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ENGINEERING • INSPECTIONS
CERTIFICATIONS • TESTING

June 7, 2012

TownHomes, LLC
133 S.E. Newell Drive
Lake City, FL 32056



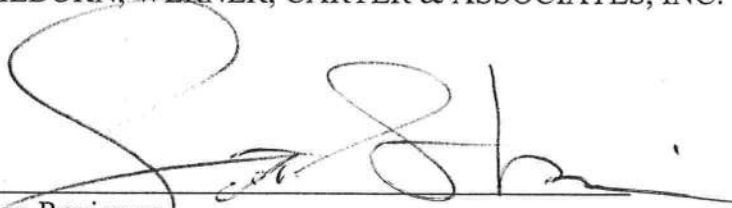
RE: Manufacturer: TownHomes, LLC
S/N Size & Occupancy: 2945-1084 (TH-71FL); 29'-0" x 76'-0"; R-3
HWC Plan#: 2R-2198-0164F

To Whom It May Concern:

This is to certify that the plans for the referenced manufactured building have been reviewed and approved as being in compliance with the 2010 Florida Codes and Standards, as noted on the approved drawings, subject to the following limitations:

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

Sincerely,
HILBORN, WERNER, CARTER & ASSOCIATES, INC.


Plan Reviewer

HILBORN, WERNER, CARTER AND ASSOCIATES, INC.

1627 SOUTH MYRTLE AVENUE CLEARWATER, FLORIDA 33756

(727) 584-8151

FAX: (727) 586-3343 / (727) 585-2392 / (727) 587-0447

Modular

Dapla

Inspection

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: TH-71FL
 Street: TH-71FL
 City, State, Zip: JACKSONVILLE, FL,
 Owner:
 Design Location: FL, Jacksonville

Builder Name:
 Permit Office: COLUMBIA
 Permit Number:
 Jurisdiction: 221000

1. New construction or existing New (From Plans)
 2. Single family or multiple family Single-family
 3. Number of units, if multiple family 1
 4. Number of Bedrooms 4
 5. Is this a worst case? Yes
 6. Conditioned floor area above grade (ft²) 2204
 Conditioned floor area below grade (ft²) 0

7. Windows (205.7 sqft.) Description Area
 a. U-Factor: Dbl, U=0.35 205.67 ft²
 SHGC: SHGC=0.33
 b. U-Factor: N/A ft²
 SHGC:
 c. U-Factor: N/A ft²
 SHGC:
 d. U-Factor: N/A ft²
 SHGC:
 Area Weighted Average Overhang Depth: 0.000 ft.
 Area Weighted Average SHGC: 0.330

8. Floor Types (2204.0 sqft.) Insulation Area
 a. Crawlspace R=11.0 2204.00 ft²
 b. N/A R= ft²
 c. N/A R= ft²

9. Wall Types (1680.0 sqft.) Insulation Area
 a. Frame - Wood, Exterior R=19.0 1680.00 ft²
 b. N/A R= ft²
 c. N/A R= ft²
 d. N/A R= ft²
 10. Ceiling Types (2204.0 sqft.) Insulation Area
 a. Under Attic (Vented) R=30.0 2204.00 ft²
 b. N/A R= ft²
 c. N/A R= ft²
 11. Ducts R ft²
 a. Sup: RoomsInBlock1, Ret: RoomsInBlock1, AH: 6 150

12. Cooling systems kBtu/hr Efficiency
 a. Central Unit 40.0 SEER:13.00

13. Heating systems kBtu/hr Efficiency
 a. Electric Heat Pump 32.0 HSPF:7.70

14. Hot water systems
 a. Electric Cap: 50 gallons
 b. Conservation features EF: 0.900
 None

15. Credits Pstat

Glass/Floor Area: 0.093

Total Proposed Modified Loads: 43.47

Total Standard Reference Loads: 59.46

PASS

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

PREPARED BY: WILLIAM J. KALKER JR.
 DATE: KALKER JR.

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

OWNER/AGENT: _____
 DATE: _____

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



BUILDING OFFICIAL: SCOTT S. FRANCIS
 DATE: _____

- Compliance requires completion of a Florida Air Barrier and Insulation Inspection Checklist

SEE MANUFACTURER'S CONTRACT
 WITH FLORIDA DCA.



Modular Building Plans Examiner
 Florida License No. SMP-42

PROJECT

| | | | | | |
|----------------|------------------|--------------------|------|--------------------|------------------------|
| Title: | TH-71FL | Bedrooms: | 4 | Address Type: | Street Address |
| Building Type: | FLProp2010 | Conditioned Area: | 2204 | Lot # | |
| Owner: | | Total Stories: | 1 | Block/SubDivision: | |
| # of Units: | 1 | Worst Case: | Yes | PlatBook: | |
| Builder Name: | | Rotate Angle: | 90 | Street: | TH-71FL |
| Permit Office: | | Cross Ventilation: | No | County: | DUVAL |
| Jurisdiction: | | Whole House Fan: | No | City, State, Zip: | JACKSONVILLE , FL , |
| Family Type: | Single-family | | | | |
| New/Existing: | New (From Plans) | | | | |
| Comment: | | | | | |

CLIMATE

| | | | | | | | | | | |
|-------|------------------|---------------------|-----------|-----------------------|-------|---------------------------|--------|------------------------|--------------------|---------------------|
| ✓ | Design Location | TMY Site | IECC Zone | Design Temp 97.5 % | 2.5 % | Int Design Temp Winter | Summer | Heating Degree Days | Design Moisture | Daily Temp Range |
| _____ | FL, Jacksonville | FL_JACKSONVILLE_INT | 2 | 32 | 93 | 70 | 75 | 1281 | 49 | Medium |

BLOCKS

| Number | Name | Area | Volume |
|--------|--------|------|--------|
| 1 | Block1 | 2204 | 17632 |

SPACES

| Number | Name | Area | Volume | Kitchen | Occupants | Bedrooms | Infil ID | Finished | Cooled | Heated |
|--------|---------------|------|--------|---------|-----------|----------|----------|----------|--------|--------|
| 1 | RoomsInBlock1 | 2204 | 17632 | Yes | 4 | 4 | 1 | Yes | Yes | Yes |

FLOORS

| | | | | | | | | | | |
|-------|---|------------|---------------|-----------------|--------------|----------|---------------------|------|------|--------|
| ✓ | # | Floor Type | Space | Exposed PerWall | Ins. R-Value | Area | Floor Joist R-Value | Tile | Wood | Carpet |
| _____ | 1 | Crawlspace | RoomsInBlock1 | 210 ft | 0 | 2204 ft² | 11 | 0 | 0 | 1 |

ROOF

| | | | | | | | | | | | | |
|-------|---|---------------|----------------------|-----------|------------|------------|--------------|-----------|-------|--------------|-------------|-------------|
| ✓ | # | Type | Materials | Roof Area | Gable Area | Roof Color | Solar Absor. | SA Tested | Emitt | Emitt Tested | Deck Insul. | Pitch (deg) |
| _____ | 1 | Gable or shed | Composition shingles | 2271 ft² | 274 ft² | Medium | 0.96 | No | 0.9 | No | 0 | 14 |

ATTIC

| | | | | | | | |
|-------|---|------------|-------------|-------------------|----------|-----|------|
| ✓ | # | Type | Ventilation | Vent Ratio (1 in) | Area | RBS | IRCC |
| _____ | 1 | Full attic | Vented | 300 | 2204 ft² | N | N |

CEILING

| | | | | | | | |
|-------|---|----------------------|---------------|---------|----------|--------------|------------|
| ✓ | # | Ceiling Type | Space | R-Value | Area | Framing Frac | Truss Type |
| _____ | 1 | Under Attic (Vented) | RoomsInBlock1 | 30 | 2204 ft² | 0.11 | Wood |

WALLS

| ✓ | # | Ornt | Adjacent To | Wall Type | Space | Cavity R-Value | Width Ft | In | Height Ft | In | Area | Sheathing R-Value | Framing Fraction | Solar Absor. | Below Grade% |
|---|---|------|-------------|--------------|-------------|----------------|----------|----|-----------|----|---------|-------------------|------------------|--------------|--------------|
| | 1 | N | Exterior | Frame - Wood | RoomsInBloc | 19 | 76 | | 8 | 0 | 608 ft² | 0 | 0.23 | 0.75 | 0 |
| | 2 | E | Exterior | Frame - Wood | RoomsInBloc | 19 | 29 | 0 | 8 | 0 | 232 ft² | 0 | 0.23 | 0.75 | 0 |
| | 3 | S | Exterior | Frame - Wood | RoomsInBloc | 19 | 76 | 0 | 8 | 0 | 608 ft² | 0 | 0.23 | 0.75 | 0 |
| | 4 | W | Exterior | Frame - Wood | RoomsInBloc | 19 | 29 | | 8 | 0 | 232 ft² | 0 | 0.23 | 0.75 | 0 |

DOORS

| ✓ | # | Ornt | Door Type | Space | Storms | U-Value | Width Ft | In | Height Ft | In | Area |
|---|---|------|-----------|-------------|--------|---------|----------|----|-----------|----|----------|
| | 1 | N | Insulated | RoomsInBloc | None | 0.52 | 3 | 2 | 6 | 8 | 21.11111 |
| | 2 | S | Insulated | RoomsInBloc | None | 0.52 | 3 | 2 | 6 | 8 | 21.11111 |

WINDOWS

Orientation shown is the entered orientation (=>) changed to Worst Case.

| ✓ | # | Ornt | Wall ID | Frame | Panes | NFRC | U-Factor | SHGC | Storms | Area | Overhang Depth | Separation | Int Shade | Screening |
|---|---|------|---------|-------|--------------|------|----------|------|--------|----------|----------------|------------|-----------|-----------|
| | 1 | N | 1 | Vinyl | Low-E Double | Yes | 0.35 | 0.33 | N | 60 ft² | 0 ft 0 in | 0 ft 0 in | HERS 2006 | None |
| | 2 | N | 1 | Vinyl | Low-E Double | Yes | 0.35 | 0.33 | N | 40 ft² | 0 ft 0 in | 0 ft 0 in | HERS 2006 | None |
| | 3 | N | 1 | Vinyl | Low-E Double | Yes | 0.35 | 0.33 | N | 20 ft² | 0 ft 0 in | 0 ft 0 in | HERS 2006 | None |
| | 4 | S | 3 | Vinyl | Low-E Double | Yes | 0.35 | 0.33 | N | 9 ft² | 0 ft 0 in | 0 ft 0 in | HERS 2006 | None |
| | 5 | S | 3 | Vinyl | Low-E Double | Yes | 0.35 | 0.33 | N | 60 ft² | 0 ft 0 in | 0 ft 0 in | HERS 2006 | None |
| | 6 | N | 1 | Vinyl | Low-E Double | Yes | 0.35 | 0.33 | N | 16.66666 | 0 ft 0 in | 0 ft 0 in | HERS 2006 | None |

INFILTRATION

| # | Scope | Method | SLA | CFM 50 | ELA | EqLA | ACH | ACH 50 |
|---|----------|--------------|----------|--------|--------|--------|--------|--------|
| 1 | BySpaces | Proposed SLA | 0.000360 | 2081.2 | 114.25 | 214.87 | 0.2771 | 7.0821 |

HEATING SYSTEM

| ✓ | # | System Type | Subtype | Efficiency | Capacity | Block | Ducts |
|---|---|--------------------|---------|------------|------------|-------|-------|
| | 1 | Electric Heat Pump | None | HSPF: 7.7 | 32 kBtu/hr | 1 | sys#1 |

COOLING SYSTEM

| ✓ | # | System Type | Subtype | Efficiency | Capacity | Air Flow | SHR | Block | Ducts |
|---|---|--------------|---------|------------|------------|----------|------|-------|-------|
| | 1 | Central Unit | None | SEER: 13 | 40 kBtu/hr | 1200 cfm | 0.75 | 1 | sys#1 |

HOT WATER SYSTEM

| ✓ | # | System Type | SubType | Location | EF | Cap | Use | SetPnt | Conservation |
|---|---|-------------|---------|--------------|------|--------|--------|---------|--------------|
| | 1 | Electric | None | RoomsInBlock | 10.9 | 50 gal | 70 gal | 120 deg | None |

| SOLAR HOT WATER SYSTEM | | | | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|---|---|----------|--|
| ✓ | FSEC Cert # | Company Name | System Model # | | Collector Model # | | Collector Area | Storage Volume | FEF | | | | | |
| _____ | None | None | | | | | ft² | | | | | | | |
| DUCTS | | | | | | | | | | | | | | |
| ✓ | # | --- Supply --- Location | R-Value | Area | --- Return --- Location | Area | Leakage Type | Air Handler CFM 25 | Percent Leakage | QN | RLF | HVAC # Heat Cool | | |
| _____ | 1 | RoomsInBloc | 6 | 150 ft² | RoomsInBloc | 75 ft² | DSE=0.88 | RoomsInBI 0.0 cfm | 0.00 % | 0.00 | 0.60 | 1 | 1 | |
| TEMPERATURES | | | | | | | | | | | | | | |
| Programable Thermostat: Y | | | | | Ceiling Fans: | | | | | | | | | |
| Cooling | <input checked="" type="checkbox"/> Jan | <input checked="" type="checkbox"/> Feb | <input checked="" type="checkbox"/> Mar | <input checked="" type="checkbox"/> Apr | <input checked="" type="checkbox"/> May | <input checked="" type="checkbox"/> Jun | <input checked="" type="checkbox"/> Jul | <input checked="" type="checkbox"/> Aug | <input checked="" type="checkbox"/> Sep | <input checked="" type="checkbox"/> Oct | <input checked="" type="checkbox"/> Nov | <input checked="" type="checkbox"/> Dec | | |
| Heating | <input checked="" type="checkbox"/> Jan | <input checked="" type="checkbox"/> Feb | <input checked="" type="checkbox"/> Mar | <input checked="" type="checkbox"/> Apr | <input checked="" type="checkbox"/> May | <input checked="" type="checkbox"/> Jun | <input checked="" type="checkbox"/> Jul | <input checked="" type="checkbox"/> Aug | <input checked="" type="checkbox"/> Sep | <input checked="" type="checkbox"/> Oct | <input checked="" type="checkbox"/> Nov | <input checked="" type="checkbox"/> Dec | | |
| Venting | <input checked="" type="checkbox"/> Jan | <input checked="" type="checkbox"/> Feb | <input checked="" type="checkbox"/> Mar | <input checked="" type="checkbox"/> Apr | <input checked="" type="checkbox"/> May | <input checked="" type="checkbox"/> Jun | <input checked="" type="checkbox"/> Jul | <input checked="" type="checkbox"/> Aug | <input checked="" type="checkbox"/> Sep | <input checked="" type="checkbox"/> Oct | <input checked="" type="checkbox"/> Nov | <input checked="" type="checkbox"/> Dec | | |
| Thermostat Schedule: HERS 2006 Reference | | | | | | | | | | | | | | |
| Schedule Type | | Hours | | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Cooling (WD) | AM PM | 78 80 | 78 80 | 78 78 | 78 78 | 78 78 | 78 78 | 78 78 | 78 78 | 80 78 | 80 78 | 80 78 | 80 78 | |
| Cooling (WEH) | AM PM | 78 78 | 78 78 | 78 78 | 78 78 | 78 78 | 78 78 | 78 78 | 78 78 | 78 78 | 78 78 | 78 78 | 78 78 | |
| Heating (WD) | AM PM | 66 68 | 66 68 | 66 68 | 66 68 | 66 68 | 68 68 | 68 68 | 68 68 | 68 68 | 68 68 | 68 66 | 68 66 | |
| Heating (WEH) | AM PM | 66 68 | 66 68 | 66 68 | 66 68 | 66 68 | 68 68 | 68 68 | 68 68 | 68 68 | 68 68 | 68 66 | 68 66 | |
| MECHANICAL VENTILATION | | | | | | | | | | | | | | |
| Type | Supply CFM | Exhaust CFM | Fan Watts | HRV | Heating System | | | | Run Time | Cooling System | | | | |
| None | 0 | 0 | 0 | 0 | 1 - Electric Heat Pump | | | | 0% | 1 - Central Unit | | | | |

Florida Code Compliance Checklist

Florida Department of Business and Professional Regulations
Residential Whole Building Performance Method

ADDRESS: TH-71FL

PERMIT #:

JACKSONVILLE, FL,

MANDATORY REQUIREMENTS SUMMARY - See individual code sections for full details.

| COMPONENT | SECTION | SUMMARY OF REQUIREMENT(S) | CHECK |
|---------------------------|---------|---|-------|
| Air leakage | 402.4 | To be caulked, gasketed, weatherstripped or otherwise sealed. Recessed lighting IC-rated as meeting ASTM E 283. Windows and doors = 0.30 cfm/sq.ft. Testing or visual inspection required. Fireplaces: gasketed doors & outdoor combustion air. Must complete envelope leakage report or visually verify Table 402.4.2. | |
| Thermostat & controls | 403.1 | At least one thermostat shall be provided for each separate heating and cooling system. Where forced-air furnace is primary system, programmable thermostat is required. Heat pumps with supplemental electric heat must prevent supplemental heat when compressor can meet the load. | |
| Ducts | 403.2.2 | All ducts, air handlers, filter boxes and building cavities which form the primary air containment passageways for air distribution systems shall be considered ducts or plenum chambers, shall be constructed and sealed in accordance with Section 503.2.7.2 of this code. | |
| | 403.3.3 | Building framing cavities shall not be used as supply ducts. | |
| Water heaters | 403.4 | Heat trap required for vertical pipe risers. Comply with efficiencies in Table 403.4.3.2. Provide switch or clearly marked circuit breaker (electric) or shutoff (gas). Circulating system pipes insulated to = R-2 + accessible manual OFF switch. | |
| Mechanical ventilation | 403.5 | Homes designed to operate at positive pressure or with mechanical ventilation systems shall not exceed the minimum ASHRAE 62 level. No make-up air from attics, crawlspaces, garages or outdoors adjacent to pools or spas. | |
| Swimming Pools & Spas | 403.9 | Pool pumps and pool pump motors with a total horsepower (HP) of = 1 HP shall have the capability of operating at two or more speeds. Spas and heated pools must have vapor-retardant covers or a liquid cover or other means proven to reduce heat loss except if 70% of heat from site-recovered energy. Off/timer switch required. Gas heaters minimum thermal efficiency=78% (82% after 4/16/13). Heat pump pool heaters minimum COP= 4.0. | |
| Cooling/heating equipment | 403.6 | Sizing calculation performed & attached. Minimum efficiencies per Tables 503.2.3. Equipment efficiency verification required. Special occasion cooling or heating capacity requires separate system or variable capacity system. Electric heat >10kW must be divided into two or more stages. | |
| Ceilings/knee walls | 405.2.1 | R-19 space permitting. | |

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 73

The lower the EnergyPerformance Index, the more efficient the home.

TH-71FL, JACKSONVILLE, FL,

| | | | | | |
|--|------------------|-------------------------|--|-----------------|-------------------------|
| 1. New construction or existing | New (From Plans) | | 9. Wall Types | Insulation | Area |
| 2. Single family or multiple family | Single-family | | a. Frame - Wood, Exterior | R=19.0 | 1680.00 ft ² |
| 3. Number of units, if multiple family | 1 | | b. N/A | R= | ft ² |
| 4. Number of Bedrooms | 4 | | c. N/A | R= | ft ² |
| 5. Is this a worst case? | Yes | | d. N/A | R= | ft ² |
| 6. Conditioned floor area (ft ²) | 2204 | | 10. Ceiling Types | Insulation | Area |
| 7. Windows** | Description | Area | a. Under Attic (Vented) | R=30.0 | 2204.00 ft ² |
| a. U-Factor: | Dbl, U=0.35 | 205.67 ft ² | b. N/A | R= | ft ² |
| SHGC: | SHGC=0.33 | | c. N/A | R= | ft ² |
| b. U-Factor: | N/A | ft ² | 11. Ducts | | R ft ² |
| SHGC: | | | a. Sup: RoomsInBlock1, Ret: RoomsInBlock1, AH: | 6 | 150 |
| c. U-Factor: | N/A | ft ² | 12. Cooling systems | kBtu/hr | Efficiency |
| SHGC: | | | a. Central Unit | 40.0 | SEER:13.00 |
| d. U-Factor: | N/A | ft ² | 13. Heating systems | kBtu/hr | Efficiency |
| SHGC: | | | a. Electric Heat Pump | 32.0 | HSPF:7.70 |
| Area Weighted Average Overhang Depth: | 0.000 ft. | | 14. Hot water systems | | |
| Area Weighted Average SHGC: | 0.330 | | a. Electric | Cap: 50 gallons | EF: 0.9 |
| 8. Floor Types | Insulation | Area | b. Conservation features | | |
| a. Crawlspace | R=11.0 | 2204.00 ft ² | None | | |
| b. N/A | R= | ft ² | 15. Credits | | Pstat |
| c. N/A | R= | ft ² | | | |

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

Builder Signature: _____ Date: _____

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



*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida EnergyGauge Rating. Contact the EnergyGauge Hotline at (321) 638-1492 or see the EnergyGauge web site at energygauge.com for information and a list of certified Raters. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section 303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.