% coverage, external shade screen coefficient of 0.45 and 50% coverage	105	2,800	0	2,942	2,942
1D-cb-o: Glazing-Double pane, operable window, clear, metal frame with break, ground reflectance = 0.23, outdoor insect screen with 50% coverage, light color blinds at 45° with 25% coverage, external shade screen coefficient of 0.45 and 50% coverage	11	293	0	253	253
1D-cb-o: Glazing-Double pane, operable window, clear, metal frame with break, ground reflectance = 0.32, outdoor insect screen with 50% coverage, external shade screen coefficient of 0.45 and 50% coverage	20	534	0	462	462
10B-b: Glazing-French door, double pane clear glass, metal frame with break, ground reflectance = 0.23	35.4	1,088	0	1,676	1,676
1D-cm-o: Glazing-Double pane, operable window, clear, metal frame no break, ground reflectance = 0.32, outdoor insect screen with 50% coverage, external shade screen coefficient of 0.45 and 50% coverage	22	784	0	586	586
11P: Door-Polyurethane Core	40.8	486	0	344	344
13A-5ocs: Wall-Block, board insulation only, R-5 board insulation, open core, siding finish	1498.8	7,682	0	3,429	3,429
16B-30: Roof/Ceiling-Under attic or knee wall, Vented Attic, No Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-30 insulation	2497.3	3,276	0	4,235	4,235
22A-ph: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, heavy moist soil	206	11,469	0	0	0
Subtotals for structure:		28,412	0	13,927	13,927
People:	7		1,610	2,100	3,710
Equipment:			0	1,926	1,926
Lighting:	3600			12,276	12,276
Ductwork:		9,093	0	6,709	6,709
Infiltration: Winter CFM: 380, Summer CFM: 169		17,054	5,722	3,325	9,047
Ventilation: Winter CFM: 0, Summer CFM: 0		0	0	0	0
AED Excursion:		0	0	106	106
System 1 Main Floor Load Totals:		54,559	7,332	40,369	47,701

### Check Figures

Supply CFM:	1,845	CFM Per Square ft.:	0.739
Square ft. of Room Area:	2,497	Square ft. Per Ton:	572
Volume (ft³) of Cond. Space:	25,350	Air Turnover Rate (per hour):	4.4

### System Loads

Total Heating Required With Outside Air:	54,559 Btuh	54.559 MBH
Total Sensible Gain:	40,369 Btuh	85 %
Total Latent Gain:	7,332 Btuh	15 %
Total Cooling Required With Outside Air:	47,701 Btuh	3.98 Tons (Based On Sensible + Latent)
		4.37 Tons (Based On 77% Sensible Capacity)

### Notes

Calculations are based on 8th edition of ACCA Manual J.  
 All computed results are estimates as building use and weather may vary.  
 Be sure to select a unit that meets both sensible and latent loads.





## System 1, Zone 1 Summary Loads (Average Load Procedure for Rooms)

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
1D-cb-o: Glazing-Double pane, operable window, clear, metal frame with break, ground reflectance = 0.23, outdoor insect screen with 50% coverage, external shade screen coefficient of 0.45 and 50% coverage	105	2,800	0	2,942	2,942
1D-cb-o: Glazing-Double pane, operable window, clear, metal frame with break, ground reflectance = 0.23, outdoor insect screen with 50% coverage, light color blinds at 45° with 25% coverage, external shade screen coefficient of 0.45 and 50% coverage	11	293	0	253	253
1D-cb-o: Glazing-Double pane, operable window, clear, metal frame with break, ground reflectance = 0.32, outdoor insect screen with 50% coverage, external shade screen coefficient of 0.45 and 50% coverage	20	534	0	462	462
10B-b: Glazing-French door, double pane clear glass, metal frame with break, ground reflectance = 0.23	35.4	1,088	0	1,676	1,676
1D-cm-o: Glazing-Double pane, operable window, clear, metal frame no break, ground reflectance = 0.32, outdoor insect screen with 50% coverage, external shade screen coefficient of 0.45 and 50% coverage	22	784	0	586	586
11P: Door-Polyurethane Core	40.8	486	0	344	344
13A-5ocs: Wall-Block, board insulation only, R-5 board insulation, open core, siding finish	1498.8	7,682	0	3,429	3,429
16B-30: Roof/Ceiling-Under attic or knee wall, Vented Attic, No Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-30 insulation	2497.3	3,276	0	4,235	4,235
22A-ph: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, heavy moist soil	206	11,469	0	0	0
Subtotals for structure:		28,412	0	13,927	13,927
People:	7		1,610	2,100	3,710
Equipment:			0	1,926	1,926
Lighting:	3600			12,276	12,276
Ductwork:		9,093	0	6,709	6,709
Infiltration: Winter CFM: 380, Summer CFM: 169		17,054	5,722	3,325	9,047
System 1, Zone 1 Load Totals:		54,559	7,332	40,263	47,595

### Check Figures

Supply CFM:	1,845	CFM Per Square ft.:	0.739
Square ft. of Room Area:	2,497	Square ft. Per Ton:	573
Volume (ft³) of Cond. Space:	25,350	Air Turnover Rate (per hour):	4.4

### Zone Loads

Total Heating Required:	54,559 Btuh	54.559 MBH
Total Sensible Gain:	40,263 Btuh	85 %
Total Latent Gain:	7,332 Btuh	15 %
Total Cooling Required:	47,595 Btuh	3.97 Tons (Based On Sensible + Latent)
		4.36 Tons (Based On 77% Sensible Capacity)

### Notes

Calculations are based on 8th edition of ACCA Manual J.  
 All computed results are estimates as building use and weather may vary.  
 Be sure to select a unit that meets both sensible and latent loads.



## System 1 Room Load Summary

Room No	Room Name	Area SF	Htg Sens Btuh	Htg Nom CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Clg Nom CFM	Air Sys CFM
---Zone 1---										
1	Master Bedroom	270	8,131	106	2-6	525	4,495	1,329	206	206
2	His W.i.c	38	1,322	17	1-4	425	810	158	37	37
3	Her W.i.c	37	125	2	1-3	529	566	0	26	26
4	Master Bath	144	2,558	33	1-6	452	1,936	254	89	89
5	Laundry Room	150	5,664	74	1-6	571	2,447	660	112	112
6	Nook	86	2,959	39	1-6	593	2,540	254	116	116
7	Kitchen	159	318	4	1-7	575	3,352	230	154	154
8	Dining Room	186	3,112	41	1-6	537	2,300	288	105	105
9	Foyer	96	1,523	20	1-5	522	1,553	148	71	71
10	Great Room	484	6,053	79	2-6	589	5,044	601	231	231
11	Study	132	4,315	56	1-8	505	3,847	702	176	176
12	Bedroom 4	189	5,977	78	1-7	542	3,161	896	145	145
13	Bath 2	67	1,312	17	1-4	448	853	148	39	39
14	Bedroom 3	192	3,216	42	1-7	452	2,634	547	121	121
15	Bedroom 2	195	6,588	86	1-7	577	3,367	969	154	154
16	Bath 3	45	1,277	17	1-4	682	1,298	148	59	59
17	Hall	27	109	1	1-1	462	55	0	3	3
							106			
AED Excursion							40,369	7,332	1,845	1,845
System 1 total		2,497	54,559	712						

System 1 Main Trunk Size: 19x18 in.  
Velocity: 846 ft./min  
Loss per 100 ft.: 0.066 in.wg

## Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Net Required:	3.98	85% / 15%	40,369	7,332	47,701
Recommended:	4.37	77% / 23%	40,369	12,058	52,427
Actual:	4.63	72% / 28%	40,000	15,500	55,500

## Equipment Data

	Heating System	Cooling System
Type:	air source heat pump	Air Source Heat Pump
Model:	GSH130601+ARUF486016+HKR-10	GSH130601+ARUF486016
Brand:	Goodman	Goodman
Efficiency:	8.5 HSPF	13 seer
Sound:	0	
Capacity:	55.500	55.500
Sensible Capacity:	n/a	40,000 Btuh
Latent Capacity:	n/a	15,500 Btuh



## PRE-TREAT REQUEST (Soil Treatment)

Date: <u>10/20/08</u>	Builder: <u>Housecraft Home</u>	Price:
Contact:	Nextel:	Cell:
<input checked="" type="checkbox"/> RESIDENTIAL	<input type="checkbox"/> COMMERCIAL	Plan#
Subdivision: <u>Lake City</u>	Project:	
Lot#	Building#	
Address: <u>5813 NW Lake Jeffery Rd</u>		Permit # <u>27401</u>

Date Ready: \_\_\_\_\_

Date Siding / Insulation: \_\_\_\_\_

Type of Construction:

☐ Basement

☐ Crawl

☒ Slab

☐ Mono

☒ Floating

☐ Supported

☐ Other

Foundation Walls:

☐ Poured

☒ Block

☐ Other

Date Completed: \_\_\_\_\_

TERMITICIDE USED: Premise Pro

SQUARE FOOTAGE: 2637 LINEAR FOOTAGE: 184

CONCENTRATION%: 1.75 VOLUME: \_\_\_\_\_

TOTAL GALLONS OF SOLUTIONS APPLIED: 1.88

APPLICATION TYPE: Pressure Spray

TYPE OF TREATMENT: Pretreat

Comments: \_\_\_\_\_

Technician Signature: [Signature]





# COLUMBIA COUNTY FLORIDA DEPARTMENT OF BUILDING AND ZONING INSPECTION

## 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 09-3S-16-02045-104

Building permit No. 000027401

Use Classification SFD, UTILITY

Fire: 51.36

Permit Holder HOUSE CRAFT HOMES

Waste: 134.00

Owner of Building JEFF TYRE

Total: 185.36

Location: 5813 NW LAKE JEFFERY RD., LAKE CITY, FL

Date: 02/20/2009

*Harry Dickel*

Building Inspector

POST IN A CONSPICUOUS PLACE  
(Business Places Only)



Permit # \_\_\_\_\_  
User ID \_\_\_\_\_

## PRODUCT APPROVAL SPECIFICATION SHEET

As required by Florida Statute 553.842 and Florida Administrative Code 9B-72, please provide the information and approval numbers on the building components listed below if they will be utilized on the construction project for which you are applying for a building permit. We recommend you contact your local product supplier should you not know the product approval number for any of the applicable listed products. Statewide approved products are listed online @ [www.floridabuilding.org](http://www.floridabuilding.org)

Category/Subcategory	Manufacturer	Product Description	Approval Number(s)	X
<b>1. EXTERIOR DOORS</b>				
A. SWINGING	Masonite	Entry Door	FL 4940.4	
B. SLIDING	HR Danvid	502 SGD	FI 6396.5	
C. SECTIONAL/ROLL UP	Overhead Door	Garage door	FL 674	
D. OTHER				
<b>2. WINDOWS</b>				
A. SINGLE/DOUBLE HUNG	Kinco	M50 SH Alum. Window	FL 123	
B. HORIZONTAL SLIDER				
C. CASEMENT				
D. FIXED	Kinco	M50 PC Window	FL 125	
E. MULLION	HR	340	FL 5872	
F. SKYLIGHTS				
G. OTHER / GLASS BLOCK	Hy-Lite	Glass Block window	FL 1956.3	
<b>3. PANEL WALL</b>				
A. SIDING				
B. SOFFITS	Kaycan	Aluminum soffits	FL 1146.5	
C. STOREFRONTS				
D. GLASS BLOCK				
F. OTHER				
<b>4. ROOFING PRODUCTS</b>				
A. ASPHALT SHINGLES	Tamko	Heritage 38-R	FL 7154	
B. NON-STRUCT METAL				
C. ROOFING TILES				
D. SINGLE PLY ROOF				
E. OTHER				
<b>5. STRUCT COMPONENTS</b>				
A. WOOD CONNECTORS				
B. WOOD ANCHORS	Simpson	Truss anchors	1901.17 1901.45	
C. TRUSS PLATES			1901.25 1901.21	
D. INSULATION FORMS				
E. LINTELS	Cenemt Precast	Concrete lintels	FL 4569	
F. TRUSSES	Thomas E. Miller	engineer	PE 56877	
<b>6. NEW EXTERIOR ENVELOPE PRODUCTS</b>				
A.				

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

APPLICANT SIGNATURE

DATE

# WINDOWS, DOORS, AND MULL BARS INFORMATION



**437 SINGLE HUNG  
INSTALLATION DETAIL  
AND  
FASTENER SCHEDULE**

**NORANDEX**  
ALUMINUM SINGLE HUNG  
SERIES: 437  
4606 30th STREET WEST  
BIRMINGHAM, AL 35242  
PHONE: (205) 782-1001

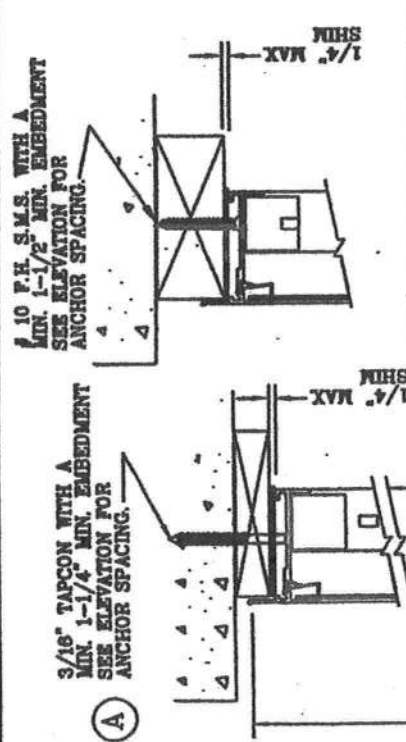
DATE: 12/23/01  
SCALE: N.T.S.  
DWG. BY: J.M.  
CHK. BY: M.K.  
BWC. NO.: JSC-008

REVISIONS DESCRIPTION

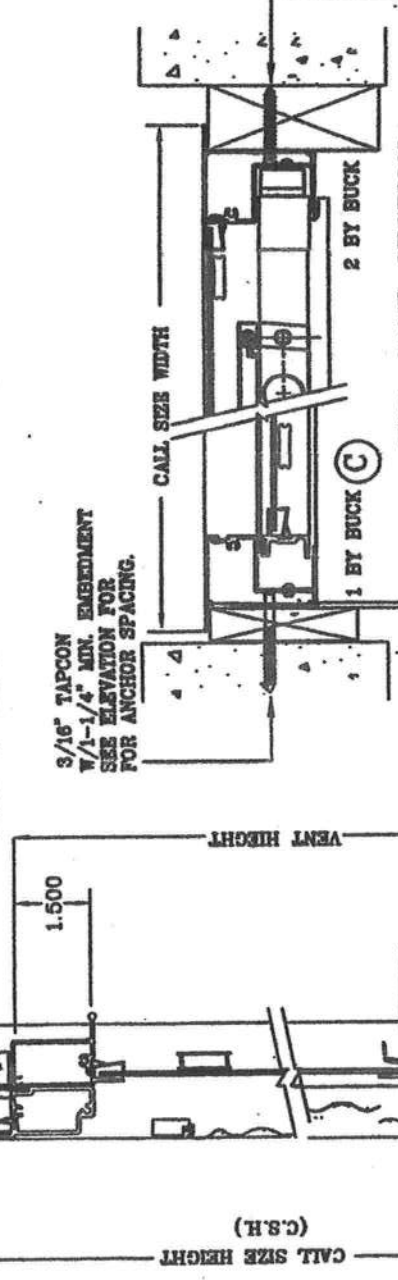
NO.	DATE	DESCRIPTION

WINDOW DIMENSIONS		FASTENER SCHEDULE	
WIDTH (INCHES)	HEIGHT (INCHES)	NO. ANCHORS HEAD	NO. ANCHORS JAMB
19-1/8"	26"	35 AND 45 (PSF) (PSF)	35 AND 45 (PSF) (PSF)
26-1/2"	37"	2	2
33-1/8"	37"	2	2
39-1/4"	37"	2	2
45-1/8"	37"	2	2
51-1/8"	37"	2	2
57-1/8"	37"	2	2
63-1/8"	37"	2	2
69-1/8"	37"	2	2
75-1/8"	37"	2	2
81-1/8"	37"	2	2
87-1/8"	37"	2	2
93-1/8"	37"	2	2
99-1/8"	37"	2	2
105-1/8"	37"	2	2
111-1/8"	37"	2	2
117-1/8"	37"	2	2
123-1/8"	37"	2	2
129-1/8"	37"	2	2
135-1/8"	37"	2	2
141-1/8"	37"	2	2
147-1/8"	37"	2	2
153-1/8"	37"	2	2
159-1/8"	37"	2	2
165-1/8"	37"	2	2
171-1/8"	37"	2	2
177-1/8"	37"	2	2
183-1/8"	37"	2	2
189-1/8"	37"	2	2
195-1/8"	37"	2	2
201-1/8"	37"	2	2
207-1/8"	37"	2	2
213-1/8"	37"	2	2
219-1/8"	37"	2	2
225-1/8"	37"	2	2
231-1/8"	37"	2	2
237-1/8"	37"	2	2
243-1/8"	37"	2	2
249-1/8"	37"	2	2
255-1/8"	37"	2	2
261-1/8"	37"	2	2
267-1/8"	37"	2	2
273-1/8"	37"	2	2
279-1/8"	37"	2	2
285-1/8"	37"	2	2
291-1/8"	37"	2	2
297-1/8"	37"	2	2
303-1/8"	37"	2	2
309-1/8"	37"	2	2
315-1/8"	37"	2	2
321-1/8"	37"	2	2
327-1/8"	37"	2	2
333-1/8"	37"	2	2
339-1/8"	37"	2	2
345-1/8"	37"	2	2
351-1/8"	37"	2	2
357-1/8"	37"	2	2
363-1/8"	37"	2	2
369-1/8"	37"	2	2
375-1/8"	37"	2	2
381-1/8"	37"	2	2
387-1/8"	37"	2	2
393-1/8"	37"	2	2
399-1/8"	37"	2	2
405-1/8"	37"	2	2
411-1/8"	37"	2	2
417-1/8"	37"	2	2
423-1/8"	37"	2	2
429-1/8"	37"	2	2
435-1/8"	37"	2	2
441-1/8"	37"	2	2
447-1/8"	37"	2	2
453-1/8"	37"	2	2
459-1/8"	37"	2	2
465-1/8"	37"	2	2
471-1/8"	37"	2	2
477-1/8"	37"	2	2
483-1/8"	37"	2	2
489-1/8"	37"	2	2
495-1/8"	37"	2	2
501-1/8"	37"	2	2
507-1/8"	37"	2	2
513-1/8"	37"	2	2
519-1/8"	37"	2	2
525-1/8"	37"	2	2
531-1/8"	37"	2	2
537-1/8"	37"	2	2
543-1/8"	37"	2	2
549-1/8"	37"	2	2
555-1/8"	37"	2	2
561-1/8"	37"	2	2
567-1/8"	37"	2	2
573-1/8"	37"	2	2
579-1/8"	37"	2	2
585-1/8"	37"	2	2
591-1/8"	37"	2	2
597-1/8"	37"	2	2
603-1/8"	37"	2	2
609-1/8"	37"	2	2
615-1/8"	37"	2	2
621-1/8"	37"	2	2
627-1/8"	37"	2	2
633-1/8"	37"	2	2
639-1/8"	37"	2	2
645-1/8"	37"	2	2
651-1/8"	37"	2	2
657-1/8"	37"	2	2
663-1/8"	37"	2	2
669-1/8"	37"	2	2
675-1/8"	37"	2	2
681-1/8"	37"	2	2
687-1/8"	37"	2	2
693-1/8"	37"	2	2
699-1/8"	37"	2	2
705-1/8"	37"	2	2
711-1/8"	37"	2	2
717-1/8"	37"	2	2
723-1/8"	37"	2	2
729-1/8"	37"	2	2
735-1/8"	37"	2	2
741-1/8"	37"	2	2
747-1/8"	37"	2	2
753-1/8"	37"	2	2
759-1/8"	37"	2	2
765-1/8"	37"	2	2
771-1/8"	37"	2	2
777-1/8"	37"	2	2
783-1/8"	37"	2	2
789-1/8"	37"	2	2
795-1/8"	37"	2	2
801-1/8"	37"	2	2
807-1/8"	37"	2	2
813-1/8"	37"	2	2
819-1/8"	37"	2	2
825-1/8"	37"	2	2
831-1/8"	37"	2	2
837-1/8"	37"	2	2
843-1/8"	37"	2	2
849-1/8"	37"	2	2
855-1/8"	37"	2	2
861-1/8"	37"	2	2
867-1/8"	37"	2	2
873-1/8"	37"	2	2
879-1/8"	37"	2	2
885-1/8"	37"	2	2
891-1/8"	37"	2	2
897-1/8"	37"	2	2
903-1/8"	37"	2	2
909-1/8"	37"	2	2
915-1/8"	37"	2	2
921-1/8"	37"	2	2
927-1/8"	37"	2	2
933-1/8"	37"	2	2
939-1/8"	37"	2	2
945-1/8"	37"	2	2
951-1/8"	37"	2	2
957-1/8"	37"	2	2
963-1/8"	37"	2	2
969-1/8"	37"	2	2
975-1/8"	37"	2	2
981-1/8"	37"	2	2
987-1/8"	37"	2	2
993-1/8"	37"	2	2
999-1/8"	37"	2	2

- NOTES:**
- 1) SHIM AS REQUIRED, MAX SHIM STACK 1/4".
  - 2) ALL ALUMINUM EXTRUSIONS ARE ALLOY 6063-T5 OR TO WITH TYPICAL WALL THICKNESS OF 0.062".
  - 3) USE HIGH QUALITY CAULK BEHIND WINDOW FLANGE.
  - 4) GLASS THICKNESS BASED ON TABLE E1300 GLASS CHARTS, AND MAY VARY DEPENDING ON SIZE.
  - 5) THE RESPONSIBILITY FOR SELECTION OF NORANDEX PRODUCTS TO MEET ANY APPLICABLE LOCAL LAWS, BUILDING CODES, ORDINANCES OR OTHER SAFETY REQUIREMENTS REST SOLELY WITH THE ARCHITECT, BUILDING OWNER OR CONTRACTOR.
  - 6) A PRESSURE TREATED WOODEN BUCK OR MARBLE SILL SHALL BE ADDED UNDER THE PRODUCT TO FULLY SUPPORT UNIT. THIS SUPPORT SHALL BE FIRMLY ATTACHED INTO MASONRY AND SUPPORT THE PRODUCT OVER ITS FULL LENGTH (SUPPLIED BY OTHERS).
  - 7) CONCRETE COMPRESSIVE STRENGTH = 3,000 PSI AT 28 DAYS.



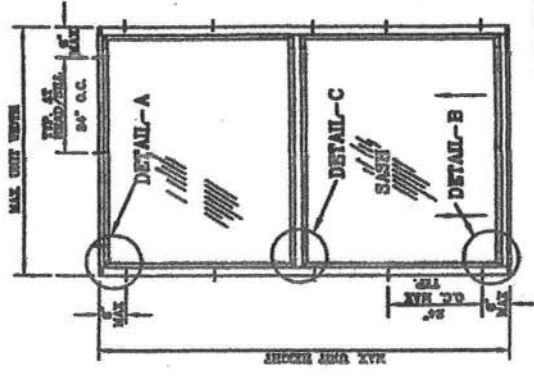
**ALT. HEADER SECTION  
TYP. 2 BY BUCK**



**TYP. JAMB SECTION  
1 BY BUCK (C)  
2 BY BUCK**

# 10 P.H. S.M.S.  
1-1/2" MIN. EMBEDMENT  
SEE ELEVATION FOR  
ANCHOR SPACING.

**QUALIFICATION**  
ENGINEER  
DATE: 12/23/01  
FL. REG. ENG. NO. 12345  
SEAL: 12/23/01



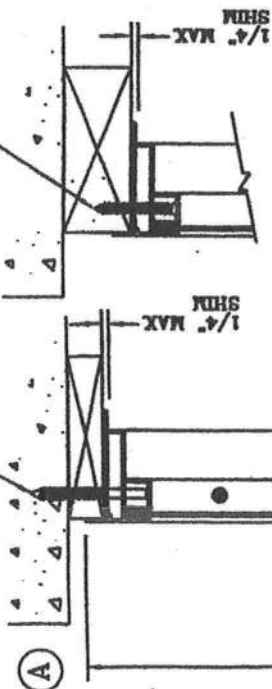
**HEADER AND SILL SECTION  
TYP. 1 BY BUCK**

SEE NOTE 6

3/16" TAPCON WITH A  
MIN. 1-1/4" MIN. EMBEDMENT  
SEE ELEVATION FOR  
ANCHOR SPACING. —

# 10 F.H. S.M.S.

W/1-1/2" MIN. EMBEDMENT  
SEE ELEVATION FOR  
ANCHOR SPACING. ———



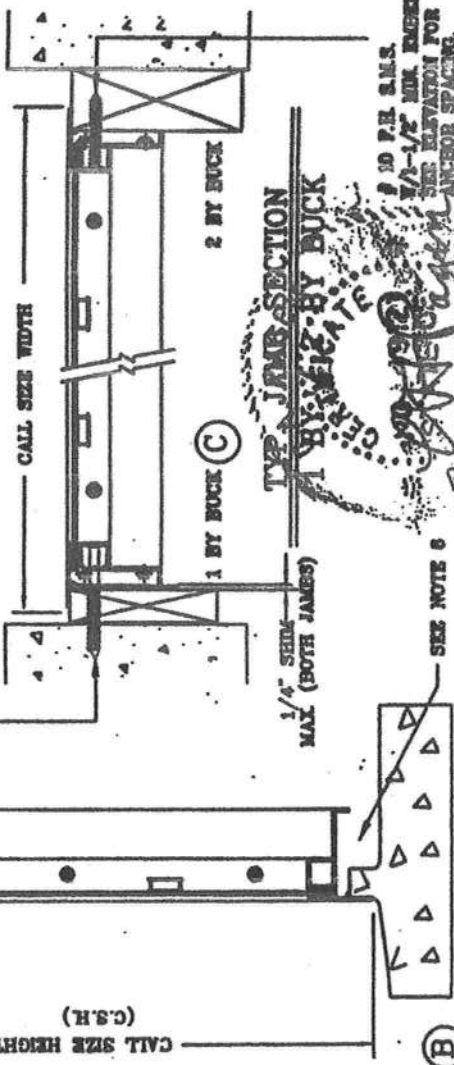
# ALT. HEADER SECTION

**ТҮР. 2 БҮ БУК**

3/16" TAPCON

1-1/4" MIN. ENGAGEMENT

(SEE ELEVATION FOR ANCHOR SPACING)



SEE NOTE 8

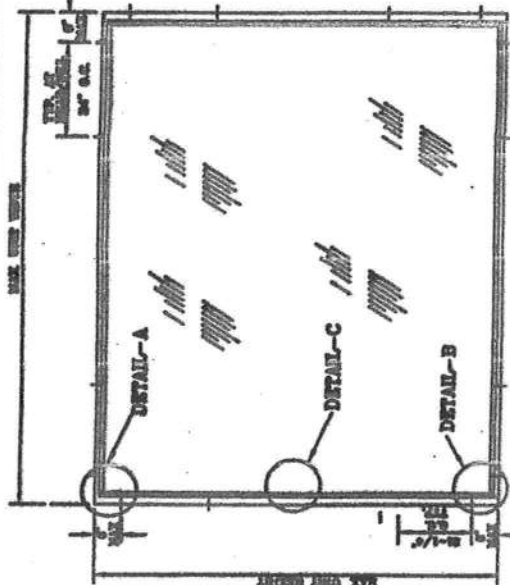
## HEADER AND SILL SECTION

ТИП. 1 ВУ БУК

**NOTES:**

- (1) SHIM AS REQUIRED, MAX SHIM STACK 1/4".
- (2) ALL ALUMINUM EXTRUSIONS ARE ALLOY 6063-T5
- (3) OR TO WITH TYPICAL WALL THICKNESS OF 0.32"
- (4) USE HIGH QUALITY CAULK BEHIND WINDOW FLANGE
- (5) GLASS THICKNESS BASED ON TABLE E1300 GLASS
- (6) CHARTS, AND MAY VARY DEPENDING ON SIZE
- (7) THE RESPONSIBILITY FOR SELECTION OF MORANDEX
- (8) PRODUCTS TO MEET ANY APPLICABLE LOCAL LAWS,
- (9) BUILDING CODES, ORDINANCES OR OTHER SAFETY
- (10) REQUIREMENTS REST SOLELY WITH THE ARCHITECT,
- (11) BUILDING OWNER OR CONTRACTOR.
- (12) A PRESSURE TREATED WOODEN BUCK OR MARBLE
- (13) SHIM SHALL BE ADDED UNDER THE PRODUCT TO
- (14) FULLY SUPPORT UNIT. THIS SUPPORT SHALL BE
- (15) FIRMLY ATTACHED INTO MASONRY AND SUPPORT
- (16) THE PRODUCT OVER ITS FULL LENGTH (SUPPLIED
- (17) BY OTHERS).
- (18) CONCRETE COMPRESSIVE STRENGTH = 3,000 PSI
- (19) AT 28 DAYS.
- (20) NOTE - INDICATES THAT EQUAL FASTENERS AT
- (21) HEAD AND SCL ARE REQUIRED.

WINDOW DIMENSIONS		FASTENER SCHEDULE			
WIDTH (INCHES)	HEIGHT (INCHES)	NO. ANCHORS HEAD/SILL SEE NOTE 8 35 (PSF) (FSF)	NO. ANCHORS JAMB 35 (PSF) (FSF)	45-60 (PSF)	
19-1/8"	20"	2	2	2	
20-1/2"		2	2	2	
37"		2	2	2	
53-1/8"		3	2	2	
19-1/8"	38-1/4"	2	2	2	
20-1/2"		2	2	2	
37"		2	2	2	
53-1/8"		3	2	2	
19-1/8"	50-5/8"	2	3	3	
20-1/2"		2	3	3	
37"		2	3	3	
53-1/8"		3	3	3	
19-1/8"	63"	2	3	4	
20-1/2"		2	3	4	
37"		2	3	4	
53-1/8"		3	3	4	
19-1/8"	76-3/4"	2	3	4	
20-1/2"		2	3	4	
37"		2	3	4	
53-1/8"		3	3	4	



437 FIXED WINDOW  
INSTALLATION DETAIL  
AND  
FASTENER SCHEDULE

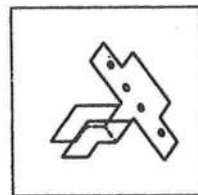
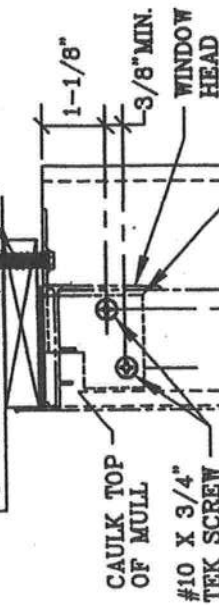
**NORANDEX**  
4505 20th STREET WEST  
SHAWNTON, N.J. 08084  
(201) 992-1001

REVISIONS DESCRIPTION	

**100-ONE FOR TWO**

**GET UP AND  
TALK TO THE  
BANK**

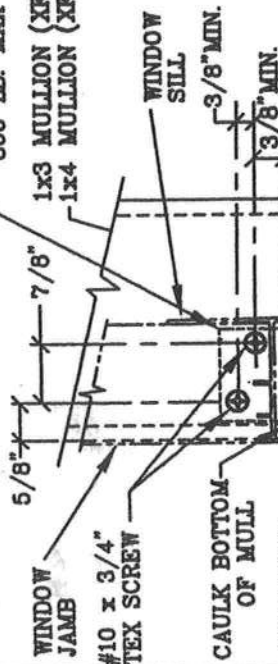
SEE CHART FOR  
FASTENERS



FLA-45  
MULLION ANCHOR CLIP  
16 GA. GALV.  
SHEET METAL  
800 LB. MAX CAPACITY

1x3 MULLION (XFLA-26-1)  
1x4 MULLION (XFLA-39)

1x3 MULLION (XFLA-26-1)  
1x4 MULLION (XFLA-39)



SEE CHART FOR  
FASTENERS

# VERTICAL MULLION SCHEDULE

SINGLE UNIT WINDOW WIDTH INCH	WINDOW HEIGHT INCH	TYPE OF MULLION		TYPE OF CLIP	NUMBER AND TYPE OF FASTENERS
		DESIGN PRESSURE	35 PSF		
19-1/8"	26"	1.0 x 3.0	OK	FLA-45	(4) 3/16" x 1-1/2" TAPCONS
	38-1/4"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
	50-5/8"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
	63"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
26-1/2"	26"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
	38-1/4"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
	50-5/8"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
	63"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
37"	26"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
	38-1/4"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
	50-5/8"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
	63"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
53-1/8"	26"	1.0 x 4.0	OK		(4) 1/4" x 1-1/2" TAPCONS
	38-1/4"	1.0 x 3.0	OK		(4) 3/16" x 1-1/2" TAPCONS
	50-5/8"	1.0 x 3.0	OK		(2) 1/4" x 1-1/2" TAPCONS
	63"	1.0 x 3.0	OK		(2) 1/4" x 1-1/2" TAPCONS
76-3/4"	26"	1.0 x 4.0	OK		(2) 1/4" x 1-1/2" TAPCONS
	38-1/4"	1.0 x 3.0	OK		(2) 1/4" x 1-1/2" TAPCONS
	50-5/8"	1.0 x 3.0	OK		(2) 1/4" x 1-1/2" TAPCONS
	63"	1.0 x 3.0	OK		(2) 1/4" x 1-1/2" TAPCONS

## VERTICAL MULLION FLA-45 ANCHOR CLIP INSTALLATION DETAIL AND FASTENER SCHEDULE

SERIES: MULLION  
ALUMINUM SINGLE RING  
NORANDEX  
4406 90th STREET WEST  
BRANDTOWN, FL 34607  
PHONE: (813) 466-1691

NO.	DATE

2/11/82	SCALE: N.T.S.	BY: RAE	CHECK: RAE	NO. 1: PBC-989
---------	---------------	---------	------------	----------------

- NOTES:
- 1) ALL ALUMINUM EXTRUSIONS ARE ALLOY 6063 T6, OR 6063 T5.
  - 2) WHEN THERE IS ONE TAPCON (1/4" X 1-1/2") ON EACH ANGLE LEG, THE TAPCON SHALL BE PLACED ON MULLION CLIP CENTERLINE.
  - 3) CONCRETE COMPRESSIVE STRENGTH = 3,000 PSI AT 28 DAYS.







SIDE-HINGED METAL-EDGE STEEL DOOR UNIT  
6'-8" DOUBLE DOOR WITH / WITHOUT SIDELITES

GENERAL NOTES

1. EVALUATED FOR USE IN LOCATIONS ADHERING TO THE FLORIDA BUILDING CODE AND WHERE PRESSURE REQUIREMENTS AS DETERMINED BY ASCE 7, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, DOES NOT EXCEED THE DESIGN PRESSURES LISTED.
2. HURRICANE PROTECTIVE SYSTEM (SHUTTERS) IS NOT REQUIRED ON OPAQUE PANELS, BUT IS REQUIRED ON GLAZED SIDELITES
3. POLYURETHANE CORE FLAME SPREAD INDEX OF 50 AND SMOKE DEVELOPED INDEX OF 80 PER ASTM E84.
4. PLASTICS TESTING OF LIFE FRAME MATERIAL:

TEST DESCRIPTION	DESIGNATION	RESULT
SELF IGNITION TEMP	ASTM D1929	650 °F > 650 °F
RATE OF BURNING	ASTM D635	1.10 IN/MIN
SMOKE DENSITY	ASTM D2843	69.58
TENSILE STRENGTH*	ASTM D638	-7.48% DIFF
* COMPARATIVE TENSILE STRENGTH AFTER WEATHERING 4800 HOURS XENON ARC METHOD 1		

DOUBLE INSURING UNIT W/ SIDELITES

Manufactured

Certification No.: NT006115  
Reviewed By: [Signature]  
Date: 11/2/2005

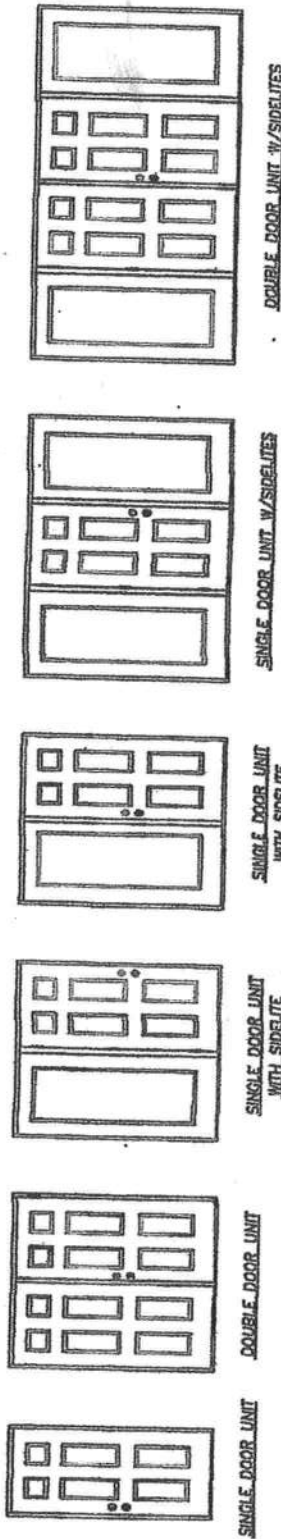
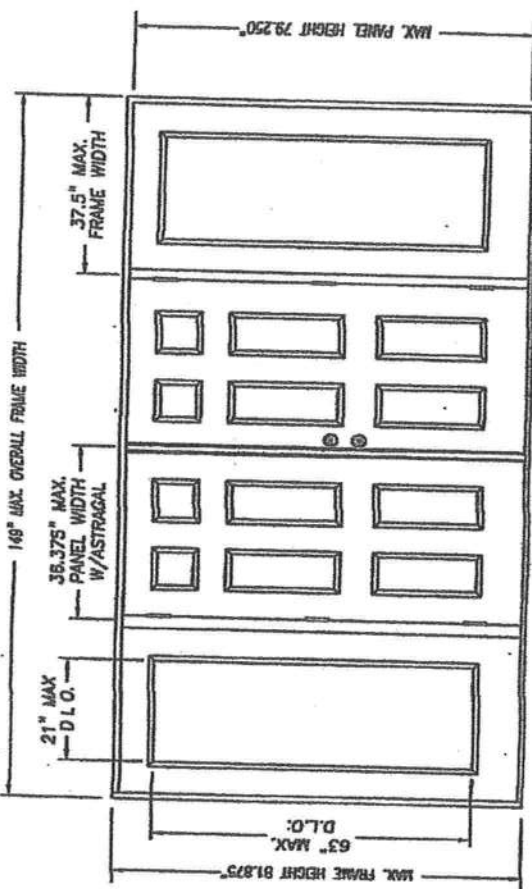
MASONITE INTERNATIONAL CORP.  
7300 REAMES RD.  
CHARLOTTE, NC 28216

PRODUCT: EXTERIOR DOOR PRODUCT  
DOUBLE 6'8" OPAQUE  
METAL-EDGE STEEL DOOR  
PART OR ASSEMBLY:  
TYPICAL ELEVATIONS  
& GENERAL NOTES

REVISIONS

NO.	DATE

DATE: 7/25/05  
SCALE: N.T.S.  
DWG. BY: SWS  
CHK. BY:  
DRAWING NO.:  
DWG-1A-FL0132-05  
SHEET 1 of 3



CONFIG	MAX WIDTH	DESIGN PRESSURE RATING				WHERE WATER INFILTRATION PERFORMANCE IS REQUIRED TO BE 15% OF DESIGN PRESSURE			
		INSWING	OUTSWING	INSWING	OUTSWING	INSWING	OUTSWING	INSWING	OUTSWING
X	37.5"	+78.0	-78.0	+78.0	-78.0	+19.0	-19.0	+55.0	-55.0
XX	74"	+55.0	-55.0	+55.0	-55.0	+19.0	-19.0	+55.0	-55.0
OX or XO	75"	+55.0	-55.0	+55.0	-55.0	+19.0	-19.0	+55.0	-55.0
OXO	112.5"	+55.0	-55.0	+55.0	-55.0	+19.0	-19.0	+55.0	-55.0
OXOX	148"	+55.0	-55.0	+55.0	-55.0	+19.0	-19.0	+55.0	-55.0

TABLE OF CONTENTS

SHEET #	DESCRIPTION
1	TYPICAL ELEVATIONS & GENERAL NOTES
2	ANCHORING LOCATIONS & DETAILS
3	ANCHORING LOCATIONS & DETAILS



Addendum to HMM  
 Certification No. NT006115  
 Expiration Date 8/12/05  
 Date Received 8/12/05

2. THE WOOD SCREW SINGLE SHEAR DESIGN VALUES COME FROM ANSI/AF&PA NDA FOR SOUTHERN PINE LUMBER AND ACHIEVEMENT OF 1-1/2" MINIMUM EMBEDMENT. THE TAPCON MUST ACHIEVE MINIMUM EMBEDMENT OF 1-1/4".
3. WOOD BUCKS BY OTHERS MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO STRUCTURE.
4. MINIMUM DESIGN VALUE STRENGTH OF ANCHORS 171 LBS.

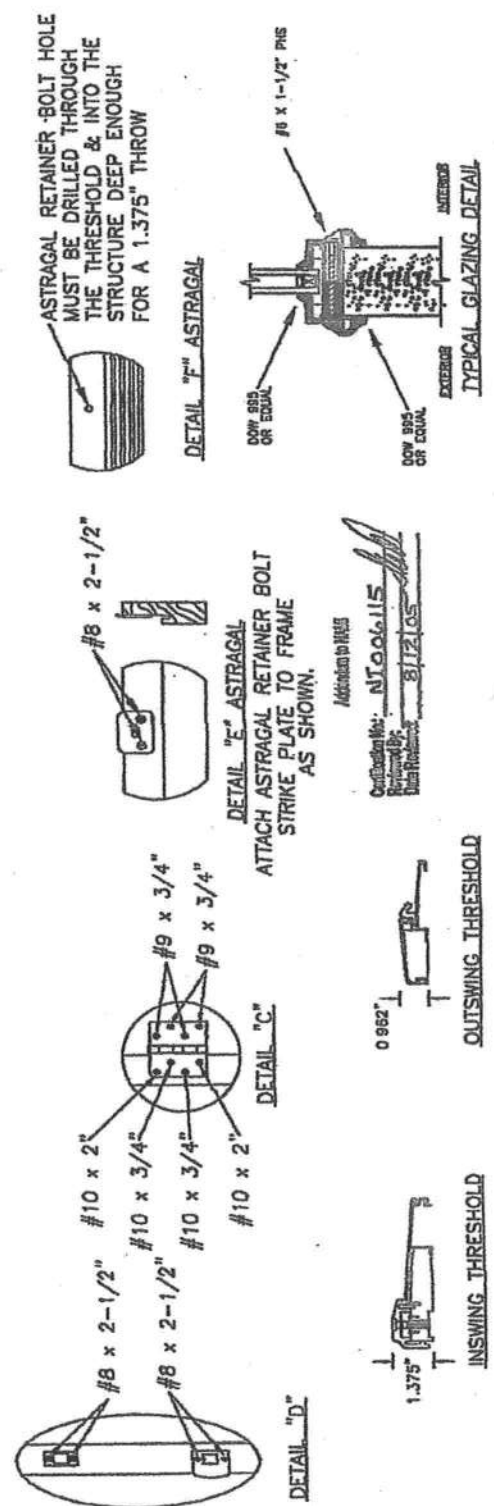
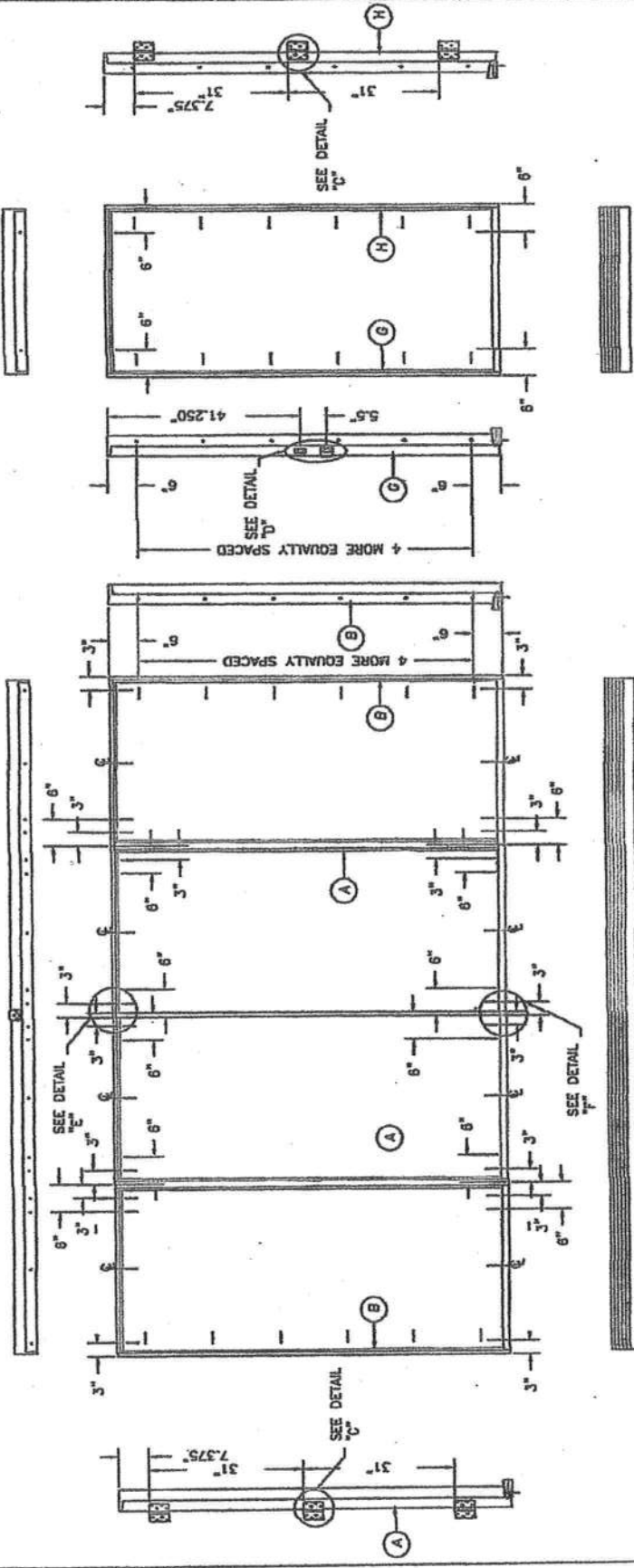
MASONITE INTERNATIONAL CORP.  
7300 REAMES RD.  
CHARLOTTE, NC 28216

PRODUCT: EXTERIOR DOOR PRODUCT  
PART OR ASSEMBLY: DOUBLE 6'-8" OVERHEAD-EDGE STEEL DOOR  
ANCHORING LOCATIONS & DETAILS

# REVISIONS

NO.	DATE	BY

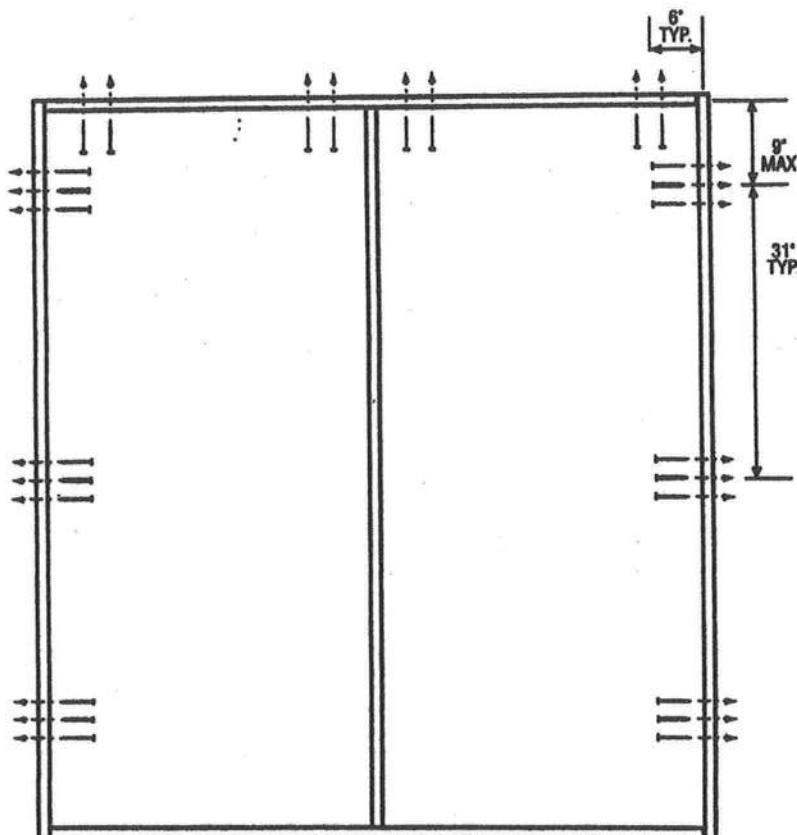
DATE: 7/25/05  
SCALE: N.T.S.  
DWG. BY: SWS  
CHK. BY:   
DRAWING NO.: DWG-44-FD132-05  
SHEET 2 OF 3



Additional to DWG  
Certification No.: NJ006115  
Reviewed By: [Signature]  
Drawn By: [Signature]



## DOUBLE DOOR



### Minimum Fastener Count

- 8 per vertical framing member for 7'0" heights and smaller
- 8 per vertical framing member for heights greater than 7'0"
- 8 per horizontal framing member

Hinge and strike plates require two 2-1/2" long screws per location.

### Rough Opening (RO)

- Width of door unit plus 1/2"
- Height of door unit plus 1/4"



Test Data Review Certificate #3028447A; #3028447B; #3028447C and COP/Test Report Validation Matrix #3028447A-001, 002, 003, 004; #3028447B-001, 002, 003, 004; #3028447C-001, 002, 003, 004 provides additional information - available from the ITB/WH website ([www.elsemko.com](http://www.elsemko.com)), the Masonite website ([www.masonite.com](http://www.masonite.com)) or the Masonite technical center.

### Latching Hardware:

- Compliance requires that GRADE 3 or better (ANSI/BHMA A156.2) cylindrical and deadlock hardware be installed.
- **UNITS COVERED BY COP DOCUMENT 8247°, 8267°, 3242°, 3247, 3262° or 3267**  
Compliance requires that 8" GRADE 1 (ANSI/BHMA A156.18) surface bolts be installed on latch side of active door panel - (1) at top and (1) at bottom.

\*Based on required Design Pressure - see COP sheet for details.

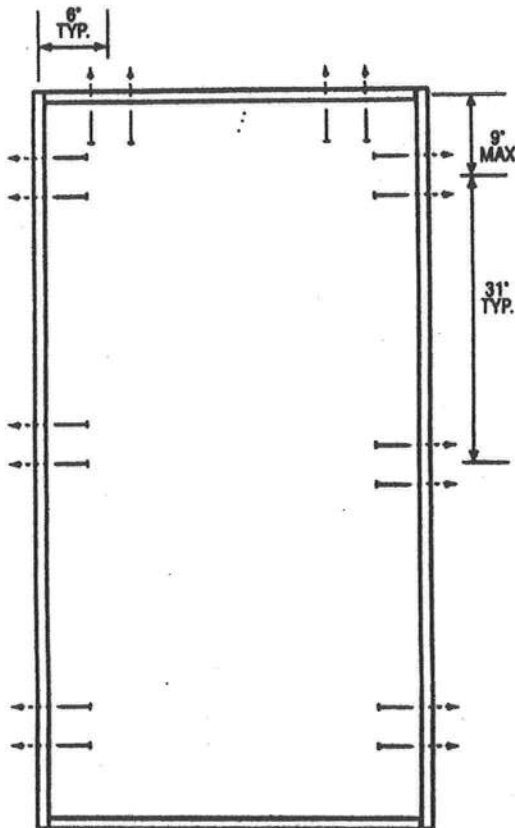
### Notes:

1. Anchor calculations have been carried out with the fastener rating from the different fasteners being considered for use. Jamb and head fasteners analyzed for this unit include #8 wood screws and 10d common nails. Threshold fasteners analyzed for this unit include Liquid Nails Builders Choice 490 (or equal structural adhesive).
2. The wood screw and common nail single shear design values come from ANSI/AF & PA NDS for southern pine lumber with a side member thickness of 1-1/4" and achievement of minimum embedment of 1-1/4".
3. Wood bucks by others, must be anchored properly to transfer loads to the structure.

**X**  
Unit

MID-WL-MA0001-02

## SINGLE DOOR



### Minimum Fastener Count

- 6 per vertical framing member for 7'0" height and smaller
- 8 per vertical framing member for heights greater than 7'0"
- 4 per horizontal framing member

Hinge and strike plates require two 2-1/2" long screws per location.

### Rough Opening (RO)

- Width of door unit plus 1/2"
- Height of door unit plus 1/4"

Watershed Heavy Test Data Review Certificate #3028447A; #3028447B; #3028447C and COP/Test Report Validation Matrix #3028447A-001, 002, 003, 004; #3028447B-001, 002, 003, 004; #3028447C-001, 002, 003, 004 provides additional information - available from the ITB/WH website ([www.itbwh.com](http://www.itbwh.com)), the Masonite website ([www.masonite.com](http://www.masonite.com)) or the Masonite technical center.

### Latching Hardware:

- Compliance requires that GRADE 3 or better (ANSI/BHMA A156.2) cylindrical and deadlock hardware be installed.
- **UNITS COVERED BY COP DOCUMENT 8248\*, 8288\*, 3241\*, 3246, 3291\* or 3286**  
Compliance requires that 8" GRADE 1 (ANSI/BHMA A156.10) surface bolts be installed on latch side of active door panel - (1) at top and (1) at bottom.

\*Based on required Design Pressure - see COP sheet for details.

### Notes:

1. Anchor calculations have been carried out with the fastener rating from the different fasteners being considered for use. Jamb and head fasteners analyzed for this unit include 10d common nails. Threshold fasteners analyzed for this unit include Liquid Nails Builders Choice 490 (or equal structural adhesive).
2. The common nail single shear design values come from ANSI/AF & PA NDS for southern pine lumber with a side member thickness of 1-1/4" and achievement of minimum embedment of 1-1/4".
3. Wood bucks by others, must be anchored properly to transfer loads to the structure.

March 10, 2003  
Our continuing program of product improvement makes specifications, design and product detail subject to change without notice.

 **Masonite**

# NOTICE OF PRODUCT CERTIFICATION



CERTIFICATION NO: NI006592  
DATE: 06/16/2006  
CERTIFICATION PROGRAM: Structural  
COMPANY: Atrium  
CODE: A-447-1

The "Notice of Product Certification" is valid only when Administrator's Seal is applied to the upper left hand portion of this form and a certification label is applied to the product. This certification seal represents product conformity to the applicable specification and that all certification criteria has been satisfied.

The product described below is approved for listing in the Directory of Certified Products at [www.NAMICertification.com](http://www.NAMICertification.com). Please review, and advise NAMI immediately if data, as shown, requires corrections.

COMPANY NAME AND ADDRESS	PRODUCT DESCRIPTION
Atrium Windows & Doors-Florida 3600 Port Jacksonville Parkway Jacksonville, FL 32226	"Mark 40/50 Premium" Aluminum Single Hung Standard Flange Frame Window Configuration: OX Glazing: 0-3/16" Annealed Glass/X-5/32" Annealed Glass STP PSF Frame: W-4'5" Sash: W-4'2" Pos+60.0 H-8'1" H-3'3" Neg-67.5

SPECIFICATION	PRODUCT RATING
AAMA/NWWDA 101/1.S.2-97/ AAMA 1302.5-76 Glass Complies to ASTM E1300-02	H-LC35 FER-Passed

Product Tested By: Certified Testing Laboratories  
Report No: CTLA-1049W (Structural/FER)  
Expiration Date: March 31, 2007

Administrator's Signature: \_\_\_\_\_

**NATIONAL ACCREDITATION AND  
MANAGEMENT INSTITUTE, INC.**

11870 Merchants Walk Suite 202

Newport News, VA 23606

TEL: (757) 594-8658

FAX: (757) 594-8659



# **GARAGE DOORS INFORMATION**

COMMERCIAL & RESIDENTIAL GARAGE DOOR DIVISION  
**TECHNICAL DATA SHEET**  
**#1550**

**GARAGE DOOR WIND LOAD GUIDE**  
**BASED ON THE 2001 FLORIDA BUILDING CODE (ASCE 7-98) EXPOSURE B**

Mean Roof Height	Door Size	90 MPH	100 MPH	110 MPH	120 MPH	130 MPH	140 MPH	150 MPH
Less than 30 Feet	Single 9' x 7'	-14.5	-17.9	-21.6	-25.8	-30.2	-35.1	-40.2
	Double 16' x 7'	-13.7	-16.9	-20.4	-24.3	-28.5	-33.1	-38.0

Design pressures above are in Pounds per Square Foot (PSF)

Testing, if required by local authority, may be performed to ASTM E-330, or preferably DASMA 108.  
 Impact and cyclic wind pressure testing on glazed doors may be performed to ASTM E-1886, or preferably DASMA 115.

**Test Conditions:**

1. Garage doors shall be tested to both negative and positive pressures. Doors shall be installed simulating normal conditions (i.e., top roller in track radius, other rollers in tracks, all hinges in place, reinforcing hardware in place)
2. Total test duration for each test direction shall be as follows:
  - A. Total of 3600/V seconds, at design pressure; where V is fastest-mile design wind speed.
  - B. Pressure equal to 1.5 times the design pressure shall be included for 10 seconds during each test.

The door successfully passes the test if it remains safely operable through the full travel up and down, and recovers at least 75% of its maximum deflection. Standard engineering principles may be used to interpolate or extrapolate test results to door sizes not specifically tested. Doors shall include a manufacturer's label certifying compliance to specific load.

This guide is provided for reference purposes only. In all cases the local building authority is the sole and final determinant of the structural and safety requirements, and suitability of the garage door.

**Notes**

1. Wind speeds above are three second peak gust values

2. Negative pressures assume door has 2 feet of width in building's end zone.

3. Garage doors evaluated as attached to unobstructed buildings with a Use Factor of 1.0

4. Doors larger than 100 square feet should use the 16 x 7 loads. Doors less than 100 square feet may be interpolated.

5. Garage doors evaluated as Components and Cladding

6. Installation details vary. Consult manufacturer's instructions.

For more information, contact DASMA, 1300 Summer Avenue, Cleveland OH 44115-2851  
 Phone (216) 241-7333 E-mail: [dasma@dasma.com](mailto:dasma@dasma.com) Fax (216) 241-0105 URL: [www.dasma.com](http://www.dasma.com)

Note: Technical Data Sheets are information tools only and should not be used as substitutes for instructions from individual manufacturers. Always consult with individual manufacturers for specific recommendations for their products and check the applicable local regulations.

This Technical Data Sheet was prepared by the members of DASMA's Commercial & Residential Garage Door Division Technical Committee. DASMA is a trade association representing manufacturers of rolling doors, lift doors, grilles, counter shutters, sheet doors, and related products; upward-acting residential and commercial garage doors; operating devices for garage doors and gates, sealing devices, and electronic remote controls for garage doors and gate operators; as well as companies that manufacture or supply either raw materials or significant components used in the manufacture and installation of the Active Members' products.

## 92-1730-13

1. ALL THE LOAD FROM THE DOOR IS TRANSFERRED TO THE TRACK AND THEN FROM THE TRACK TO THE VERTICAL JAMBS (SPF SJOU GRADE OR BETTER). NO LOAD FROM THE DOOR IS TRANSFERRED TO THE HORIZONTAL (TOP) JAMB WITH STANDARD WINGLOAD SYSTEM, WITH VERTICAL WINGLOAD POST. PART OF THE FORCE IS TRANSFERRED TO THE HORIZONTAL GARAGE DOOR HEADER.
2. EACH VERTICAL JAMB SEES A MAXIMUM DESIGN LOAD OF +2500 LB & -2500 LB AND A MAXIMUM TEST LOAD OF +4400 LB & -4400 LB. THE HORIZONTAL GARAGE DOOR HEADER SEES A MAX TEST LOAD OF 12000# FOR SINGLE POST, AND MAX COMBINED LOAD OF 2870# FOR MULTIPLE POSTS.
3. ALL JAMB FASTENERS MAY BE (BUT NOT REQUIRED) COUNTERSUNK TO PROVIDE A FLUSH MOUNTING SURFACE.

HORIZONTAL JAIL  
218 MEMBERS  
(RECEIVED ONLY WITH POST  
SYSTEM DUE TO HEADER LOADS)

STUD WALLS OF DOOR OPENING SHALL BE FRAMED SOLID BY NOT LESS THAN 2 FULL LENGTH STUDS AND

2. HEADGIRLS USING SPY STUD ORIGIN ON BELTIER TUGS.

may. O.C.

214. LVL WOOD JOIST SHALL BE ANCHORED TO GROUT REINFORCED BLOCK WALL OR CONCRETE COLUMN. BLOCK WALL CELLS SHALL BE FILLED WITH CONCRETE AND REINFORCED WITH SIX BAR EXTENDING INTO THE FLOORING AND INTO THE BEAMS. (STRENGTH IS ASSIGNED TO BE 2500 PSI). ALL BARS SHALL BE CONFORMABLE FROM THE BEAMS TO FLOORING FOR BLOCK WALL OR CONCRETE COLUMN. BLOCK WALLS OR CONCRETE COLUMNS TO BE DESIGNED BY BUILDING PROFESSIONAL OF RECORD AND IN ACCORDANCE WITH SPEC SECTION 2704.2.

## 2X6 JAMB TO SUPPORTING STRUCTURE ATTACHMENT

TO BE USED FOR ATTACHMENT OF TRACK BRACKETS TO 200 VERTICAL JAWS OR SUPPORTING STRUCTURE]

BUILDING TYPE	FASTENER TYPE	MIN. NO. OF FASTENERS PER VERTICAL JOIST	MAXIMUM ON CENTER DISTANCE BETWEEN FASTENERS	STEEL WASHERS REQUIRED?
		7" HIGH	8" HIGH	
WOOD FRAME (SFR)	5/16" x 3" LAG SCREW (AC308, GRADE A), 1-3/8" MIN. EMBED.	7	8	YES
C-90 BLOCK (2,500 PSF GROUT)	1/4" x 4" H8 CAPTION CONCRETE ANCHOR, 1-3/4" MIN. EMBED.*	7	8	YES
C-90 BLOCK (2,500 PSF GROUT)	3/8" x 4" H8AL LOK/BOLT ANCHOR BOLT, 1-3/8" MIN. EMBED.*	6	7	NO
CONCRETE (MINIMUM 4,000 PSI)	3/8" x 4" H8AL LOK/BOLT ANCHOR BOLT, 1-3/8" MIN. EMBED.*	6	7	NO

• - TPOUS/ANCHOR BOLTS CAN BE INSTALLED DIRECTLY THROUGH TRUSS BRACKETS/ANGLE IN LUD OF 3/16" x 1-3/8" LAG SCREWS. GUSSET LOC/MOLT SHALL BE TORQUED AS SPECIFIED BY THE RAIL DRILLING AND ANCHORING SYSTEMS DESIGN MANUAL.

APPROVED

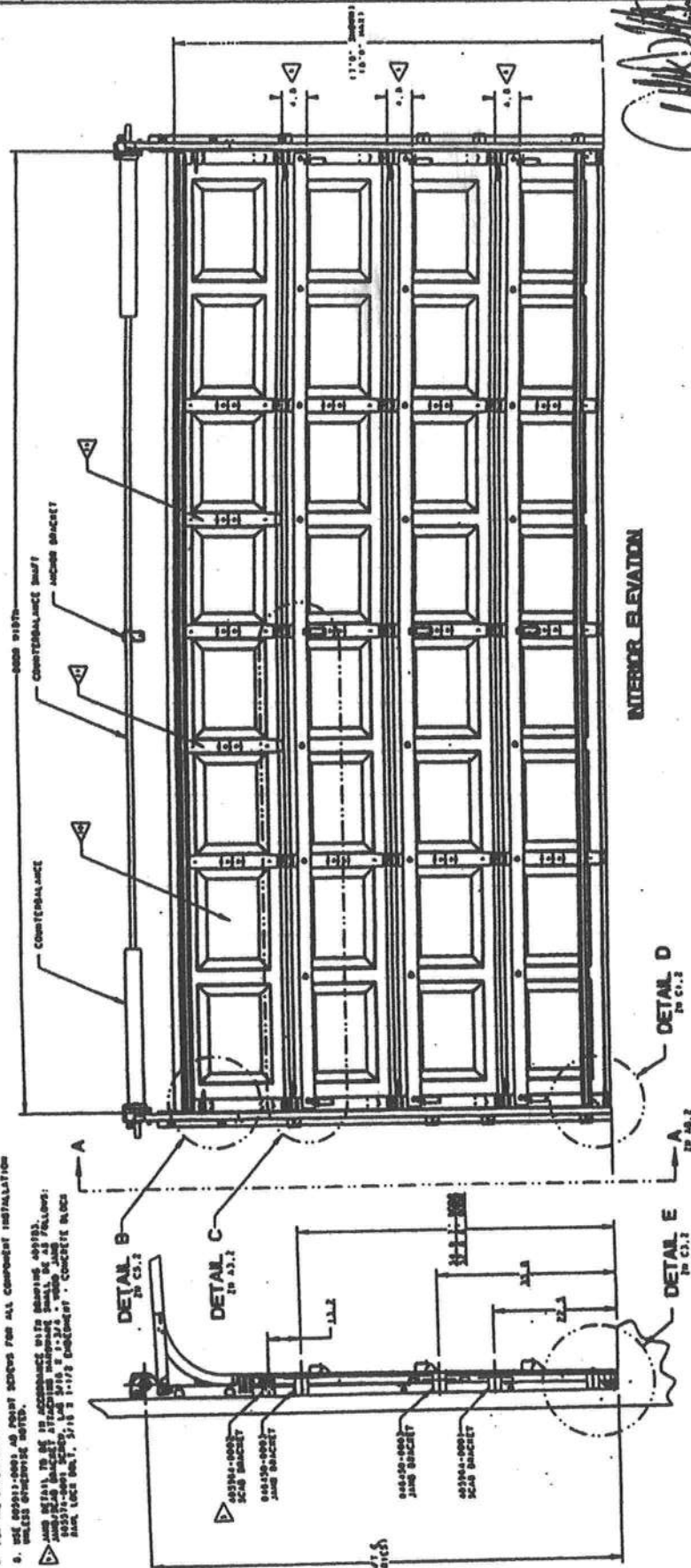
an OTC marketplace that enables an investor to trade a security without having to go through a broker. The OTC market is a market for securities that are not listed on a stock exchange. It is a market for securities that are not listed on a stock exchange. It is a market for securities that are not listed on a stock exchange.

[illegible]



- [illegible]

COMPETITIVE BIDDING (ESTIMATE) CHART					
COMP CODE	DATE'S No.	ESTIMATE CODE	DATE'S No.	PAYD BILLS	INCURRENCES
52012	200	52012	600	20	60
52013	100	52013	600	20	60
52014	100	52014	600	20	60
52015	200	52015	600	20	60
52016	200	52016	600	20	60
52017	200	52017	600	20	60
52018	200	52018	600	20	60
52019	200	52019	600	20	60
52020	200	52020	600	20	60
52021	200	52021	600	20	60
52022	200	52022	600	20	60
52023	200	52023	600	20	60
52024	200	52024	600	20	60
52025	200	52025	600	20	60
52026	200	52026	600	20	60
52027	200	52027	600	20	60
52028	200	52028	600	20	60
52029	200	52029	600	20	60
52030	200	52030	600	20	60
52031	200	52031	600	20	60
52032	200	52032	600	20	60
52033	200	52033	600	20	60
52034	200	52034	600	20	60
52035	200	52035	600	20	60
52036	200	52036	600	20	60
52037	200	52037	600	20	60
52038	200	52038	600	20	60
52039	200	52039	600	20	60
52040	200	52040	600	20	60
52041	200	52041	600	20	60
52042	200	52042	600	20	60
52043	200	52043	600	20	60
52044	200	52044	600	20	60
52045	200	52045	600	20	60
52046	200	52046	600	20	60
52047	200	52047	600	20	60
52048	200	52048	600	20	60
52049	200	52049	600	20	60
52050	200	52050	600	20	60
52051	200	52051	600	20	60
52052	200	52052	600	20	60
52053	200	52053	600	20	60
52054	200	52054	600	20	60
52055	200	52055	600	20	60
52056	200	52056	600	20	60
52057	200	52057	600	20	60
52058	200	52058	600	20	60
52059	200	52059	600	20	60
52060	200	52060	600	20	60
52061	200	52061	600	20	60
52062	200	52062	600	20	60
52063	200	52063	600	20	60
52064	200	52064	600	20	60
52065	200	52065	600	20	60
52066	200	52066	600	20	60
52067	200	52067	600	20	60
52068	200	52068	600	20	60
52069	200	52069	600	20	60
52070	200	52070	600	20	60
52071	200	52071	600	20	60
52072	200	52072	600	20	60
52073	200	52073	600	20	60
52074	200	52074	600	20	60
52075	200	52075	600	20	60
52076	200	52076	600	20	60
52077	200	52077	600	20	60
52078	200	52078	600	20	60
52079	200	52079	600	20	60
52080	200	52080	600	20	60
52081	200	52081	600	20	60
52082	200	52082	600	20	60
52083	200	52083	600	20	60
52084	200	52084	600	20	60
52085	200	52085	600	20	60
52086	200	52086	600	20	60
52087	200	52087	600	20	60
52088	200	52088	600	20	60
52089	200	52089	600	20	60
52090	200	52090	600	20	60
52091	200	52091	600	20	60
52092	200	52092	600	20	60
52093	200	52093	600	20	60
52094	200	52094	600	20	60
52095	200	52095	600	20	60
52096	200	52096	600	20	60
52097	200	52097	600	20	60
52098	200	52098	600	20	60
52099	200	52099	600	20	60
52100	200	52100	600	20	60



**STD TRACK DETAIL  
FOR 18" WIDE DOOR**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

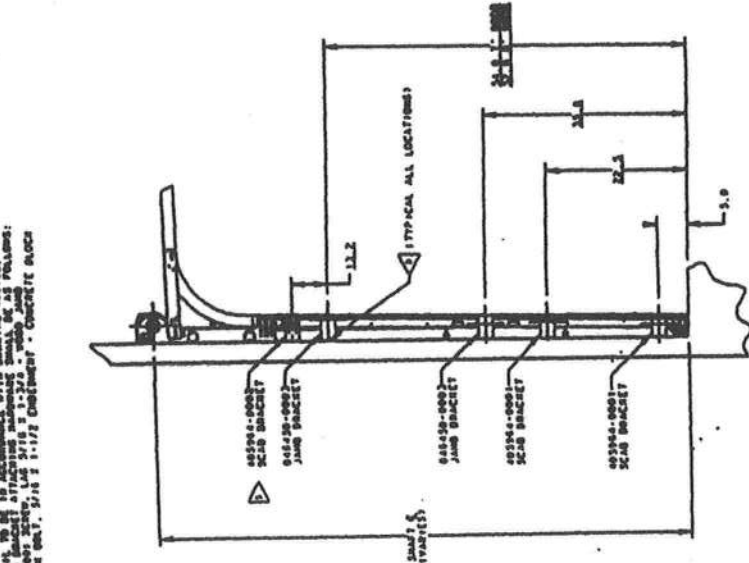


**NOTES:**

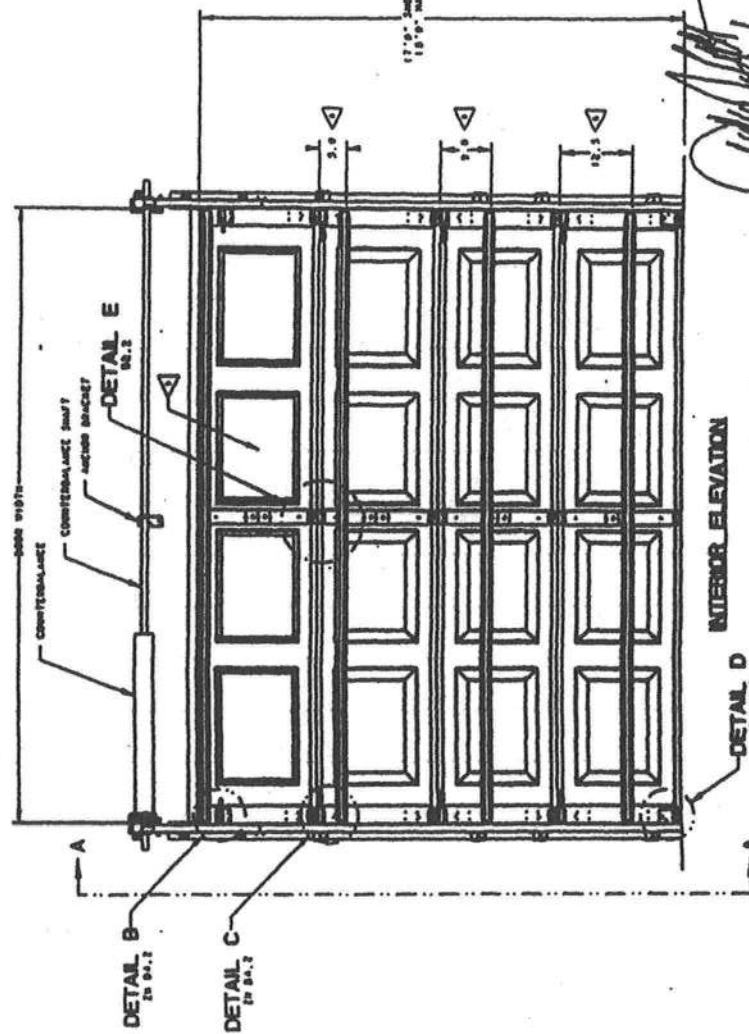
1. TESTED TO ACCORDANCE WITH ASTM A108.
2. FROM SECTION 1, 1/4" FROM TOP AND 1/4" FROM BOTTOM ARE AVAILABLE AND MAY BE USED IN COMBINATION TO ACHIEVE VARIOUS RISES AND FALLS.
3. CONCRETE PART OF 10.5 x 10.5 x 10.5 IN. ALTERNATE PATTERNS OF 11.5 x 11.5 x 11.5 IN. MAY BE USED.
4. ANTI-RATTLE/ANTI-DRIFT SYSTEM AVAILABLE. 403544-0002 ATTACHED AT TRACK INTERFACE ON TENSION AND EXTENSION SYSTEMS. 403544-0002 ON 8" HIGH ROOFS ONLY.
5. THIS BRACKET 403544-0002 ON 8" HIGH ROOFS CAN VARY PLACEMENT 3 INCHES.
6. USE 403544-0001 AND 403544-0002 FOR ALL COMPONENT INSTALLATION UNLESS OTHERWISE NOTED.
7. 403544-0001 IS TO BE USED TO ATTACH TO CONCRETE WALLS. 403544-0002 IS TO BE USED TO ATTACH TO CONCRETE FLOORS. 403544-0001 IS TO BE USED TO ATTACH TO CONCRETE WALLS. 403544-0002 IS TO BE USED TO ATTACH TO CONCRETE FLOORS.

WINDOW INSTALLATION ALLOWED WINDOWS MUST BE INSTALLED IN TOP SECTION.

CONCRETE AND BRACKET CHART			
CONCRETE	BRACKET	BRACKET	BRACKET
403544-0001	403544-0002	403544-0003	403544-0004
403544-0005	403544-0006	403544-0007	403544-0008
403544-0009	403544-0010	403544-0011	403544-0012
403544-0013	403544-0014	403544-0015	403544-0016
403544-0017	403544-0018	403544-0019	403544-0020
403544-0021	403544-0022	403544-0023	403544-0024
403544-0025	403544-0026	403544-0027	403544-0028
403544-0029	403544-0030	403544-0031	403544-0032
403544-0033	403544-0034	403544-0035	403544-0036
403544-0037	403544-0038	403544-0039	403544-0040
403544-0041	403544-0042	403544-0043	403544-0044
403544-0045	403544-0046	403544-0047	403544-0048
403544-0049	403544-0050	403544-0051	403544-0052
403544-0053	403544-0054	403544-0055	403544-0056
403544-0057	403544-0058	403544-0059	403544-0060
403544-0061	403544-0062	403544-0063	403544-0064
403544-0065	403544-0066	403544-0067	403544-0068
403544-0069	403544-0070	403544-0071	403544-0072
403544-0073	403544-0074	403544-0075	403544-0076
403544-0077	403544-0078	403544-0079	403544-0080
403544-0081	403544-0082	403544-0083	403544-0084
403544-0085	403544-0086	403544-0087	403544-0088
403544-0089	403544-0090	403544-0091	403544-0092
403544-0093	403544-0094	403544-0095	403544-0096
403544-0097	403544-0098	403544-0099	403544-0100



**SID TRACK DETAIL FOR 9' WIDE DOOR**



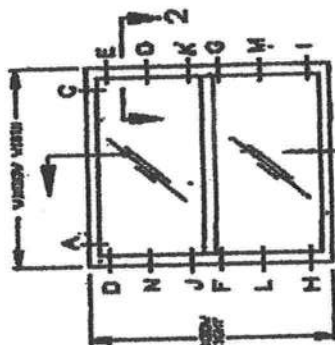
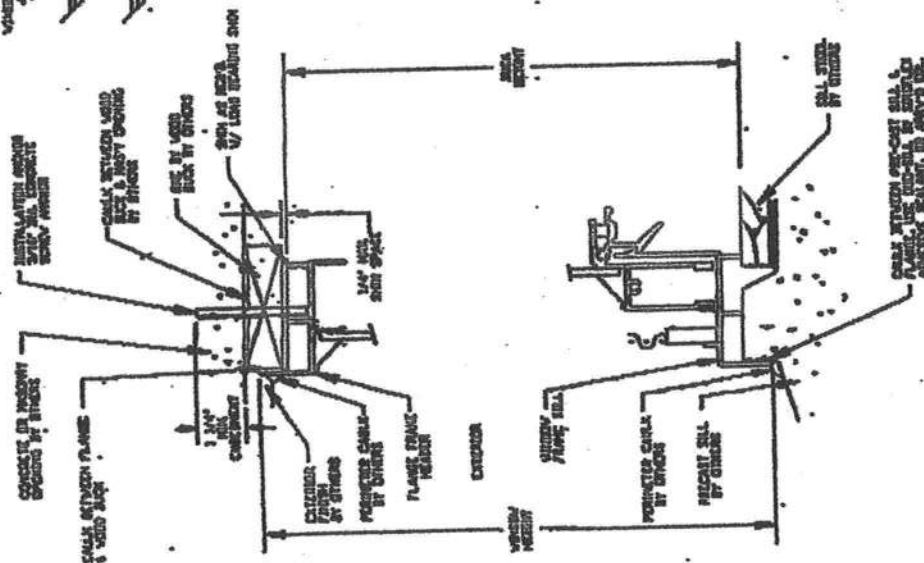
**INTERIOR ELEVATION**

CONCRETE AND BRACKET CHART			
CONCRETE	BRACKET	BRACKET	BRACKET
403544-0001	403544-0002	403544-0003	403544-0004
403544-0005	403544-0006	403544-0007	403544-0008
403544-0009	403544-0010	403544-0011	403544-0012
403544-0013	403544-0014	403544-0015	403544-0016
403544-0017	403544-0018	403544-0019	403544-0020
403544-0021	403544-0022	403544-0023	403544-0024
403544-0025	403544-0026	403544-0027	403544-0028
403544-0029	403544-0030	403544-0031	403544-0032
403544-0033	403544-0034	403544-0035	403544-0036
403544-0037	403544-0038	403544-0039	403544-0040
403544-0041	403544-0042	403544-0043	403544-0044
403544-0045	403544-0046	403544-0047	403544-0048
403544-0049	403544-0050	403544-0051	403544-0052
403544-0053	403544-0054	403544-0055	403544-0056
403544-0057	403544-0058	403544-0059	403544-0060
403544-0061	403544-0062	403544-0063	403544-0064
403544-0065	403544-0066	403544-0067	403544-0068
403544-0069	403544-0070	403544-0071	403544-0072
403544-0073	403544-0074	403544-0075	403544-0076
403544-0077	403544-0078	403544-0079	403544-0080
403544-0081	403544-0082	403544-0083	403544-0084
403544-0085	403544-0086	403544-0087	403544-0088
403544-0089	403544-0090	403544-0091	403544-0092
403544-0093	403544-0094	403544-0095	403544-0096
403544-0097	403544-0098	403544-0099	403544-0100

CONCRETE AND BRACKET CHART			
CONCRETE	BRACKET	BRACKET	BRACKET
403544-0001	403544-0002	403544-0003	403544-0004
403544-0005	403544-0006	403544-0007	403544-0008
403544-0009	403544-0010	403544-0011	403544-0012
403544-0013	403544-0014	403544-0015	403544-0016
403544-0017	403544-0018	403544-0019	403544-0020
403544-0021	403544-0022	403544-0023	403544-0024
403544-0025	403544-0026	403544-0027	403544-0028
403544-0029	403544-0030	403544-0031	403544-0032
403544-0033	403544-0034	403544-0035	403544-0036
403544-0037	403544-0038	403544-0039	403544-0040
403544-0041	403544-0042	403544-0043	403544-0044
403544-0045	403544-0046	403544-0047	403544-0048
403544-0049	403544-0050	403544-0051	403544-0052
403544-0053	403544-0054	403544-0055	403544-0056
403544-0057	403544-0058	403544-0059	403544-0060
403544-0061	403544-0062	403544-0063	403544-0064
403544-0065	403544-0066	403544-0067	403544-0068
403544-0069	403544-0070	403544-0071	403544-0072
403544-0073	403544-0074	403544-0075	403544-0076
403544-0077	403544-0078	403544-0079	403544-0080
403544-0081	403544-0082	403544-0083	403544-0084
403544-0085	403544-0086	403544-0087	403544-0088
403544-0089	403544-0090	403544-0091	403544-0092
403544-0093	403544-0094	403544-0095	403544-0096
403544-0097	403544-0098	403544-0099	403544-0100

CONCRETE AND BRACKET CHART			
CONCRETE	BRACKET	BRACKET	BRACKET
403544-0001	403544-0002	403544-0003	403544-0004
403544-0005	403544-0006	403544-0007	403544-0008
403544-0009	403544-0010	403544-0011	403544-0012
403544-0013	403544-0014	403544-0015	403544-0016
403544-0017	403544-0018	403544-0019	403544-0020
403544-0021	403544-0022	403544-0023	403544-0024
403544-0025	403544-0026	403544-0027	403544-0028
403544-0029	403544-0030	403544-0031	403544-0032
403544-0033	403544-0034	403544-0035	403544-0036
403544-0037	403544-0038	403544-0039	403544-0040
403544-0041	403544-0042	403544-0043	403544-0044
403544-0045	403544-0046	403544-0047	403544-0048
403544-0049	403544-0050	403544-0051	403544-0052
403544-0053	403544-0054	403544-0055	403544-0056
403544-0057	403544-0058	403544-0059	403544-0060
403544-0061	403544-0062	403544-0063	403544-0064
403544-0065	403544-0066	403544-0067	403544-0068
403544-0069	403544-0070	403544-0071	403544-0072
403544-0073	403544-0074	403544-0075	403544-0076
403544-0077	403544-0078	403544-0079	403544-0080
403544-0081	403544-0082	403544-0083	403544-0084
403544-0085	403544-0086	403544-0087	403544-0088
403544-0089	403544-0090	403544-0091	403544-0092
403544-0093	403544-0094	403544-0095	403544-0096
403544-0097	403544-0098	403544-0099	403544-0100





**ELEVATION  
VIEWED FROM EXTERIOR**

[illegible]

1  
 2  
 3  
 4  
 5  
 6  
 7  
 8  
 9  
 10  
 11  
 12  
 13  
 14  
 15  
 16  
 17  
 18  
 19  
 20  
 21  
 22  
 23  
 24  
 25  
 26  
 27  
 28  
 29  
 30  
 31  
 32  
 33  
 34  
 35  
 36  
 37  
 38  
 39  
 40  
 41  
 42  
 43  
 44  
 45  
 46  
 47  
 48  
 49  
 50  
 51  
 52  
 53  
 54  
 55  
 56  
 57  
 58  
 59  
 60  
 61  
 62  
 63  
 64  
 65  
 66  
 67  
 68  
 69  
 70  
 71  
 72  
 73  
 74  
 75  
 76  
 77  
 78  
 79  
 80  
 81  
 82  
 83  
 84  
 85  
 86  
 87  
 88  
 89  
 90  
 91  
 92  
 93  
 94  
 95  
 96  
 97  
 98  
 99  
 100  
 101  
 102  
 103  
 104  
 105  
 106  
 107  
 108  
 109  
 110  
 111  
 112  
 113  
 114  
 115  
 116  
 117  
 118  
 119  
 120  
 121  
 122  
 123  
 124  
 125  
 126  
 127  
 128  
 129  
 130  
 131  
 132  
 133  
 134  
 135  
 136  
 137  
 138  
 139  
 140  
 141  
 142  
 143  
 144  
 145  
 146  
 147  
 148  
 149  
 150  
 151  
 152  
 153  
 154  
 155  
 156  
 157  
 158  
 159  
 160  
 161  
 162  
 163  
 164  
 165  
 166  
 167  
 168  
 169  
 170  
 171  
 172  
 173  
 174  
 175  
 176  
 177  
 178  
 179  
 180  
 181  
 182  
 183  
 184  
 185  
 186  
 187  
 188  
 189  
 190  
 191  
 192  
 193  
 194  
 195  
 196  
 197  
 198  
 199  
 200  
 201  
 202  
 203  
 204  
 205  
 206  
 207  
 208  
 209  
 210  
 211  
 212  
 213  
 214  
 215  
 216  
 217  
 218  
 219  
 220  
 221  
 222  
 223  
 224  
 225  
 226  
 227  
 228  
 229  
 230  
 231  
 232  
 233  
 234  
 235  
 236  
 237  
 238  
 239  
 240  
 241  
 242  
 243  
 244  
 245  
 246  
 247  
 248  
 249  
 250  
 251  
 252  
 253  
 254  
 255  
 256  
 257  
 258  
 259  
 260  
 261  
 262  
 263  
 264  
 265  
 266  
 267  
 268  
 269  
 270  
 271  
 272  
 273  
 274  
 275  
 276  
 277  
 278  
 279  
 280  
 281  
 282  
 283  
 284  
 285  
 286  
 287  
 288  
 289  
 290  
 291  
 292  
 293  
 294  
 295  
 296  
 297  
 298  
 299  
 300  
 301  
 302  
 303  
 304  
 305  
 306  
 307  
 308  
 309  
 310  
 311  
 312  
 313  
 314  
 315  
 316  
 317  
 318  
 319  
 320  
 321  
 322  
 323  
 324  
 325  
 326  
 327  
 328  
 329  
 330  
 331  
 332  
 333  
 334  
 335  
 336  
 337  
 338  
 339  
 340  
 341  
 342  
 343  
 344  
 345  
 346  
 347  
 348  
 349  
 350  
 351  
 352  
 353  
 354  
 355  
 356  
 357  
 358  
 359  
 360  
 361  
 362  
 363  
 364  
 365  
 366  
 367  
 368  
 369  
 370  
 371  
 372  
 373  
 374  
 375  
 376  
 377  
 378  
 379  
 380  
 381  
 382  
 383  
 384  
 385  
 386  
 387  
 388  
 389  
 390  
 391  
 392  
 393  
 394  
 395  
 396  
 397  
 398  
 399  
 400  
 401  
 402  
 403  
 404  
 405  
 406  
 407  
 408  
 409  
 410  
 411  
 412  
 413  
 414  
 415  
 416  
 417  
 418  
 419  
 420  
 421  
 422  
 423  
 424  
 425  
 426  
 427  
 428  
 429  
 430  
 431  
 432  
 433  
 434  
 435  
 436  
 437  
 438  
 439  
 440  
 441  
 442  
 443  
 444  
 445  
 446  
 447  
 448  
 449  
 450  
 451  
 452  
 453  
 454  
 455  
 456  
 457  
 458  
 459  
 460  
 461  
 462  
 463  
 464  
 465  
 466  
 467  
 468  
 469  
 470  
 471  
 472  
 473  
 474  
 475  
 476  
 477  
 478  
 479  
 480  
 481  
 482  
 483  
 484  
 485  
 486  
 487  
 488  
 489  
 490  
 491  
 492  
 493  
 494  
 495  
 496  
 497  
 498  
 499  
 500  
 501  
 502  
 503  
 504  
 505  
 506  
 507  
 508  
 509  
 510  
 511  
 512  
 513  
 514  
 515  
 516  
 517  
 518  
 519  
 520  
 521  
 522  
 523  
 524  
 525

**KINCO. LTD.**

ITEMS, INSTALLATION DETAIL W/ONE DY WOOD BUCK  
FLG. SINGLE HUNG WINDOW 140/50 & 140/50 IIP  
DATE 1/05/01

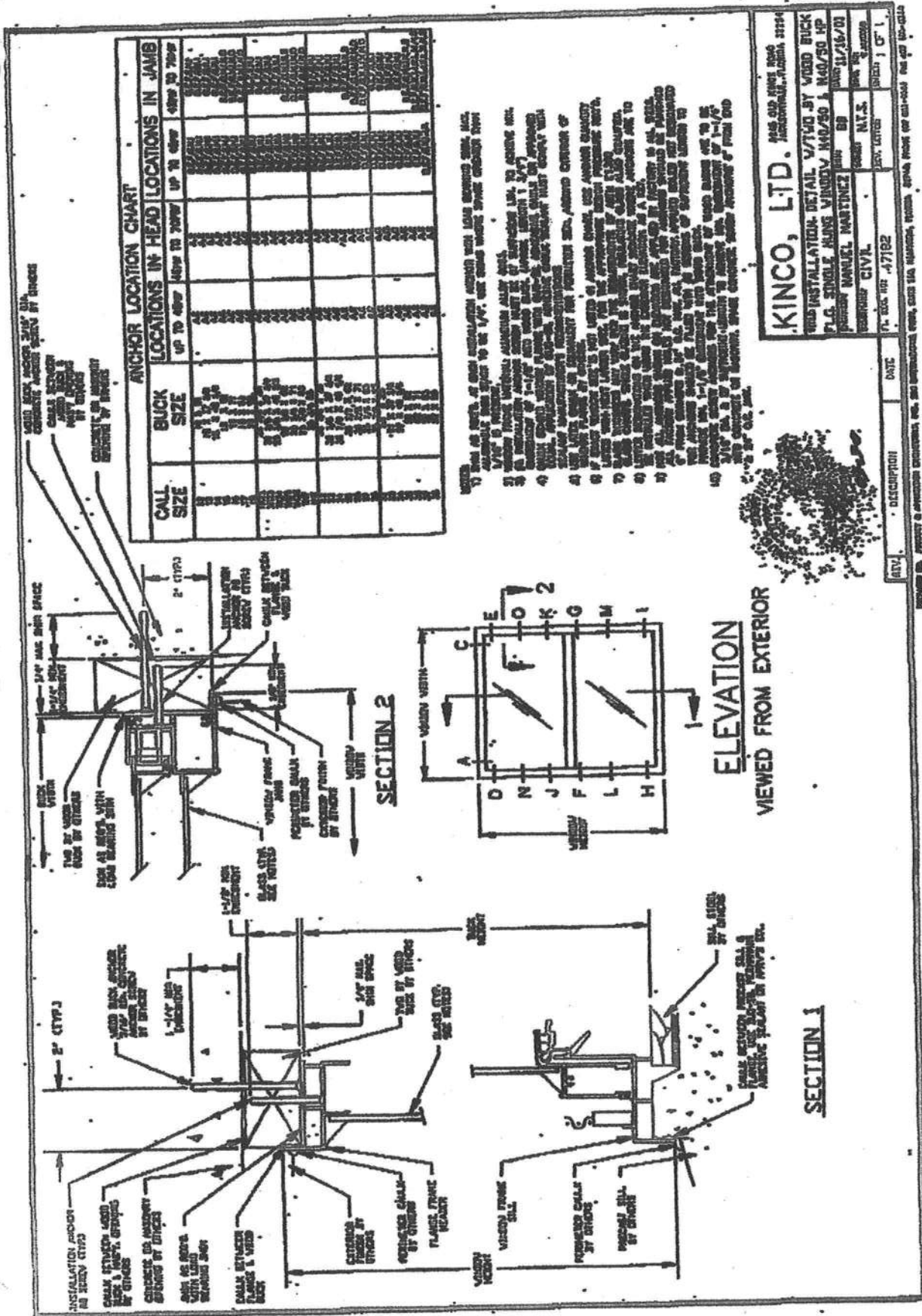
MANUEL MARINER	MANUEL N.T.S.	MANUEL N.T.S.	MANUEL N.T.S.
MANUEL CIVIL	MANUEL CIVIL	MANUEL CIVIL	MANUEL CIVIL
MANUEL CIVIL	MANUEL CIVIL	MANUEL CIVIL	MANUEL CIVIL

DATE	10/10/2010
TIME	10:00

\_\_\_\_\_

DAYE

DAYE



- NOTES:
- 1) ALL ALUMINUM EXTRUSIONS ARE ALLOY 6063 T6, OR 6063 T5.
  - 2) WHEN THERE IS ONE TAPCON (1/4" x 1-1/2") ON EACH ANGLE LEG, THE TAPCON SHALL BE PLACED ON MULLION CLIP CENTERLINE.
  - 3) CONCRETE COMPRESSIVE STRENGTH = 3,000 PSI AT 28 DAYS.

*Charles A. Noran*  
 CHARLES A. NORAN  
 P.E. REG. ENG. CALIF.  
 DATE: 10/1/82  
 ENGINEER

# HORIZONTAL MULLION SCHEDULE

SINGLE UNIT	TYPE OF MULLION	TYPE OF CLIP	NUMBER AND TYPE OF FASTENERS
WINDOW WIDTH INCH	WINDOW HEIGHT INCH	DESIGN PRESSURE 35 PSF	FLA-45
19-1/8"	26"	1.0 x 3.0	OK
	38-1/4"	1.0 x 3.0	OK
	50-5/8"	1.0 x 3.0	OK
	63"	1.0 x 3.0	OK
	76-3/4"	1.0 x 3.0	OK
26-1/2"	26"	1.0 x 3.0	OK
	38-1/4"	1.0 x 3.0	OK
	50-5/8"	1.0 x 3.0	OK
	63"	1.0 x 3.0	OK
	76-3/4"	1.0 x 3.0	OK
37"	26"	1.0 x 3.0	OK
	38-1/4"	1.0 x 3.0	OK
	50-5/8"	1.0 x 3.0	OK
	63"	1.0 x 3.0	OK
	76-3/4"	1.0 x 3.0	OK
63-1/8"	26"	1.0 x 3.0	OK
	38-1/4"	1.0 x 3.0	OK
	50-5/8"	1.0 x 3.0	OK
	63"	1.0 x 3.0	OK
	76-3/4"	1.0 x 3.0	OK

(XFLA-26-1) 1x3 MULLION  
 (XFLA-39) 1x4 MULLION

SEE CHART FOR FASTENERS 4 SHOWN

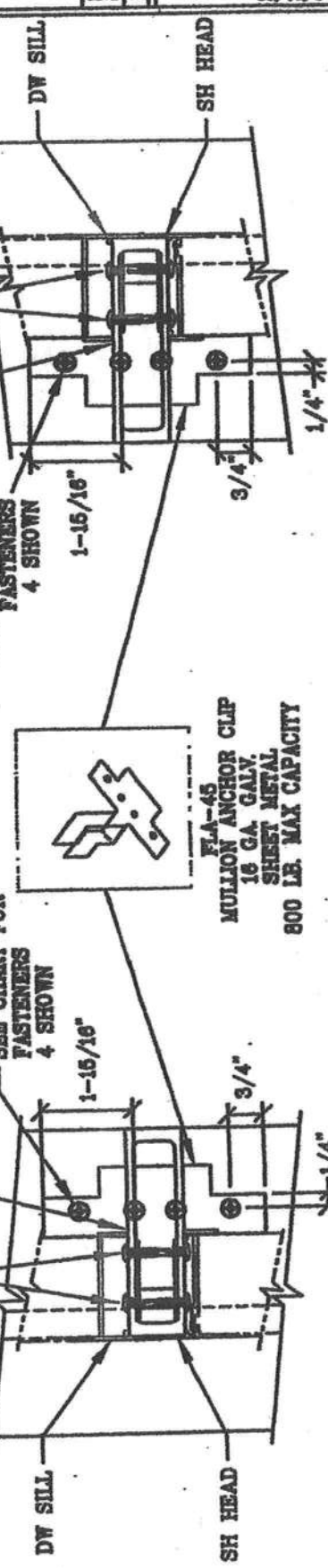
1x3 MULLION (XFLA-26-1)  
 1x4 MULLION (XFLA-39)

SEE CHART FOR FASTENERS 4 SHOWN

#10 x 3/4" TEK SCREW

DW SILL

SH HEAD



FLA-45  
 MULLION ANCHOR CLIP  
 16 GA. GALV.  
 SHEET METAL  
 800 LB. MAX CAPACITY

HORIZONTAL MULLION  
 FLA-45 ANCHOR CLIP  
 INSTALLATION DETAIL AND  
 FASTENER SCHEDULE

SERIES: MULLION  
 ADDRESS: 4500 30th STREET WEST  
 BURNING WOOD, MN 55307  
 PHONE: (612) 746-1001

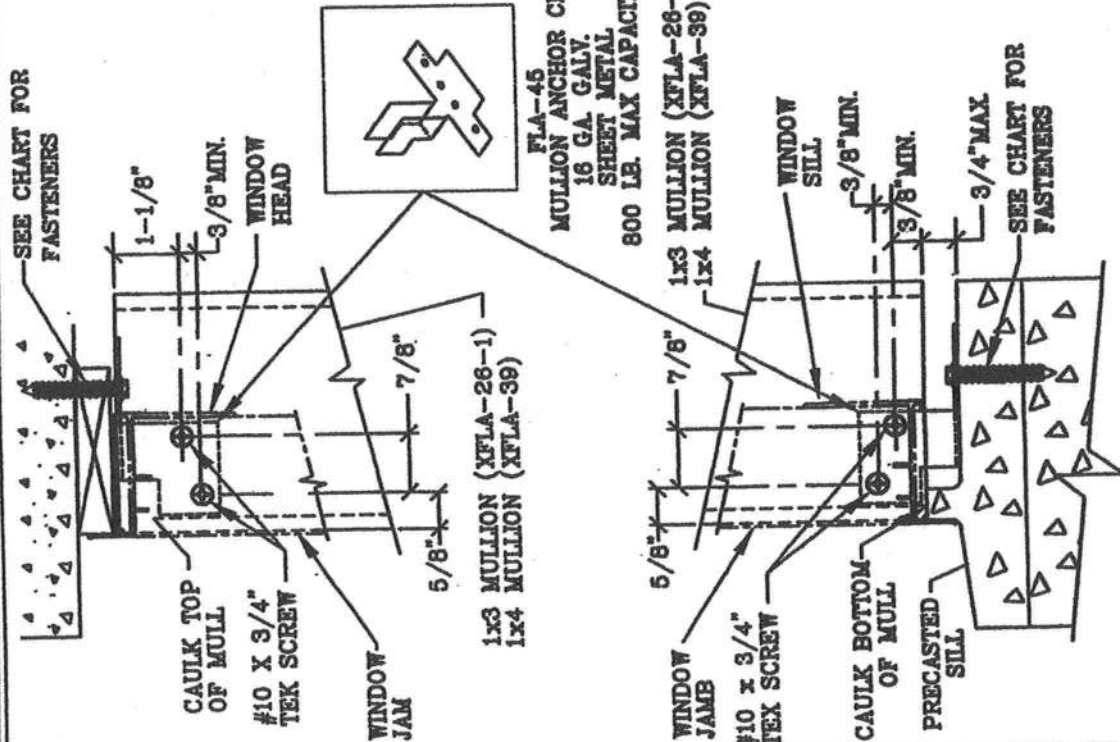
REVISIONS DESCRIPTION

DATE: 9/11/82
SCALE: 1/2\"/>





SEE CHART FOR  
FASTENERS



# VERTICAL MULLION SCHEDULE

SINGLE UNIT WINDOW WIDTH INCH	WINDOW HEIGHT INCH	TYPE OF MULLION TYPE OF CLIP		NUMBER AND TYPE OF FASTENERS
		DESIGN PRESSURE 35 PSF	FLA-45	
19-1/8"	26"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	38-1/4"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	50-5/8"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	63"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
26-1/2"	26"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	38-1/4"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	50-5/8"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	63"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
37"	26"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	38-1/4"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	50-5/8"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	63"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
53-1/8"	26"	1.0 x 4.0	OK	(4) 1/4" x 1-1/2" TAPCONS
	38-1/4"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	50-5/8"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS
	63"	1.0 x 3.0	OK	(4) 3/16" x 1-1/2" TAPCONS

- NOTES:
- 1) ALL ALUMINUM EXTRUSIONS ARE ALLOY 6063 T6, OR 6063 T5.
  - 2) WHEN THERE IS ONE TAPCON (1/4" x 1-1/2") ON EACH ANGLE LEG, THE TAPCON SHALL BE PLACED ON MULLION CLIP CENTERLINE.
  - 3) CONCRETE COMPRESSIVE STRENGTH - 3,000 PSI AT 28 DAYS.



VERTICAL MULLION  
FLA-45 ANCHOR CLIP  
INSTALLATION DETAIL AND  
FASTENER SCHEDULE

SERIES: MULLION  
ALUMINUM SINGLE RUND  
NORANDEX  
4500 000, STREET WEST  
HAWTHORNE, FL. 34027  
PHONE: (904) 762-1601

REVISIONS DESCRIPTION	
NO.	DESCRIPTION
1	REV. BY: R.L.B.
2	REV. BY: R.L.B.
3	REV. BY: R.L.B.
4	REV. BY: R.L.B.
5	REV. BY: R.L.B.
6	REV. BY: R.L.B.
7	REV. BY: R.L.B.
8	REV. BY: R.L.B.
9	REV. BY: R.L.B.
10	REV. BY: R.L.B.



**Jax Apex Technology, Inc.**

4745 Sutton Park Court, Suite 402  
Jacksonville, FL 32224

All products listed in this report are currently approved for state use under the provisions of Florida Product Approval Rule 9B-72 and/or 61G15-36. Reference product approval number FL1901. All substantiating data submitted for the original application has been reviewed for compliance with the 2004 Florida Building and Residential Codes.

Evaluation reports are the opinion of the engineer who prepared the report, based on the findings, and in no way constitute or imply approval by a local building authority. The engineer, in review of the data submitted, finds that, in his opinion, the product, material, system, or method of construction specifically identified in this report conforms with or is a suitable alternate to that specified in the Florida Building Code, **SUBJECT TO THE LIMITATIONS IN THIS REPORT**

Jeffrey P. Ameson, P.E., a licensed Florida professional engineer and employee of Jax Apex Technology, Inc. (Apex Technology) has reviewed the data submitted for compliance with the Florida Building Code. Neither Jeffrey P. Ameson, nor Apex Technology, are responsible for any errors or omissions to any documents, calculations, drawings, specifications, tests, or summaries prepared and submitted by the design professional or preparer of record who are listed in the Substantiating Data section of this report.

**REPORT NO:** SIM200401-R2

**EXPIRES:** October 1<sup>st</sup>, 2008

**CATEGORY:** Metal Connectors

**SUBMITTED BY:**  
SIMPSON STRONG-TIE COMPANY, INC.  
4120 DUBLIN BLVD., SUITE 400  
DUBLIN, CA 94568

**1. PRODUCT NAME**

**Strap Ties**

LSTA9, LSTA12, LSTA15, LSTA18, LSTA21, LSTA24, LSTA30, LSTA36,  
MSTA9, MST A12, MST A15, MST A18, MST A21, MST A24, MST A30, MST A36,  
MSTC28, MSTC40, MSTC52, MSTC66, MSTC78, MST27, MST37, MST48,  
MST60, MST72, LSTI49, LSTI73, MSTI26, MSTI36, MSTI48, MSTI60, MSTI72,  
RPS18, RPS22, RPS28, ST2115, ST292, ST2122, ST2215, ST6215, ST6224,  
ST6236, ST9, ST12, ST18, ST22, FHA6, FHA9, FHA12, FHA18, FHA24, FHA30.

**Coiled Strap Ties**

CMST12, CMST14, CMSTC16, CS16, CS18, CS20, CS22

**Wood to Masonry Strap Ties**

MSTAM24, MSTAM36, MSTCM40

**Pre-bent Strap Ties**

MSTC48B3, MSTC66B3

**Heavy Straps**

HRS6, HRS8, HRS12

# ROOFING INFORMATION



## Application Instructions for

# HERITAGE® VINTAGE™ AR – Phillipsburg, KS LAMINATED ASPHALT SHINGLES

THESE ARE THE MANUFACTURER'S APPLICATION INSTRUCTIONS FOR THE ROOFING CONDITIONS DESCRIBED. TAMKO BUILDING PRODUCTS, INC. ASSUMES NO RESPONSIBILITY FOR LEAKS OR OTHER ROOFING DEFECTS RESULTING FROM FAILURE TO FOLLOW THE MANUFACTURER'S INSTRUCTIONS.

THIS PRODUCT IS COVERED BY A LIMITED WARRANTY, THE TERMS OF WHICH ARE PRINTED ON THE WRAPPER.

IN COLD WEATHER (BELOW 40°F), CARE MUST BE TAKEN TO AVOID DAMAGE TO THE EDGES AND CORNERS OF THE SHINGLES.

**IMPORTANT:** It is not necessary to remove the plastic strip from the back of the shingles.

## 1. ROOF DECK

These shingles are for application to roof decks capable of receiving and retaining fasteners, and to inclines of not less than 2 in. per foot. For roofs having pitches 2 in. per foot to less than 4 in. per foot, refer to special instructions titled "Low Slope Application". Shingles must be applied properly. TAMKO assumes no responsibility for leaks or defects resulting from improper application, or failure to properly prepare the surface to be roofed over.

**NEW ROOF DECK CONSTRUCTION:** Roof deck must be smooth, dry and free from warped surfaces. It is recommended that metal drip edges be installed at eaves and rakes.

**PLYWOOD:** All plywood shall be exterior grade as defined by the American Plywood Association. Plywood shall be a minimum of 3/8 in. thickness and applied in accordance with the recommendations of the American Plywood Association.

**SHEATHING BOARDS:** Boards shall be well-seasoned tongue-and-groove boards and not over 6 in. nominal width. Boards shall be a 1 in. nominal minimum thickness. Boards shall be properly spaced and nailed.

TAMKO does not recommend re-roofing over existing roof.

## 2. VENTILATION

Inadequate ventilation of attic spaces can cause accumulation of moisture in winter months and a build up of heat in the summer. These conditions can lead to:

1. Vapor Condensation
2. Buckling of shingles due to deck movement.
3. Rotting of wood members.
4. Premature failure of roof.

To insure adequate ventilation and circulation of air, place louvers of sufficient size high in the gable ends and/or install continuous ridge and soffit vents. FHA minimum property standards require one square foot of net free ventilation area to each 150 square feet of space to be vented, or one square foot per 300 square feet if a vapor barrier is installed on the warm side of the ceiling or if at least one half of the ventilation is provided near the ridge. If the ventilation openings are screened, the total area should be doubled.

**IT IS PARTICULARLY IMPORTANT TO PROVIDE ADEQUATE VENTILATION.**

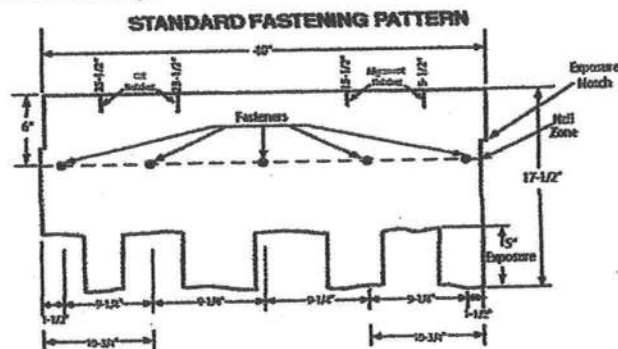
## 3. FASTENERS

**WIND CAUTION:** Extreme wind velocities can damage these shingles after application when proper sealing of the shingles does not occur. This can especially be a problem if the shingles are applied in cooler months or in areas on the roof that do not receive direct sunlight. These conditions may impede the sealing of the adhesive strips on the shingles. The inability to seal down may be compounded by prolonged cold weather conditions and/or blowing dust. In these situations, hand sealing of the shingles is recommended. Shingles must also be fastened according to the fastening instructions described below.

Correct placement of the fasteners is critical to the performance of the shingle. If the fasteners are not placed as shown in the diagram and described below, this will result in the termination of TAMKO's liabilities under the limited warranty. TAMKO will not be responsible for damage to shingles caused by winds in excess of the applicable miles per hour as stated in the limited warranty. See limited warranty for details.

**FASTENING PATTERNS:** Fasteners must be placed 6 in. from the top edge of the shingle located horizontally as follows:

- 1) Standard Fastening Pattern. (For use on decks with slopes 2 in. per foot to 21 in. per foot.) One fastener 1-1/2 in. back from each end, one 10-3/4 in. back from each end and one 20 in. from one end of the shingle for a total of 5 fasteners. (See standard fastening pattern illustrated below).



- 2) Mansard or Steep Slope Fastening Pattern. (For use on decks with slopes greater than 21 in. per foot.) Use standard nailing instructions with four additional nails placed 6 in. from the butt edge of the shingle making certain nails are covered by the next (successive) course of shingles.

(Continued)

Visit Our Web Site at  
[www.tamko.com](http://www.tamko.com)

Central District  
Northeast District  
Southeast District  
Southwest District  
Western District

220 West 4th St., Joplin, MO 64801  
4500 Tamko Dr., Frederick, MD 21701  
2300 35th St., Tuscaloosa, AL 35401  
7910 S. Central Exp., Dallas, TX 75216  
5300 East 43rd Ave., Denver, CO 80216

800-641-4691  
800-368-2055  
800-228-2656  
800-443-1834  
800-530-8888

05/08



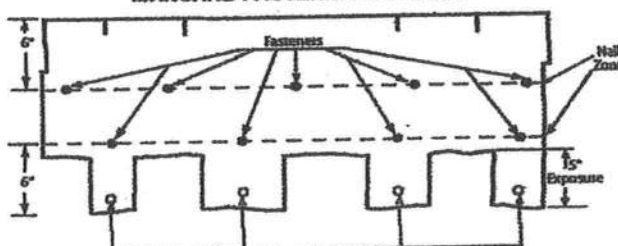


(CONTINUED from Pg. 1)

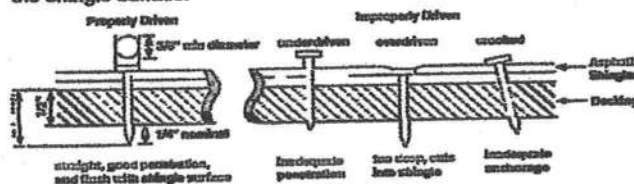
## • HERITAGE® VINTAGE™ AR – Phillipsburg, KS LAMINATED ASPHALT SHINGLES

Each shingle tab must be sealed underneath with quick setting asphalt adhesive cement immediately upon installation. Spots of cement must be equivalent in size to a \$.25 piece and applied to shingles with a 5 in. exposure, use 9 fasteners per shingle.

### MANSARD FASTENING PATTERN



**NAILS:** TAMKO recommends the use of nails as the preferred method of application. Standard type roofing nails should be used. Nail shanks should be made of minimum 12 gauge wire, and a minimum head diameter of 3/8 in. Nails should be long enough to penetrate 3/4 in. into the roof deck. Where the deck is less than 3/4 in. thick, the nails should be long enough to penetrate completely through plywood decking and extend at least 1/8 in. through the roof deck. Drive nail head flush with the shingle surface.



### 4. UNDERLAYMENT

**UNDERLAYMENT:** An underlayment consisting of asphalt saturated felt must be applied over the entire deck before the installation of TAMKO shingles. Failure to add underlayment can cause premature failure of the shingles and leaks which are not covered by TAMKO's limited warranty. Apply the felt when the deck is dry. On roof decks 4 in. per foot and greater apply the felt parallel to the eaves lapping each course of the felt over the lower course at least 2 in. Where ends join, lap the felt 4 in. If left exposed, the underlayment felt may be adversely affected by moisture and weathering. Laying of the underlayment and the shingle application must be done together.

Products which are acceptable for use as underlayment are:

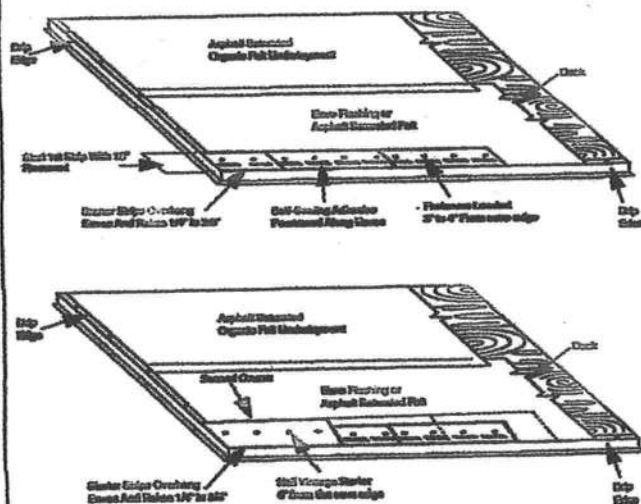
- TAMKO No. 15 Asphalt Saturated Organic Felt
- A non-perforated asphalt saturated organic felt which meets ASTM: D226, Type I or ASTM D4869, Type I
- Any TAMKO non-perforated asphalt saturated organic felt
- TAMKO TW Metal and Tile Underlayment, TW Underlayment and Moisture Guard Plus® (additional ventilation maybe required. Contact TAMKO's technical services department for more information)

In areas where ice builds up along the eaves or a back-up of water from frozen or clogged gutters is a potential problem, TAMKO's Moisture Guard Plus® waterproofing underlayment (or any specialty eaves flashing product) may be applied to eaves, rakes, ridges, valleys, around chimneys, skylights or dormers to help prevent water damage. Contact TAMKO's Technical Services Department for more information. TAMKO does not recommend the use of any substitute products as shingle underlayment.

### 5. APPLICATION INSTRUCTIONS

**STARTER COURSE:** Two starter course layers must be applied prior to application of Heritage Vintage AR Shingles.

The first starter course may consist of TAMKO Shingle Starter, three tab self-sealing type shingles or a 9 inch wide strip of mineral surface roll roofing. If three tab self-sealing shingles are used, remove the exposed tab portion and install with the factory applied adhesive adjacent to the eaves. If using three tab self-sealing shingles or shingle starter, remove 18 in. from first shingle to offset the end joints of the Vintage Starter. Attach the first starter course with approved fasteners along a line parallel to and 3 in. to 4 in. above the eave edge. The starter course should overhang both the eave and rake edge 1/4 in. to 3/8 in. Over the first starter course, install Heritage Vintage Starter AR and begin at the left rake edge with a full size shingle and continue across the roof nailing the Heritage Vintage Starter AR along a line parallel to and 6 in. from the eave edge.



**Note:** Do not allow Vintage Starter AR joints to be visible between shingle tabs. Cutting of the starter may be required.

**HERITAGE VINTAGE STARTER AR**  
12 1/2" x 36" 20 PIECES PER BUNDLE  
60 LINEAL FT. PER BUNDLE

(Continued)

Visit Our Web Site at  
[www.tamko.com](http://www.tamko.com)

Central District  
Northeast District  
Southeast District  
Southwest District  
Western District

220 West 4th St., Joplin, MO 64801  
4500 Tamko Dr., Frederick, MD 21701  
2300 35th St., Tuscaloosa, AL 35401  
7910 S. Central Exp., Dallas, TX 75216  
5300 East 43rd Ave., Denver, CO 80216

800-641-4691  
800-368-2055  
800-228-2656  
800-443-1834  
800-530-8868

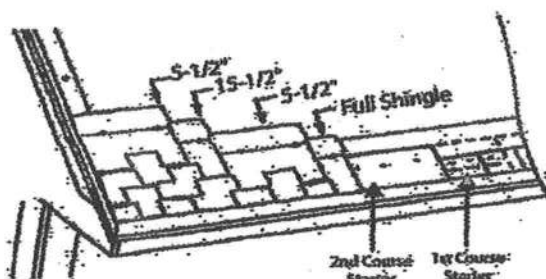
05/06



(CONTINUED from Pg. 2)

## • HERITAGE® VINTAGE™ AR – Phillipsburg, KS LAMINATED ASPHALT SHINGLES

**SHINGLE APPLICATION:** Start the first course at the left rake edge with a full size shingle and overhang the rake edge 1/4 in. to 3/8 in.. To begin the second course, align the right side of the shingle with the 5-1/2 in. alignment notch on the first course shingle making sure to align the exposure notch. (See shingle illustration on next page) Cut the appropriate amount from the rake edge so the overhang is 1/4" to 3/8". For the third course, align the shingle with the 15-1/2 in. alignment notch at the top of the second course shingle, again being sure to align the exposure notch. Cut the appropriate amount from the rake edge. To begin the fourth course, align the shingle with the 5-1/2 in. alignment notch from the third course shingle while aligning the exposure notch. Cut the appropriate amount from the rake edge. Continue up the rake in as many rows as necessary using the same formula as outlined above. Cut pieces may be used to complete courses at the right side. As you work across the roof, install full size shingles taking care to align the exposure notches. Shingle joints should be no closer than 4 in.



### 6. LOW SLOPE APPLICATION

On pitches 2 in. per foot to 4 in. per foot cover the deck with two layers of underlayment. Begin by applying the underlayment in a 19 in. wide strip along the eaves and overhanging the drip edge by 1/4 to 3/4 in. Place a full 36 in. wide sheet over the 19 in. wide starter piece, completely overlapping it. All succeeding courses will be positioned to overlap the preceding course by 19 in. If winter temperatures average 25°F or less, thoroughly cement the laps of the entire underlayment to each other with plastic cement from eaves and rakes to a point of a least 24 in. inside the interior wall line of the building. As an alternative, TAMKO's Moisture Guard Plus self-adhering waterproofing underlayment may be used in lieu of the cemented felts.

### 7. VALLEY APPLICATION

TAMKO recommends an open valley construction with Heritage Vintage AR shingles.

To begin, center a sheet of TAMKO Moisture Guard Plus, TW Underlayment or TW Metal & Tile Underlayment in the valley.

After the underlayment has been secured, install the recommended corrosion resistant metal (26 gauge galvanized metal or an equivalent) in the valley. Secure the valley metal to the roof deck. Overlaps should be 12" and cemented.

Following valley metal application; a 9" to 12" wide strip of TAMKO Moisture Guard Plus, TW Underlayment or TW Metal & Tile Underlayment should be applied along the edges of the metal valley flashing (max. 6" onto metal valley flashing) and on top of the valley underlayment. The valley will be completed with shingle application.

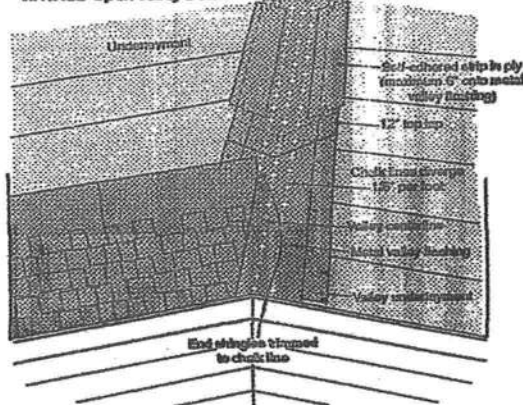
### SHINGLE APPLICATION INSTRUCTIONS (OPEN VALLEY)

- Snap two chalk lines, one on each side of the valley centerline over the full length of the valley flashing. Locate the upper ends of the chalk lines 3" to either side of the valley centerline.
- The lower end should diverge from each other by 1/8" per foot. Thus, for an 8' long valley, the chalk lines should be 7" either side of the centerline at the eaves and for a 16' valley 8".

As shingles are applied toward the valley, trim the last shingle in each course to fit on the chalk line. Never use a shingle trimmed to less than 12" in length to finish a course running into a valley. If necessary, trim the adjacent shingle in the course to allow a longer portion to be used.

- Clip 1" from the upper corner of each shingle on a 45° angle to direct water into the valley and prevent it from penetrating between the courses.
- Form a tight seal by cementing the shingle to the valley lining with a 3" width of asphalt plastic cement (conforming to ASTM D 4586).

VINTAGE Open Valley Detail



### • CAUTION:

Adhesive must be applied in smooth, thin, even layers.

Excessive use of adhesive will cause blistering to this product.

TAMKO assumes no responsibility for blistering.

(Continued)

Visit Our Web Site at  
[www.tamko.com](http://www.tamko.com)

Central District  
Northeast District  
Southeast District  
Southwest District  
Western District

220 West 4th St., Joplin, MO 64801  
4500 Tamko Dr., Frederick, MD 21701  
2300 35th St., Tuscaloosa, AL 35401  
7910 S. Central Exp., Dallas, TX 75216  
5300 East 43rd Ave., Denver, CO 80216

800-641-4691  
800-388-2055  
800-228-2656  
800-443-1834  
800-530-8888

0506



(CONTINUED from Pg. 3)

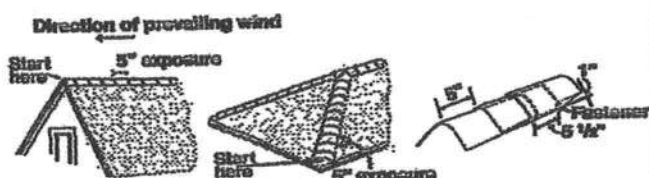
## • HERITAGE® VINTAGE™ AR – Phillipsburg, KS LAMINATED ASPHALT SHINGLES

### 8. HIP AND RIDGE FASTENING DETAIL

Apply the shingles with a 5 in. exposure beginning at the bottom of the hip or from the end of the ridge opposite the direction of the prevailing winds. Secure each shingle with one fastener on each side, 5-1/2 in. back from the exposed end and 1 in. up from the edge. TAMKO recommends the use of TAMKO Heritage Vintage Hip & Ridge shingle products.

Fasteners should be 1/4 in. longer than the ones used for shingles.

IMPORTANT: PRIOR TO INSTALLATION, CARE NEEDS TO BE TAKEN TO PREVENT DAMAGE WHICH CAN OCCUR WHILE BENDING SHINGLE IN COLD WEATHER.



THESE ARE THE MANUFACTURER'S APPLICATION INSTRUCTIONS FOR THE ROOFING CONDITIONS DESCRIBED. TAMKO BUILDING PRODUCTS, INC. ASSUMES NO RESPONSIBILITY FOR LEAKS OR OTHER ROOFING DEFECTS RESULTING FROM FAILURE TO FOLLOW THE MANUFACTURER'S INSTRUCTIONS.

TAMKO®, Moisture Guard Plus®, Nail Fast® and Heritage® are registered trademarks and Vintage™ is a trademark of TAMKO Building Products, Inc.

Visit Our Web Site at  
[www.tamko.com](http://www.tamko.com)

Central District  
Northeast District  
Southeast District  
Southwest District  
Western District

220 West 4th St., Joplin, MO 64801  
4500 Tamko Dr., Frederick, MD 21701  
2300 35th St., Tuscaloosa, AL 35401  
7910 S. Central Exp., Dallas, TX 75216  
5300 East 43rd Ave., Denver, CO 80216

800-641-4691  
800-368-2056  
800-228-2656  
800-443-1834  
800-530-8868

05/06

# INTERIOR WALL INSULATION INFORMATION





## R-Matte® Plus-3

### Sheathing Insulation

07212/RMRP

#### MANUFACTURER

Rmax, Inc.  
13524 Welch Road, Dallas, Texas 75244-5291  
Phone - 972-387-4500 800-627-0890 (Central)  
800-845-4455 (Eastern) 800-762-9482 (Western)  
Email: rmax@rmaxinc.com  
Web Site: <http://www.rmaxinc.com>

#### PRODUCT DESCRIPTION

R-Matte® Plus-3 is a rigid foam plastic thermal insulation board composed of polyisocyanurate foam bonded to a durable white-matte non-glare aluminum facer and a reflective reinforced aluminum facer.

R-Matte® Plus-3 utilizes a new and environmentally friendly blowing agent. This sheathing insulation is suitable for use in wall applications in new residential, commercial, agricultural and industrial buildings and in thermal retrofit construction within existing buildings.

R-Matte® Plus-3 is available in standard four (4) foot wide panels. Standard panel lengths are eight (8) and nine (9) feet. Custom length panels are available for special orders. See "Thermal Properties" for standard thicknesses and thermal resistance values of R-Matte® Plus-3.

R-Matte® Plus-3 is shipped in bundles that are approximately 48 inches high and wrapped in plastic for easy handling.

NOTE: All Rmax products must be tarped, placed on skids, and kept dry before and throughout construction.

#### Technical Data

TYPICAL PHYSICAL PROPERTIES:		
Property	Test Method	Results
Density, Overall, Nominal	ASTM D1622	2.0 pcf
Compressive Strength	ASTM D1621	30 pcf (Avg.)
Flame Spread, Core	ASTM E84	35 or less
Smoke Developed	ASTM E84	45-110
Water Vapor Transmission	ASTM E96	< 1 perm
Water Absorption	ASTM C269	< 1% Vol
Dimensional Stability	ASTM D2126 7 days, 150°F, 99% rh	< 2% Linear Change
Service Temperature		-40°F to +250°F

Note: Physical Properties shown are based on data obtained under controlled conditions and are subject to normal manufacturing tolerances. Flame spread numbers are shown for comparison purposes only and are not intended to represent the performance of R-Matte® Plus-3 and related components under actual fire conditions.

#### APPLICABLE STANDARDS

R-Matte® Plus-3 is manufactured to meet the physical property requirements of Product Specification ASTM C1289, Type I.

R-Matte® Plus-3 is accepted as a nonstructural insulative sheathing board by the following major model building codes: National Building Code (BOCA), Section 2603; Standard Building Code (SBC), Section 2603; Uniform Building Code (UBC), Section 2602.

#### APPLICATION / INSTALLATION

**Applications** - This product is designed to be covered with siding materials of wood, wood-based products, hardboard, aluminum, vinyl, brick or stucco veneers. The white-matte finished (non-glare) side of this sheathing panel is installed facing to the outside of the wall structure when the exterior siding will be either wood, wood-based products, hardboard, aluminum or vinyl siding. The reflective aluminum side of the sheathing panel is installed to the outside of the wall when the exterior finish will be either brick or stucco.

**Stud Wall Construction** - R-Matte® Plus-3 is applied to the exterior face of wood or metal studs to cover all studs, sills, plates and header constructions in order to provide insulation over details not normally covered by insulation products. R-Matte® Plus-3 may be secured to the studs with bugle-head screws, galvanized roofing nails, or common nails driven through cap washers. The interior of the stud wall system should be protected with a suitable vapor retarder.

R-Matte® Plus-3 may be applied to the interior face of studs, metal or wood, to cover the interior face of these framing members. R-Matte® Plus-3 may be secured with bugle-head screws, galvanized roofing nails, or construction adhesives. The interior of the stud wall system should be protected with a suitable vapor retarder and thermal barrier.

**Cavity Wall Construction** - R-Matte® Plus-3 is secured to the dry face of the masonry block wall with a high grade adhesive. R-Matte® Plus-3 can be cut by simple methods to fit between masonry joint reinforcements placed to tie the brick veneer to the concrete block back-up. R-Matte® Plus-3 is an excellent cavity insulation product fitting between the masonry block and finished brick veneer of any residential or commercial product.

## R-Matte® Plus-3 Sheathing Insulation

07212/RMRP-2

**Masonry Wall Construction - R-Matte® Plus-3** is applied to either the exterior face or interior face of concrete or concrete masonry walls to provide an insulation layer over the entire surface. R-Matte® Plus-3 may be secured to the inside face of a concrete or concrete masonry wall, either over or under the furring members, and covered with a minimum 1/2 inch gypsum wallboard interior finish. Adhesives may be used to hold the R-Matte® Plus-3 in place against the wall temporarily. However, permanent attachment of the R-Matte® Plus-3, furring, or gypsum wallboard with adhesives is not acceptable. The gypsum wallboard must be secured with suitable screws or nails.

**Re-Siding Construction - R-Matte® Plus-3** is applied over existing sound and solid siding. It is then covered with a suitable new siding of aluminum, vinyl, wood or wood fiber based products. The R-Matte® Plus-3 is secured with galvanized nails of sufficient length to penetrate the old siding and sheathings below by at least one inch into the existing wall studs.

**Exterior Stucco Construction - R-Matte® Plus-3** may be used as the insulative sheathing under hard coat stucco finishes. First, cover the R-Matte® Plus-3 with a suitable separation layer such as an organic or inorganic felt. Then, attach conventional metal wire lath and expansion joints with appropriate fasteners as dictated by the local building code. R-Matte® Plus-3 may be secured to the studs with bugle-head screws, galvanized roofing nails, or common-nails driven through cap washers. The interior of the stud wall system should be protected with a suitable vapor retarder. Rmax does not recommend the direct attachment of stucco, portland cement or polymer-modified types, directly to the face of the insulation product. Consult stucco manufacturers for details.

### WARRANTY

See "Sales Policy" for warranty conditions. Rmax does not assume any responsibility or liability for the performance of any products other than those manufactured by Rmax.

### AVAILABILITY

Rmax® Plus-3 is available through an extensive distribution network. Contact Rmax Sales for product availability, pricing information, and the nearest distribution center.

### WARNING

**DO NOT** leave R-Matte® Plus-3 exposed. Polyisocyanurate foam is an organic material which will burn when exposed to an ignition source of sufficient heat and intensity, and may contribute to flames spreading. Installations utilizing Rmax R-Matte® Plus-3 must be fully protected on the interior side of walls and roofs by a minimum of 1/2 inch gypsum board or equivalent. Masonry or concrete that is a minimum of one-inch thick or plywood that is a minimum of 1/2 inch thick or wood that is a minimum of one-inch nominal thickness is recognized as a suitable thermal barrier. Consult the Local Building Official for specific governing codes and requirements.

### LIMITATIONS

R-Matte® Plus-3 is not recommended, nor warranted, for use as a commercial roofing insulation for use directly under membrane systems. See Rmax, Inc. for suitable commercial roofing insulation products.

R-Matte® Plus-3 is not a structural panel. Stud walls insulated with R-Matte® Plus-3 must be properly braced for lateral loads according to the requirements of the local building codes.

THERMAL PROPERTIES/PRODUCT DATA				"R" means resistance to heat flow. The higher	
the R-value, the greater the insulating power					
Nominal Thickness	Thermal <sup>1</sup> R-Value	Bundle Data (48" x 96")		Truckload Data (48" x 96")	
		Pieces	Sq. Ft.	Pieces	Sq. Ft.
0.5"	3.2	96	3,072	2,304	73,728
0.825"	4.0	78	2,432	1,824	58,368
0.75"	5.0	60	1,920	1,440	46,080
1.0"	6.4	48	1,536	1,152	36,864

<sup>1</sup>Thermal values are determined by using ASTM C618 test method at 75°F mean temperature on material conditioned according to PIMA Technical Bulletin No. 101.

**Embedded Truss Anchors**

META12, META14, META16, META18, META20, META22, META24, META40,  
HETA12, HETA16, HETA20, HETA24, HETA40, HETAL12, HETAL16,  
HETAL20, HHETA12, HHETA16, HHETA20, HHETA24, HHETA40

**2. SCOPE OF EVALUATION**

Load Evaluation as a Structural Component using the requirements of the Florida  
Building and Residential Codes

**3.11 MSTCB3 Pre-bent Strap Tie.** The MSTC48B3 and MSTC66B3 Pre-bent Strap Ties are designed to transfer a heavy tension load from framing on an upper story wall to a beam or header on the story below. For example, this could be from shearwall overturning or a large girder truss uplift load. They are installed with 10d common nails, with a minimum of four nails in the bottom of the beam or header. Allowable loads are shown in Table 8. The straps are manufactured from 14 ga. steel meeting ASTM A-653 SS Grade 50, Class 1. They are coated with a G90 galvanized finish.

**3.12 META, HETA, HETAL, HHETA Embedded Truss Anchors.** Embedded Truss Anchors are used to anchor a wood member (usually a truss) to a masonry or concrete wall. Embedded truss anchors fasten to a single-ply wood truss with 10d×1½ nails or to a multiple-ply truss with 16d common nails. They are embedded in the masonry or concrete wall to a depth indicated on the side of the anchor (4" for META, HETA, and HETAL, and 5½" for HHETA). The strap portion of the anchor is 1½" wide. Allowable loads are shown in Table 9 for single installations and Table 10 for double installations. The anchors are manufactured from steel meeting ASTM A-653 SS Grade 50, Class 1, with the exception of the truss seat of the HETAL which is manufactured from steel meeting ASTM A-653 SS Grade 33. Steel thickness is as specified in Table 9. The Embedded Truss Anchors are coated with a G90 galvanized finish.

#### 4. MATERIALS

**4.1 Steel.** Steel specifications for each product listed in this evaluation report shall be as indicated in the previous section. In addition to the standard G90 finish, some products are available with a G185 finish, indicated as Z-Max. Allowable loads published in this report will apply to G185 products as well as G90 products.

**4.2 Wood.** Wood members to which these connectors are fastened shall be solid sawn lumber, glued-laminated lumber, or structural composite lumber having dimensions consistent with the connector dimensions shown in Tables 1 through 4. Unless otherwise noted, lumber shall be Southern Pine or Douglas Fir-Larch having a minimum specific gravity of 0.50. Where indicated by SPF, lumber shall be Spruce-Pine-Fir having a minimum specific gravity of 0.42.

**4.3 Nails and Bolts.** Unless noted otherwise, nails shall be common nails. Nails shall comply with ASTM F 1667 and shall have the minimum bending yield strengths  $F_{yb}$ :

Nail Pennyweight	Nail Shank Diameter (inch)	$F_{yb}$ (psi)
10d Common	0.148	90,000
16d Sinker	0.148	90,000
16d Common	0.162	90,000

Fasteners for galvanized connectors in pressure-preservative treated wood shall be hot-dipped zinc coated galvanized steel, except where otherwise permitted by the treatment manufacturer. Fasteners for stainless steel connectors shall be stainless steel.



**4.4 Concrete/Masonry.** Concrete and Masonry design specifications shall be the stricter of the specifications by the engineer of record, the Florida Building Code minimum standards, or the following:

Material	Specification	Minimum Compressive Strength
Concrete, $f_c$	-	2500 psi
Masonry, $f_m$	ASTM E447	1500 psi
Masonry Unit	ASTM C90	1900 psi
Mortar	ASTM C270 Type S	1800 psi (or by proportions)
Grout	ASTM C476	2000 psi (or by proportions)

## 5. INSTALLATION

Installation shall be in accordance with this report and the most recent edition of the Simpson Strong-Tie *Wood Construction Connectors* catalog. Information in this report supersedes any conflicting information between information provided in this report and the catalogue, the information in this report supersedes the catalogue.

## 6. SUBSTANTIATING DATA

Test data submitted by Testing Engineers Inc. and Product Testing, Inc., and signed and sealed calculations performed by Jeremy Gilstrap, P.E. in accordance with the 2004 Florida Building and Residential Codes.

## 7. FINDINGS

Upon review of the data submitted by Simpson Strong-Tie, it is my opinion that the connectors as described in this report conform with or are a suitable alternative to the standards and sections in the 2004 Florida Building and Residential Code editions listed in section 10 of this report. Connectors shall be installed in accordance with this report. Maximum allowable loads shall not exceed the allowable loads listed in this report.

## 8. LIMITATIONS

- Maximum allowable loads shall not exceed the allowable loads listed in this report. Allowable loads listed in this report are based on allowable stress design. The loads in this report are not applicable to Load and Resistance Factor Design.
- Capacity of wood members is not covered by this report. Capacity of wood members must be checked by the building designer.
- Allowable loads for more than one direction for a single connection cannot be added together. A design load which can be divided into components in the directions given must be evaluated as follows:  

$$\frac{(\text{Design Uplift/Allowable Uplift}) + (\text{Design Lateral Parallel to Plate/Allowable Lateral Parallel to Plate}) + (\text{Design Lateral Perp. to Plate/Allowable Lateral Perp. to Plate})}{1.0} < 1.0$$

## 9. ALLOWABLE LOADS

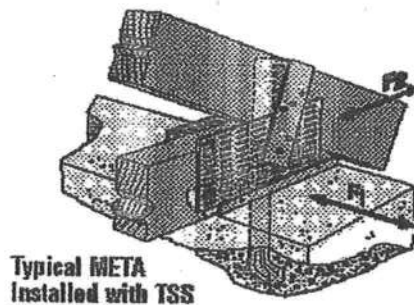
The tables that follow provide the allowable loads for the aforementioned products.

**TABLE 9 ALLOWABLE LOADS**

Model No.	Ga	H	Fasteners and Uplift								Lateral Loads	
			160 Load Duration Increase				133 Load Duration Increase				133/160	
			1 Ply So. Pine Truss		2 or 3 Ply So. Pine Truss		1 Ply So. Pine Truss		2 or 3 Ply So. Pine Truss		F <sub>1</sub> (parallel to wall)	F <sub>2</sub> (perpen. to wall)
			Fasteners	Load	Fasteners	Load	Fasteners	Load	Fasteners	Load		
META12	18	8	7-10d×1½	1450	6-16d	1450	7-10d×1½	1240	7-16d	1450	280	725
META14		10	7-10d×1½	1450	6-16d	1450	9-10d×1½	1450	7-16d	1450	280	725
META16		12	7-10d×1½	1450	6-16d	1450	9-10d×1½	1450	7-16d	1450	280	725
META18		14	7-10d×1½	1450	6-16d	1450	9-10d×1½	1450	7-16d	1450	280	725
META20		16	6-10d×1½	1270	5-16d	1245	8-10d×1½	1415	6-16d	1250	280	725
			7-10d×1½	1450	6-16d	1450	9-10d×1½	1450	7-16d	1450	280	725
META22		18	7-10d×1½	1450	6-16d	1450	9-10d×1½	1450	7-16d	1450	280	725
META24		20	7-10d×1½	1450	6-16d	1450	9-10d×1½	1450	7-16d	1450	280	725
META40		36	7-10d×1½	1450	6-16d	1450	9-10d×1½	1450	7-16d	1450	280	725
HETA12	16	8	7-10d×1½	1520	7-16d	1780	7-10d×1½	1265	7-16d	1475	280	725
HETA16		12	9-10d×1½	1810	8-16d	1810	10-10d×1½	1810	9-16d	1810	280	725
HETA20		16	8-10d×1½	1735	7-16d	1780	9-10d×1½	1630	8-16d	1690	280	725
			9-10d×1½	1810	8-16d	1810	10-10d×1½	1810	9-16d	1810	280	725
HETA24		20	9-10d×1½	1810	8-16d	1810	10-10d×1½	1810	9-16d	1810	280	725
HETA40		36	9-10d×1½	1810	8-16d	1810	10-10d×1½	1810	9-16d	1810	280	725
HHETA12	14	8	7-10d×1½	1565	7-16d	1820	7-10d×1½	1305	7-16d	1520	435	815
HHETA16		12	10-10d×1½	2235	9-16d	2235	12-10d×1½	2235	11-16d	2235	435	815
HHETA20		16	9-10d×1½	2010	8-16d	2080	11-10d×1½	2050	10-16d	2170	435	815
			10-10d×1½	2235	9-16d	2235	12-10d×1½	2235	11-16d	2235	435	815
HHETA24		20	10-10d×1½	2235	9-16d	2235	12-10d×1½	2235	11-16d	2235	435	815
HHETA40		36	10-10d×1½	2235	9-16d	2235	12-10d×1½	2235	11-16d	2235	435	815
HETAL12	16	7	10-10d×1½	1085	10-16d	1270	10-10d×1½	905	10-16d	1055	415	1100
HETAL16		11	14-10d×1½	1810	13-16d	1810	15-10d×1½	1810	14-16d	1810	415	1100
HETAL20		15	14-10d×1½	1810	13-16d	1810	15-10d×1½	1810	14-16d	1810	415	1100

**Notes:**

1. Loads do not include a stress increase on the strength of the steel. No further increases are permitted. Reduce loads where other loads govern.
2. Five nails must be installed into the truss seat of the HETAL.
3. Parallel-to-plate load towards face of HETAL is 1975 lbs.
4. Except for HETAL straps, lateral loads are based on a minimum installation of 12 nails and the strap wrapped over the heel.
5. Minimum f<sub>c</sub> is 2,000psi
6. It is acceptable to use a reduced number of fasteners in a product provided that there is a reduction in load capacity. The load per nail can be approximated by dividing the allowable load by the number of fasteners. This concept applies to all member sizes. There should be a minimum of 4 nails installed in the strap.

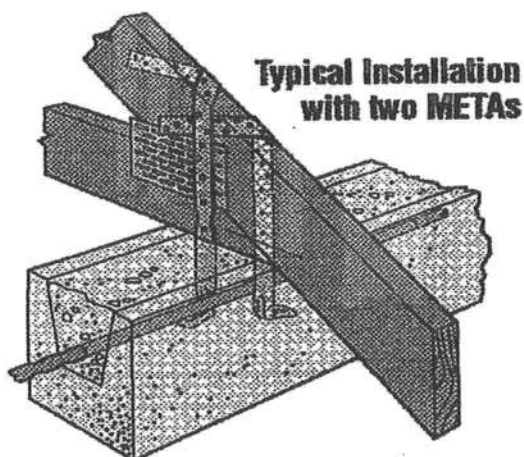


**TABLE 10 ALLOWABLE LOADS FOR DOUBLE EMBEDDED TRUSS ANCHORS**

Double Embedded Anchor Installation into Grouted CMU Bond Beam										
Model No.	Uplift - 160 Load Duration Increase				Uplift - 133 Load Duration Increase				Lateral Loads	
	1 Ply Southern Pine Truss		2 or 3 Ply Southern Pine Truss		1 Ply Southern Pine Truss		2 or 3 Ply Southern Pine Truss		133/160	
	Fasteners	Load	Fasteners	Load	Fasteners	Load	Fasteners	Load	F <sub>1</sub> (parallel to wall)	F <sub>2</sub> (perpen. to wall)
META	10-10d×1½	1985	14-16d	1900	12-10d×1½	1985	14-16d	1900	1210	1160
HETA	10-10d×1½	2035	12-16d	2500	12-10d×1½	2035	14-16d	2500	1225	1520
HHETA	10-10d×1½	2035	12-16d	2500	12-10d×1½	2035	14-16d	2500	1225	1520

**Notes:**

1. Minimum  $f_c$  is 2,500psi.
2. Install with spoons facing outward and spaced no more than 1/8" wider than the truss width.
3. Install half of the required number of fasteners in each strap.
4. For uplift loads for poured concrete tie beam applications with 2 or 3 ply trusses, increase the META load by 35%, the HETA load by 8%, and the HHETA load by 34%. Listed lateral loads apply to concrete applications.
5. Lateral loads apply only to anchors spaced a minimum of 3" apart.



## 10. CODE REFERENCES:

### Florida Building Code 2004 Edition

Section 104.11	Alternate Materials and Methods
Chapter 1714.2	Load Test Procedure Specified
Chapter 21	Masonry
Chapter 22	Steel
Chapter 23	Wood

### Florida Residential Code 2004 Edition

R101.2.1	Scope
R4407	HVHZ Masonry
R4408	HVHZ Steel
R4409	HVHZ Wood

## 11. IDENTIFICATION:

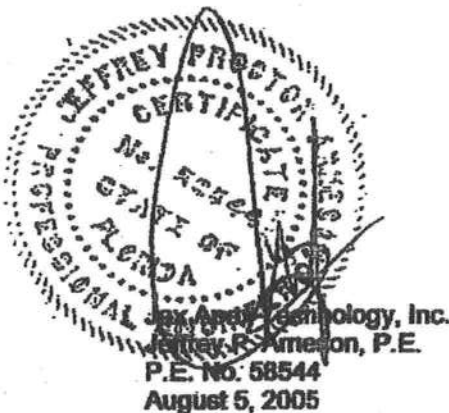
Each connector covered by this report shall be stamped with the manufacturer's name and/or trademark and the product name.

## 12. PERIOD OF ISSUANCE:

The content of this report expires on October 1<sup>st</sup>, 2008. For information on this report, contact Apex Technology. (904) 821-5200

## 13. CERTIFICATION OF INDEPENDENCE:

Jeffrey P. Ameson, the Florida engineer who prepared this report, and Apex Technology have no financial interest in the manufacturing, sales, or distribution of the products included in this report. Jeffrey P. Ameson and Apex Technology comply with all criteria as stated in Florida Administrative Code Chapter 9B-72.110.





The embedded truss anchor series provides an engineered method to properly attach roof trusses to concrete and masonry walls. The products are designed with staggered nail patterns for greater uplift resistance. New to this year's catalog is information regarding the use of two anchors on single- and multi-ply trusses.

The TSS, a companion product of the META, provides a moisture barrier between the concrete and truss. The preassembled unit is riveted with no height adjustment.

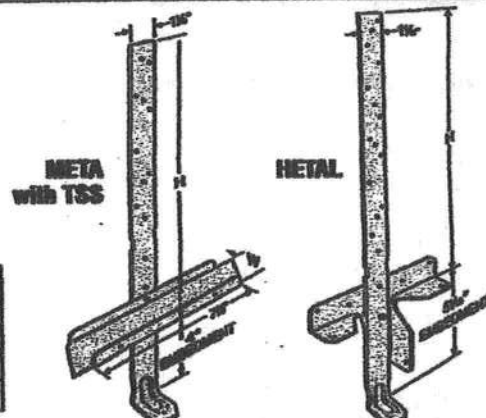
**MATERIAL:** HHETA-14 gauge; HETA-16 ga; HETAL strap 16 gauge, truss seat 18 gauge; META-18 gauge; TSS-22 gauge.

**FINISH:** Galvanized. Some products available in Z-MAX; see Corrosion Resistance, page 6.

**INSTALLATION:** • Use all specified fasteners. See General Notes.

- The META, HETA and HHETA are embedded 4" into a concrete beam or grouted block wall; HETAL is embedded 5 1/4".
- Do not drive nails through the truss plate on the opposite side of the truss, which could force the plate off the truss.
- The TSS moisture barrier may be preattached to the truss using 6d commons.

**CODES:** See page 10 for Code Listing Key Chart.



Model No.	W
TSS2	1 1/4"
TSS2-2	3 1/4"
TSS4	3 1/4"

Model No.	H	Fasteners and Uplift								Lateral Loads (133 & 180)				Code Ref.
		133 Load Duration Increase				160 Load Duration Increase				DF/NF		SPF/NF		
		1 Ply So. Pine Truss		2 or 3 Ply So. Pine Truss		1 Ply So. Pine Truss		2 or 3 Ply So. Pine Truss						
		Fasteners	Load	Fasteners	Load	Fasteners	Load	Fasteners	Load	F <sub>1</sub>	F <sub>2</sub>	F <sub>1</sub>	F <sub>2</sub>	
META12	8	7-10dx1½	1240	7-16d	1450	7-10dx1½	1450	6-16d	1450	335	635	270	545	160
META14	10	9-10dx1½	1450	7-16d	1450	7-10dx1½	1450	6-16d	1450	335	635	270	545	
META16	12	9-10dx1½	1450	7-16d	1450	7-10dx1½	1450	6-16d	1450	335	635	270	545	
META18	14	9-10dx1½	1450	7-16d	1450	7-10dx1½	1450	6-16d	1450	335	635	270	545	
META20	16	8-10dx1½	1415	6-16d	1250	6-10dx1½	1270	5-16d	1245	335	635	270	545	
META22	18	9-10dx1½	1450	7-16d	1450	7-10dx1½	1450	6-16d	1450	335	635	270	545	
META24	20	9-10dx1½	1450	7-16d	1450	7-10dx1½	1450	6-16d	1450	335	635	270	545	8, 62
META30	36	9-10dx1½	1450	7-16d	1450	7-10dx1½	1450	6-16d	1450	—	—	—	—	
HETA12	8	7-10dx1½	1265	7-16d	1475	7-10dx1½	1520	7-16d	1780	335	730	270	625	
HETA16	12	10-10dx1½	1610	9-16d	1610	9-10dx1½	1610	8-16d	1810	335	730	270	625	
HETA20	16	9-10dx1½	1630	9-16d	1600	8-10dx1½	1735	7-16d	1780	335	730	270	625	
HETA24	20	10-10dx1½	1610	9-16d	1610	8-10dx1½	1610	8-16d	1810	335	730	270	625	
HETA30	36	10-10dx1½	1610	9-16d	1610	8-10dx1½	1610	8-16d	1810	—	—	—	—	170
HHETA12	8	7-10dx1½	1305	7-16d	1520	7-10dx1½	1565	7-16d	1820	335	730	270	625	160
HHETA16	12	12-10dx1½	2235	11-16d	2235	10-10dx1½	2235	9-16d	2235	335	730	270	625	
HHETA20	16	11-10dx1½	2050	10-16d	2170	9-10dx1½	2010	8-16d	2080	335	730	270	625	
HHETA24	20	12-10dx1½	2235	11-16d	2235	10-10dx1½	2235	9-16d	2235	335	730	270	625	
HHETA30	36	12-10dx1½	2235	11-16d	2235	10-10dx1½	2235	9-16d	2235	—	—	—	—	
HETAL12	7	10-10dx1½	905	10-16d	1055	10-10dx1½	1085	10-16d	1270	415	1100	365	945	8, 62
HETAL16	11	15-10dx1½	1810	14-16d	1810	14-10dx1½	1810	13-16d	1810	415	1100	365	945	
HETAL20	15	15-10dx1½	1810	14-16d	1810	14-10dx1½	1810	13-16d	1810	415	1100	365	945	

1. Loads include a 33% or 50% load duration increase on the fasteners for seismic or wind loading, but do not include a 33% stress increase on the steel capacity. Refer to page 12 for further explanation.

2. Five nails must be installed into the truss seat of the HETAL.

3. Parallel-to-plate load towards face of HETAL is 1975 lbs.

4. Lateral loads are based on a minimum installation of 12 nails and the strap wrapped over the heel.

5. Minimum F<sub>c</sub> is 2,000 psi.

6. It is acceptable to use a reduced number of fasteners in a product provided that there is a reduction in load capacity. The load per nail can be approximated by dividing the allowable load by the number of fasteners. This concept applies to all member sizes. There should be a minimum of 4 nails installed in the strap.

Model No.	Double Embedded Anchor Installation Into Grouted CMU Bond Beam								Lateral Loads (133 & 160)				Code Ref.
	133 Load Duration Increase				160 Load Duration Increase								
	1 Ply So. Pine Truss		2 or 3 Ply So. Pine Truss		1 Ply So. Pine Truss		2 or 3 Ply So. Pine Truss		DF/NF		SPF/NF		
	Fasteners	Load	Fasteners	Load	Fasteners	Load	Fasteners	Load	F <sub>1</sub>	F <sub>2</sub>	F <sub>1</sub>	F <sub>2</sub>	
META	12-10dx1½	1985	14-16d	1900	10-10dx1½	1985	14-16d	1900	1210	1160	1040	1000	160
HETA	12-10dx1½	2035	14-16d	2500	10-10dx1½	2035	12-16d	2500	1225	1620	1055	1305	

1. For concrete tie beam applications for 2 or 3 ply trusses, increase the META load 35% and the HETA load 5%.

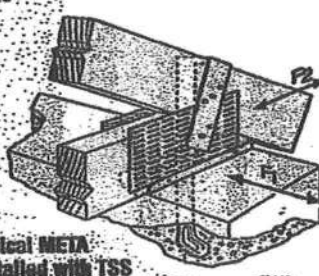
2. Divide total number of fasteners equally between both straps.

3. Minimum F<sub>c</sub> is 2,500 psi.

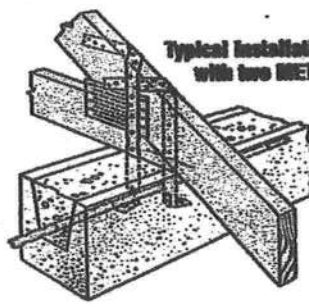
4. See instruction to the Designer page 9 for loads in multiple directions.

5. Lateral loads are based on a minimum installation of 12 nails and the strap wrapped over the heel.

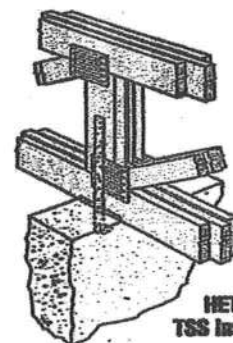
Typical META installed with TSS



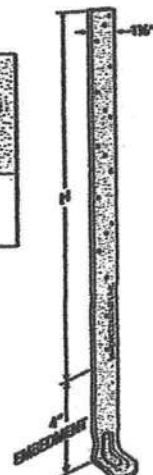
Typical Installation with two METAs



Typical HETA20 with TSS installation



HETA20 (HHETA similar)



# MGT/HGT

HEAVY GIRDER  
TIEDOWNS



HGT provide lighter load alternatives for the HGT-4 is sized for 4-2x widths. This series uplift resistance for wood frame and concrete block. The HGT can be installed on trusses and beams. Chord slopes from 3:12 to 8:12. Available in 2-ply, and 4-ply widths.

MATERIAL: LGT—14 ga; MGT—12 ga; HGT—7 ga.

FINISH: HGT—Simpson gray paint;

LGT, MGT—galvanized

INSTALLATION: • When the HGT-3 is used with a 2-ply girder or beam, shimming is required. Fasten to act as one unit.

• Attach to grouted concrete block with a minimum one #5 rebar horizontal in the top lintel block.

• Minimum  $f_c = 2500$  psi maximum aggregate  $\frac{3}{4}$ ".

CODES: See page 10 for Code Listing Key Chart.

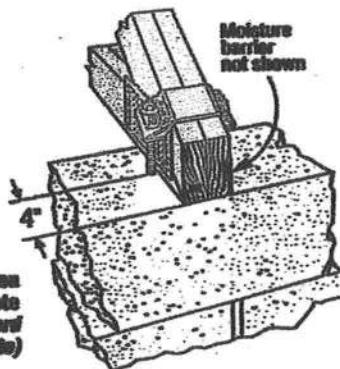
Model No.	W	O.C. Dim. Between Anchors	Fasteners		Avg. Uplift	DE/SP Allowable Loads (133/160)	SPF Allowable Loads (133/160)	Code Ref.
			Anchor Dia.	Girder				
MGT	3 1/2"	—	1-1/4"	22-10d	13005	3005	3330	160
HGT-2	3 1/2"	5 1/4"	2-1/4"	18-10d	35400	10000	8485	6, 38, 62
HGT-3	4 1/2"	7 1/4"	2-1/4"	18-10d	35580	10550	9035	
HGT-4	6 1/2"	9"	2-1/4"	18-10d	28005	9250	9250	

## Masonry Application

Model No.	W	O.C. Dim. Between Anchors	Fasteners		Avg. Uplift	DE/SP Allowable Loads (133/160)	SPF Allowable Loads (133/160)	Code Ref.
			CMU	Concrete				
LGT2	3 1/2"	—	7-1/2x2 1/4" Titen	7-1/2x1 1/4" Titen	16-16d Spiker	6533	2150	1850

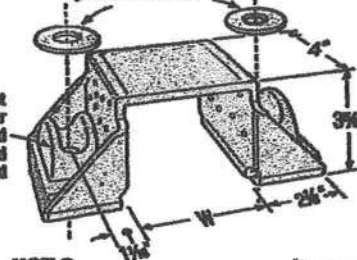
- Attached members must be designed to resist applied loads.
- To achieve the loads listed, anchorage into a masonry block head beam shall be designed by the building designer.
3. To achieve the loads listed for the HGT, anchorage into a 5" wide concrete tie-beam can be made using Simpson SET epoxy with a 3/4" diameter anchor and a minimum embedment depth of 12".
4. Allowable loads have been increased 33% and 60% for earthquake or wind loading; no further increase allowed; reduce where other loads govern.

Typical HGT-2 Installation into Concrete (3/4" diameter standard washers required for concrete)

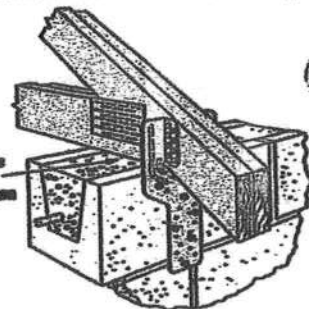


3/4" dia. washers for concrete installations (washers not supplied)

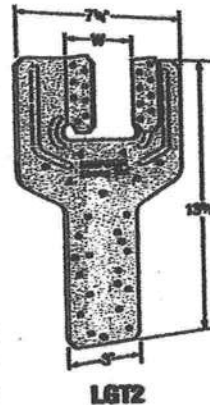
Crescent washer supplied and required



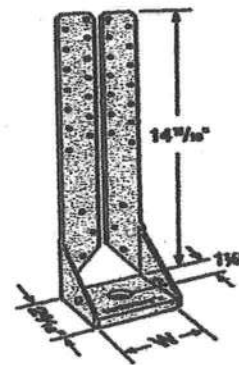
HGT-2 (HGT-3 and HGT-4 similar)



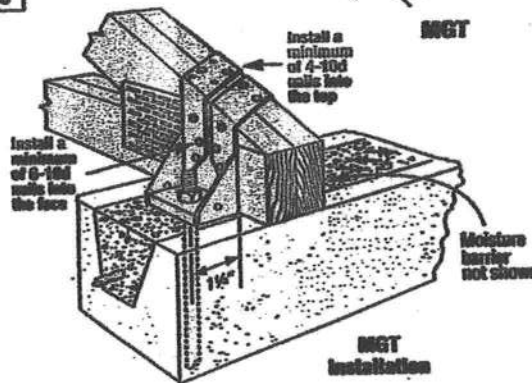
Typical LGT2 Installation into Masonry



LGT2



MGT



MGT Installation

# MTSM/HTSM

TWIST STRAPS

The MTSM and HTSM offer high strength truss to masonry connections.

MATERIAL: MTSM—16 gauge; HTSM—14 gauge

FINISH: Galvanized. Some products available in stainless steel and Z-MAX; see Corrosion-Resistance, page 5.

INSTALLATION: • Use all specified fasteners. See General Notes.

• Attach to grouted concrete block with a minimum one #5 rebar horizontal.

• Minimum  $f_c = 2500$  psi maximum aggregate  $\frac{3}{4}$ ".

CODES: See page 10 for Code Listing Key Chart.

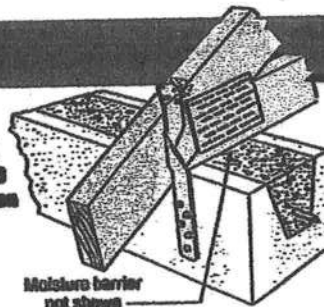
Model No.	L	Fasteners <sup>2</sup>			Doug-Fir-Larch/Su-Pine Allowable Uplift Loads <sup>1</sup>			Spruce-Pine-Fir Allowable Uplift Loads <sup>1</sup>			Code Ref.
		Truss	CMU	Concrete	10d	10d1 1/2	10d	10d	10d1 1/2	10d	
MTSM16	16	7-10d	4-1/2x2 1/4" Titen	4-1/2x1 1/4" Titen	860	840	860	750	730	750	160
MTSM20	20	7-10d	4-1/2x2 1/4" Titen	4-1/2x1 1/4" Titen	860	840	860	750	730	750	
HTSM16	16	8-10d	4-1/2x2 1/4" Titen	4-1/2x1 1/4" Titen	1175	1045	1175	1020	905	1020	
HTSM20	20	10-10d	4-1/2x2 1/4" Titen	4-1/2x1 1/4" Titen	1175	1045	1175	1020	1020	1020	

1. Loads have been increased 33% and 60% for earthquake or wind loading; no further increase allowed; reduced where other loads govern.

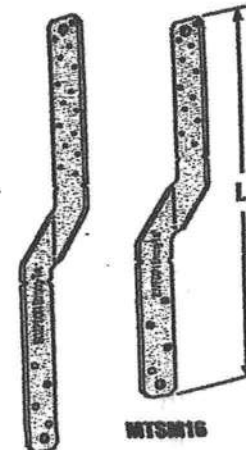
2. Twist straps do not have to be wrapped over the truss to achieve the allowable load.

3. Minimum edge distance for Titen is 1 1/2".

Typical MTSM20 Installation



Moisture barrier not shown



MTSM16

HTSM20

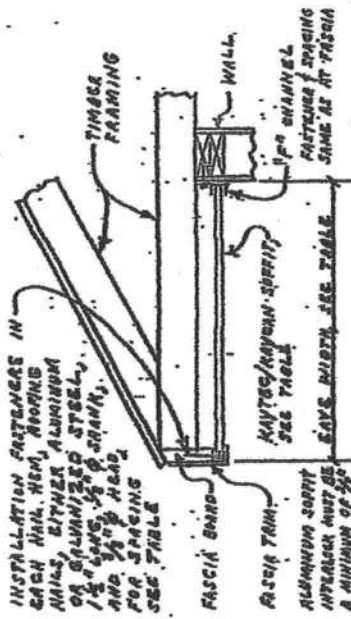
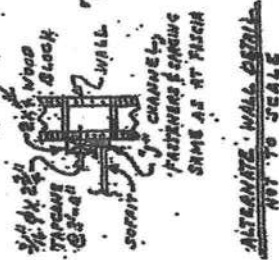
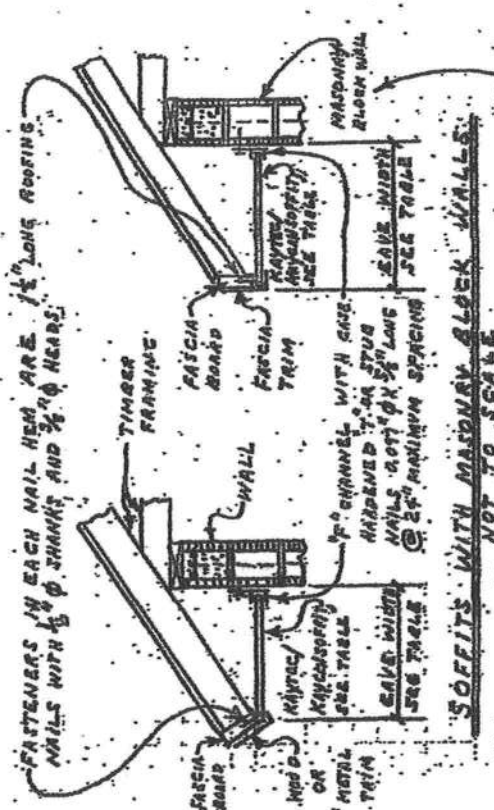


# ALUM FASCIA & SOFFIT

KAYTEC/KAYCAN SOFFIT TYPE	EAVE WIDTH IN INCHES				
	12"	15"	18"	21"	24"
SP-600 (ALUMINUM) 1/2" VENTED CITRUS #0605	1/2 72.6	1/2 52.1	1/2 45.4	1/2 44.5	1/2 36.3
SP-600 (ALUMINUM) 1/2" SOLID CITRUS #0606	1/2 72.2	1/2 57.7	1/2 48.1	1/2 41.2	1/2 32.1
VENTED PANEL 1/2" (ALUMINUM) CITRUS #0608	1/2 72.6	1/2 77.2	1/2 65.4	1/2 55.2	1/2 48.3
SOLID PANEL 1/2" (ALUMINUM) CITRUS #0610	1/2 96.0	1/2 76.8	1/2 64.0	1/2 53.9	1/2 45.0
FULL O-VENT 1/4" (18") VINYL PROUDER PANEL 0602	1/2 77.5	1/2 55.5	1/2 29.7	1/2 25.2	1/2 21.6
RED SOLID CENTER VENT 1/4" (18") VINYL PROUDER PANEL 0604	1/2 45.3	1/2 34.4	1/2 28.4	1/2 23.9	1/2 20.6
SOLID CENTER VENT 1/4" (18") VINYL PROUDER PANEL 0606	1/2 45.3	1/2 34.4	1/2 28.4	1/2 23.9	1/2 20.6
SOLID 1/4" PANTER 05 (100) VINYL PROUDER PANEL 0605	1/2 54.4	1/2 41.2	1/2 34.0	1/2 28.6	1/2 24.7
SEALING SOLID 1/4" (100) VINYL PROUDER PANEL 0607	1/2 52.0	1/2 52.3	1/2 43.8	1/2 35.3	1/2 30.9

## GENERAL NOTES

- DESIGN PRESSURES LISTED IN TABLE ARE BASED ON A RATIONAL ANALYSIS FOR ALUMINUM SOFFITS DONE IN AN ENGINEERING PROJECT 0606003, AND A COMPARATIVE ANALYSIS FOR VINYL SOFFIT DONE IN PROJECT 0606001 THAT ARE IN CONFORMANCE WITH FLORIDA BUILDING CODE 2004 SECTION 1609 "WIND LOADS".
- FLORIDA BUILDING CODE 2004 DOES NOT DIRECTLY MANDATE WIND LOAD DESIGN PRESSURES ON SOFFITS.



SOFFIT WITH WOOD FRAMED WALL  
NOT TO SCALE

Allen H. Reeves  
14 JULY 2005

# Tapcon

For 454-3622

PULLOUT IN CONCRETE IS 145 PSI, cured 40 days!

Anchor Diameter	1"	1 1/4"	1 3/4"	2"
2x10"	341 lbs.	531 lbs.	883 lbs.	1059 lbs.
1x4"	718 lbs.	1138 lbs.	1537 lbs.	1820 lbs.

Test Number CH3332/Pittsburgh Testing Laboratories

## PULLOUT IN HOLLOW BLOCK

Anchor Diameter	1"	1 1/4"	1 3/4"	2"
2x10"	200 lbs.	357 lbs.	468 lbs.	542 lbs.
1x4"	408 lbs.	616 lbs.	851 lbs.	984 lbs.

Test Number CH3748/Pittsburgh Testing Laboratories

## SHEAR STRENGTH

Anchor Diameter	1"	1 1/4"	1 3/4"	2"
2x10"	823 lbs.	883 lbs.	931 lbs.	959 lbs.
1x4"	1004 lbs.	1059 lbs.	1089 lbs.	1089 lbs.

Test Number CH3832/Pittsburgh Testing Laboratories

Embedment Depth	1-1/4"	1-3/4"	2-1/4"	2-3/4"	3-1/4"	3-3/4"	4-1/4"	4-3/4"	5-1/4"	5-3/4"
0" to 1/4"	1-1/4"	1-3/4"	2-1/4"	2-3/4"	3-1/4"	3-3/4"	4-1/4"	4-3/4"	5-1/4"	5-3/4"
1/4" to 3/4"	1-3/4"	2-1/4"	2-3/4"	3-1/4"	3-3/4"	4-1/4"	4-3/4"	5-1/4"	5-3/4"	6-1/4"
3/4" to 1-1/4"	2-1/4"	2-3/4"	3-1/4"	3-3/4"	4-1/4"	4-3/4"	5-1/4"	5-3/4"	6-1/4"	6-3/4"
1-1/4" to 1-3/4"	2-3/4"	3-1/4"	3-3/4"	4-1/4"	4-3/4"	5-1/4"	5-3/4"	6-1/4"	6-3/4"	6-3/4"
1-3/4" to 2-1/4"	3-1/4"	3-3/4"	4-1/4"	4-3/4"	5-1/4"	5-3/4"	6-1/4"	6-3/4"	6-3/4"	6-3/4"
2-1/4" to 2-3/4"	3-3/4"	4-1/4"	4-3/4"	5-1/4"	5-3/4"	6-1/4"	6-3/4"	6-3/4"	6-3/4"	6-3/4"
2-3/4" to 3"	4-1/4"	4-3/4"	5-1/4"	5-3/4"	6-1/4"	6-3/4"	6-3/4"	6-3/4"	6-3/4"	6-3/4"

Buildex, Tapcon, & Cinch are registered trademarks of ITW.

For more information

www.hobas.com

or call us toll free at  
800.727.5533

## Technical

## Accessories

## Concrete Anchors



# Buildex

*Pat -  
Henderson*



ITW BRANDS

6303502713

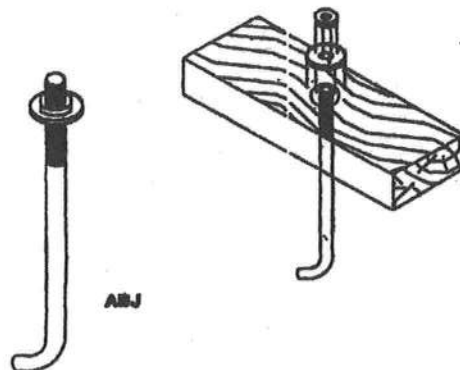
04/19/2002 13:09

PAGE 02



# SEMCO<sup>TM</sup> METAL CONNECTORS

Technical Support (800) SE SPECS - (800) 737-7327



## ANCHOR BOLT WITH NUT & 1" WASHER

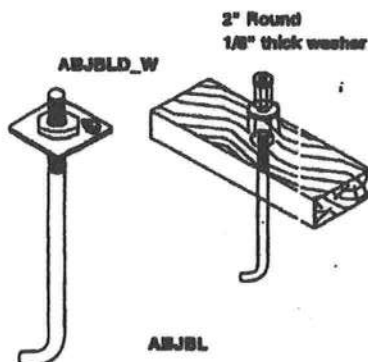
### Design Features:

- Bolt only with code minimum embedment with 3000 PSI concrete will resist 4,800 lbs., see washer capacity below.

Materials: Black and galvanized steel

Footnote: Other sizes available on request. All references to bolts or MB's are structural quality through bolts equal to or better than ASTM Standard A307.

SIZE	PRODUCT CODE	DESCRIPTION	PER CTN
1/2 X8	ABJBL8C	Black	50
1/2 X8	ABJBL8G	Galv.	50
1/2 X10	ABJBL10C	Black	50
1/2 X10	ABJBL10G	Galv.	50
1/2 X14	ABJBL14C	Black	50
1/2 X14	ABJBL14G	Galv.	50
1/2 X18	ABJBL18C	Black	50
1/2 X18	ABJBL18G	Galv.	50
3/8 X10	ABJBL10D	Black	50
3/8 X12	ABJBL12D	Black	50



## ANCHOR BOLT (WITH NUT & 2"X2"X1/8" WASHER)

### Design Features:

- 6" minimum embedment with 3000 PSI concrete will resist 1,635 lbs.

Materials: Black steel

Footnote: "Supplied with a 2" round washer 1/8" thick.

Wind uplift loads are based on the shear capacity of No. 2 Southern Pine. Compression perpendicular to grain 565 (psi).

SIZE	PRODUCT CODE	DESCRIPTION	PER CTN
1/2 X8	ABJBL8W	Black	50
1/2 X8	ABJBL8G	Galv.	50
1/2 X10	ABJBL10W	Black	50
1/2 X10	ABJBL10G	Galv.	50
3/8 X12	ABJBL12DW	Black	50

## ANCHOR BOLT WASHER/PLATE

### Design Features:

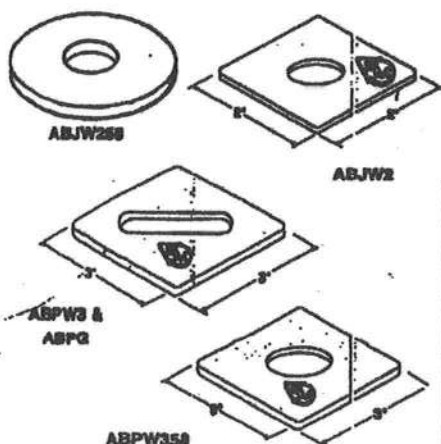
- The washer/plate adds increased resistance to wind uplift for bottom all plate anchor bolt.

Materials: 10 Gauge Galvanized & 1/8 & 1/4 Black steel

Footnote: "Also available in 50# ctn: approximately 345 pcs.

Wind uplift loads are based on the shear capacity of No. 2 Southern Pine. Compression perpendicular to grain 565 (psi).

+Round hole in washer.



SIZE (INCHES)	THICKNESS	PRODUCT CODE	ANCHOR BOLT (DIAMETER)	ALLOWABLE LOADS		PER CTN
				WIND / EARTHQUAKE UPLIFT 150% 100%	UPLIFT 100%	
2x2	1/8	ABW2	1/2"	1635	1635	50
2x2	1/4	ABW2	3/8"	1470	1470	50
3x3	1/8	ABPG12	1/2"	3675	3675	40
3x3	1/4	ABPG12	3/8"	3675	3675	40
3x3	1/4	ABPW3	1/2"	4800	4800	40
3x3	1/4	ABPW3	3/8"	4800	4800	40

# LINTEL INFORMATION

**Cement Precast Products, Inc.**

# **INSTALLATION INSTRUCTIONS**

**Version 1.0**

**February 28, 2005**

**INSTALLATION INSTRUCTIONS**

**Cement Precast Products, Inc.**

**PRECAST LINTELS  
(6", 8" AND 12" WIDE)**

In order for proper installation of precast and prestressed lintels, DANSCO Engineering, LLC, has prepared this installation instructions to be used in conjunction with quality control methods of the contractor and good construction practices.

**Preparation**

1. All reinforcements shall be cleaned by removing mud, oil, or other materials that will adversely affect or reduce bond at the time mortar or grout is placed. Reinforcement with rust, mill scale, or a combination of both will be accepted as being satisfactory without cleaning or brushing provided the dimensions and weights, including heights of deformations, of a cleaned sample are not less than required by the ASTM specification covering this reinforcement in this Specification.
2. Prior to placing masonry, remove laitance, loose aggregate, and anything else that would prevent mortar from bonding to the lintel.
3. Debris — Construct grout spaces free of mortar dropping, debris, loose aggregates, and any material deleterious to masonry grout.

**Lintel / masonry erection**

1. Placing lintel — Length of bearing of lintels on their support shall be a minimum of 4 inches for filled lintels and 6 ½ inches for unfilled lintels in the direction of span. Provide a temporary support for lintels that are greater than 14' — 0"; the temporary support shall not be removed until 2 days after the grout placement.
2. Placing mortar and units (for composite lintels only)
  - Bed and head joints — Unless otherwise required, construct 3/8-inches thick bed and head joints. Construct joints that also conform to the following:
    - a) Unless otherwise required, tool joint with a round jointer when the mortar is thumbprint hard.
    - b) Remove masonry protrusions extending ½ inches or more into cells or cavities to be grouted.
  - Place hollow units so:
    - a) Face shells of bed joints are fully mortared.
    - b) Head joints are mortared, a minimum distance from each face equal to the face shell thickness of the unit.

**INSTALLATION INSTRUCTIONS**



- c) Vertical cells to be grouted are aligned and unobstructed openings for grout are provided in accordance with the Project Drawings.

- Place clean units while the mortar is soft and plastic. Remove and relay in fresh mortar any unit disturbed to the extent that initial bond is broken after initial positioning.

### **Reinforcement installation**

- a) Support and fasten reinforcement together to prevent displacement beyond the tolerances allowed by construction loads or by placement of grout or mortar.
- b) Completely embed reinforcing bars in grout in accordance with ACI530-02 Article 3.5.
- c) Maintain clear distance between reinforcing bars and any face of masonry unit or formed surface, but not less than ¼ inches for fine grout or ½ inches for coarse grout.
- d) Splice only where indicated on the Project Drawings, unless otherwise acceptable.
- e) Unless accepted by the Architect/ Engineer, do not bend reinforcement after it is embedded in grout or mortar.
- f) Place joint reinforcement so that longitudinal wires are embedded in mortar with a minimum cover of ½ inches when not exposed to weather or earth and 5/8 inches when exposed to weather or earth.

### **Grout placement**

- a) Placing time – Place grout within 1½ hours from introducing water in the mixture and prior to initial set.
- b) Confinement – Confine grout to the areas indicated on the Project Drawings. Use material to confine grout that permits bond between masonry units and mortar.
- c) Grout pour height – Do not exceed the maximum grout pour height given in the ACI530-02 Table 7.
- d) Grout lift height – Place grout in lifts not exceeding 5 feet.
- e) Consolidation – Consolidate grout at the time of placement.
  - Consolidate grout pours 12 inches or less in height by mechanical vibration or by puddling.
  - Consolidate pours exceeding 12 inches in height by mechanical vibration and reconsolidate by mechanical vibration after initial water loss and settlement has occurred.

### **Field quality control**

- a) Verify masonry unit strength, f'm in accordance with the ACI530-02 Article 1.6.
- b) Sample and test grout as required by the ACI530-02 Articles 1.4B and 1.6.

## **INSTALLATION INSTRUCTIONS**

**DE**  
**DANSCO ENGINEERING, LLC**

P.O. Box 3400  
Apollo Beach, FL 33572

Telephone (813) 645-0166  
Facsimile (813) 645-8898

E-mail: dengine1@danscoengineering.com  
CA25948

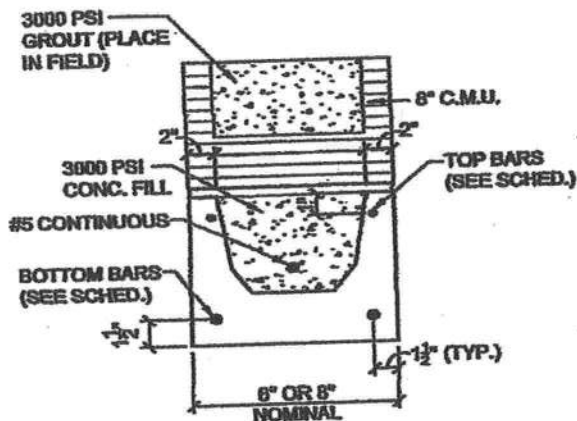
**Cement Precast Products, Inc.**

Precast concrete lintels 6", 8" and 12" wide have been reviewed by our office for compliance with the following codes:

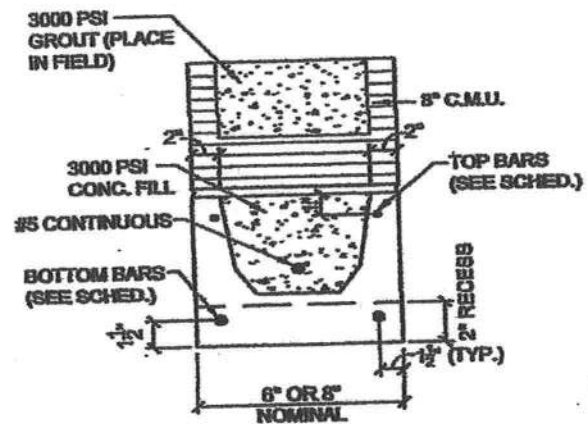
- Florida Building Code 2004 Residential, sections R402.2 and R606.
- Florida Building Code 2004 Building, sections 1901.2 and 2107.

Our review is limited to the precast concrete lintels together with verification that they are accurate and appropriate for use according to the requirements of the above-referenced codes. Only Cement Precast Products, Inc. lintels may be used for the work depicted herein.





**TYPICAL LINTEL SECTION**  
 (6" OR 8" LINTEL IS SHOWN)



**TYPICAL RECESS LINTEL SECTION**  
 (6" OR 8" LINTEL IS SHOWN)

**ENGINEERING SPECIFICATIONS:**

- 1.) SAFE LOADS ARE TOTAL SUPERIMPOSED ALLOWABLE LOADS.
- 2.) DESIGNER MAY EVALUATE CONCENTRATED LOADS FROM THE SAFE LOAD TABLES BY CALCULATING MAX. RESISTING SHEAR AND MOMENT FOR THE LISTED LINTELS.
- 3.) SAFE LOADS LISTED ON ALL TABLES ARE IN UNITS OF POUND PER LINEAR FOOT.

**GENERAL NOTES:**

- 1.) CODES:
  - 1.1 FLORIDA BUILDING CODE 2004 RESIDENTIAL, SECTIONS R402.2, & R606.
  - 1.2 FLORIDA BUILDING CODE 2004 BUILDING, SECTIONS 1901.2 & 2107.
  - 1.3 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-02).
  - 1.4 AMERICAN SOCIETY OF CIVIL ENGINEERS MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7-98).
- 2.) CONCRETE:
  - 2.1 CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS:
    - 2.1.1 CONCRETE FILL (PLACE IN FIELD) - 3000 PSI
    - 2.1.2 PRECAST W/ STANDARD REINFORCEMENT - 5000 PSI
    - 2.1.3 GROUT PER ASTM C476 - 3000 PSI W/ MAX. 3/8" AGGREGATE, 8" TO 11" SLUMP.
  - 2.2 REINFORCING BARS:
    - 2.2.1 STEEL IN LINTEL AND KNOCKOUT BLOCK (PLACED IN FIELD) ASTM A616 (GRADE 40).
  - 2.3 DETAIL REINFORCEMENT IN ACCORDANCE WITH ACI 315.
  - 2.4 CONCRETING OPERATIONS SHALL COMPLY WITH ACI STANDARDS.

**3) MASONRY:**

- 3.1 DESIGN AND CONSTRUCTION SHALL CONFORM TO THE SPECIFICATION OF THE NATIONAL CONCRETE MASONRY ASSOCIATION AND ACI 530-02.
- 3.2 MINIMUM MASONRY UNIT STRENGTH: FM 1500 PSI.
- 3.3 MORTAR SHALL BE TYPE S.

**4) STRUCTURAL:**

- 4.1 SAFE LOAD VALUES ARE BASED ON LINTELS HAVING A BEARING OF 4".
- 4.2 FOR LINTELS THAT ARE GREATER THAN 14'-0" CLEAR SPAN THEY SHALL BE PROVIDED A TEMPORARY SUPPORT, AND THE TEMPORARY SUPPORT SHALL NOT BE REMOVED UNTIL 2 DAYS AFTER GROUT PLACEMENT.



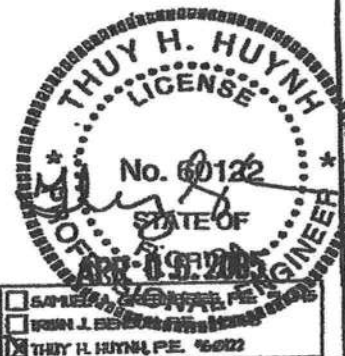
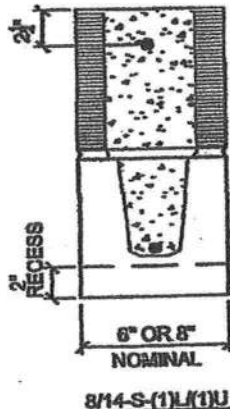
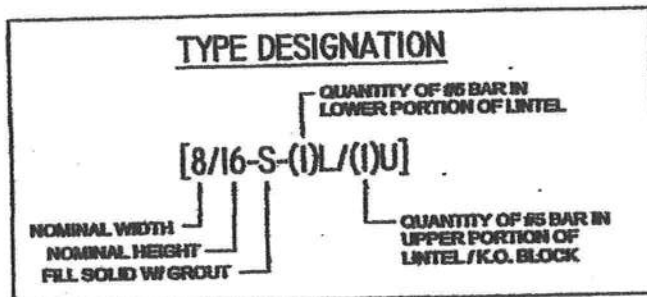
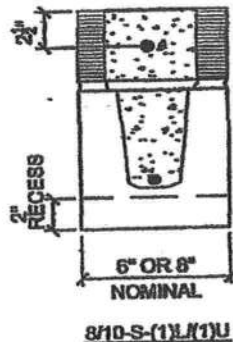
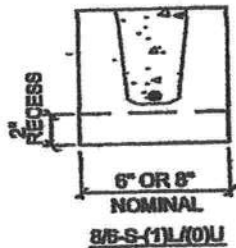
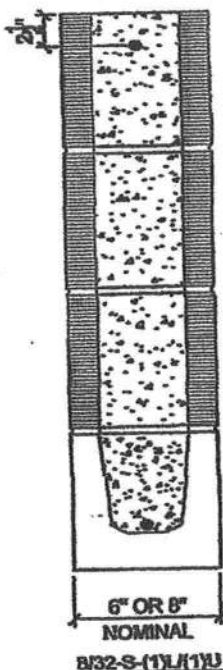
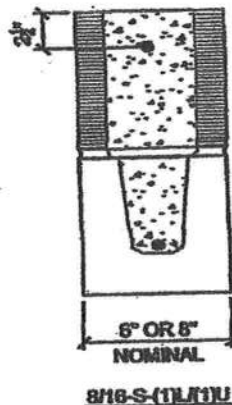
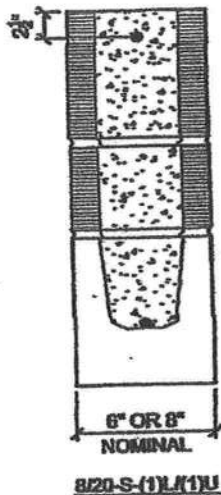
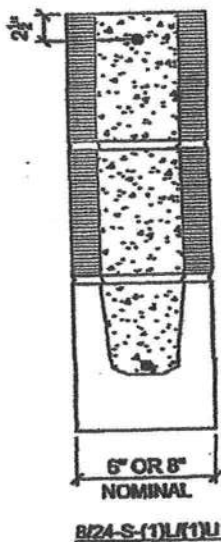
<input type="checkbox"/>	BARTHEL A. GREENBERG, P.E. #045
<input type="checkbox"/>	WERN J. BENSON, P.E. #4556
<input checked="" type="checkbox"/>	THUY H. HUYNH, P.E. #60122

<b>DE D'ANSCO</b> ENGINEERING, LLC		
P.O. BOX 5400 - APOLO BEACH - FLORIDA - 33572		
PHONE - (813) 648-0000 FAX - (813) 648-0000		
C.A. 2000		
<b>GENERAL NOTES &amp; DETAILS</b>		
CEMENT PRECAST PRODUCTS INC.	REV.:	DATE: 03/04/05
DE 24-1547	DRW: C.H.	SCALE: N.T.S.
		SKT

# cp

**Cement Precast Products, Inc.**

2033 N.E. 27<sup>th</sup> Avenue Gainesville, FL 32609 • (352) 372-0953 • Fax: (352) 378-4611  
www.cementprecast.com



**DANSO ENGINEERING, LLC**  
P.O. BOX 2400 - APOLO BEACH - FLORIDA - 33701  
PHONE - (407) 445-0044 FAX - (407) 445-0040  
CA 29108

**6" x 8" PRECAST LINTEL DETAILS**

CEMENT PRECAST PRODUCTS INC.	REV:	DATE: 03/01/05
DES: 24-1547	DRG: EN.	SCALE: N.T.S.
		SK2





# Cement Precast Products, Inc.

2033 N.E. 27<sup>th</sup> Avenue Gainesville, FL 32609 • (352) 372-0553 • Fax: (352) 378-4611  
www.cementprecast.com

LINTEL		8" LINTEL SAFE GRAVITY LOADS (PLF)							
TOTAL LENGTH	CLEAR SPAN	TOP REINF.	BOTTOM REINF.	8/8-S-(0)L	8/12-S-(0)L	8/16-S-(0)L	8/20-S-(0)L	8/24-S-(0)L	8/32-S-(0)L
3'-0"	1'-8"	None	(2) #3	3859	8159	10000	10000	10000	10000
3'-6"	2'-2"	None	(2) #3	2861	5757	8114	10000	10000	10000
4'-0"	2'-8"	None	(2) #3	2270	4279	6034	7791	8550	10000
4'-6"	3'-2"	None	(2) #3	1879	3301	4658	6015	7375	10000
4'-8"	3'-4"	None	(2) #3	1776	3048	4301	5556	6611	9324
5'-4"	4'-0"	None	(2) #3	1340	2275	3213	4153	5093	5744
5'-10"	4'-6"	None	(2) #3	1101	1875	2644	3418	4193	6975
6'-4"	5'-0"	(2) #2	(2) #4	1178	2258	3513	5083	6245	8570
6'-6"	5'-2"	(2) #2	(2) #4	1168	2167	3347	4808	5907	8107
6'-8"	5'-4"	(2) #2	(2) #4	1098	2084	3186	4554	5595	7680
7'-6"	6'-2"	(2) #2	(2) #4	938	1745	2604	3539	4349	5972
7'-8"	6'-4"	(2) #3	(2) #4	912	1690	2511	3376	4150	5699
8'-0"	6'-6"	(2) #3	(2) #4	852	1589	2342	3082	3789	5204
8'-8"	7'-4"	(2) #3	(2) #4	778	1407	2001	2596	3193	4387
9'-4"	8'-0"	(2) #3	(2) #5	718	1292	1856	2527	3461	5859
10'-4"	9'-0"	(2) #3	(2) #5	632	1125	1597	2141	2800	4669
11'-4"	10'-0"	(2) #3	(2) #5	553	995	1399	1854	2391	3837
12'-0"	10'-8"	(2) #3	(2) #5	524	923	1291	1701	2178	3427
12'-6"	11'-4"	(2) #3	(2) #5	490	861	1198	1570	1998	3056
13'-4"	12'-0"	(2) #3	(2) #5	460	806	1117	1457	1832	2748
14'-0"	12'-8"	(2) #3	(2) #5	434	757	1046	1359	1712	2475
14'-8"	13'-4"	(2) #4	(2) #6	412	716	985	1275	1600	2391
15'-8"	14'-4"	(2) #4	(2) #6	377	658	903	1163	1452	2142
17'-4"	16'-0"	(2) #4	(2) #6	283	579	780	1012	1255	1822
19'-4"	18'-0"	(2) #4	(2) #6	157	505	686	874	1076	1540
20'-0"	18'-8"	(2) #5	(2) #6	132	484	656	835	1027	1463
21'-4"	20'-0"	(2) #5	(2) #8	95	372	604	766	939	1329
22'-0"	20'-8"	(2) #5	(2) #6	80	323	580	735	901	1271
24'-0"	22'-8"	(2) #5	(2) #6	N.R.	214	493	655	800	1120

N.R. = NOT RECOMMENDED



- ☐ SAUEL A. GREENBERG, P.E. #4345
- ☐ IRVIN J. BENSON, P.E. #4956
- ☐ THUY H. HUYNH, P.E. #6012

**DE DANSCO ENGINEERING, L.L.C.**  
P.O. BOX 2400 • SPOLLO BEACH • FLORIDA • 33428  
PHONE • (888) 645-6244 FAX • (888) 645-6245  
C.S. 29900

**8" LINTEL SAFE GRAVITY LOADS**

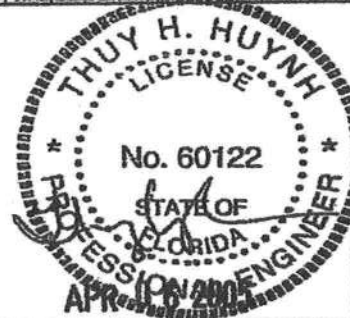
CEMENT PRECAST PRODUCTS INC.	REV: _____	DATE: 03/04/05
	DWG: F.H.	SCALE: N.T.S.
DEJ 24-4547		SK7



**Cement Precast Products, Inc.**  
2033 N.E. 27<sup>th</sup> Avenue Gainesville, FL 32609 • (352) 372-0853 • Fax: (352) 378-4811  
www.cementprecast.com

LINTEL		8" LINTEL SAFE UPLIFT LOADS (PLF)								LATERAL LOADS (PLF)	
TOTAL LENGTH	CLEAR SPAN	TOP REINF.	BOTTOM REINF.	8/8-S-(1)U	8/12-S-(1)U	8/16-S-(1)U	8/20-S-(1)U	8/24-S-(1)U	8/32-S-(1)U	8/8-P	8/8-S
3'-0"	1'-6"	None	(2) #3	3369	9999	10000	10000	10000	10000	811	2089
3'-6"	2'-2"	None	(2) #3	2539	6508	10000	10000	10000	10000	575	1481
4'-0"	2'-8"	None	(2) #3	2038	4763	7739	10000	10000	10000	429	1106
4'-6"	3'-2"	None	(2) #3	1701	3756	5993	7894	9796	10000	332	855
4'-8"	3'-4"	None	(2) #3	1613	3508	5541	7296	9057	10000	307	791
5'-4"	4'-0"	None	(2) #3	1334	2401	4162	5481	6803	8448	230	594
5'-10"	4'-6"	None	(2) #3	1182	2350	3439	4530	5622	7808	190	491
6'-4"	5'-0"	(2) #2	(2) #4	1110	1975	2890	3906	4724	6561	333	894
6'-6"	5'-2"	(2) #2	(2) #4	1083	1869	2736	3603	4472	6211	316	847
6'-8"	5'-4"	(2) #2	(2) #4	1048	1772	2594	3416	4240	5888	299	803
7'-6"	6'-2"	(2) #2	(2) #4	802	1384	2025	2663	3311	4598	233	627
7'-8"	6'-4"	(2) #3	(2) #4	916	1322	1834	2548	3182	4392	273	742
8'-0"	6'-8"	(2) #3	(2) #4	823	1209	1770	2331	2893	4018	249	679
8'-8"	7'-4"	(2) #3	(2) #4	746	1023	1498	1973	2449	3410	205	575
9'-4"	8'-0"	(2) #3	(2) #5	721	877	1294	1694	2099	2916	175	653
10'-4"	9'-0"	(2) #3	(2) #5	639	711	1040	1370	1700	2362	125	529
11'-4"	10'-0"	(2) #3	(2) #5	573	587	859	1132	1405	1952	92	437
12'-0"	10'-8"	(2) #3	(2) #5	538	522	784	1006	1249	1735	N.R.	369
12'-6"	11'-4"	(2) #3	(2) #5	479	467	684	900	1118	1552	N.R.	348
13'-4"	12'-0"	(2) #3	(2) #5	431	420	615	810	1006	1387	N.R.	313
14'-0"	12'-8"	(2) #3	(2) #5	388	380	557	733	910	1264	N.R.	283
14'-6"	13'-4"	(2) #4	(2) #6	432	346	506	667	827	1149	N.R.	447
15'-6"	14'-4"	(2) #4	(2) #6	353	302	442	582	723	1004	N.R.	357
17'-4"	16'-0"	(2) #4	(2) #6	258	246	360	474	588	817	N.R.	251
19'-4"	18'-0"	(2) #4	(2) #6	189	186	268	379	471	654	N.R.	189
20'-0"	18'-8"	(2) #5	(2) #6	181	183	269	354	439	610	N.R.	168
21'-4"	20'-0"	(2) #5	(2) #6	141	161	235	310	385	535	N.R.	131
22'-0"	20'-6"	(2) #5	(2) #6	126	151	221	291	362	503	N.R.	116
24'-0"	22'-6"	(2) #5	(2) #6	101	134	186	259	321	448	N.R.	80

N.R. = NOT RECOMMENDED



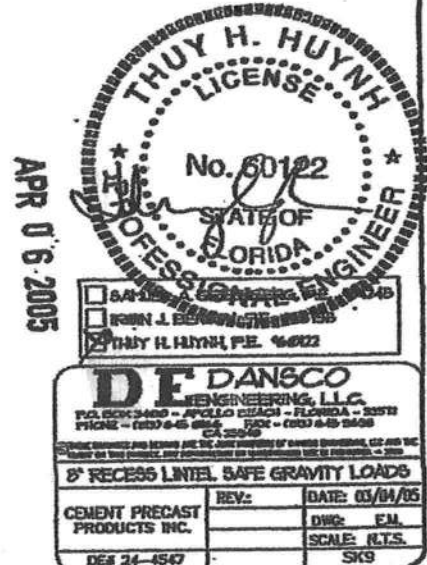
☐ SAMUEL A. GREINBERG, P.E. 54245  
☐ ERIN J. BENSON, P.E. 44568  
☒ THUY H. HUYNH, P.E. 60122

**DE DANSO ENGINEERING, LLC**  
P.O. BOX 3480 • APOLO BEACH • FLORIDA • 33507  
PHONE • (813) 645-0846 FAX • (813) 645-0846  
E-MAIL • info@dansoeng.com

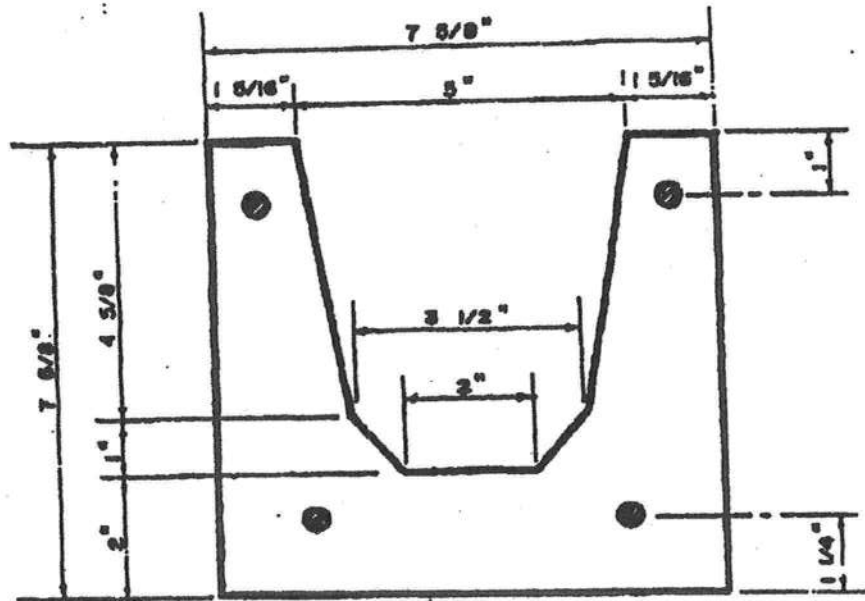
8" LINTEL SAFE UPLIFT LOADS

CEMENT PRECAST PRODUCTS INC.  
REV: \_\_\_\_\_ DATE: 03/04/05  
DWG: F.M.  
SCALE: R.T.S.  
DE# 24-4547 SKB

LINTEL		8" RECESS LINTEL SAFE GRAVITY LOADS (PLF)				
TOTAL LENGTH	CLEAR SPAN	TOP REINF.	BOTTOM REINF.	8/6-S-(0)L	8/10-S-(0)L	8/14-S-(0)L
3'-6"	2'-2"	None	(2) #3	1530	4400	6931
4'-0"	2'-8"	None	(2) #3	1250	3351	5155
4'-4"	3'-0"	None	(2) #3	1113	2851	4322
4'-6"	3'-2"	None	(2) #3	1005	2624	3979
4'-8"	3'-4"	None	(2) #3	1003	2422	3674
5'-8"	4'-4"	None	(2) #3	764	1584	2406
6'-8"	5'-4"	(2) #2	(2) #4	652	1491	2401
7'-8"	6'-4"	(2) #3	(2) #4	546	1225	1919



G:\data\engineering\CEMENT PRECAST PRODUCTS\244547\8.5x11\SK09.dwg, 3/15/2005 1:28:20 PM, E.Montanez



Lintel Concrete Strength = 4000 psi  
 Fill Concrete Strength = 3000 psi  
 Steel Strength = Grade 60 (#6), Grade 40 (#2 - #5)

TYPE	TOP BARS	BOTTOM BARS
A	NONE	2 - #3
B	2 - #2	2 - #4
C	2 - #3	2 - #4
D	2 - #3	2 - #5
E	2 - #4	2 - #6



LINTEL		8" RECESS LINTEL SAFE UPLIFT LOADS (PLF)				
TOTAL LENGTH	CLEAR SPAN	TOP REINF.	BOTTOM REINF.	8/6-S-(1)U	8/10-S-(1)U	8/14-S-(1)U
3'-6"	2'-2"	None	(2) #3	2571	3868	8716
4'-0"	2'-8"	None	(2) #3	2063	3063	6237
4'-4"	3'-0"	None	(2) #3	1823	2660	5122
4'-8"	3'-2"	None	(2) #3	1723	2496	4701
4'-8"	3'-4"	None	(2) #3	1633	2350	4345
5'-8"	4'-4"	None	(2) #3	1244	1742	2986
6'-8"	5'-4"	(2) #2	(2) #4	1005	1358	2179
7'-8"	6'-4"	(2) #3	(2) #4	708	1013	1625

**THUY H. HUYNH**  
 LICENSE  
 No. 00122  
 STATE OF  
 APR 10 2008  
 PROFESSIONAL ENGINEER

☐ SIGNED OFF BY  
☐ DESIGN  
☒ THUY H. HUYNH, P.E. 00122

**DF DANSCO**  
 ENGINEERING, LLC  
 P.O. BOX 3480 - APOLLO BEACH - FLORIDA - 33556  
 PHONE - (800) 6-45-0000 FAX - (800) 6-45-0000  
 CA 00122

Engine drawings are created and the civil engineer or engineer-in-training, who has the seal on the drawing, is responsible for the accuracy of the information and its presentation. - 001

**8" RECESS LINTEL SAFE UPLIFT LOADS**

CEMENT PRECAST PRODUCTS INC.	REV:	DATE: 03/04/05
DES: 24-4347	DWG: E.M.	SCALE: N.T.S.
		SK10

8'-1 1/8"

5/12 PITCH  
2'0" O/H

59'-0-0

42'-4-0

T01G

T02 (7)

T04 (2)

T05 (12)

T04

T02

T03 (5)

T02

T01G

42'-4-0

CEILING

12"  
TRAY  
CLG.

6'-0-0

T06G

T06 (11)

T06G

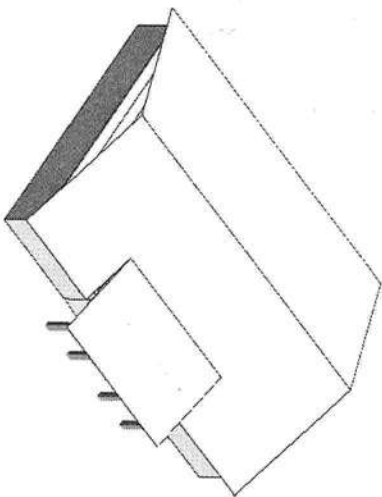
18'-0-0

23'-4-0

17'-8-0

3/12 PITCH PORCH ONLY

5/12 PITCH HEEL ADJUSTED TO MATCH  
SOFFIT OF 3/12 PITCH ON A 24" O.H.



NOTES:

- 1) REFER TO HD 91 (RECOMMENDATIONS FOR HANDLING INSTALLATION AND TEMPORARY BRACING) REFER TO ENGINEERED DRAWINGS FOR PERMANENT BRACING REQUIRED.
- 2) ALL TRUSSES INCLUDING TRUSSES UNDER VALLEY TRACING MUST BE CORP. ERECTLY DECKED OR REFER TO DETAIL VIDS FOR ALTERNATE BRACING REQUIREMENTS.
- 3) ALL VALLEYS ARE TO BE CONVENTIONALLY FRAMED BY BUILDER.
- 4) ALL TRUSSES ARE DESIGNED FOR 2' o.c. MAXIMUM SPACING, UNLESS OTHERWISE NOTED.
- 5) ALL WALLS SHOWN ON PLACEMENT PLAN ARE CONSIDERED TO BE LOAD BEARING, UNLESS OTHERWISE NOTED.
- 6) 5/42 TRUSSES MUST BE INSTALLED WITH THE TOP BEING UP.
- 7) ALL ROOF TRUSSES HANGERS TO BE SIMPSON HUNGERS UNLESS OTHERWISE NOTED. ALL FLOOR TRUSSES HANGERS TO BE SIMPSON TH4422 UNLESS OTHERWISE NOTED.
- 8) BEAM/HEADLINE/INTEL (DQ) TO BE FURNISHED BY BUILDER.

SHOP DRAWING APPROVAL

THIS LAYOUT IS THE SOLE SOURCE FOR FABRICATION OF TRUSSES AND VIDS. ALL PERIODS ARCHITECTURAL OR OTHER TRUSS LAYOUTS, REVIEW AND APPROVAL OF THIS LAYOUT MUST BE RECEIVED BEFORE ANY TRUSSES WILL BE BUILT. VERIFY ALL CONDITIONS TO MAKE AGAINST CHANGES THAT WILL RESULT IN EXTRA CHARGES TO YOU.

Approved by \_\_\_\_\_ Date \_\_\_\_\_



Bunnell

PHONE: 804-437-5349 FAX: 804-437-5984

Jacksonville

PHONE: 804-772-6100 FAX: 804-772-1873

Lake City

PHONE: 386-795-6804 FAX: 386-795-7473

Sanford

PHONE: 407-322-0098 FAX: 407-322-9593

HOUSECRAFT

TYRE RES.

CUSTOM

DATE: 8-20-08

BY: K.L.H.

SCALE: NTS

22 FT. L286784