

Section II Installation

Horton Homes, Inc. / Dynasty Homes, Inc.

9-21-10

SITE SUITABLE WITH DESIGN

Prior to initial installation of a manufactured home the installer is to verify that design and construction of the home as indicated on the data plate are suitable for the site installation.

OPTIONAL INFORMATION FOR INSTALLATION

The planning and permitting processes, as well as utility connection, access, and other requirements, are outside of HUD's authority and may be governed by LAHJs. These Model Installation Standards do not attempt to comprehensively address such requirements. However, HUD recommends that the manufacturer's installation instructions include the information and advisories, in order to protect the manufactured home, as constructed in accordance with MHCSS.

INSTALLER

Installer means the person or entity who is retained to engage in or who engages in, the business of directing, supervising, controlling, or correcting the initial installation of a manufactured home, as governed by part 3285.

DATA PLATE

The data plate gives all pertinent information regarding factory installed appliances, geographical structural certification, heating and cooling information, and certification of our independent testing agency.

The home is designed for certain weather conditions, wind zones and roof loads. Do not site or relocate your home in a zone requiring greater wind, roof load or heating or cooling capabilities than those for which it was designed. See data plate located on inside of the cabinet below the kitchen sink.

Some examples of information on data plate see below.

DESIGN ZONE MAPS

ROOF LOADS

SOUTH 20PSF
MIDDLE 30PSF
NORTH 40PSF

HEATING AND COOLING MAP

ZONE 1 U= .116 MAX
ZONE 2 U= .096 MAX
ZONE 3 U= .079 MAX

WIND ZONES

WIND ZONE 1 15PSF

INCLUDES AREAS OF THE UNITED STATES AND ITS TERRITORIES
THAT ARE NOT OTHERWISE INCLUDED IN WIND ZONE 2 AND 3.

WIND ZONE 2 100 MPH (Not within 1500 feet of coastline)

WIND ZONE 3 110 MPH (Not within 1500 feet of coastline)

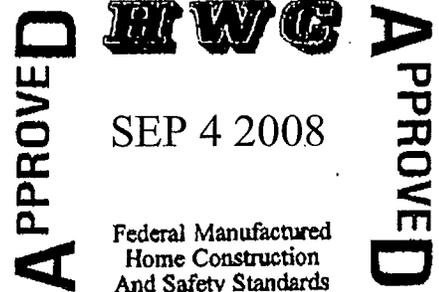
WIND ZONE 2 & 3 [EXPOSURE D ANSI/ASCE 7-88]

WITHIN 1500 FEET OF COASTLINE

HUMID AND FRINGE CLIMATE MAP (REFERENCE MAP)

SEVERE WIND ZONES

When any part of a home is installed within 1,500 feet of a coastline in Wind Zones II or III, the manufactured home must be designed for the increased requirements, as specified on the home's data plate in accordance with acceptable engineering practice. Where site or other conditions prohibit the use of the manufacture's instructions, a registered professional engineer or registered architect, in accordance with acceptable engineering practice, must design anchorage for the special wind conditions. **EFFECTIVE DATE: OCT. 20, 2008**



Horton Homes, Inc. / Dynasty Homes, Inc.

registered professional engineer or registered architect, in accordance with acceptable engineering practice, must design anchorage for the special wind conditions.

SITE PREPARATION

The home manufacture has no control over site planning and installation of the home. Final responsibility for site preparation, including soil stability and frost heave control, lies with the installer. An improperly prepared site may result in the denial of a foundation related warranty claim.

The site must have proper drainage, and slope. Moisture under the home can result in structural damage to the floor system and other parts of the home. Failure to provide adequate slope/drainage can result in moisture related problems such as mold, mildew and erosion. Crown the site away from the foundation for the first ten feet with a minimum slope of ½ inch per foot. Where property lines, walls, slopes or other physical conditions prohibit this slope, the site must be provided with drains or swales or otherwise graded to drain water away from the structure. Reference drawings in this manual.

MOVING MANUFACTURED HOME TO LOCATION

The LAHJ should be informed before moving the manufactured home to the site. The manufactured home is not to be moved to the site until the site is prepared in accordance to this manual and when the utilities are available as required by the LAHJ.

Before attempting to move a home, ensure that the transportation equipment and home can be routed to the installation site and that all special transportation permits required by the LAHJ have been obtained.

DRAINAGE OF STRUCTURES

Ditches and culverts used to drain surface run off meet the requirements of the LAHJ and considered in the overall site preparation.

Homes suitable for gutters and downspouts must have runoff directed away from home. Check with Horton Homes, Inc. /Dynasty Homes, Inc. before installing gutters and downspouts if home is suitable for gutters and downspouts to be installed.

PERMITS, ALTERATIONS AND OTHER SITE STRUCTURES

- A. Issuance of Permits. All necessary LAHJ fees should be paid and permits should be obtained, which may include verification that LAHJ requirements regarding encroachments in streets, yards, and courts are obeyed and that permissible setback and fire separation distances from property lines and public roads are met.
- B. Alterations. Prior to making any alterations to the home or its installation contact the LAHJ to determine if plan approval and permits are required.
- C. Installation of on site structures. Each accessory building and structure is designed to support all of its own live and dead loads. Including any attached garage, carport, deck and porch is to be attached to the manufactured home (self supporting).

APPROVED **HWG** **APPROVED**
SEP 4 2008
Federal Manufactured
Home Construction
And Safety Standards

UTILITY SYSTEM CONNECTIONS

- A. Where an LAHJ and utility services are available, that the LAHJ and all utility services each be consulted before connecting the manufactured home to any utilities, or
- B. Where no LAHJ exists and utility services are available, that the utilities be consulted before connecting the manufactured home to any utility service; or
- C. In rural areas where no LAHJ or utility services are available, that a professional be consulted prior to making any system connections.
- D. Qualified personnel. Only qualified personnel familiar with local requirements are permitted to make utility site connections and conduct tests.

CIRCUIT RATING FOR EXTERNAL HEAT AND A/C

When a manufactured home is factory-provided with an exterior outlet to energize with an exterior outlet to energize heating and/or air conditioning equipment, the branch circuit rating is on the tag adjacent to this outlet, and must be equal to or greater than the minimum circuit amperage identified on the equipment rating plate.

SITE INSTALLED AIR CONDITIONING EQUIPMENT

The BTU/HR. rated capacity of the site installed air conditioning equipment must not exceed the air distribution systems rated BTU/HR capacity as shown on the homes compliance certificate (Data Plate).

A-coil air conditioning units must be compatible and listed for use with the furnace in the home and installed in accordance with the appliance manufacturer's instructions.

ALTERNATE CONSTRUCTION-GAS APPLIANCES INSTALLED IN FIELD

When gas appliances are installed in the field, the construction must be completed under an Alternate Construction (AC) approval.

INSTALLATION OF MANUFACTURED HOMES IN FLOOD HAZARD AREAS

PRE-INSTALLATION CONSIDERATIONS

Prior to the initial installation of a new manufactured home, the installer of a new manufactured home, the installer is responsible for determining whether the manufactured home site lies wholly or partly within a special flood hazard area as shown on the LAHJ's Flood Insurance Rate Map, Flood Boundary and Floodway Map, or Flood Hazard Boundary Map, or if no LAHJ, in accordance with NFIP regulations. If so located, and before an installation method is agreed upon, the map and supporting studies adopted by the LAHJ must be used to determine the flood hazard zone and base flood elevation at the site.

GENERAL ELEVATION AND FOUNDATION REQUIREMENTS

- 1) Methods and practices. Manufactured homes located wholly or partly within special flood hazard areas must be installed on foundations engineered to incorporate methods and practices that minimize flood damage during the base flood, in accordance with the requirements of the LAHJ, 44 CFR.3(a) through (e), and other provisions of 44 CFR referenced by those paragraphs.
- 2) Outside appliances.
 - a) Appliances installed on the manufactured home site in flood hazard areas must be anchored and elevated to or above the same elevation as the lowest elevation of the lowest floor of the home.
 - b) Appliance air inlets and exhausts in flood hazard areas must be located at or above the same elevation as the lowest elevation of the lowest floor of the home.

Horton Homes, Inc. / Dynasty Homes, Inc.

- 3) Related guidance. Refer to FEMA 85/September 1985, Manufactured Home Installation in Flood Hazard Areas, 1985 (incorporated by reference, see 3285.4)

FOUNDATIONS

THE FOUNDATION SPECIFICATIONS IN THIS MANUAL ARE NOT DESIGNED TO ADDRESS FLOOD LOADS.

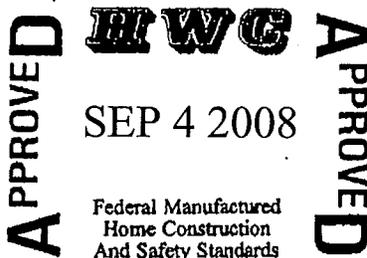
1. Foundations for Horton Homes Inc. /Dynasty Homes, Inc. are designed and constructed to meet or exceed 3285.301 based on site conditions, home design features, and loads the home was designed to withstand, as shown on the homes data plate. Example: Roof Load south 20psf.
2. Foundation systems that are not pier and footing type configurations maybe used when verified by engineering data and designed in accordance with 3285.301(d), consistent with the design loads of the MHCSS. Pier and footing specifications that are different than those provided in the subpart, such as block size, metal piers, section width, loads, and spacing, may be used when verified by engineering data that comply with 3285.301(c) and (d) and are capable of resisting all design loads of MHCSS.
3. All foundation details, plans, and test data must be designed and certified by a registered professional engineer or registered architect, and must not take the home out of compliance with the MHCSS.
4. Alternative foundation systems or designs are permitted in accordance with either of the following:
 - a. Systems or designs must be manufactured and installed in accordance and installed in accordance with their listings by a nationally recognized testing agency, based on a nationally recognized testing protocol; or
 - b. System designs must be prepared by a professional engineer or a registered architect or tested and certified by a professional engineer or registered architect in accordance with acceptable engineering practice and must be manufactured and installed so as not to take the home out of compliance with the Manufactured Home Construction and Safety Standards (part 3280).

FIRE SEPERATION

Fire separation distances must be in accordance with the requirements of chapter 6 of NFPA 501A, 2003 edition or comply with the requirements of the LAHJ.

SPECIAL SNOW LOADS CONDITIONS

High roof loads of 40 psf or greater. If the home site location is to be installed, designs are required for roof loads greater than 40psf live roof load, consult the LAHJ. The home must be designed by the manufacture for these special snow load conditions in accordance with acceptable engineering practice. If the site or other conditions prohibit the use of the manufactures instructions, a registered professional engineer, or registered architect must design the foundation for the special snow load conditions.



Horton Homes, Inc. / Dynasty Homes, Inc.

Ramadas may be used in areas with roof line loads greater 40psf. Ramadas are to be self-supporting except that any connection to the home must be for weatherproofing only.

REPAIR AND SEAL BOTTOM BOARD

Tears and openings in the bottom board can result from transportation or installation activities. Inspect for holes and gaps the entire bottom board, especially areas around service penetrations, crossover connections, pipe and duct hangers, foundation elements and the perimeter of the floor. Using approved materials appropriate for the type of repair, repair the bottom board wherever torn or loosened as follows:

1. **Insulate.** Replace any missing insulation prior to closure and repair of the bottom board, paying particular attention to insulation gaps that may have been created at P-traps.
2. **Repair large openings.** Repair large openings with a durable patch made of bottom board fabric or other compatible material and fastened with vinyl bottom board tape held in place by fasteners installed with a divergent stapler. Seal the edges around patches with foam or mastic. For large openings, install a rigid backer behind the bottom board to provide a fastening substrate for the patch.
3. **Repair small openings.** Repair small gaps and tears with a combination of vinyl bottom board tape, patches mastic or foam sealant.

SKIRTING

Skirting, if used, must be of weather-resistant materials or provided with protection against weather deterioration at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz. per square feet of surface coated.

Skirting must not be attached in a manner that can cause water to be trapped between the siding and trim or forced up into the wall cavities trim to which it is attached.

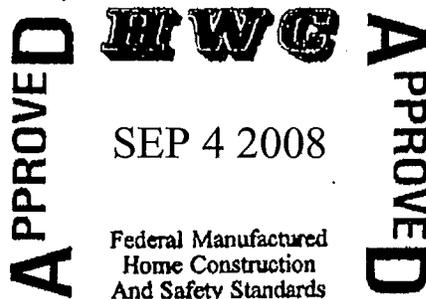
All wood skirting within 6 inches of the ground must be pressure-treated in accordance with AWWA Standard U1 for Use Category 4A, Ground Anchor Contact Applications, or be naturally resistant to decay and termite infestations.

Skirting must not be attached in a manner that impedes the contraction and expansion characteristics of the home's exterior covering.

Reference "VENTILATION IN CRAWLSPACE" for proper ventilation requirements.

SITE INSTALLED PRODUCTS

For site installed products, see manufacturers installation instructions supplied with the product or with home owner's package.



Horton Homes, Inc. / Dynasty Homes, Inc.

TYPICAL GROUND ANCHORING AND STRAPPING

For additional anchoring and strapping information, see other drawings in set-up section of Horton Homes, Inc. /Dynasty Homes, Inc. Home Owner's Manual.

GROUND ANCHORS

Ground anchors must be installed in accordance with their listing or certification, be installed to their full depth, be provided with protection against weather deterioration and corrosion at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz./sq.ft. of surface coated, and be capable of resisting a minimum ultimate load of 4,725 lbs. and a working load of 3,150 lbs., as installed. Reduced ground anchor or strap working load capacity will require reduced tie-down strap and anchor spacing. Ground anchors must not be spaced closer than minimum spacing permitted by listing or certification. The ultimate load and working load of ground anchors and anchoring equipment must be determined by a registered professional engineer, registered professional engineer, registered architect, or tested by a nationally recognized third-party testing agency in accordance with a nationally recognized testing protocol.

TIE-DOWN STRAPS

A 1-1/4 inch x 0.035 inch or larger steel strapping conforming to ASTM D 3953-97, Standard Specification for Strapping, Flat Steel and Seals (incorporated by reference, see 3285.4), Type 1, Grade 1, Finish B, with a minimum total capacity of 4,725 pounds (lbs.) and a working capacity of 3,150 pounds (lbs.) must be used. The tie-down straps must be provided with protection against weather deterioration and corrosion at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz./sq.ft. of surface coated. Slit or cut edges of coated strapping need not be zinc coated.

NUMBER AND LOCATION OF GROUND ANCHORS

1. Ground anchor and anchor strap spacing must be:
 - a. No greater than the spacing shown in the tables in this manual; or
 - b. Designed by a registered engineer or architect, in accordance with acceptable engineering practice and the requirements of the MHCSS for any conditions that are outside the parameters and applicability of this manual.
2. The requirements, as per tie-down spacing chart, are to be used to determine the maximum spacing of ground anchors and their accompanying anchor straps, based on the soil classification determined in accordance with soil classification table in this manual:
 - a. The installed ground anchor type and size (length) must be listed for use in the soil class at the site and for the minimum and maximum angle permitted between the diagonal strap and the ground; and
 - b. All ground anchors must be installed in accordance with their listing or certification and the ground anchor manufacturer installation instructions; and

EFFECTIVE DATE: OCT. 20, 2008

APPROVED
HWC
APPROVED
SEP 8 2008
Federal Manufactured
Home Construction
And Safety Standards

SU-30

Horton Homes, Inc. / Dynasty Homes, Inc.

- c. If required by the ground anchor listing or certification, the correct size and type of stabilizer plate is installed. If metal stabilizer plate are used, they must be provided with protection against weather deterioration and corrosion at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz./sq.ft. of surface coated. Alternatively, ABS stabilizer plates may be used when listed and certified for such use.
3. Longitudinal anchoring. Manufactured homes must also be stabilized against wind in the longitudinal direction in all Wind Zones. Manufactured homes located in Wind Zones II and III must have longitudinal ground anchors installed on the ends of the manufactured home transportable section(s) or be provided with alternative systems that are capable of resisting wind forces in the longitudinal direction. See longitudinal tie-down installation method in manual for an example of one method that may be used to provide longitudinal anchoring. If the method in this manual is not used a professional engineer or registered architect must certify the longitudinal anchoring method or any alternative system used as adequate to provide the required stabilization, in accordance with acceptable engineering practice.

INSTALL ANCHORS

Before beginning anchor installation, check for obstructions under the home such as piers and frame members that may interfere with the tie down strapping. Check with utility companies to determine the location of underground utilities, such as electrical and phone lines, and water, sewer and gas pipes, that may be buried in potential anchor locations. Also check for homeowner-installed wires and pipes, such as those connecting exterior lighting or sheds to the home. These must also be avoided.

FRAME ANCHORS

Frame anchors can be installed in two ways, in-line and against a stabilizer plate. The two methods are discussed below:

1. **IN-LINE CONFIGURATION.** The in-line configuration for homes can be used in Wind Zone I only. Typically, in-line anchors are used under high homes where the anchors can be installed from under the home after the home is set. In-line anchors can also be installed before the home is set, however precisely aligning the anchor with the home both vertically (given the importance of maintaining a 45 degree vertical angle) and horizontally is difficult. Using swivel connectors for the strap to beam connection can provide some horizontal flexibility
To install in-line frame anchors, drive the anchor into the ground at an angle and location such that a straight line can be drawn from the tip of the anchor through the anchor head and to the connection point on the I-beam.
2. **STABILIZER PLAT CONFIGURATION.** Stabilizer plat configurations are suitable for homes in all wind zones. Anchors may be installed after the home is set. A stabilizer device, typically an ABS or metal plate, is used to prevent the top of the anchor from slicing through the soil when the load is applied. Stabilizer plates are available in a variety of widths. Choose the widest plate that can be driven into the soil to maximize resistance to movement. The LAHJ may have stabilizer plat requirements. **EFFECTIVE DATE: OCT. 20, 2008**

Horton Homes, Inc. / Dynasty Homes, Inc.

Install anchors with stabilizer plates as follows:

- a. **Measure.** To determine the stabilizer plate location, measure from the top of the I-beam to the ground directly under it and then use the same measurement directly away from that point under the beam. The anchor and plate must be under the home, but within six inches of the exterior wall. Be careful not to place in a location that will interfere with skirting.
- b. **Install anchor.** To assure that the anchor attachment point will end up at the stabilizer plate, start the anchor insertion approximately 12 inches back from the desired location if using a 48 inch long anchor, or approximately 16 inches if using a 60 inch long anchor. Install the anchor at about 15 degrees off vertical, with the head tilted away from the home. Install the anchor to a depth of approximately one half its length.
- c. **Drive stabilizer plate.** Drive the stabilizer plate into the ground to its full depth at the point determined in Step 1.
- d. **Complete anchor installation.** Screw the anchor the rest of the way into the ground. The finished anchor must be installed to its full depth.

VERTICAL ANCHORS

To install vertical anchors, screw the anchor into the ground directly under the strap attachment point on the home until the bottom of the anchor head is flush with the ground or no more than one inch above grade.

INSTALL STRAPS

Follow the instructions below to connect straps from the home to sidewall frame, end wall frame and vertical anchors.

Always protect straps at sharp corners including around I-beams with radius clips or other methods. Radius clips may be fabricated from 26ga (min) by two inch wide galvanized steel strap formed to fit around corners.

SPLICING STRAPS

Splicing may be required when a pre-cut strap is of insufficient length. Splices in tie-down straps are not permitted in a "Y" configuration. Overlap straps by 12 inches, applying one splice clip from above and the other from below; use a crimping tool to tightly seal the splice clips. Do not run any portion of the splice through an anchor head bolt.

SIDEWALL FRAME ANCHORS

Install straps to sidewall frame anchors as follows:

1. Connect strap to home. Connect one end of the strap to the home connection point using approved buckles or clips (swivel or hook clip preferred).
2. Connect strap to anchor. Connect the other end of the strap to the split bolt in the anchor. Leave enough strap length to be able to make five complete turns around the bolt before it becomes tight (approximately 2-1/2 inches per turn or 13 inches total). Fewer than five turns and the strap may not hold onto the bolt when force is applied. Conversely, too many turns may not fit within the U-channel of the anchor head. **EFFECTIVE DATE: OCT. 20, 2008**

Horton Homes, Inc. / Dynasty Homes, Inc.

Connect strap to anchor procedure:

- a. Insert the tension bolt into the anchor head and loosely attach the hex nut.
 - b. Place the strap through the slotted shank of the tension bolt and band up to 90 degrees.
 - c. Using a 15/16" socket or open end wrench, rotate clockwise, wrapping the strap around the tension bolt.
 - d. Once tensioned to the point that counter-clockwise resistance appears, use a 5/8" open end wrench to hold the square neck while repositioning the 15/16" tensioning wrench to continue tensioning. Repeat as required.
 - e. Once fully tensioned, align the square neck of the bolt with the square recess in the anchor head and tighten the hex nut. This will draw the two together and lock the system into final position.
 - f. If approved by the manufacturer, double head anchors may be used for both diagonal and vertical tie-down strap tensioning. Tension the diagonal tie-down strap first. Follow Steps a through e to install straps to anchor head.
3. Pretension anchor. For anchors with stabilizer plates, pretension the anchor by pulling it up to the stabilizer plate using the strap and take-up bolt to move the anchor head. Continue pulling the strap until the plate moves a small amount (about 1/2 inch). This is called packing the plate and it will yield the strongest resistance (the bottom of the anchor head should be maximum one inch above the top of the stabilizer plate).

LONGITUDINAL FRAME ANCHORS

Attach straps to the bracket welded by the manufacturer to the frame. If no brackets have been installed, use approved beam clamps designed specifically for this purpose, available from anchor suppliers. Connect straps to anchors following same procedure as for sidewall frame anchors.

FRAME VERTICAL ANCHORS

If vertical straps have been attached to the home by the manufacturer, connect the other end of the straps to the anchor heads. If not, install the strap from one head of a double-headed anchor, up through the brackets (if provided) or around the I-beam and down to the other anchor bolt in a continuous loop. Reference frame tie-down drawings in this manual. Corners of I-beam must be protected with radius clips.

TIGHTEN AND ADJUST STRAPS

After all anchors have been installed and pre-tensioned, recheck all anchor straps to assure that they are tight and that the anchor shafts have remained in contact with the stabilizer plates. Do not over tension straps.

EFFECTIVE DATE: OCT. 20, 2008

APPROVED

HWG

SEP 8 2008

Federal Manufactured
Home Construction
And Safety Standards

APPROVED

SU-33

HORTON

ANCHORING SYSTEM

All Horton Homes/ Dynasty Homes **must** be securely anchored according to the wind zone location of the home to resist the required uplifting and sliding forces created by strong winds. Horton Homes/ Dynasty Homes are built to comply with HUD'S Manufactured Home Construction and Safety Standards which establish design requirements for each wind zone area. A wind zone map reflecting the three wind zone areas and the wind zone designation of your home can be found on a Certificate of Compliance sheet posted inside a kitchen cabinet, furnace compartment or some other convenient location. All Horton Homes/ Dynasty Homes must be anchored in accordance to the appropriate anchoring instructions found under the applicable wind zone section in this manual. **However, if any anchoring method is used other than described in this section, the design and certification of the system must be performed by a registered licensed engineer or architect. Additionally, the system or product must be acceptable to the local authority and or state authority having jurisdiction.**

Wind zone 2 and 3 region labeled homes installed in wind zone 1 region need to comply with following:

1. Sidewall vertical tiedown brackets do not have to be anchored except at openings over 48" wide. The unused anchor brackets must remain on home.
2. All marriage tiedown brackets or straps must be installed per the wind zone 2 and 3 requirements.
3. Shear wall piers and shear wall tiedown straps must be installed per the wind zone 2 and 3 requirements.
4. Longitudinal tie down anchors maybe installed per the wind zone 1 requirements in lieu of using zone 2 or 3 requirements.
5. Floor and roof connections may be installed per the wind zone 1 requirements in lieu of using zone 2 or 3 requirements.

When wind zone 3 labeled homes are installed in wind zone 2 region, all wind zone 3 installation requirements must be followed.

The tie down straps and ground anchors are not provided by the manufacturer, as different soil conditions require different ground anchors to support the required loads. Several good systems are available through your dealer or installation contractor. **Ground anchors must be installed by qualified personnel in accordance with the ground anchor manufacturer's installation instructions.**

Protection shall be provided at sharp corners of the I-beams and anchoring brackets where the straps may be damaged during the anchoring system installation.



APPROVED

HWC

APPROVED

DEC 30 2005

Federal Manufactured
Home Construction
And Safety Standards

SU-III-99

SU-99

HORTON

William J. Kalker, Jr., P.E.
Consulting Engineer
33 Rockwood Lane
Monroe, Connecticut 06468
203/261-1187

Mar 4, 2005

Horton Homes
Eatonton, GA

SUB: Ground Anchor Installation

To Whom It May Concern:

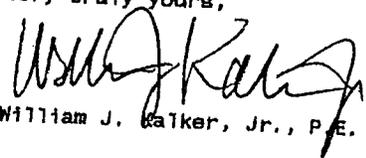
This letter certifies that unless otherwise noted on the tiedown installation drawings, all ground anchors connected to diagonal frame tiedowns along the sidewalls must have the ground anchor heads located within six (6) inches of the sidewall (i.e., within six inches of the vertical plane which is created by the outside surface of the sidewall). All such ground anchors must also be provided with stabilizer plates to minimize horizontal movement.

Also note, all ground anchors located below the mate lines of double wide or multi-wide units which are connected to diagonal frame tiedowns must have stabilizer plates connected to the ground anchor shafts to minimize horizontal movement.

All ground anchors connected to longitudinal tiedown straps and/or used as longitudinal tiedown anchors must be provided with stabilizer plates to minimize horizontal movement.

Stabilizer plates are not required on shear wall anchors, marriage wall column anchors, porch post anchors and/or any other anchors which resist only vertical uplift wind loads.

Very truly yours,


William J. Kalker, Jr., P.E.



APPROVED **BWGC** **APPROVED**
DEC 30 2005
Federal Manufactured
Home Construction
And Safety Standards

SU-III-100

SU'100

HORTON

WIND ZONE 1

APPROVED **HWC** **APPROVED**
DEC 30 2005
Federal Manufactured
Home Construction
And Safety Standards

SU-101

MAXIMUM TIEDOWN SPACINGS

WIND ZONE 1

HOME SIZE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAX. SIDEWALL VERTICAL/FRAME TIEDOWN SPACING AND LOCATION	MAX. MARRIAGE WALL FRAME TIEDOWN SPACING	MINIMUM STEEL BEAM HEIGHT **	MAXIMUM STEEL BEAM HEIGHT **	GROUND ANCHOR BACK ANGLE
140" FLOOR W/ 12" O.H. DOUBLE WIDE	1	8'-0"	10' O.C. NEAR BEAM 5'-9" O.C. NEAR BEAM	N/A	24"	40"	0°
160" FLOOR W/ 12" O.H. DOUBLE WIDE	1	8'-0"	13' O.C. NEAR BEAM 7'-9" O.C. NEAR BEAM	N/A	>40"	72"	0°
168" FLOOR W/ 14" O.H. DOUBLE WIDE	1	8'-0"	13' O.C. NEAR BEAM 9'-0" O.C. NEAR BEAM	N/A	24"	40"	0°
177" FLOOR W/ 12" O.H. DOUBLE WIDE	1	8'-0"	13' O.C. NEAR BEAM 9'-6" O.C. NEAR BEAM	N/A	>40"	72"	0°
1-3-12/30/5 REF. CALC # 1-3/17/1999							
160" FLOOR W/ 4" O.H. SINGLE WIDE	1	8'-0"	12' O.C. NEAR BEAM 7' O.C. NEAR BEAM	N/A	24"	40"	0°
184" FLOOR W/ 4" O.H. SINGLE WIDE	1	8'-0"	14' O.C. NEAR BEAM 9' O.C. NEAR BEAM	N/A	>40"	72"	0°

O.H. = MAX. SIDEWALL ROOF EAVE OVERHANG
ROOF PITCH < 20 DEGREES

** HEIGHT FROM GRADE TO TOP OF STEEL BEAM

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 3150 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.

SPECIFICATIONS ON THIS DRAWING SUPERSEDE ALL OTHER SPECIFICATIONS SHOWN ON OTHER DRAWINGS AND/OR IN THE SET-UP MANUAL. DURING ALL TIEDOWN INSTALLATIONS, PROTECTION MUST BE PROVIDED TO ALL TIEDOWN STRAPS AT ALL SHARP CORNERS.



HORTON HOMES

DATE: 2/4/05
 CODES: MHSS
 LABELS: HUP
 SCALE: NTS
 REVISIONS:
 DRAWN BY: WK
 SHEET: SW-G-3
 ANCHORAGE SYSTEM
 WILLIAM J. KALKER, JR., P.E.
 CONSULTING ENGINEER
 33 ROCKWOOD LANE
 HARTFORD, CT 06188
 (203) 240-167

24-102

APPROVED
 DEC 30 2005
 Federal Manufactured Home Construction and Safety Standards

MAXIMUM TIEDOWN SPACINGS

WIND ZONE 1

HOME SIZE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAX. SIDEWALL VERTICAL/FRAME TIEDOWN SPACING AND LOCATION	MAX. MARRIAGE WALL FRAME TIEDOWN SPACING	MINIMUM STEEL BEAM HEIGHT **	MAXIMUM STEEL BEAM HEIGHT **	GROUND ANCHOR BACKANGLE
160" FLOOR W/ 12" O.H. DOUBLE WIDE *	1	8'-0"	7'-0" O.C. NEAR BEAM	N/A	24"	40"	0°
168" FLOOR W/ 14" O.H. DOUBLE WIDE *	1	8'-0"	6'-0" O.C. NEAR BEAM	N/A	24"	40"	0°
177" FLOOR W/ 12" O.H. DOUBLE WIDE *	1	8'-0"	6'-0" O.C. NEAR BEAM	N/A	24"	40"	0°

APPROVED

APPROVED

1-3-12/30/15
1-9/9/19 99

DEC 30 2005

REF. CALC

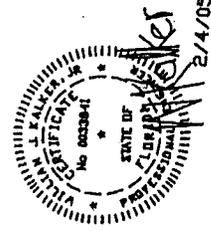
Federal Manufactured
Home Construction
And Safety Standards

O.H. = MAX. SIDEWALL ROOF EAVE OVERHANG.
* ROOF PITCH > 20 DEGREES W/103" TRUSS HEIGHT ABOVE SIDEWALL

** HEIGHT FROM GRADE TO TOP OF STEEL BEAM

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 3150 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.

SPECIFICATIONS ON THIS DRAWING SUPERSEDE ALL OTHER SPECIFICATIONS SHOWN ON OTHER DRAWINGS AND/OR IN THE SET-UP MANUAL. DURING ALL TIEDOWN INSTALLATIONS, PROTECTION MUST BE PROVIDED TO ALL TIEDOWN STRAPS AT ALL SHARP CORNERS.

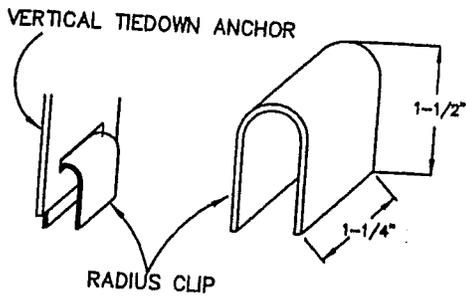


HORTON HOMES	
DATE: 2/4/05	REVISIONS:
CODES: MHCS	DRAWN BY: WK
LABELS: MFD	SHEET
SCALE: NTS	SW-G-3
ANCHORAGE SYSTEM	
WILLIAM J. KALKER, JR., P.E. CONSULTING ENGINEER	
33 ROCKWOOD LANE HONROR, CT 06568 (860) 261-1667	

011-104

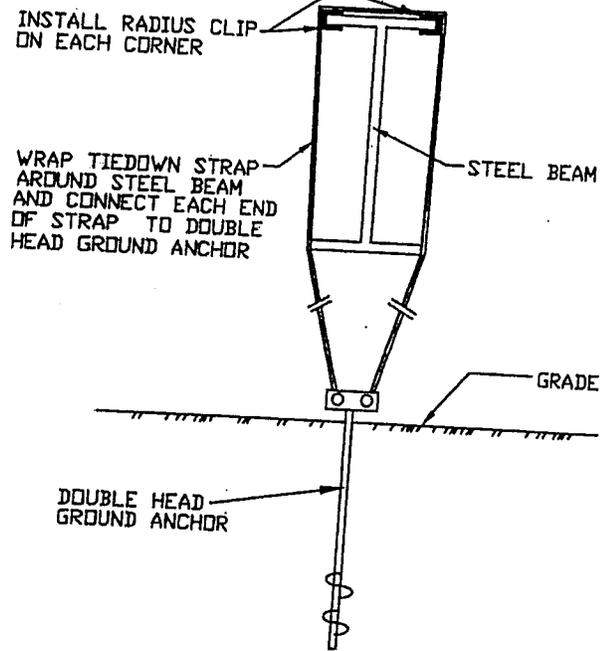
WIND ZONE 1
(15 PSF)

TIEDOWN RADIUS CLIP

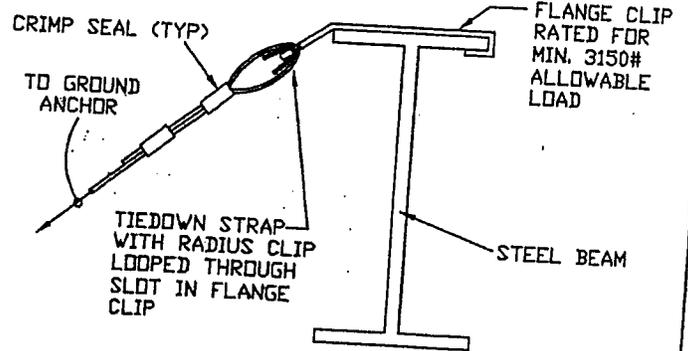


NOTES:

1. RADIUS CLIP MUST BE INSTALLED ON ALL MARRIAGE WALL VERTICAL TIEDOWN ANCHORS, SIDEWALL VERTICAL TIEDOWN ANCHORS, SHEAR WALL VERTICAL TIEDOWN ANCHORS AND FLANGE CLIPS AS NOTED BELOW
2. INSTALLER TO FABRICATE RADIUS CLIP BY PLACING STRAIGHT 3" LENGTH OF 1-1/4" x .035" TIEDOWN STRAP IN ANCHOR SLOT AND MANUALLY BENDING THE STRAP TO THE CONFIGURATION SHOWN.



FRAME VERTICAL TIEDOWN



FRAME DIAGONAL TIEDOWN

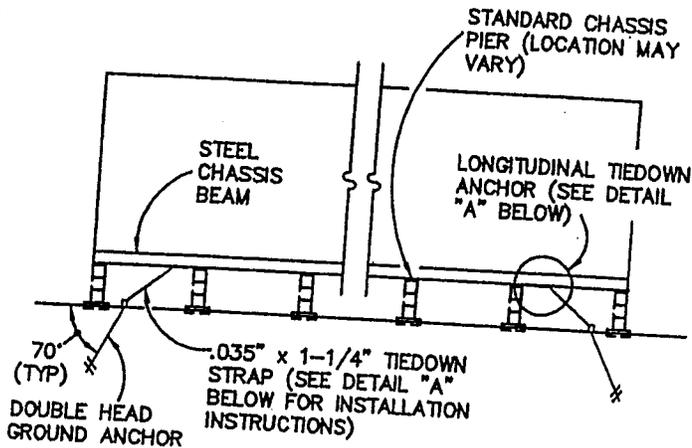
STEEL FRAME TIEDOWN STRAP CONNECTIONS

P.E. SEAL	THIRD PARTY	REVISIONS		HORTON HOMES	
	<p>APPROVED</p> <p>HWG</p> <p>DEC 30 2005</p> <p>Federal Manufactured Home Construction And Safety Standards</p>	BY:	DATE:	<p>ANCHORAGE SYSTEM FIELD INSTALLED</p> <p>DRAWN BY: TC DAPIA NO.:</p> <p>DATE: 2/4/05 SC: N.T.S. SU-CON</p>	

SU-II-106

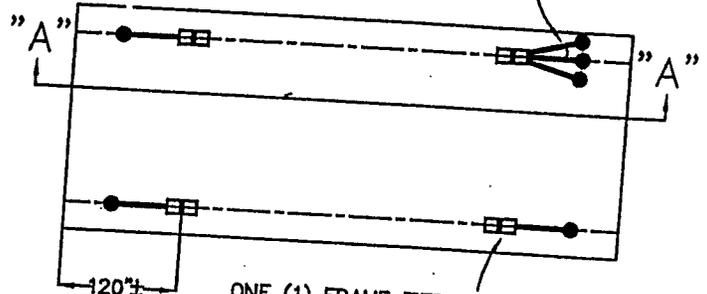
LONGITUDINAL FRAME TIEDOWN INSTALLATION

(ONLY REQUIRED WHEN LONGITUDINAL TIEDOWN ANCHORS INSTALLED ON BOTTOM OF STEEL BEAM)



SECTION "A-A"

LONG. TIEDOWN STRAP AND GROUND ANCHOR MAY BE ORIENTED UP TO 10 DEG. MAX. FROM STEEL BEAM AS SHOWN - INSTALL ONE RADIUS CLIP ON EACH LONG. TIEDOWN ANCHOR BEFORE INSTALLING THE STRAP (TYP FOR ALL LONG. STRAPS AND ANCHORS)

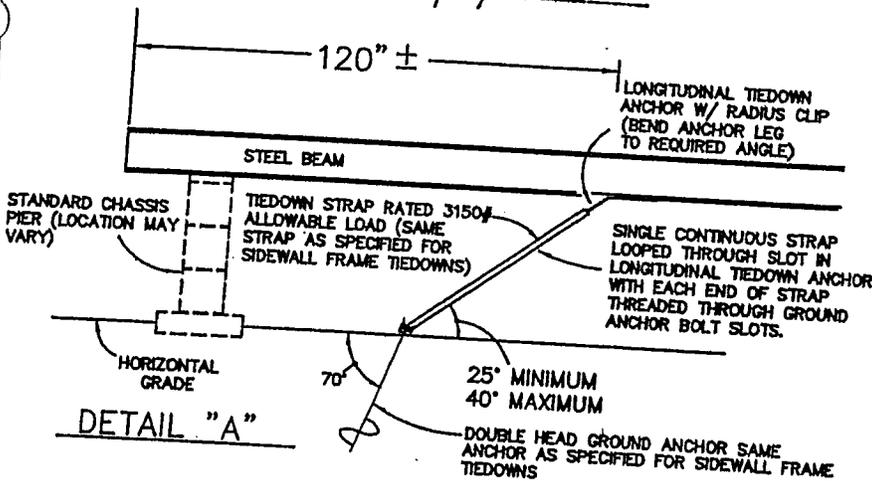


ONE (1) FRAME TIEDOWN WITH GROUND ANCHOR MUST BE INSTALLED ON EACH LONGITUDINAL TIEDOWN ANCHOR WELDED TO BOTTOM OF EACH STEEL BEAM. INSPECT EACH STEEL BEAM TO VERIFY REQUIRED ANCHOR LOCATIONS

REQUIRED LONGITUDINAL TIEDOWN ANCHORS ARE WELDED TO BOTTOM OF EACH STEEL BEAM AT AN APPROXIMATE SPACING OF 10' O.C. FROM EACH END OF FLOOR (TYP)

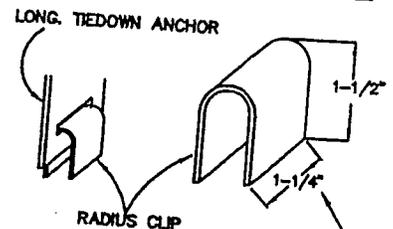
PLAN VIEW

REF. CALC # 1-9/1/0



DETAIL "A"

TIEDOWN RADIUS CLIP



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

NOTE: ALL LONGITUDINAL TIEDOWN GROUND ANCHORS MUST BE PROVIDED WITH STABILIZER PLATES TO MINIMIZE HORIZONTAL MOVEMENT.

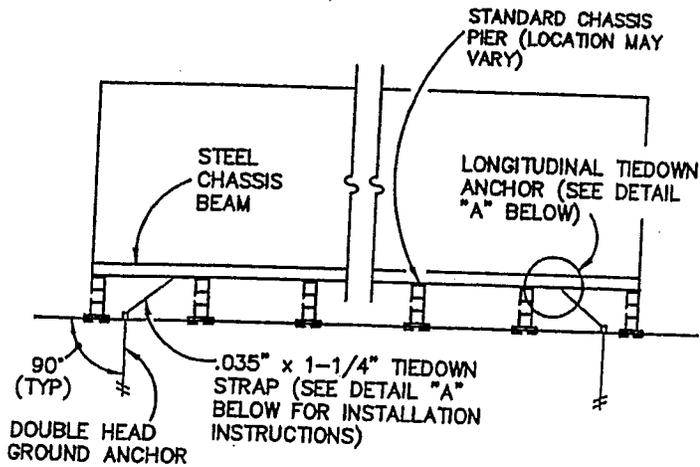
P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES
	APPROVED HWG DEC 30 2005	APPROVED	ANCHORAGE SYSTEM FIELD INSTALLED
	Federal Manufactured Home Construction And Safety Standards	DRAWN BY: TC DATE: 2/4/05	DAPIA NO.: SC: N.T.S.

84-107

OPTIONAL LONGITUDINAL FRAME TIEDOWN INSTALLATION METHOD

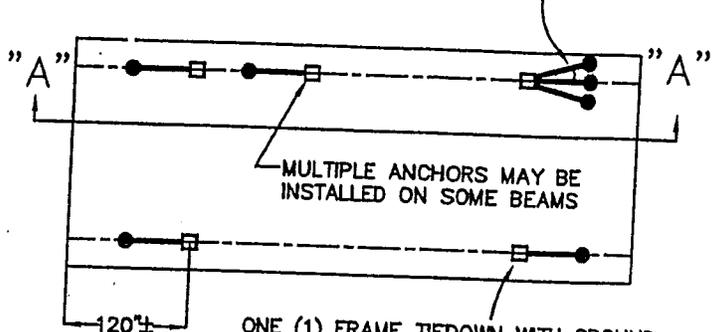
APPROVED FOR ZONE 1 INSTALLATIONS ONLY

NOTE: LONGITUDINAL TIEDOWN ANCHOR BRACKETS ARE INSTALLED AT THE FACTORY ON THE BOTTOM OF THE CHASSIS BEAMS. THE INSTALLER MUST INSPECT THE BOTTOM OF EACH STEEL BEAM TO VERIFY THE REQUIRED ANCHOR LOCATIONS AND INSTALL LONGITUDINAL TIEDOWN GROUND ANCHORS ON THESE BRACKETS IN ACCORDANCE WITH THE DETAILS BELOW



SECTION "A-A"

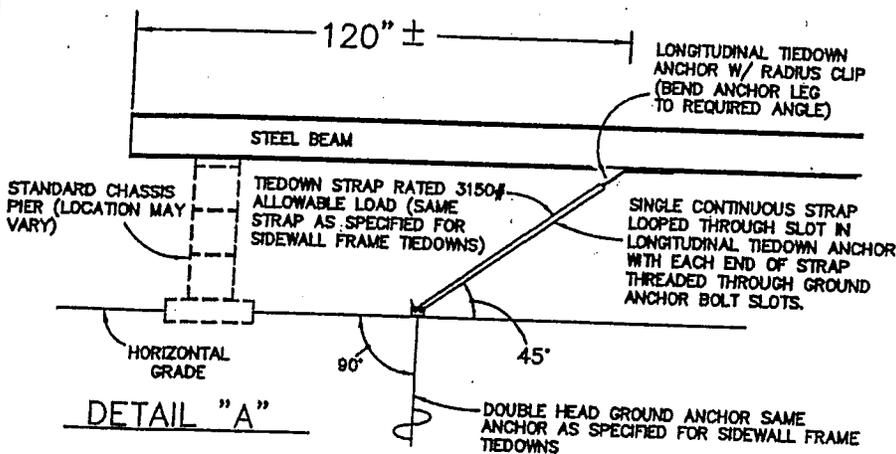
LONG. TIEDOWN STRAP AND GROUND ANCHOR MAY BE ORIENTED UP TO 10 DEG. MAX. FROM STEEL BEAM AS SHOWN - INSTALL ONE RADIUS CLIP ON EACH LONG. TIEDOWN ANCHOR BEFORE INSTALLING THE STRAP (TYP FOR ALL LONG. STRAPS AND ANCHORS)



ONE (1) FRAME TIEDOWN WITH GROUND ANCHOR MUST BE INSTALLED ON EACH LONGITUDINAL TIEDOWN ANCHOR WELDED TO BOTTOM OF EACH STEEL BEAM. INSPECT EACH STEEL BEAM TO VERIFY REQUIRED ANCHOR LOCATIONS

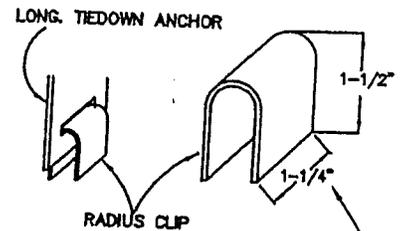
REQUIRED LONGITUDINAL TIEDOWN ANCHORS ARE WELDED TO BOTTOM OF EACH STEEL BEAM AT AN APPROXIMATE SPACING OF 10' O.C. FROM EACH END OF FLOOR (TYP)

PLAN VIEW



DETAIL "A"

TIEDOWN RADIUS CLIP



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

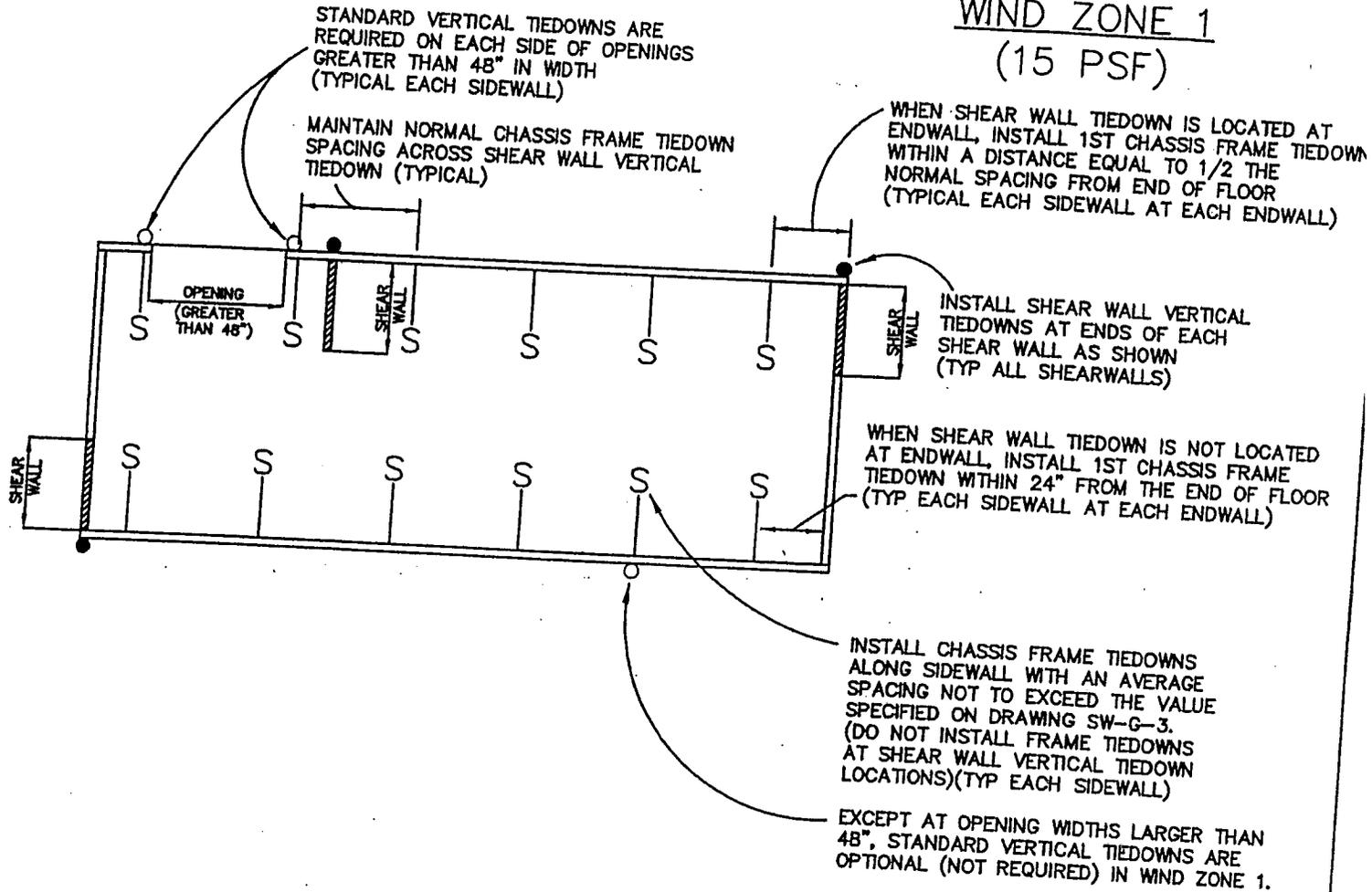
NOTE: ALL LONGITUDINAL TIEDOWN GROUND ANCHORS MUST BE PROVIDED WITH STABILIZER PLATES TO MINIMIZE HORIZONTAL MOVEMENT.

SU-107A

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	APPROVED DEC 8 0 2005	APPROVED	ANCHORAGE SYSTEM FIELD INSTALLED	
	Federal Manufactured Home Construction And Safety Standards	APPROVED	DRAWN BY: TC	DAPIA NO.:
			DATE: 2/4/05	SQ. N.T.S.
				SW-FI-5Z

TYPICAL SINGLEWIDE TIEDOWN PLACEMENT

**WIND ZONE 1
(15 PSF)**



KEY:

- = SHEAR WALL VERTICAL TIEDOWN
- = STANDARD VERTICAL TIEDOWN
- S = CHASSIS FRAME TIEDOWN

P.E. SEAL 	THIRD PARTY	REVISIONS		HORTON HOMES ANCHORAGE SYSTEM FIELD INSTALLED	
	APPROVED BWG DEC 30 2005	LTR:	BY:		
APPROVED Federal Manufactured Home Construction And Safety Standards		APPROVED		SW-G-1	

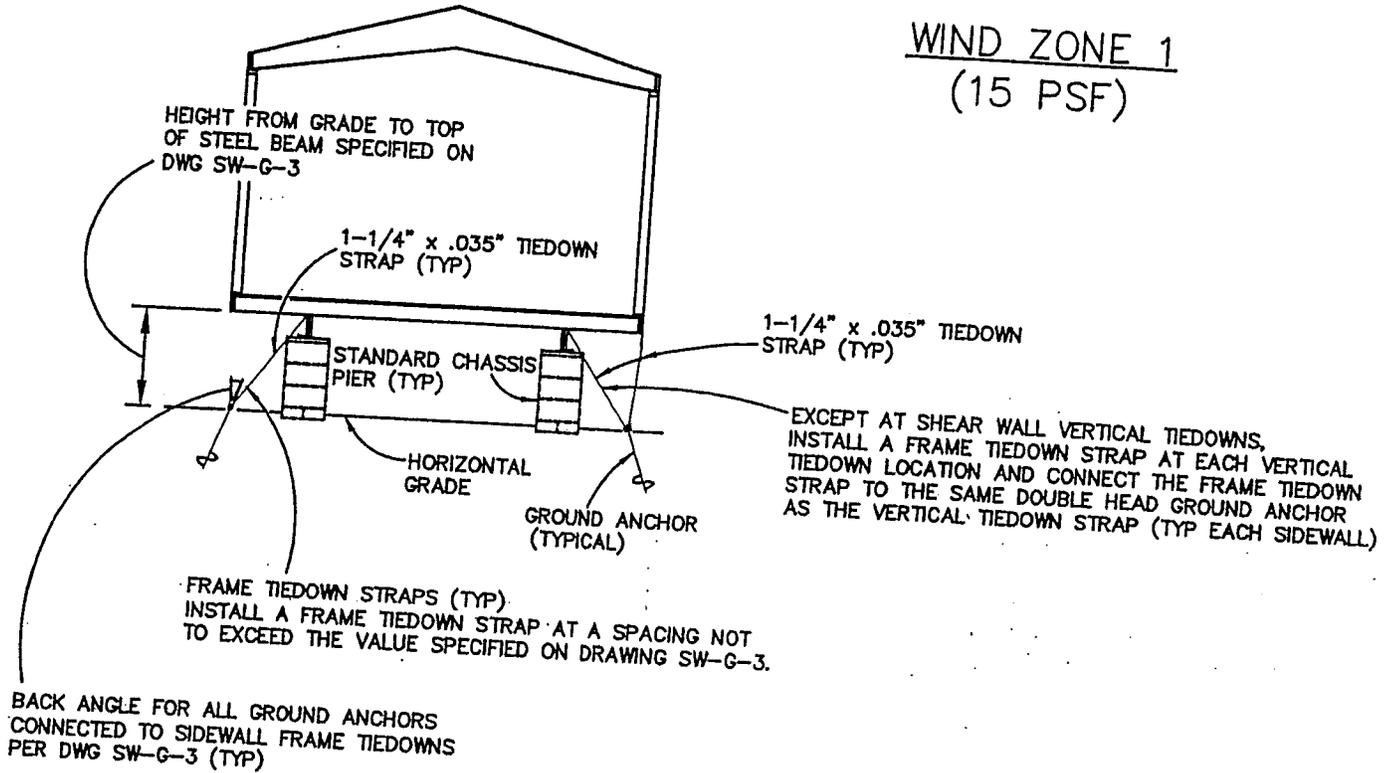
8U-108

8U-108

TYPICAL SINGLEWIDE TIEDOWN INSTALLATION

(STANDARD TIEDOWN INSTALLATION - NOT AT SHEAR WALLS)

WIND ZONE 1
(15 PSF)



GENERAL NOTES:

1. ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.
2. ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE WITHDRAWAL LOAD MIN. (ULTIMATE LOAD 4725# MIN.) WHEN LOADED BOTH PARALLEL WITH THE ANCHOR SHAFT AND AT A 45° ANGLE FROM THE ANCHOR SHAFT.
3. THE GROUND ANCHORS MUST BE INSTALLED TO THEIR FULL DEPTH IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS (IG. APPROVED FOR INSTALLATION IN THE SOIL TYPE WHICH EXISTS AT THE SITE, ETC.) AND MUST EXTEND BELOW THE FROST LINE AND BE AT LEAST 12" ABOVE THE WATER TABLE.
4. ALL GROUND ANCHORS CONNECTED TO THE SIDEWALL FRAME TIEDOWNS MUST BE PROVIDED WITH STABILIZER PLATES TO MINIMIZE HORIZONTAL MOVEMENT.

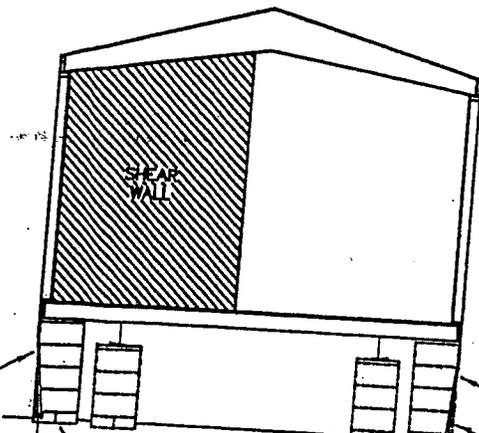
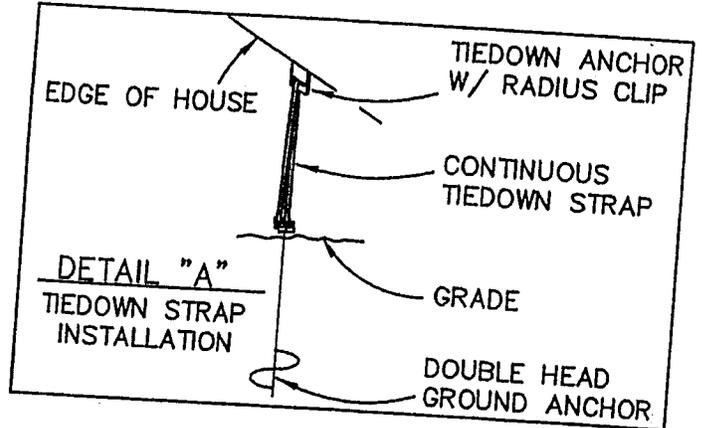
NOTE:
UNLESS SPECIFIED OTHERWISE ON OTHER DRAWINGS, ALL TIEDOWN STRAPS AND GROUND ANCHORS SPECIFIED ON THIS DRAWING ARE IN ADDITION TO THE TIEDOWN STRAPS AND GROUND ANCHORS REQUIRED AT THE SHEAR WALLS.

P.E. SEAL	THIRD PARTY	REVISIONS		HORTON HOMES	
	APPROVED HWG DEC 30 2005	LT	BY:	DATE:	ANCHORAGE SYSTEM NEAR BEAM METHOD
		APPROVED			
	Federal Manufactured Home Construction And Safety Standards		DRAWN BY: TC	DAPIA NO.:	SW-FI-1
			DATE: 2/4/05	SC: N.T.S.	

24-109

SINGLEWIDE SHEAR WALL TIEDOWN SYSTEM

WIND ZONE 1
(15 PSF)



FOR FULL WIDTH SHEAR WALLS, LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR.

INSTALL PIER BELOW EDGE JOIST OPPOSITE SHEAR WALL WHEN SHEAR WALL TERMINATES OVER JOIST CANTILEVER.

LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR. SEE DETAIL "A" ABOVE.

NOTE:
ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.

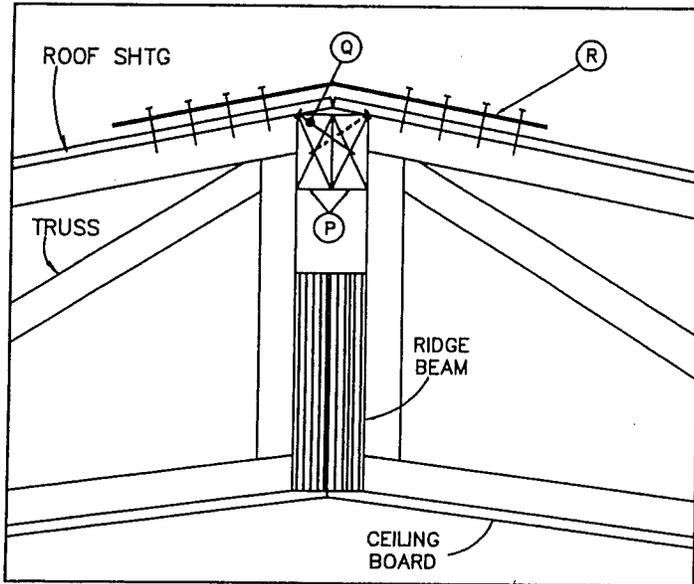
ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 4000# ALLOWABLE WITHDRAWAL LOAD MIN..(ULTIMATE LOAD 6000# MIN.) WHEN LOADED PARALLEL WITH ANCHOR SHAFT.

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	APPROVED	APPROVED	BY:	DATE:
	HWG	APPROVED		
	DEC 30 2005	APPROVED		
	Federal Manufactured Home Construction And Safety Standards	APPROVED		
			ANCHORAGE SYSTEM FIELD INSTALLED	
		DRAWN BY: TC	DAPIA NO.:	SW-FI-3
		DATE: 2/4/05	SC: N.T.S.	

84-110

DOUBLEWIDE ON-SITE FASTENING

WIND ZONE 1
(15 PSF)

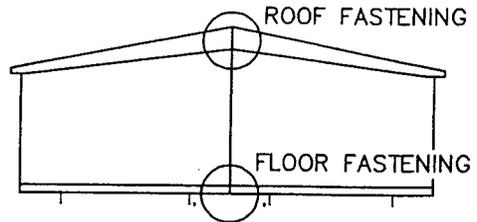


ROOF FASTENING

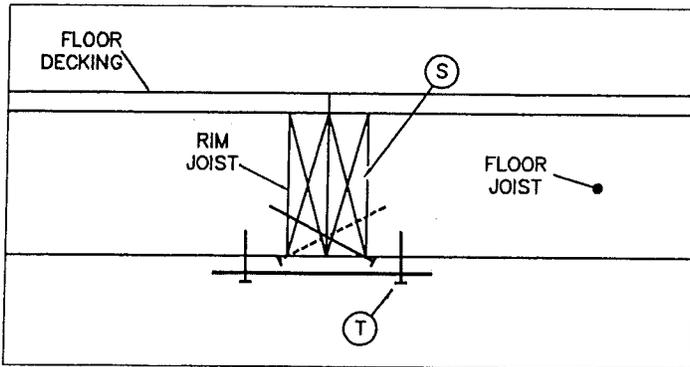
- (P) CONTINUOUS WOOD BLOCKING EACH HALF (MAY BE FULL HEIGHT RIDGE BEAM—NOT SHOWN)
- (Q) #10 x 4" WOOD SCREWS 8" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL*
- (R) 26GA. x 1-1/2" STEEL STRAP LOCATED ABOVE TRUSSES SPACED AT MAXIMUM OF 96" O.C. FASTENED AT EACH END WITH:
 - (10) 15GA. x 1-1/2" STAPLES
 - OR
 - (6) 8D COM NAILS
 - OR
 - (5) #10 x 1-1/2" WOOD SCREWS

IN LIEU OF (R) AND (Q) ABOVE MAY INSTALL A CONTINUOUS 30 GA. x 6" MINIMUM STEEL ROOF CAP OVER 15# FELT WITH:

- (2) #10 x 1-1/2" SCREWS EACH TRUSS AT 16" O.C. OR
- (3) #10 x 1-1/2" SCREWS EACH TRUSS AT 24" O.C.



CROSS SECTION



FLOOR FASTENING

- (S) #10 x 4" WOOD SCREWS 10" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL*
- (T) 26 GA. x 1-1/2" STEEL STRAP SPACED 32" O.C. WITH 5-8D COM NAILS OR 4-#10 x 1-1/2" WOOD SCREWS EACH END OR 1-26 GA. x 2-1/2" STEEL STRAP 48" O.C. WITH 8-8D COM NAILS OR 7-#10 x 1-1/2" WOOD SCREWS EACH END. (ALL FASTENERS MUST PENETRATE INTO FLOOR JOISTS)

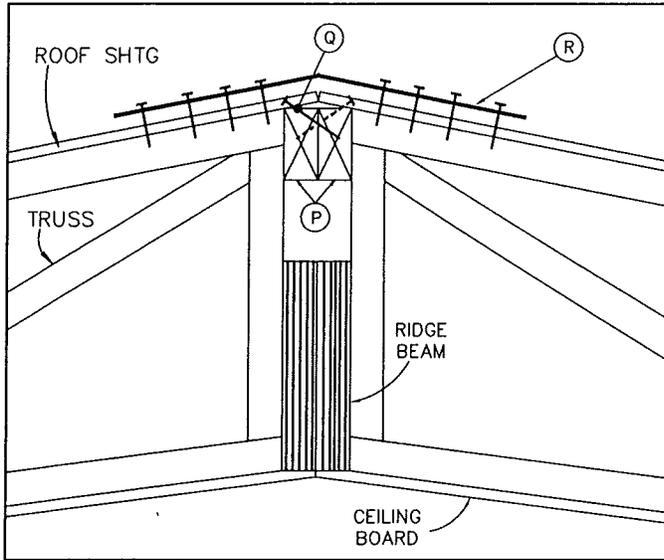
NOTE: BOTTOM BOARD NOT SHOWN FOR CLARITY. HOLES IN BOTTOM BOARD MUST BE PATCHED WITH A VINYL TAPE DESIGNED FOR REPAIRING TEARS AND HOLES.

* NOTE: ADJUST FASTENER LENGTHS FOR ANY GAPS BETWEEN THE MODULES TO OBTAIN THE SAME PENETRATION AND FILL ALL THE GAPS WITH SPF LUMBER OR PLYWOOD BEFORE INSTALLING THE FASTENERS.

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES		
	APPROVED Revised Mar 1 '06 Federal Manufactured Home Construction And Safety Standards APPROVED	LTR: BY: DATE:	DOUBLE WIDE CONNECTIONS FIELD INSTALLED		
		N/A WK 2/15/06			
		DRAWN BY: TC			DAPIA NO.:
		DATE: 2/4/05			SC: N.T.S.
			SU-Z1		

DOUBLEWIDE ON-SITE FASTENING

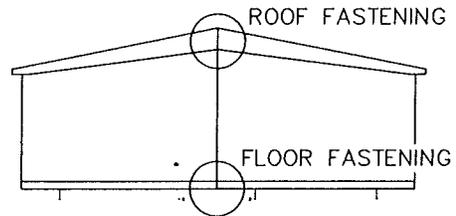
WIND ZONE 1
(15 PSF)



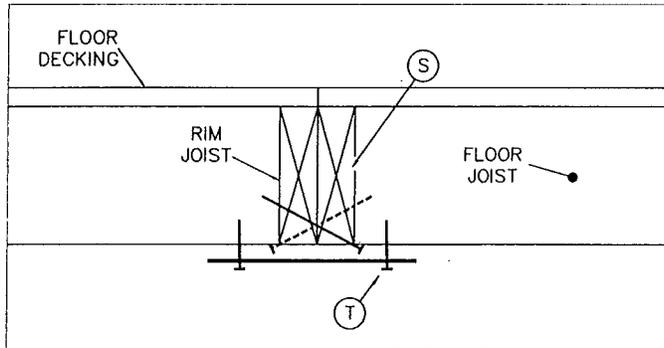
ROOF FASTENING

- (P) CONTINUOUS WOOD BLOCKING EACH HALF (MAY BE FULL HEIGHT RIDGE BEAM—NOT SHOWN)
- (Q) #10 x 4" WOOD SCREWS 8" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL*
- (R) 26 GA. x 1-1/2" STEEL STRAP LOCATED ABOVE TRUSSES SPACED AT MAXIMUM OF 96" O.C. FASTENED AT EACH END WITH:
(10) 15GA. x 1-1/2" STAPLES
OR
(6) 8D COM NAILS
OR
(5) #10 x 1-1/2" WOOD SCREWS

IN LIEU OF (R) AND (Q) ABOVE MAY INSTALL A CONTINUOUS 30 GA. x 6" MINIMUM STEEL ROOF CAP OVER 15# FELT WITH:
(2) #10 x 1-1/2" SCREWS EACH TRUSS AT 16" O.C. OR
(3) #10 x 1-1/2" SCREWS EACH TRUSS AT 24" O.C.



CROSS SECTION



FLOOR FASTENING

- (S) #10 x 4" WOOD SCREWS 10" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL OR 5/16" X 4" LAG SCRWS 16" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL*
- (T) 26 GA. x 1-1/2" STEEL STRAP SPACED 32" O.C. WITH 5-8D COM NAILS OR 4-#10 x 1-1/2" WOOD SCREWS EACH END OR 1-26 GA. x 2-1/2" STEEL STRAP 48" O.C. WITH 8-8D COM NAILS OR 7-#10 x 1-1/2" WOOD SCREWS EACH END. (ALL FASTENERS MUST PENETRATE INTO FLOOR JOISTS)

NOTE: BOTTOM BOARD NOT SHOWN FOR CLARITY. HOLES IN BOTTOM BOARD MUST BE PATCHED WITH A VINYL TAPE DESIGNED FOR REPAIRING TEARS AND HOLES.

*NOTE: ADJUST FASTENER LENGTHS FOR ANY GAPS BETWEEN THE MODULES TO OBTAIN THE SAME PENETRATION AND FILL ALL THE GAPS WITH SPF LUMBER OR PLYWOOD BEFORE INSTALLING THE FASTENERS.

P.E. SEAL	THIRD PARTY	REVISIONS		HORTON HOMES			
	APPROVED APPROVED FEB 19 2009 <small>Federal Manufactured Home Construction And Safety Standards</small>	LTR:	BY:	DATE:	DOUBLE WIDE CONNECTIONS FIELD INSTALLED		
		N/A	WK	2/15/06			
		N/A	WK	2/13/09	DRAWN BY: TC	DAPIA NO.:	SU-Z1
					DATE: 2/4/05	SC: N.T.S.	

REF. CALC#1 MAR 1 2006
REF. CALC# 7 JUL 22 1994
REF. CALC #1 FEB 19 2009

SU-111 A

TYPICAL DOUBLEWIDE TIEDOWN PLACEMENT

NOTE: FOR TRIPLEWIDE OR LARGER DESIGNS INSTALL ALL THE VERTICAL TIEDOWNS AT EACH SHEARWALL, SIDEWALL AND MARRIAGE WALL AS SHOWN ON THIS DRAWING.

**WIND ZONE 1
(15 PSF)**

STANDARD VERTICAL TIEDOWNS ARE REQUIRED ON EACH SIDE OF OPENINGS GREATER THAN 48" IN WIDTH (TYPICAL EACH SIDEWALL AND MARRIAGE WALL)

MAINTAIN NORMAL CHASSIS FRAME TIEDOWN SPACING ACROSS SHEARWALL VERTICAL TIEDOWN (TYPICAL)

WHEN ENDWALL SHEARWALL IS LOCATED IN THIS HALF, INSTALL 1ST CHASSIS FRAME TIEDOWN WITHIN A DISTANCE EQUAL TO 1/2 THE NORMAL SPACING FROM END OF FLOOR (TYP EACH SIDEWALL AT EACH ENDWALL)

INSTALL SHEARWALL VERTICAL TIEDOWNS AT ENDS OF EACH SHEARWALL AS SHOWN (TYP ALL SHEARWALLS) (GREEN BRACKET)

DOUBLEWIDE FLOOR SHOWN SEPARATED FOR CLARITY

WHEN ENDWALL SHEARWALL IS NOT LOCATED IN THIS HALF, INSTALL 1ST CHASSIS FRAME TIEDOWN WITHIN 2' OF END OF FLOOR (TYP EACH SIDEWALL AT EACH ENDWALL)

EXCEPT FOR FULL WIDTH SHEAR WALLS, INSTALL MARRIAGE WALL FRAME TIEDOWN ON THE STEEL BEAM CLOSEST TO THE MARRIAGE WALL BELOW SHEAR WALL (TYPICAL)

INSTALL CHASSIS FRAME TIEDOWNS ALONG SIDEWALL WITH AN AVERAGE SPACING NOT TO EXCEED THE VALUE SPECIFIED ON DRAWING SW-G-3. (DO NOT INSTALL FRAME TIEDOWNS AT SHEARWALL VERTICAL TIEDOWN LOCATIONS)(TYP EACH SIDEWALL)

EXCEPT AT OPENING WIDTHS LARGER THAN 48", STANDARD VERTICAL TIEDOWNS ARE OPTIONAL (NOT REQUIRED) IN WIND ZONE 1.

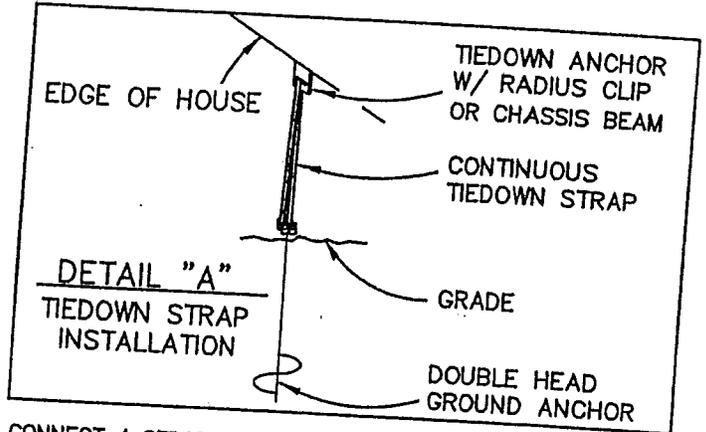
- KEY:**
- = SHEARWALL VERTICAL TIEDOWN
 - = STANDARD VERTICAL TIEDOWN
 - S = CHASSIS FRAME TIEDOWN
 - ⊠ = MAR WALL FRAME TIEDOWN

	P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES ANCHORAGE SYSTEM FIELD INSTALLED
	APPROVED DEC 8 0 2005 Federal Manufactured Home Construction And Safety Standards	APPROVED	LT: BY: DATE:	
				SW-G-2

8U-112

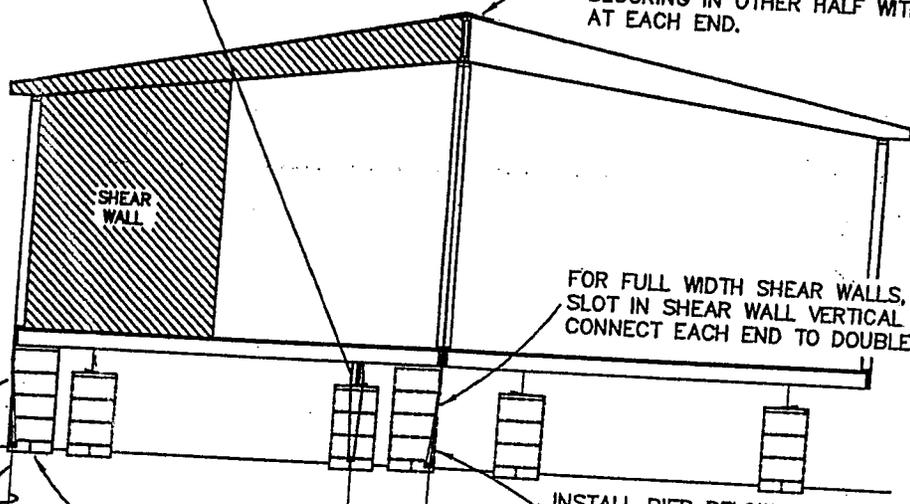
DOUBLEWIDE SHEAR WALL TIEDOWN SYSTEM

WIND ZONE 1



EXCEPT FOR FULL WIDTH SHEAR WALLS, INSTALL MARRIAGE WALL FRAME TIEDOWN AND GROUND ANCHOR WITH STRAP PLACED VERTICALLY WITHIN 8" OF SHEAR WALL.

CONNECT 4 STRAPS ON TRUSS ABOVE SHEAR WALL TO BLOCKING IN OTHER HALF WITH (4) #10 x 1-1/2" SCREWS AT EACH END.



GROUND ANCHOR (TYPICAL)

INSTALL PIER WITHIN 8" OF SHEAR WALL BELOW EDGE JOIST (TYPICAL).

INSTALL PIER BELOW EDGE JOIST OPPOSITE SHEAR WALL WHEN SHEAR WALL TERMINATES OVER JOIST CANTILEVER.

LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR. SEE DETAIL "A" ABOVE.

NOTE:
ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.

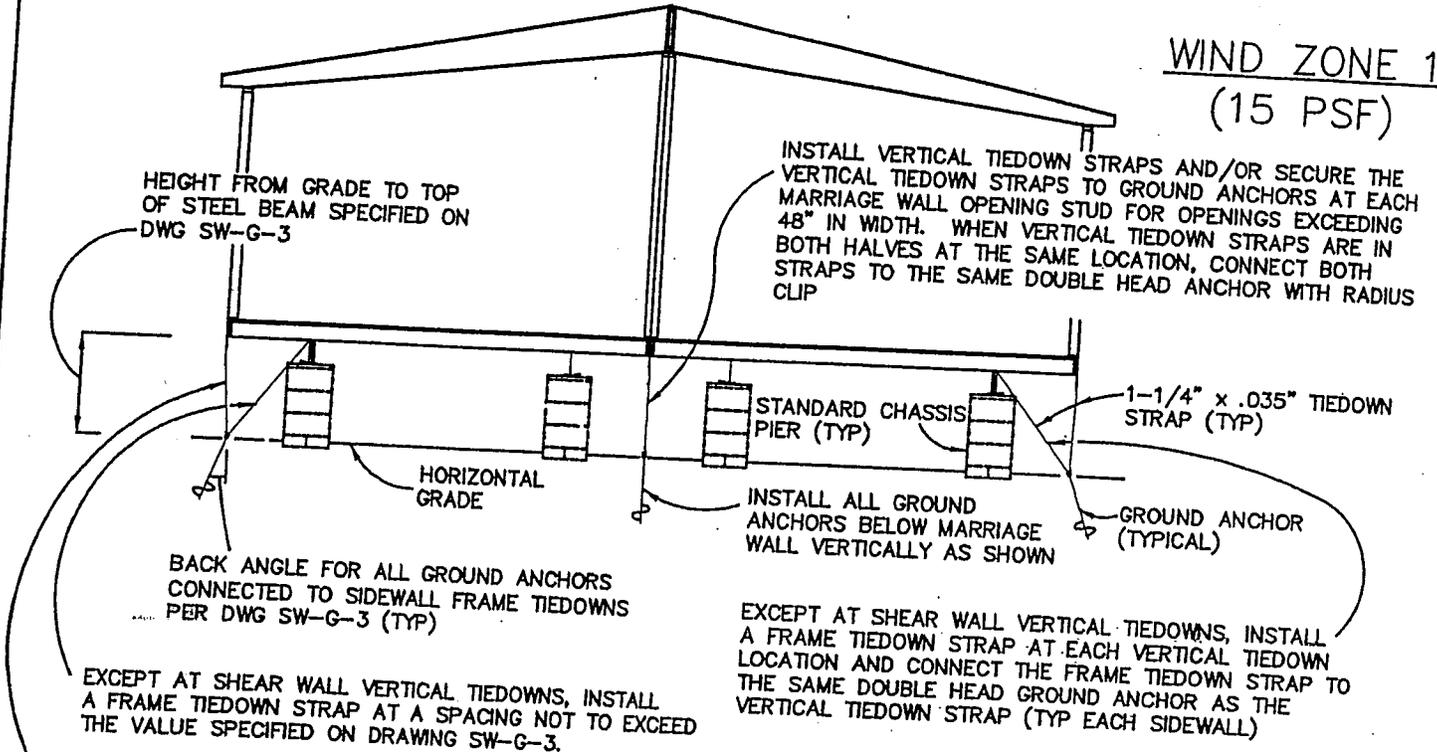
ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 4000# ALLOWABLE WITHDRAWAL LOAD MIN. (ULTIMATE LOAD 6000# MIN.) WHEN LOADED PARALLEL WITH THE ANCHOR SHAFT.

P.E. SEAL 	THIRD PARTY	REVISIONS		HORTON HOMES	
	APPROVED DEC 30 2005	APPROVED 	BY:	DATE:	ANCHORAGE SYSTEM FIELD INSTALLED
Federal Manufactured Home Construction And Safety Standards		DRAWN BY: TC DATE: 2/4/05		DAPIA NO.: SC: N.T.S. SW-FI-4	

SU-113

TYPICAL DOUBLEWIDE TIEDOWN INSTALLATION (STANDARD TIEDOWN INSTALLATION - NOT AT SHEAR WALLS)

WIND ZONE 1
(15 PSF)



BACK ANGLE FOR ALL GROUND ANCHORS CONNECTED TO SIDEWALL FRAME TIEDOWNS PER DWG SW-G-3 (TYP)

EXCEPT AT SHEAR WALL VERTICAL TIEDOWNS, INSTALL A FRAME TIEDOWN STRAP AT A SPACING NOT TO EXCEED THE VALUE SPECIFIED ON DRAWING SW-G-3.

INSTALL VERTICAL TIEDOWN STRAPS AND/OR SECURE THE VERTICAL TIEDOWN STRAPS TO GROUND ANCHORS AT OPENING STUDS WHEN THE OPENING WIDTH EXCEEDS 48" (TYPICAL EACH SIDEWALL)

INSTALL VERTICAL TIEDOWN STRAPS AND/OR SECURE THE VERTICAL TIEDOWN STRAPS TO GROUND ANCHORS AT EACH MARRIAGE WALL OPENING STUD FOR OPENINGS EXCEEDING 48" IN WIDTH. WHEN VERTICAL TIEDOWN STRAPS ARE IN BOTH HALVES AT THE SAME LOCATION, CONNECT BOTH STRAPS TO THE SAME DOUBLE HEAD ANCHOR WITH RADIUS CLIP

INSTALL ALL GROUND ANCHORS BELOW MARRIAGE WALL VERTICALLY AS SHOWN

EXCEPT AT SHEAR WALL VERTICAL TIEDOWNS, INSTALL A FRAME TIEDOWN STRAP AT EACH VERTICAL TIEDOWN LOCATION AND CONNECT THE FRAME TIEDOWN STRAP TO THE SAME DOUBLE HEAD GROUND ANCHOR AS THE VERTICAL TIEDOWN STRAP (TYP EACH SIDEWALL)

GENERAL NOTES:

1. ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.
2. ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE WITHDRAWAL LOAD MIN..(ULTIMATE LOAD 4725# MIN.) WHEN LOADED BOTH PARALLEL WITH THE ANCHOR SHAFT AND AT A 45° ANGLE FROM THE ANCHOR SHAFT.
3. THE GROUND ANCHORS MUST BE INSTALLED TO THEIR FULL DEPTH IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS (IG. APPROVED FOR INSTALLATION IN THE SOIL TYPE WHICH EXISTS AT THE SITE, ETC.) AND MUST EXTEND BELOW THE FROST LINE AND BE AT LEAST 12" ABOVE THE WATER TABLE.
4. ALL GROUND ANCHORS CONNECTED TO THE SIDEWALL FRAME TIEDOWNS MUST BE PROVIDED WITH STABILIZER PLATES TO MINIMIZE HORIZONTAL MOVEMENT.

NOTE:
UNLESS SPECIFIED OTHERWISE ON OTHER DRAWINGS, ALL TIEDOWN STRAPS AND GROUND ANCHORS SPECIFIED ON THIS DRAWING ARE IN ADDITION TO THE TIEDOWN STRAPS AND GROUND ANCHORS REQUIRED AT THE SHEAR WALLS.

P.E. SEAL	THIRD PARTY	REVISIONS			HORTON HOMES	
	APPROVED HWG DEC 30 2005	LTR:	BY:	DATE:	ANCHORAGE SYSTEM FIELD INSTALLED	
		DRAWN BY: TC	DAPIA NO.:		SW-FI-2	
		DATE: 2/4/05	SC: N.T.S.			

Federal Manufactured Home Construction And Safety Standards

8U-114

10-114

WIND ZONES 2 AND 3

A APPROVED **HWG** **A** APPROVED
DEC 8 0 2005
Federal Manufactured
Home Construction
And Safety Standards

SU-D-120

SU-120

William J. Kalker, Jr., P.E.
Consulting Engineer
33 Rockwood Lane
Monroe, Connecticut 06468
203/261-1187

Mar 4, 2005

Horton Homes
Eatonton, GA

SUB: Ground Anchor Installation

To Whom It May Concern:

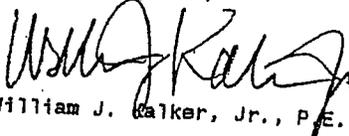
This letter certifies that unless otherwise noted on the tiedown installation drawings, all ground anchors connected to diagonal frame tiedowns along the sidewalls must have the ground anchor heads located within six (6) inches of the sidewall (i.e., within six inches of the vertical plane which is created by the outside surface of the sidewall). All such ground anchors must also be provided with stabilizer plates to minimize horizontal movement.

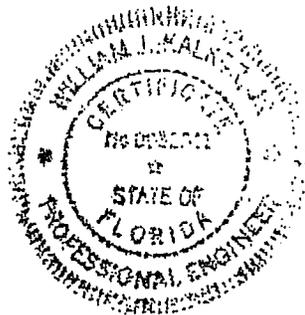
Also note, all ground anchors located below the mate lines of double wide or multi-wide units which are connected to diagonal frame tiedowns must have stabilizer plates connected to the ground anchor shafts to minimize horizontal movement.

All ground anchors connected to longitudinal tiedown straps and/or used as longitudinal tiedown anchors must be provided with stabilizer plates to minimize horizontal movement.

Stabilizer plates are not required on shear wall anchors, marriage wall column anchors, porch post anchors and/or any other anchors which resist only vertical uplift wind loads.

Very truly yours,


William J. Kalker, Jr., P.E.



APPROVED
HWC
APPROVED
DEC 30 2005
Federal Manufactured
Home Construction
And Safety Standards

SU-D-121

MAXIMUM TIEDOWN SPACINGS

WIND ZONE 2

HOME SIZE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAX. SIDEWALL VERTICAL/FRAME TIEDOWN SPACING AND LOCATION	MAX. MARRIAGE WALL FRAME TIEDOWN SPACING	MINIMUM STEEL BEAM HEIGHT	MAXIMUM STEEL BEAM HEIGHT	GROUND ANCHOR BACKANGLE
140" FLOOR W/ 12" O.H. DOUBLE WIDE	2	8'-0"	9' O.C. NEAR BEAM 9' O.C. FAR BEAM	14' O.C.	24"	40"	0°
160" FLOOR W/ 12" O.H. DOUBLE WIDE	2	8'-0"	11' O.C. NEAR BEAM 11' O.C. FAR BEAM	14' O.C.	>40"	72"	20°
177" FLOOR W/ 12" O.H. DOUBLE WIDE	2	8'-0"	11'-6" O.C. NEAR BEAM 11'-6" O.C. FAR BEAM	14' O.C.	24"	40"	0°
160" FLOOR W/ 4" O.H. SINGLE WIDE	2	8'-0"	7' O.C. NEAR BEAM 7' O.C. FAR BEAM	N/A	24"	40"	0°
184" FLOOR W/ 4" O.H. SINGLE WIDE	2	8'-0"	7'-9" O.C. NEAR BEAM 7'-9" O.C. FAR BEAM	N/A	24"	40"	0°

REF. CALC # 1-3-12/30/5

O.H.= MAX. SIDEWALL ROOF EAVE OVERHANG
ROOF PITCH < 20 DEGREES

* HEIGHT FROM GRADE TO TOP OF STEEL BEAM

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 6000 LB) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.

SPECIFICATIONS ON THIS DRAWING SUPERSEDE ALL OTHER SPECIFICATIONS SHOWN ON OTHER DRAWINGS AND/OR IN THE SET-UP MANUAL.
DURING ALL TIEDOWN INSTALLATIONS, PROTECTION MUST BE PROVIDED TO ALL TIEDOWN STRAPS AT ALL SHARP CORNERS.

APPROVED

HORTON

Federal Manufactured Home Construction
HORTON HOMES

DATE: 1/10/04	DRAWN BY: WK
CODES: MHCS	SHEET
LABELS: HUP	ANCHORAGE SYSTEM
SCALE: NTS	REVISIONS:
WILLIAM J. KALKER, JR., P.E. CONSULTING ENGINEER	
33 ROCKWOOD LANE MONROE, CT 06468 (203) 261-1107	



5/15/05

MAXIMUM TIEDOWN SPACINGS

WIND ZONE 3 EXPD

HOME SIZE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAX. SIDEWALL VERTICAL/FRAME TIEDOWN SPACING AND LOCATION	MAX. MARRIAGE WALL FRAME TIEDOWN SPACING	MINIMUM STEEL BEAM HEIGHT *	MAXIMUM STEEL BEAM HEIGHT *	GROUND ANCHOR BACKANGLE
160" FLOOR W/O O.H. SINGLE WIDE	3 EXPD	7'-6"	5'-3" O.C. NEAR BEAM	N/A	24"	40"	0°
140" FLOOR W/ 12" O.H. DOUBLE WIDE	3 EXPD	8'-0"	4'-6" O.C. NEAR BEAM	10'-0" O.C.	24"	40"	0°
160" FLOOR W/ 12" O.H. DOUBLE WIDE	3 EXPD	8'-0"	5'-4" O.C. NEAR BEAM	10'-0" O.C.	24"	40"	0°
177" FLOOR W/ 12" O.H. DOUBLE WIDE	3 EXPD	8'-0"	5'-0" O.C. NEAR BEAM	10'-0" O.C.	24"	40"	0°

APPROVED

APPROVED

WVG

DEC 30 2005

Federal Manufactured Home Construction And Safety Standards

REF. CALC # 3-2/18/1997

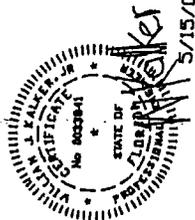
1-3-12/30/5

O.H.= MAX. SIDEWALL ROOF EAVE OVERHANG
ROOF PITCH < 20 DEGREES

* HEIGHT, FROM GRADE TO TOP OF STEEL BEAM

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 6000 LB) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT. SPECIFICATIONS ON THIS DRAWING SUPERSEDE ALL OTHER SPECIFICATIONS SHOWN ON OTHER DRAWINGS AND/OR IN THE SET-UP MANUAL. DURING ALL TIEDOWN INSTALLATIONS, PROTECTION MUST BE PROVIDED TO ALL TIEDOWN STRAPS AT ALL SHARP CORNERS. REFERENCE THE 'AVERAGE FRAME TIEDOWN SPACINGS' TABLES FOR OPTIONAL TIEDOWN PLACEMENT SPECIFICATIONS.

HORTON HOMES	
DATE: 5/15/05	REVISIONS:
CODES: MHCSS	DRAWN BY: WK
LABELS: HUD	SHEET
SCALE: MTS	ANCHORAGE SYSTEM
WILLIAM J. KALKER, JR., P.E. CONSULTING ENGINEER	
33 ROCKWOOD LANE HONOLULU, HI 96828 (203) 261-1167	



SHEET 10A

5/15/05

SW-G-3

WIND ZONE 3 EXPD

MAXIMUM TIEDOWN SPACINGS

HOME SIZE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAX. SIDEWALL VERTICAL/FRAME TIEDOWN SPACING
160" FLOOR W/O O.H. SINGLE WIDE	3 EXPD	7'-6"	5'-3" O.C.
		1-3-12/30/5	
		3-2/18/1997	
140" FLOOR W/ 12" O.H. DOUBLE WIDE	3 EXPD	8'-0"	4'-6" O.C.
160" FLOOR W/ 12" O.H. DOUBLE WIDE	3 EXPD	8'-0"	5'-4" O.C.
177" FLOOR W/ 12" O.H. DOUBLE WIDE	3 EXPD	8'-0"	5'-0" O.C.

REF. CALC #

MAXIMUM MARRIAGE WALL VERTICAL TIEDOWN TRIBUTARY DISTANCES
(ANCHOR INSTALLATION PER DWG SW-FA-9)

FLOOR WIDTH	WIND ZONE	ANCHOR TYPE/FASTENING	MAX. TRIB. DISTANCE FOR EACH VERTICAL TIEDOWN	MAX. TRIB. DIST. * WHEN COLS IN BOTH HALVES CONNECTED TO THE SAME GROUND ANCHOR
140" FLOOR	3 EXPD	ELIXIR S20 W/ 16-#BX2" SCR	17'-2"	17'-2"
		ELIXIR BP-10	7'-8"	17'-2"
160" FLOOR	3 EXPD	ELIXIR S20 W/ 16-#BX2" SCR	15'-0"	15'-0"
		ELIXIR BP-10	6'-6"	15'-0"
177" FLOOR	3 EXPD	ELIXIR S20 W/ 16-#BX2" SCR	13'-7"	13'-7"
		ELIXIR BP-10	6'-0"	13'-7"
		ELIXIR S20 W/ 16-#BX2" SCR		
		ELIXIR BP-10		
		ELIXIR S20 W/ 16-#BX2" SCR		
		ELIXIR BP-10		
		ELIXIR S20 W/ 16-#BX2" SCR		
		ELIXIR BP-10		

* SUM OF TRIB. DISTANCES FOR BOTH COLUMNS CANNOT EXCEED THE VALUE SPECIFIED.

O.H.= MAX. SIDEWALL ROOF EAVE OVERHANG.
ROOF PITCH < 20 DEGREES

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 6000 LB) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.

MINIMUM GRADE LUMBER IS SPF UNLESS OTHERWISE NOTED.

REFERENCE THE 'AVERAGE FRAME TIEDOWN SPACINGS' TABLES FOR OPTIONAL TIEDOWN PLACEMENT SPECIFICATIONS.



HORTON HOMES

DATE: 11/15/04	REVISIONS: 1	DRAWN BY: WK
CODES: MFCSS		SHEET
LABELS: HMO		SW-G-3
SCALE: MFS		(FACT.)
ANCHORAGE SYSTEM FACTORY INSTALLED		
WILLIAM J. KALKER, JR., P.E. CONSULTING ENGINEER		
12 ROCKWOOD LAKE 12 ROCKWOOD LAKE CT 06458 (203) 251-1187		

APPROVED
APPROVED
APPROVED

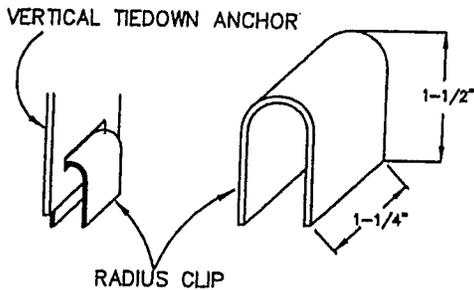
DEC 8 0 2005

Federal Manufactured Home Construction And Safety Standards

94-11-121

WIND ZONES 1, 2 & 3
& WIND ZONE 3 EXPD

TIEDOWN RADIUS CLIP

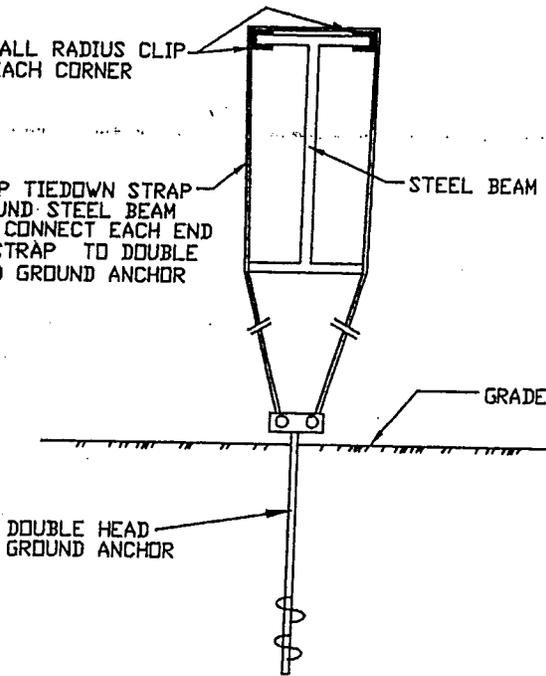


NOTES:

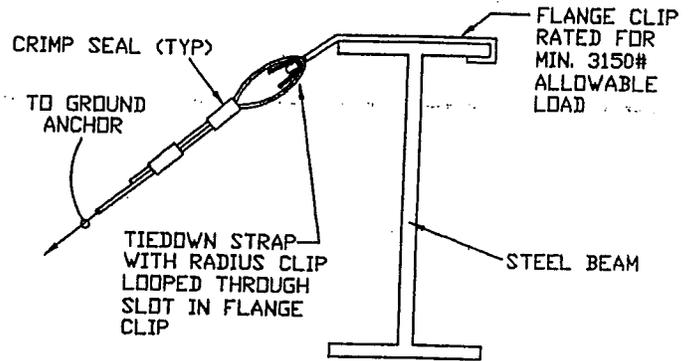
1. RADIUS CLIP MUST BE INSTALLED ON ALL MARRIAGE WALL VERTICAL TIEDOWN ANCHORS, SIDEWALL VERTICAL TIEDOWN ANCHORS, SHEAR WALL VERTICAL TIEDOWN ANCHORS AND FLANGE CLIPS AS NOTED BELOW
2. INSTALLER TO FABRICATE RADIUS CLIP BY PLACING STRAIGHT 3" LENGTH OF 1-1/4" x .035" TIEDOWN STRAP IN ANCHOR SLOT AND MANUALLY BENDING THE STRAP TO THE CONFIGURATION SHOWN.

INSTALL RADIUS CLIP ON EACH CORNER

WRAP TIEDOWN STRAP AROUND STEEL BEAM AND CONNECT EACH END OF STRAP TO DOUBLE HEAD GROUND ANCHOR



FRAME VERTICAL TIEDOWN



FRAME DIAGONAL TIEDOWN

STEEL FRAME TIEDOWN STRAP CONNECTIONS

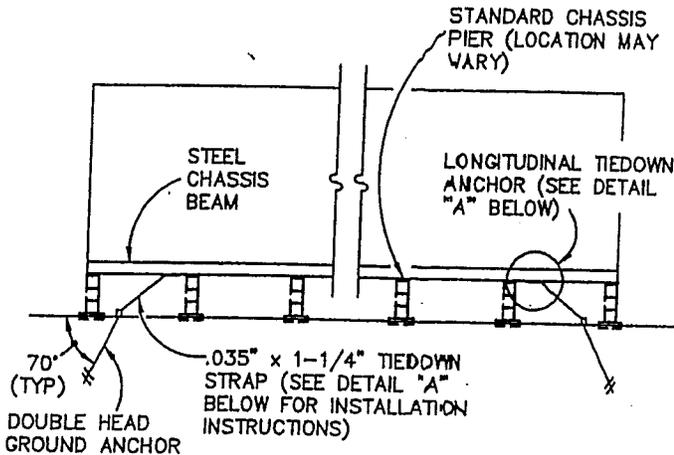
P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES				
	<p>APPROVED</p> <p>MWG</p> <p>DEC 8 0 2005</p> <p>Federal Manufactured Home Construction And Safety Standards</p>	APPROVED	BY:	DATE:	ANCHORAGE SYSTEM FIELD INSTALLED		
						DRAWN BY: TC	DAPIA NO.:
					DATE: 2/4/05	SC: N.T.S.	SU-CON

SU-III-126

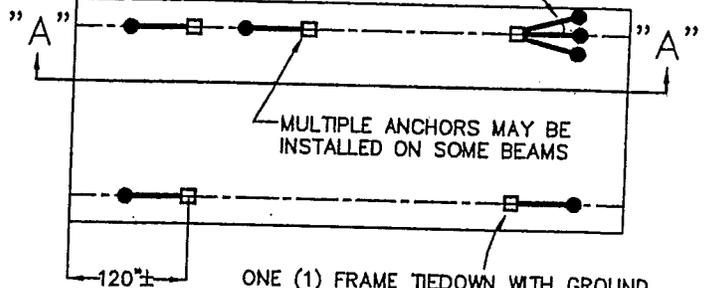
SU-III-126

LONGITUDINAL FRAME TIEDOWN INSTALLATION

NOTE: LONGITUDINAL TIEDOWN ANCHOR BRACKETS ARE INSTALLED AT THE FACTORY ON THE BOTTOM OF THE CHASSIS BEAMS. THE INSTALLER MUST INSPECT THE BOTTOM OF EACH STEEL BEAM TO VERIFY THE REQUIRED ANCHOR LOCATIONS AND INSTALL LONGITUDINAL TIEDOWN GROUND ANCHORS ON THESE BRACKETS IN ACCORDANCE WITH THE DETAILS BELOW



LONG. TIEDOWN STRAP AND GROUND ANCHOR MAY BE ORIENTED UP TO 10 DEG. MAX. FROM STEEL BEAM AS SHOWN - INSTALL ONE RADIUS CLIP ON EACH LONG. TIEDOWN ANCHOR BEFORE INSTALLING THE STRAP (TYP FOR ALL LONG. STRAPS AND ANCHORS)



ONE (1) FRAME TIEDOWN WITH GROUND ANCHOR MUST BE INSTALLED ON EACH LONGITUDINAL TIEDOWN ANCHOR WELDED TO BOTTOM OF EACH STEEL BEAM. INSPECT EACH STEEL BEAM TO VERIFY REQUIRED ANCHOR LOCATIONS

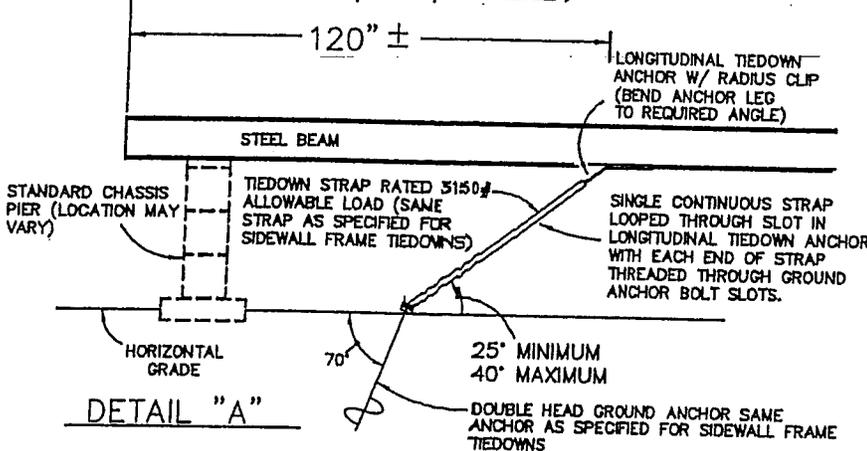
REQUIRED LONGITUDINAL TIEDOWN ANCHORS ARE WELDED TO BOTTOM OF EACH STEEL BEAM AT AN APPROXIMATE SPACING OF 10' O.C. FROM EACH END OF FLOOR (TYP)

PLAN VIEW

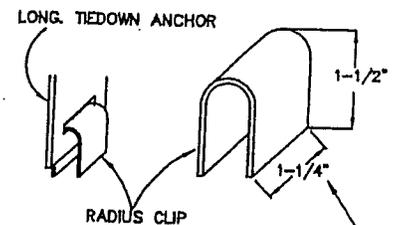
SECTION "A-A"

2-11/30/1
4-12/30/5
1-6/3/1999

REF. CALC # 5-2/18/1997, 1-3/23/4



TIEDOWN RADIUS CLIP



INSTALLER TO FABRICATE RADIUS CLIP BY PLACING STRAIGHT 3\"/>

NOTE: ALL LONGITUDINAL TIEDOWN GROUND ANCHORS MUST BE PROVIDED WITH STABILIZER PLATES TO MINIMIZE HORIZONTAL MOVEMENT.

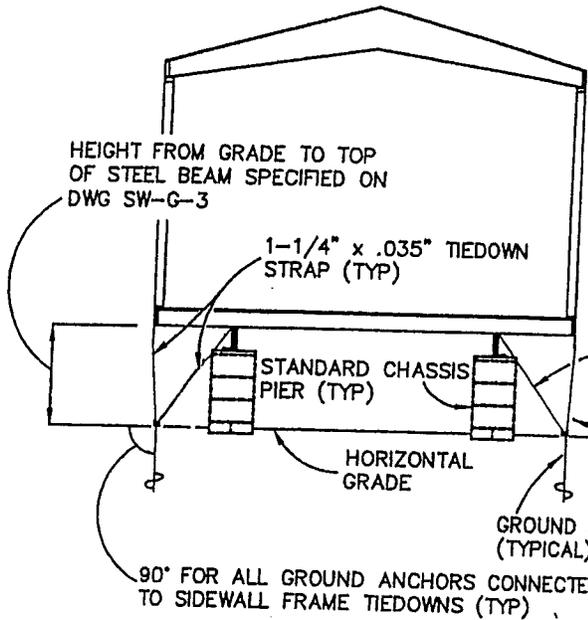
P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	APPROVED	HWC	BY:	DATE:
	APPROVED	HWC		
	APPROVED	HWC		
	APPROVED	HWC		
	DEC 30 2005		ANCHORAGE SYSTEM FIELD INSTALLED	
	Federal Manufactured Home Construction And Safety Standards		DRAWN BY: TC	DAPIA NO.:
			DATE: 2/4/05	SC: N.T.S.
				SW-FI-5Z

84-II-127

TYPICAL SINGLEWIDE TIEDOWN INSTALLATION

(STANDARD TIEDOWN INSTALLATION - NOT AT SHEAR WALLS)

WIND ZONE 2 & 3
& ZONE 3 EXPD.



EXCEPT AT SHEAR WALL VERTICAL TIEDOWNS, INSTALL A FRAME TIEDOWN STRAP AT EACH VERTICAL TIEDOWN LOCATION AND CONNECT THE FRAME TIEDOWN STRAP TO THE SAME DOUBLE HEAD GROUND ANCHOR AS THE VERTICAL TIEDOWN STRAP (TYP EACH SIDEWALL)

INSTALL VERTICAL TIEDOWN STRAPS AND/OR SECURE THE VERTICAL TIEDOWN STRAPS TO GROUND ANCHORS AT OPENING STUDS WHEN THE OPENING WIDTH EXCEEDS 48" AND AT A SPACING NOT TO EXCEED THE VALUE SPECIFIED ON DRAWING SW-G-3.

90° FOR ALL GROUND ANCHORS CONNECTED TO SIDEWALL FRAME TIEDOWNS (TYP)

GENERAL NOTES:

1. ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.
2. ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 4000# ALLOWABLE WITHDRAWAL LOAD MIN..(ULTIMATE LOAD 6000# MIN.) WHEN LOADED BOTH PARALLEL WITH THE ANCHOR SHAFT AND AT A 45° ANGLE FROM THE ANCHOR SHAFT.
3. THE GROUND ANCHORS MUST BE INSTALLED TO THEIR FULL DEPTH IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS (IG. APPROVED FOR INSTALLATION IN THE SOIL TYPE WHICH EXISTS AT THE SITE, ETC.) AND MUST EXTEND BELOW THE FROST LINE AND BE AT LEAST 12" ABOVE THE WATER TABLE.
4. ALL GROUND ANCHORS CONNECTED TO THE SIDEWALL FRAME TIEDOWNS MUST BE PROVIDED WITH STABILIZER PLATES TO MINIMIZE HORIZONTAL MOVEMENT.

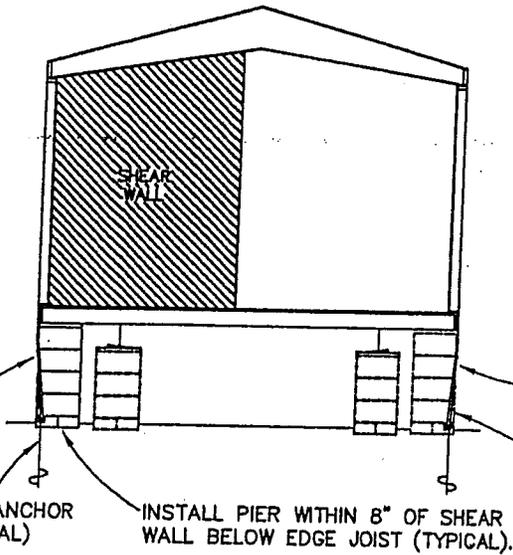
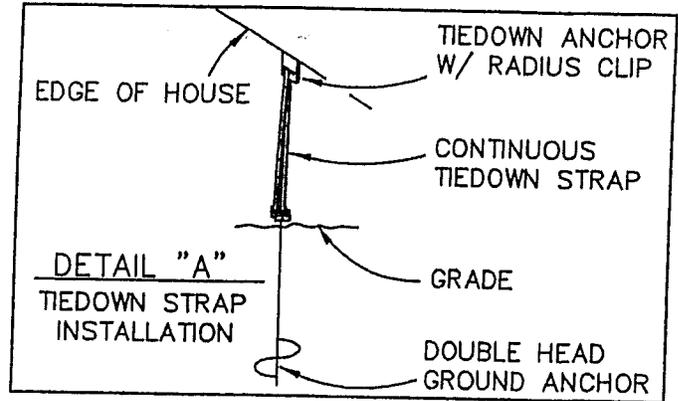
NOTE:
UNLESS SPECIFIED OTHERWISE ON OTHER DRAWINGS, ALL TIEDOWN STRAPS AND GROUND ANCHORS SPECIFIED ON THIS DRAWING ARE IN ADDITION TO THE TIEDOWN STRAPS AND GROUND ANCHORS REQUIRED AT THE SHEAR WALLS.

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES																			
	<p>APPROVED</p> <p>HWG</p> <p>DEC 30 2005</p> <p>Federal Manufactured Home Construction And Safety Standards</p>	<table border="1"> <thead> <tr> <th>NO.</th> <th>BY:</th> <th>DATE:</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	BY:	DATE:																<p>APPROVED</p> <p>ANCHORAGE SYSTEM NEAR BEAM METHOD</p>	
		NO.	BY:	DATE:																		
		<table border="1"> <tr> <td>DRAWN BY: TC</td> <td>DAPIA NO.:</td> </tr> <tr> <td>DATE: 1/26/96</td> <td>SC: N.T.S.</td> </tr> </table>	DRAWN BY: TC	DAPIA NO.:	DATE: 1/26/96	SC: N.T.S.	<p>SW-FI-1</p>															
DRAWN BY: TC	DAPIA NO.:																					
DATE: 1/26/96	SC: N.T.S.																					

SU-II-128

SINGLEWIDE SHEAR WALL TIEDOWN SYSTEM

WIND ZONES 2 & 3
& WIND ZONE 3 EXPD



FOR FULL WIDTH SHEAR WALLS, LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR.

INSTALL PIER BELOW EDGE JOIST OPPOSITE SHEAR WALL WHEN SHEAR WALL TERMINATES OVER JOIST CANTILEVER.

NOTE:
ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 4000# ALLOWABLE WITHDRAWAL LOAD MIN. (ULTIMATE LOAD 6000# MIN.) WHEN LOADED PARALLEL WITH ANCHOR SHAFT.

LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR. SEE DETAIL "A" ABOVE.

GROUND ANCHOR (TYPICAL)

INSTALL PIER WITHIN 8" OF SHEAR WALL BELOW EDGE JOIST (TYPICAL).

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES		
	APPROVED HWC DEC 30 2005	LTR. BY: DATE:	ANCHORAGE SYSTEM NEAR BEAM METHOD		
		APPROVED	DRAWN BY: TC	DAPIA NO.:	
		APPROVED	DATE: 2/4/05	SC: N.T.S.	SW-FI-3
		APPROVED	Federal Manufactured Home Construction And Safety Standards		

SU-III-129

TYPICAL SINGLEWIDE TIEDOWN PLACEMENT

WIND ZONE 2 & 3
& ZONE 3 EXPD

STANDARD VERTICAL TIEDOWNS ARE REQUIRED ON EACH SIDE OF OPENINGS GREATER THAN 48" IN WIDTH (TYPICAL EACH SIDEWALL) (SIDEWALL VERTICAL TIEDOWNS MUST BE WITHIN 24" OF OPENING STUDS)

MAINTAIN NORMAL STANDARD VERTICAL TIEDOWN SPACING ACROSS SHEAR WALL VERTICAL TIEDOWN (TYPICAL)

WHEN SHEAR WALL TIEDOWN IS LOCATED AT ENDWALL INSTALL 1ST STANDARD VERTICAL TIEDOWN WITHIN A DISTANCE EQUAL TO 1/2 THE NORMAL SPACING SPECIFIED ON DRAWING SW-G-3 FROM THE END OF THE FLOOR. (TYP EACH SIDEWALL AT EACH ENDWALL)

INSTALL SHEAR WALL VERTICAL TIEDOWNS AT ENDS OF EACH SHEAR WALL AS SHOWN (TYP ALL SHEAR WALLS) (GREEN BRACKET)

WHEN SHEAR WALL TIEDOWN IS NOT LOCATED AT ENDWALL, INSTALL 1ST STANDARD VERTICAL TIEDOWN WITHIN 24" FROM END OF FLOOR. (TYP EACH SIDEWALL AT EACH ENDWALL)

24" MAX.

INSTALL FRAME TIEDOWNS AT ALL STANDARD VERTICAL TIEDOWN LOCATIONS ALONG SIDEWALL (DO NOT INSTALL FRAME TIEDOWNS AT SHEAR WALL VERTICAL TIEDOWN LOCATIONS) (TYP EACH SIDEWALL)

INSTALL STANDARD VERTICAL TIEDOWNS ALONG SIDEWALL WITH AN AVERAGE SPACING NOT TO EXCEED THE VALUE SPECIFIED ON DRAWING SW-G-3

KEY:

- = SHEAR WALL VERTICAL TIEDOWN
- = STANDARD VERTICAL TIEDOWN
- S = CHASSIS FRAME TIEDOWN

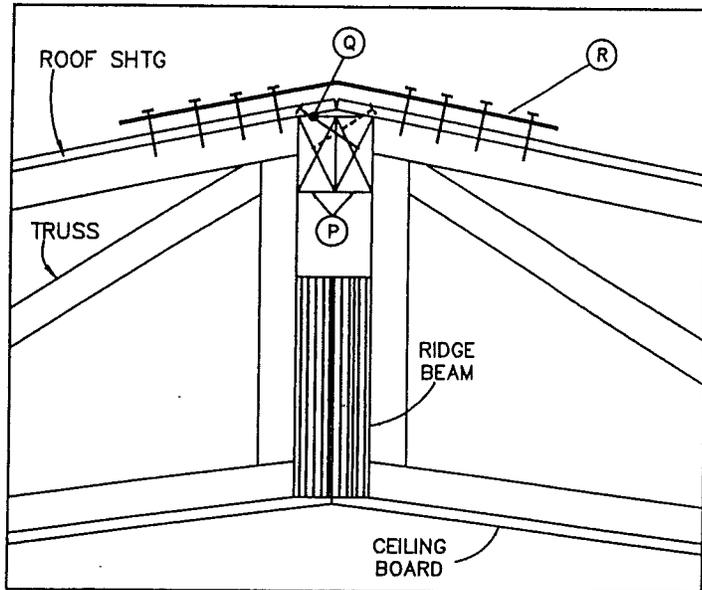
P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES
	APPROVED DEC 30 2005	BY: DATE:	ANCHORAGE SYSTEM NEAR BEAM METHOD
		APPROVED	DRAWN BY: TC DAPIA NO.: ST28 DATE: 1/26/96 SC: N.T.S. SW-G-1

Federal Manufactured Home Construction And Safety Standards

SU-II-129A

DOUBLEWIDE ON-SITE FASTENING

WIND ZONE 2 & 3

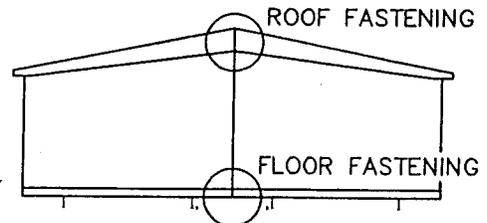


ROOF FASTENING

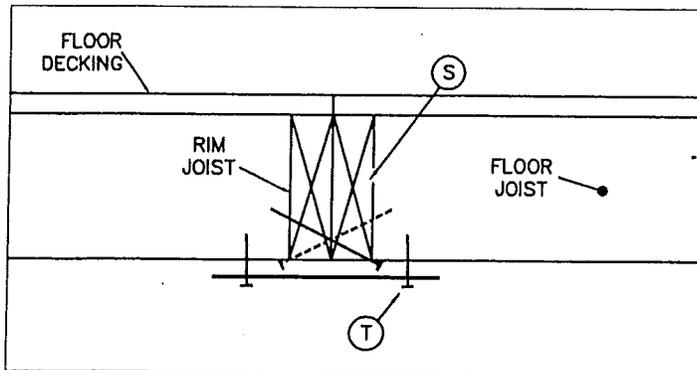
- (P) CONTINUOUS WOOD BLOCKING EACH HALF (MAY BE FULL HEIGHT RIDGE BEAM—NOT SHOWN)
- (Q) #10 x 4" WOOD SCREWS 8" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL*
- (R) 26GA. x 1-1/2" STEEL STRAP LOCATED ABOVE TRUSSES SPACED AT MAXIMUM OF 96" O.C. IN ZONE 2 AND 80" O.C. IN ZONE 3 FASTENED AT EACH END WITH:
 - (10) 15GA. x 1-1/2" STAPLES
 - OR
 - (6) 8D COM NAILS
 - OR
 - (5) #10 x 1-1/2" WOOD SCREWS

IN LIEU OF (R) AND (Q) ABOVE MAY INSTALL A CONTINUOUS 30 GA. x 6" MINIMUM STEEL ROOF CAP OVER 15# FELT WITH:

- (2) #10 x 1-1/2" SCREWS EACH TRUSS AT 16" O.C. OR
- (3) #10 x 1-1/2" SCREWS EACH TRUSS AT 24" O.C.



CROSS SECTION



FLOOR FASTENING

- (S) #10 x 4" WOOD SCREWS 10" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL*
- (T) 26 GA. x 1-1/2" STEEL STRAP SPACED 32" O.C. WITH 5-8D COM NAILS OR 4-#10 x 1-1/2" WOOD SCREWS EACH END OR 1-26 GA. x 2-1/2" STEEL STRAP 48" O.C. WITH 8-8D COM NAILS OR 7-#10 x 1-1/2" WOOD SCREWS EACH END. (ALL FASTENERS MUST PENETRATE INTO FLOOR JOISTS)

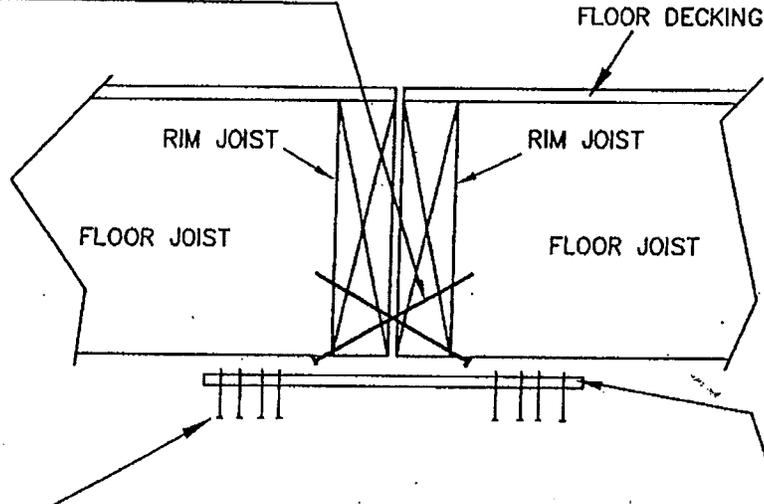
NOTE: BOTTOM BOARD NOT SHOWN FOR CLARITY. HOLES IN BOTTOM BOARD MUST BE PATCHED WITH A VINYL TAPE DESIGNED FOR REPAIRING TEARS AND HOLES.

*NOTE: ADJUST FASTENER LENGTHS FOR ANY GAPS BETWEEN THE MODULES TO OBTAIN THE SAME PENETRATION AND FILL ALL THE GAPS WITH SPF LUMBER OR PLYWOOD BEFORE INSTALLING THE FASTENERS.

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	APPROVED Revised Mar 1 '6 Federal Manufactured Home Construction And Safety Standards APPROVED	LTR:	BY:	DATE:
		N/A	WK	2/15/06
DOUBLE WIDE CONNECTIONS FIELD INSTALLED			DRAWN BY: TC	DAPIA NO.:
			DATE: 1/26/96	SC: N.T.S.
			SU-Z23	

OPTIONAL DOUBLEWIDE ON-SITE FLOOR FASTENING METHOD TO BE USED WHEN THE FLOOR JOISTS IN EACH MODULE DO NOT ALIGN AND/OR THE STANDARD 26 GA X 1-1/2" STEEL STRAPS CANNOT BE INSTALLED - THE INSTALLATION OF THE PLYWOOD SHOWN BELOW MAY BE USED IN LIEU OF EACH 26 GA X 1-1/2" STEEL STRAP WHICH IS NOT INSTALLED (SEE OTHER SET-UP MANUAL DRAWINGS TO DETERMINE THE REQUIRED STRAP AND/OR PLYWOOD SPACING REQUIRED FOR EACH WIND ZONE)

(S) #10 X 4" WOOD SCREWS 10" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEGREE ANGLE FROM HORIZONTAL*

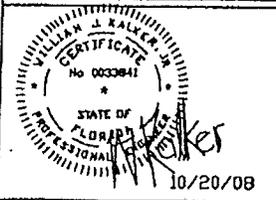


7/16" PLYWOOD, EXP1 WITH THE FACE GRAIN PERPENDICULAR TO THE MATE LINE AND A LENGTH SUFFICIENT TO PERMIT THE FASTENING OF THE PLYWOOD TO AT LEAST TWO JOISTS SPACED A MINIMUM OF 12" APART IN EACH MODULE PER THE SPECIFICATIONS LISTED BELOW

PLYWOOD TO JOIST FASTENING:
 3 - #10 X 2" SCREWS INTO EACH JOIST
 OR 3 - 8D COM NAILS INTO EACH JOIST - TYPICAL IN EACH MODULE

NOTE: BOTTOM BOARD NOT SHOWN FOR CLARITY. HOLES IN BOTTOM BOARD MUST BE PATCHED WITH A VINYL TAPE DESIGNED FOR REPAIRING TEARS AND HOLES.

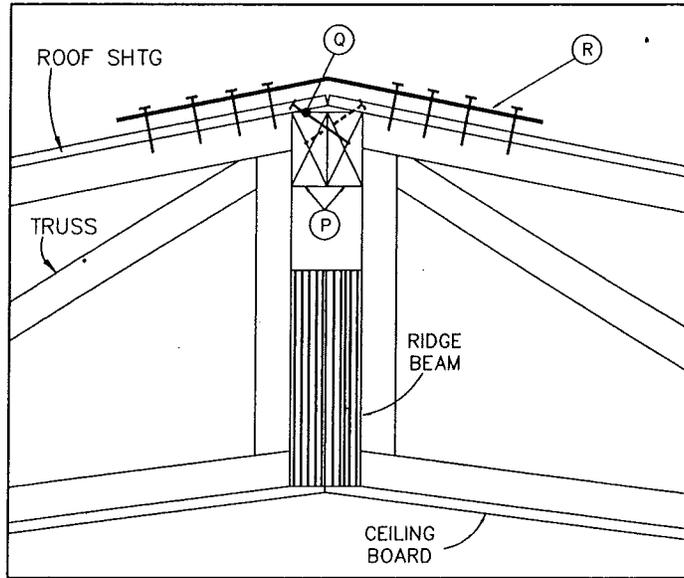
*NOTE: ADJUST FASTENER LENGTHS FOR ANY GAPS BETWEEN THE MODULES TO OBTAIN THE SAME PENETRATION AND FILL ALL THE GAPS WITH SPF LUMBER OR PLYWOOD BEFORE INSTALLING THE FASTENERS.

P.E. SEAL 	THIRD PARTY	REVISIONS			HORTON HOMES OPT. DOUBLEWIDE FLOOR CONNECTIONS FIELD INSTALLED	
	APPROVED HWC APPROVED JAN 28 2009 <small>Federal Manufactured Home Construction And Safety Standards</small>	LTR: N/A BY: DATE:				
						SU-Z23

SU-III-130A

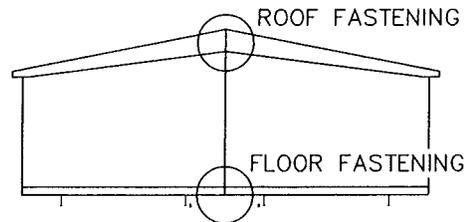
DOUBLEWIDE ON-SITE FASTENING

WIND ZONE 2 & 3

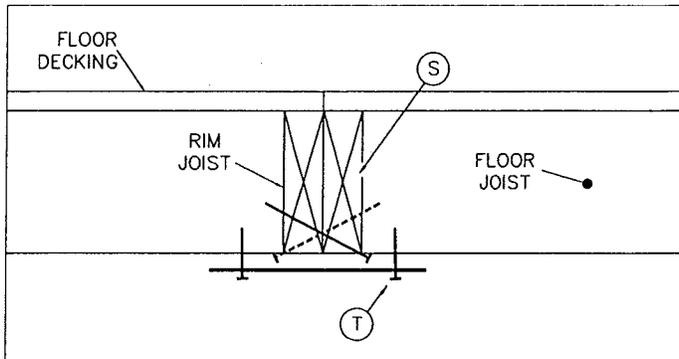


ROOF FASTENING

- (P) CONTINUOUS WOOD BLOCKING EACH HALF (MAY BE FULL HEIGHT RIDGE BEAM—NOT SHOWN)
 - (Q) #10 x 4" WOOD SCREWS 8" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL*
 - (R) 26GA. x 1-1/2" STEEL STRAP LOCATED ABOVE TRUSSES SPACED AT MAXIMUM OF 96" O.C. IN ZONE 2 AND 80" O.C. IN ZONE 3 FASTENED AT EACH END WITH:
 - (10) 15GA. x 1-1/2" STAPLES
 - OR
 - (6) 8D COM NAILS
 - OR
 - (5) #10 x 1-1/2" WOOD SCREWS
- IN LIEU OF (R) AND (Q) ABOVE MAY INSTALL A CONTINUOUS 30 GA. x 6" MINIMUM STEEL ROOF CAP OVER 15# FELT WITH:
- (2) #10 x 1-1/2" SCREWS EACH TRUSS AT 16" O.C. OR
 - (3) #10 x 1-1/2" SCREWS EACH TRUSS AT 24" O.C.



CROSS SECTION



FLOOR FASTENING

- (S) #10 x 4" WOOD SCREWS 10" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL OR 5/16" x 4" LAG SCRS 16" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL*
- (T) 26 GA. x 1-1/2" STEEL STRAP SPACED 32" O.C. WITH 5-8D COM NAILS OR 4-#10 x 1-1/2" WOOD SCREWS EACH END OR 1-26 GA. x 2-1/2" STEEL STRAP 48" O.C. WITH 8-8D COM NAILS OR 7-#10 x 1-1/2" WOOD SCREWS EACH END. (ALL FASTENERS MUST PENETRATE INTO FLOOR JOISTS)

NOTE: BOTTOM BOARD NOT SHOWN FOR CLARITY. HOLES IN BOTTOM BOARD MUST BE PATCHED WITH A VINYL TAPE DESIGNED FOR REPAIRING TEARS AND HOLES.

*NOTE: ADJUST FASTENER LENGTHS FOR ANY GAPS BETWEEN THE MODULES TO OBTAIN THE SAME PENETRATION AND FILL ALL THE GAPS WITH SPF LUMBER OR PLYWOOD BEFORE INSTALLING THE FASTENERS.

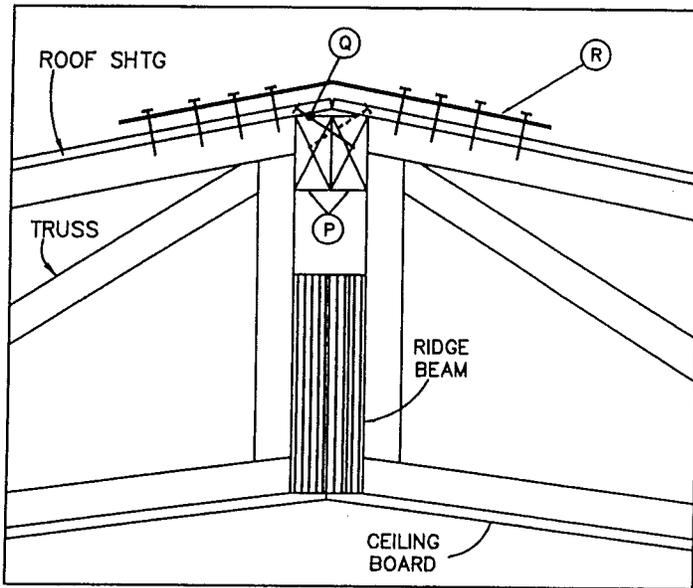
P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES			
	APPROVED APPROVED FEB 19 2009 Federal Manufactured Home Construction And Safety Standards	LTR: BY: DATE:	DOUBLE WIDE CONNECTIONS FIELD INSTALLED			
		N/A WK 2/15/06			DRAWN BY: TC	DAPIA NO.:
		N/A WK 2/13/09			DATE: 1/26/96	SC: N.T.S.
				SU-Z23		

REF. CALC#1 MAR 1 2006
 REF. CALC# 7 JUL 22 1994
 REF. CALC #1 FEB 19 2009

SU-III-130 B

DOUBLEWIDE ON-SITE FASTENING

WIND ZONE 2 EXPD & 3 EXPD

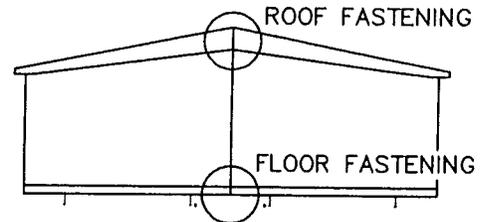


ROOF FASTENING

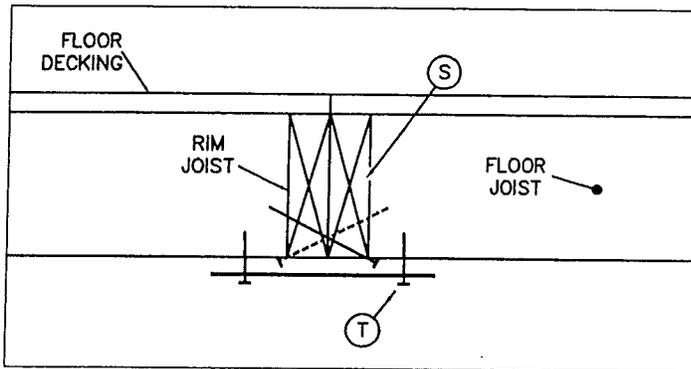
- (P) CONTINUOUS WOOD BLOCKING EACH HALF (MAY BE FULL HEIGHT RIDGE BEAM—NOT SHOWN)
- (Q) #10 x 4" WOOD SCREWS 8" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL*
- (R) 26 GA. x 1-1/2" STEEL STRAP LOCATED ABOVE TRUSSES SPACED AT MAXIMUM OF 72" O.C. IN ZONE 2 EXPD AND 64" O.C. IN ZONE 3 EXPD FASTENED AT EACH END WITH:
 - (10) 15GA. x 1-1/2" STAPLES
 - OR
 - (6) 8D COM NAILS
 - OR
 - (5) #10 x 1-1/2" WOOD SCREWS

IN LIEU OF (R) AND (Q) ABOVE MAY INSTALL A CONTINUOUS 30 GA. x 6" MINIMUM STEEL ROOF CAP OVER 15# FELT WITH:

- (2) #10 x 1-1/2" SCREWS EACH TRUSS AT 16" O.C. OR
- (3) #10 x 1-1/2" SCREWS EACH TRUSS AT 24" O.C.



CROSS SECTION



FLOOR FASTENING

- (S) #10 x 4" WOOD SCREWS 10" O.C. STAGGERED FROM SIDE TO SIDE AT 30 DEG ANGLE FROM HORIZONTAL*
- (T) 26 GA. x 1-1/2" STEEL STRAP SPACED 24" O.C. WITH 5-8D COM NAILS OR 4-#10 x 1-1/2" WOOD SCREWS EACH END OR 1-26 GA. x 2-1/2" STEEL STRAP 48" O.C. WITH 9-8D COM NAILS OR 8-#10 x 1-1/2" WOOD SCREWS EACH END. (ALL FASTENERS MUST PENETRATE INTO FLOOR JOISTS)

NOTE: BOTTOM BOARD NOT SHOWN FOR CLARITY. HOLES IN BOTTOM BOARD MUST BE PATCHED WITH A VINYL TAPE DESIGNED FOR REPAIRING TEARS AND HOLES.

* NOTE: ADJUST FASTENER LENGTHS FOR ANY GAPS BETWEEN THE MODULES TO OBTAIN THE SAME PENETRATION AND FILL ALL THE GAPS WITH SPF LUMBER OR PLYWOOD BEFORE INSTALLING THE FASTENERS.

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	APPROVED Federal Manufactured Home Construction And Safety Standards APPROVED	LTR:	BY:	DATE:
		N/A	WK	2/15/06
DOUBLE WIDE CONNECTIONS FIELD INSTALLED			DRAWN BY: TC	DAPIA NO.:
			DATE: 1/26/96	SC: N.T.S.
			SU-Z2 EXPD	

TYPICAL DOUBLEWIDE TIEDOWN PLACEMENT

NOTE: FOR TRIPLEWIDE OR LARGER DESIGNS INSTALL ALL THE VERTICAL TIEDOWNS AT EACH SHEARWALL, SIDEWALL AND MARRIAGE WALL AS SHOWN ON THIS DRAWING.

WIND ZONE 2 & 3
& WIND ZONE 3 EXPD

STANDARD VERTICAL TIEDOWNS ARE REQUIRED ON EACH SIDE OF OPENINGS GREATER THAN 48" IN WIDTH (TYPICAL EACH SIDEWALL AND MARRIAGE WALL) (SIDEWALL VERTICAL TIEDOWNS MUST BE WITHIN 24" OF OPENING STUDS) MAINTAIN NORMAL CHASSIS FRAME TIEDOWN SPACING ACROSS SHEARWALL VERTICAL TIEDOWN (TYPICAL)

WHEN AN ENDWALL IS A SHEARWALL, INSTALL 1ST STANDARD VERTICAL TIEDOWN WITHIN A DISTANCE EQUAL TO 1/2 THE NORMAL SPACING SPECIFIED ON DRAWING SW-G-3 FROM END OF FLOOR. (TYP EACH SIDEWALL AT EACH ENDWALL)

INSTALL SHEARWALL VERTICAL TIEDOWNS AT ENDS OF EACH SHEARWALL AS SHOWN (TYP ALL SHEARWALLS) (GREEN BRACKET)

DOUBLEWIDE FLOOR SHOWN SEPARATED FOR CLARITY

BELOW MARRIAGE LINE INSTALL MARRIAGE WALL FRAME TIEDOWNS WITHIN 5' OF EACH END WALL AND AT A SPACING NOT TO EXCEED THE DISTANCE SPECIFIED ON DRAWING SW-G-3 (TYPICAL EACH HALF)

WHEN ENDWALL IS NOT A SHEARWALL INSTALL 1ST STANDARD VERTICAL TIEDOWN WITHIN 2' FROM THE END OF FLOOR. (TYP EACH SIDEWALL AT EACH ENDWALL)

EXCEPT FOR FULL WIDTH SHEAR WALLS, INSTALL VERTICAL FRAME TIEDOWN ON THE STEEL BEAM CLOSEST TO THE MARRIAGE WALL BELOW SHEAR WALL (TYP)(SEE DWG SW-F1-4)

INSTALL FRAME TIEDOWNS AT ALL STANDARD VERTICAL TIEDOWN LOCATIONS ALONG SIDEWALL (DO NOT INSTALL FRAME TIEDOWNS AT SHEARWALL VERTICAL TIEDOWN LOCATIONS)(TYP EACH SIDEWALL)

INSTALL STANDARD VERTICAL TIEDOWNS ALONG SIDEWALL WITH AN AVERAGE SPACING NOT TO EXCEED THE VALUE SPECIFIED ON DRAWING SW-G-3

KEY:	
M	=MAR WALL DIAGONAL FRAME TIEDOWN
●	=SHEARWALL VERTICAL TIEDOWN
○	=STANDARD VERTICAL TIEDOWN
S	=CHASSIS DIAGONAL FRAME TIEDOWN
⊠	=VERTICAL FRAME TIEDOWN

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES				
		<table border="1" style="width: 100%;"> <tr> <th>BY:</th> <th>DATE:</th> </tr> <tr> <td> </td> <td> </td> </tr> </table>	BY:	DATE:			ANCHORAGE SYSTEM NEAR BEAM METHOD
		BY:	DATE:				
<p style="font-size: 2em; font-weight: bold; transform: rotate(-90deg);">APPROVED</p> <p style="font-size: 1.5em; font-weight: bold;">DEC 30 2005</p>	<p style="font-size: 2em; font-weight: bold; transform: rotate(-90deg);">APPROVED</p>	<table border="1" style="width: 100%;"> <tr> <td>DRAWN BY: TC</td> <td>DAPIA NO.:</td> </tr> <tr> <td>DATE: 1/26/96</td> <td>SC: N.T.S.</td> </tr> </table>	DRAWN BY: TC	DAPIA NO.:	DATE: 1/26/96	SC: N.T.S.	<p style="font-size: 1.5em; font-weight: bold;">SW-G-2+3</p>
DRAWN BY: TC	DAPIA NO.:						
DATE: 1/26/96	SC: N.T.S.						

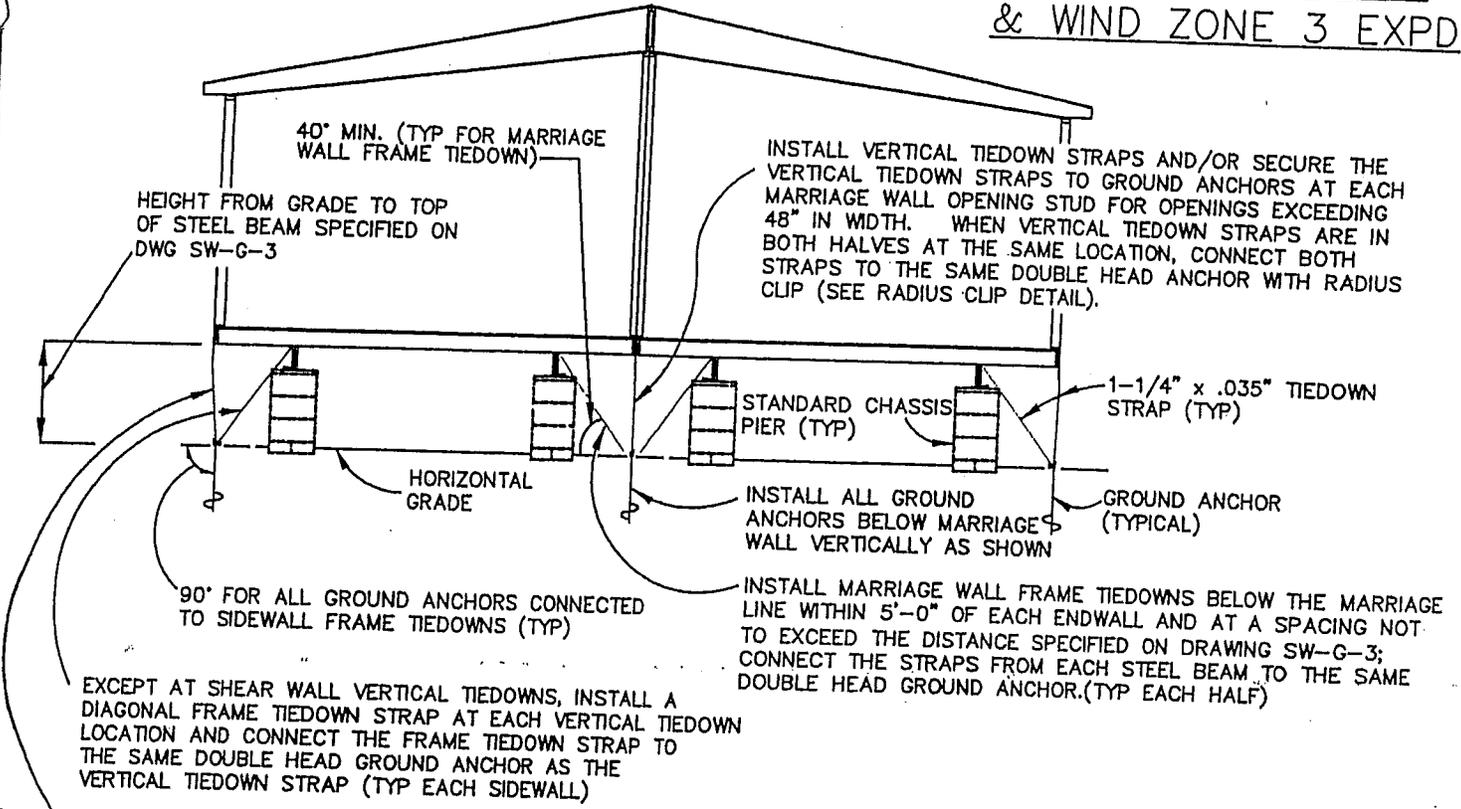
Federal Manufactured Home Construction And Safety Standards

SU-II-132

50132

TYPICAL DOUBLEWIDE TIEDOWN INSTALLATION

WIND ZONES 2 & 3
& WIND ZONE 3 EXPD



EXCEPT AT SHEAR WALL VERTICAL TIEDOWNS, INSTALL A DIAGONAL FRAME TIEDOWN STRAP AT EACH VERTICAL TIEDOWN LOCATION AND CONNECT THE FRAME TIEDOWN STRAP TO THE SAME DOUBLE HEAD GROUND ANCHOR AS THE VERTICAL TIEDOWN STRAP (TYP EACH SIDEWALL)

INSTALL VERTICAL TIEDOWN STRAPS AND/OR SECURE THE VERTICAL TIEDOWN STRAPS TO GROUND ANCHORS AT OPENING STUDS WHEN THE OPENING WIDTH EXCEEDS 48" AND AT A SPACING NOT TO EXCEED THE VALUE SPECIFIED ON DRAWING SW-G-3.

GENERAL NOTES:

1. ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.
2. ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD 4725#) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000# ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD 6000#) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.
3. THE GROUND ANCHORS MUST BE INSTALLED TO THEIR FULL DEPTH IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS (IG. APPROVED FOR INSTALLATION IN THE SOIL TYPE WHICH EXISTS AT THE SITE, ETC.) AND MUST EXTEND BELOW THE FROST LINE AND BE AT LEAST 12" ABOVE THE WATER TABLE.
4. ALL GROUND ANCHORS CONNECTED TO THE SIDEWALL FRAME TIEDOWNS MUST BE PROVIDED WITH STABILIZER PLATES TO MINIMIZE HORIZONTAL MOVEMENT.

NOTE:
UNLESS SPECIFIED OTHERWISE ON OTHER DRAWINGS, ALL TIEDOWN STRAPS AND GROUND ANCHORS SPECIFIED ON THIS DRAWING ARE IN ADDITION TO THE TIEDOWN STRAPS AND GROUND ANCHORS REQUIRED AT THE SHEAR WALLS.

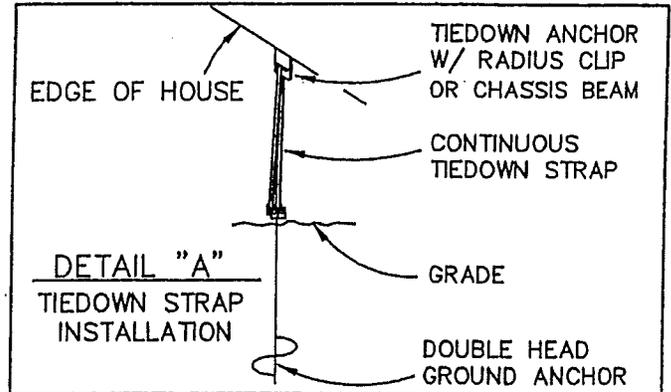
P.E. SEAL	THIRD PARTY	REVISIONS		HORTON HOMES	
	APPROVED HWG DEC 30 2005 Federal Manufactured Home Construction And Safety Standards	APPROVED	BY:	DATE:	ANCHORAGE SYSTEM NEAR BEAM METHOD DRAWN BY: TC DAPIA NO.: DATE: 1/26/96 SC: N.T.S. SW-FI-2

SU-II-133

511123

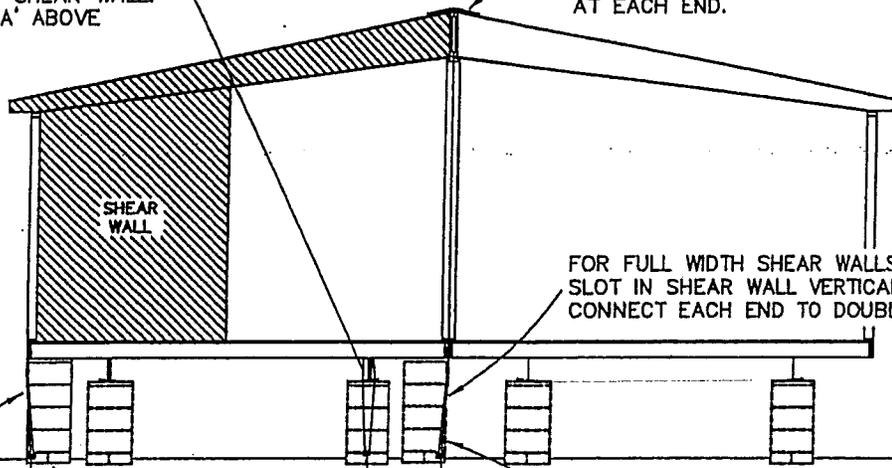
DOUBLEWIDE SHEAR WALL TIEDOWN SYSTEM

WIND ZONES 2 & 3
& WIND ZONE 3 EXPD



EXCEPT FOR FULL WIDTH SHEAR WALLS, INSTALL TIEDOWN STRAP OVER THE STEEL BEAM AND CONNECT EACH END TO A DOUBLE HEAD GROUND ANCHOR WITH STRAP PLACED VERTICALLY WITHIN 8" OF SHEAR WALL. SEE DETAIL 'A' ABOVE

CONNECT 4 STRAPS ON TRUSS ABOVE SHEAR WALL TO BLOCKING IN OTHER HALF WITH (4) #10 x 1-1/2" SCREWS AT EACH END.



FOR FULL WIDTH SHEAR WALLS, LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR.

INSTALL PIER BELOW EDGE JOIST OPPOSITE SHEAR WALL WHEN SHEAR WALL TERMINATES OVER JOIST CANTILEVER.

GROUND ANCHOR (TYPICAL)

INSTALL PIER WITHIN 8" OF SHEAR WALL BELOW EDGE JOIST (TYPICAL).

LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR. SEE DETAIL "A" ABOVE.

NOTE:
ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 4000# ALLOWABLE WITHDRAWAL LOAD MIN. (ULTIMATE LOAD 6000# MIN.) WHEN LOADED PARALLEL WITH THE ANCHOR SHAFT.

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	APPROVED 	BY: _____ DATE: _____	ANCHORAGE SYSTEM NEAR BEAM METHOD	
		DEC 30 2005 Federal Manufactured Home Construction And Safety Standards	DRAWN BY: TC DAPIA NO.: DATE: 2/4/05 SC: N.T.S.	SW-FI-4

SU-II-134

WIND ZONES 2 & 3

FAR BEAM ANCHORING METHOD

FOR PIERS OVER (40") TO TOP OF I-BEAM
and
HIGH PITCH ROOFS GREATER THAN 20°

A APPROVED **HWC** **A** APPROVED
DEC 30 2005
Federal Manufactured
Home Construction
And Safety Standards

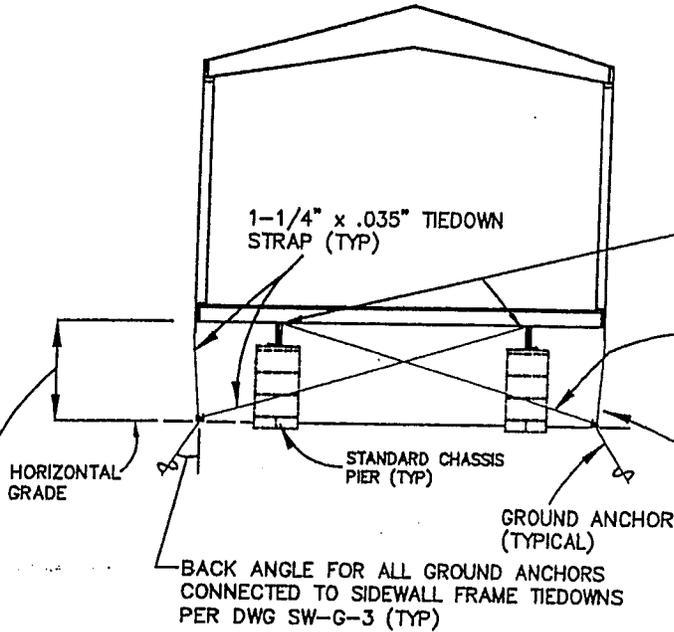
SU-III-135

50125

TYPICAL SINGLEWIDE TIEDOWN INSTALLATION *
(STANDARD TIEDOWN INSTALLATION – NOT AT SHEAR WALLS)

WIND ZONES 2 & 3

* W/FRAME TIEDOWNS CONNECTED TO FAR STEEL BEAMS.



INSTALL A 5/16"X3" LAG SCREW W/FLANGE CLIP ON THE INSIDE FLANGE OF EACH STEEL BEAM ON EACH JOIST WHICH HAS A LAG SCREW INSTALLED ON THE OUTSIDE FLANGE. (THESE LAG SCREWS TO BE SITE-INSTALLED; JOISTS WHICH HAVE A LAG SCREW ALREADY INSTALLED DO NOT REQUIRE A LAG SCREW)

EXCEPT AT SHEAR WALL VERTICAL TIEDOWNS, INSTALL A FRAME TIEDOWN STRAP AT EACH VERTICAL TIEDOWN LOCATION AND CONNECT THE FRAME TIEDOWN STRAP TO THE SAME DOUBLE HEAD GROUND ANCHOR AS THE VERTICAL TIEDOWN STRAP (TYP EACH SIDEWALL)

INSTALL VERTICAL TIEDOWN STRAPS AND/OR SECURE THE VERTICAL TIEDOWN STRAPS TO GROUND ANCHORS AT OPENING STUDS WHEN THE OPENING WIDTH EXCEEDS 48" AND AT A SPACING NOT TO EXCEED THE VALUE SPECIFIED ON DRAWING SW-G-3.

GENERAL NOTES:

1. ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.
2. ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD 4725#) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000# ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD 6000#) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.
3. THE GROUND ANCHORS MUST BE INSTALLED TO THEIR FULL DEPTH IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS (IG. APPROVED FOR INSTALLATION IN THE SOIL TYPE WHICH EXISTS AT THE SITE, ETC.) AND MUST EXTEND BELOW THE FROST LINE AND BE AT LEAST 12" ABOVE THE WATER TABLE.
4. ALL GROUND ANCHORS CONNECTED TO THE SIDEWALL FRAME TIEDOWNS MUST BE PROVIDED WITH STABILIZER PLATES TO MINIMIZE HORIZONTAL MOVEMENT.

NOTE:
UNLESS SPECIFIED OTHERWISE ON OTHER DRAWINGS, ALL TIEDOWN STRAPS AND GROUND ANCHORS SPECIFIED ON THIS DRAWING ARE IN ADDITION TO THE TIEDOWN STRAPS AND GROUND ANCHORS REQUIRED AT THE SHEAR WALLS.

P.E. SEAL	THIRD PARTY	REVISIONS			HORTON HOMES	
		LTR:	BY:	DATE:		
		N/A	WK	8/10/04	DRAWN BY: TC	DAPIA NO.:
		N/A	WK	9/23/04	DATE: 1/26/06	SC: N.T.S.
		DEC 30 2005		SW-FI-1		

Federal Manufactured
Home Construction
And Safety Standards

SU-II-136

TYPICAL SINGLEWIDE TIEDOWN PLACEMENT *

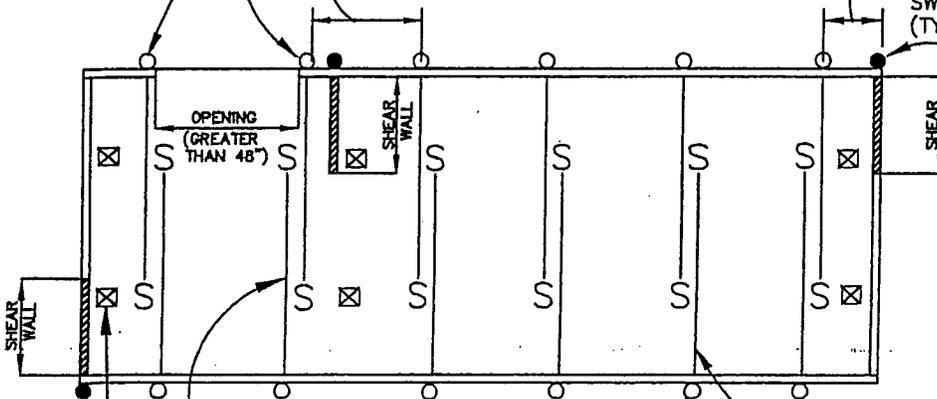
WIND ZONE 2 + 3

STANDARD VERTICAL TIEDOWNS ARE REQUIRED ON EACH SIDE OF OPENINGS GREATER THAN 48" IN WIDTH (TYPICAL EACH SIDEWALL) (SIDEWALL VERTICAL TIEDOWNS MUST BE WITHIN 24" OF OPENING STUDS)

MAINTAIN NORMAL STANDARD VERTICAL TIEDOWN SPACING ACROSS SHEAR WALL VERTICAL TIEDOWN (TYPICAL)

INSTALL 1ST SIDEWALL VERTICAL TIEDOWN WITHIN A DISTANCE EQUAL TO 1/2 THE NORMAL SPACING SPECIFIED ON DRAWING SW-G-3 FROM THE END OF THE FLOOR. (TYP EACH SIDEWALL AT EACH ENDWALL)

INSTALL SHEAR WALL VERTICAL TIEDOWNS AT ENDS OF EACH SHEAR WALL AS SHOWN (TYP ALL SHEAR WALLS) (SHEAR WALL BRACLETS WILL BE PAINTED GREEN)



CONNECT FRAME TIEDOWN STRAPS TO FAR STEEL BEAMS AS SHOWN (TYP)

INSTALL FRAME TIEDOWNS AT ALL STANDARD VERTICAL TIEDOWN LOCATIONS ALONG SIDEWALL (DO NOT INSTALL FRAME TIEDOWNS AT SHEAR WALL VERTICAL TIEDOWN LOCATIONS)(TYP EACH SIDEWALL)

EXCEPT FOR FULL WIDTH SHEAR WALLS INSTALL VERTICAL TIEDOWN ON EACH STEEL BEAM WITHIN 8" OF SHEAR WALL (TYP).

INSTALL STANDARD VERTICAL TIEDOWNS ALONG SIDEWALL WITH AN AVERAGE SPACING NOT TO EXCEED THE VALUE SPECIFIED ON DRAWING SW-G-3.

* W/SIDEWALL FRAME TIEDOWNS CONNECTED TO FAR STEEL BEAMS

KEY:

- ☒ = BEAM VERTICAL TIEDOWN
- = SHEAR WALL VERTICAL TIEDOWN
- = SIDEWALL VERTICAL TIEDOWN
- S = CHASSIS FRAME TIEDOWN

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	APPROVED DEC 30 2005	APPROVED	ANCHORAGE SYSTEM FAR BEAM METHOD	
			DRAWN BY: TC	DAPIA-NO.: ST28
			SW-G-1	

Federal Manufactured Home Construction And Safety Standards

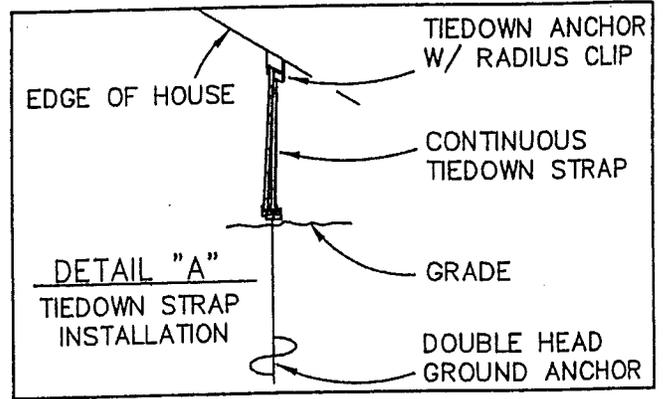
REV. E

SU-II-137

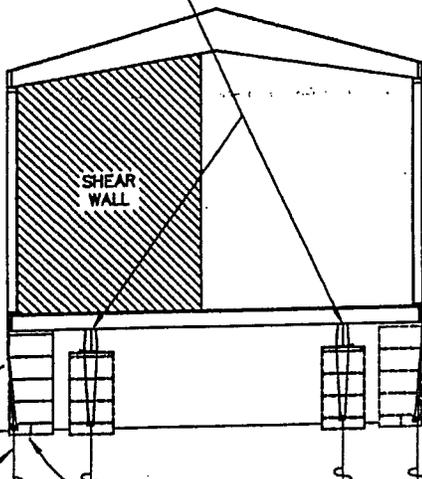
50137

SINGLEWIDE SHEAR WALL TIEDOWN SYSTEM*

WIND ZONES 2 & 3



EXCEPT FOR FULL WIDTH SHEAR WALLS, INSTALL TIEDOWN STRAP OVER THE STEEL BEAM AND CONNECT EACH END TO A DOUBLE HEAD GROUND ANCHOR WITH STRAP PLACED VERTICALLY WITHIN 8" OF SHEAR WALL.



* W/SIDEWALL FRAME TIEDOWNS CONNECTED TO FAR STEEL BEANS (TYP)

FOR FULL WIDTH SHEAR WALLS, LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR.

INSTALL PIER BELOW EDGE JOIST OPPOSITE SHEAR WALL WHEN SHEAR WALL TERMINATES OVER JOIST CANTILEVER.

LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR. SEE DETAIL "A" ABOVE.

NOTE:
ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 4000# ALLOWABLE WITHDRAWAL LOAD MIN., (ULTIMATE LOAD 6000# MIN.) WHEN LOADED PARALLEL WITH ANCHOR SHAFT.

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	APPROVED ILWG DEC 30 2005 Federal Manufactured Home Construction And Safety Standards	LTR	BY:	DATE:
		APPROVED		
			ANCHORAGE SYSTEM FAR BEAM METHOD	
		DRAWN BY: TC	DAPIA NO.:	SW-FI-3
		DATE: 2/4/05	SQ: N.T.S.	

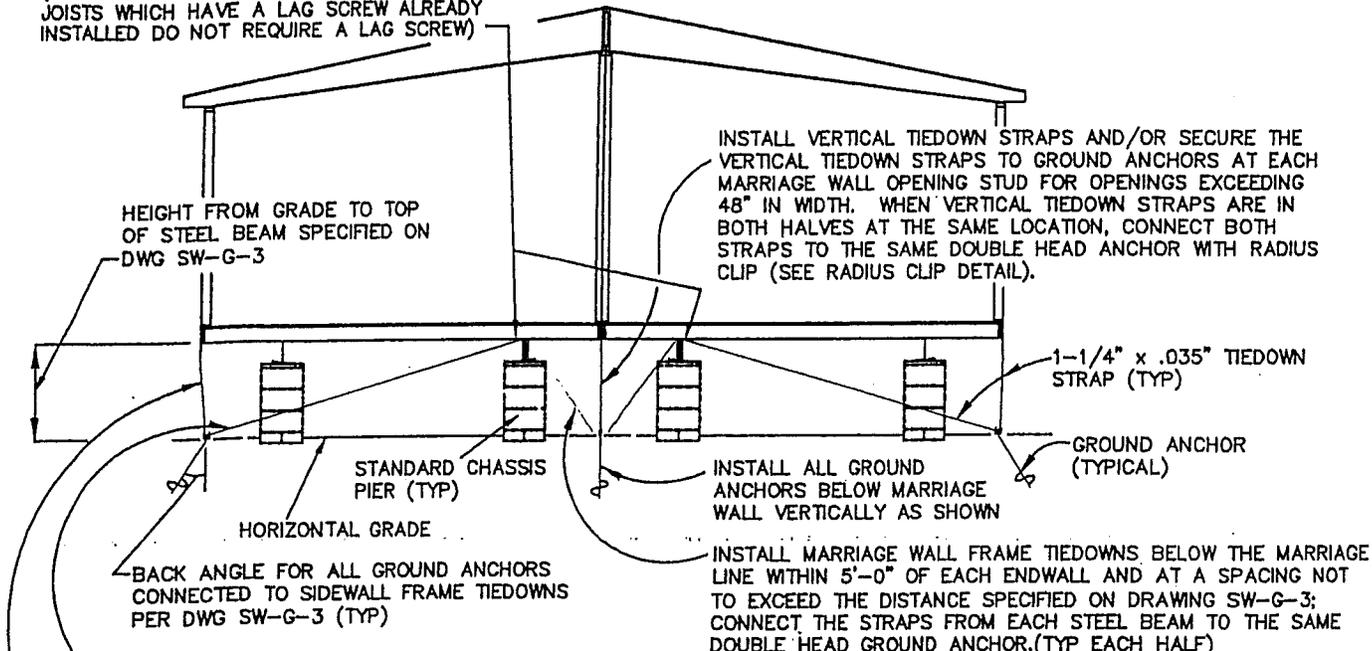
84-11-138 *50 128*

TYPICAL DOUBLEWIDE TIEDOWN INSTALLATION*

(STANDARD TIEDOWN INSTALLATION - NOT AT SHEAR WALLS)

WIND ZONES 2 & 3

INSTALL A 5/16"x3" LAG SCREW W/FLANGE CLIP ON THE INSIDE FLANGE OF EACH MARRIAGE WALL STEEL BEAM ON EACH JOIST WHICH HAS A LAG SCREW INSTALLED ON THE OUTSIDE FLANGE. (THESE LAG SCREWS TO BE SITE-INSTALLED; JOISTS WHICH HAVE A LAG SCREW ALREADY INSTALLED DO NOT REQUIRE A LAG SCREW)



EXCEPT AT SHEAR WALL VERTICAL TIEDOWNS, INSTALL A DIAGONAL FRAME TIEDOWN STRAP AT EACH VERTICAL TIEDOWN LOCATION AND CONNECT THE FRAME TIEDOWN STRAP TO THE SAME DOUBLE HEAD GROUND ANCHOR AS THE VERTICAL TIEDOWN STRAP (TYP EACH SIDEWALL)

INSTALL VERTICAL TIEDOWN STRAPS AND/OR SECURE THE VERTICAL TIEDOWN STRAPS TO GROUND ANCHORS AT OPENING STUDS WHEN THE OPENING WIDTH EXCEEDS 48" AND AT A SPACING NOT TO EXCEED THE VALUE SPECIFIED ON DRAWING SW-G-3.

GENERAL NOTES:

1. ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.
2. ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD 4725#) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000# ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD 6000#)MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.
3. THE GROUND ANCHORS MUST BE INSTALLED TO THEIR FULL DEPTH IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS (IG. APPROVED FOR INSTALLATION IN THE SOIL TYPE WHICH EXISTS AT THE SITE, ETC.) AND MUST EXTEND BELOW THE FROST LINE AND BE AT LEAST 12" ABOVE THE WATER TABLE.
4. ALL GROUND ANCHORS CONNECTED TO THE SIDEWALL FRAME TIEDOWNS MUST BE PROVIDED WITH STABILIZER PLATES TO MINIMIZE HORIZONTAL MOVEMENT.

* W/FRAME TIEDOWNS CONNECTED TO STEEL BEAMS CLOSEST TO MARRIAGE WALL

NOTE:
UNLESS SPECIFIED OTHERWISE ON OTHER DRAWINGS, ALL TIEDOWN STRAPS AND GROUND ANCHORS SPECIFIED ON THIS DRAWING ARE IN ADDITION TO THE TIEDOWN STRAPS AND GROUND ANCHORS REQUIRED AT THE SHEAR WALLS.

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	APPROVED HWG DEC 8 0 2005	BY: DATE: N/A WK 8/10/04 N/A WK 9/23/04	ANCHORAGE SYSTEM FAR BEAM METHOD	
		DRAWN BY: TC DAPIA NO.: DATE: 1/26/96 SC: N.T.S.	SW-FI-2	

Federal Manufactured
Home Construction
And Safety Standards

84-II-139

150120

TYPICAL DOUBLEWIDE TIEDOWN PLACEMENT *

NOTE: FOR TRIPLEWIDE OR LARGER DESIGNS INSTALL ALL THE VERTICAL TIEDOWNS AT EACH SHEARWALL, SIDEWALL AND MARRIAGE WALL AS SHOWN ON THIS DRAWING.

WIND ZONE 2 & 3

STANDARD VERTICAL TIEDOWNS ARE REQUIRED ON EACH SIDE OF OPENINGS GREATER THAN 48" IN WIDTH (TYPICAL EACH SIDEWALL AND MARRIAGE WALL) (SIDEWALL VERTICAL TIEDOWNS MUST BE WITHIN 24" OF OPENING STUDS)

MAINTAIN NORMAL CHASSIS FRAME TIEDOWN SPACING ACROSS SHEARWALL VERTICAL TIEDOWN (TYPICAL).

WHEN AN ENDWALL IS A SHEARWALL, INSTALL 1ST STANDARD VERTICAL TIEDOWN WITHIN A DISTANCE EQUAL TO 1/2 THE NORMAL SPACING SPECIFIED ON DRAWING SW-G-3 FROM END OF FLOOR. (TYP EACH SIDEWALL AT EACH ENDWALL)

INSTALL SHEARWALL VERTICAL TIEDOWN AT ENDS OF EACH SHEARWALL AS SHOWN (TYP ALL SHEARWALLS) (GREEN BRACKET)

CONNECT FRAME TIEDOWN STRAPS TO STEEL BEAMS CLOSEST TO MAR WALL (TYP)

BELOW MARRIAGE LINE, INSTALL MARRIAGE WALL FRAME TIEDOWN WITHIN 5' OF EACH ENDWALL AND AT A SPACING NOT TO EXCEED THE DISTANCE SPECIFIED ON DRAWING SW-G-3 (TYPICAL EACH HALF)

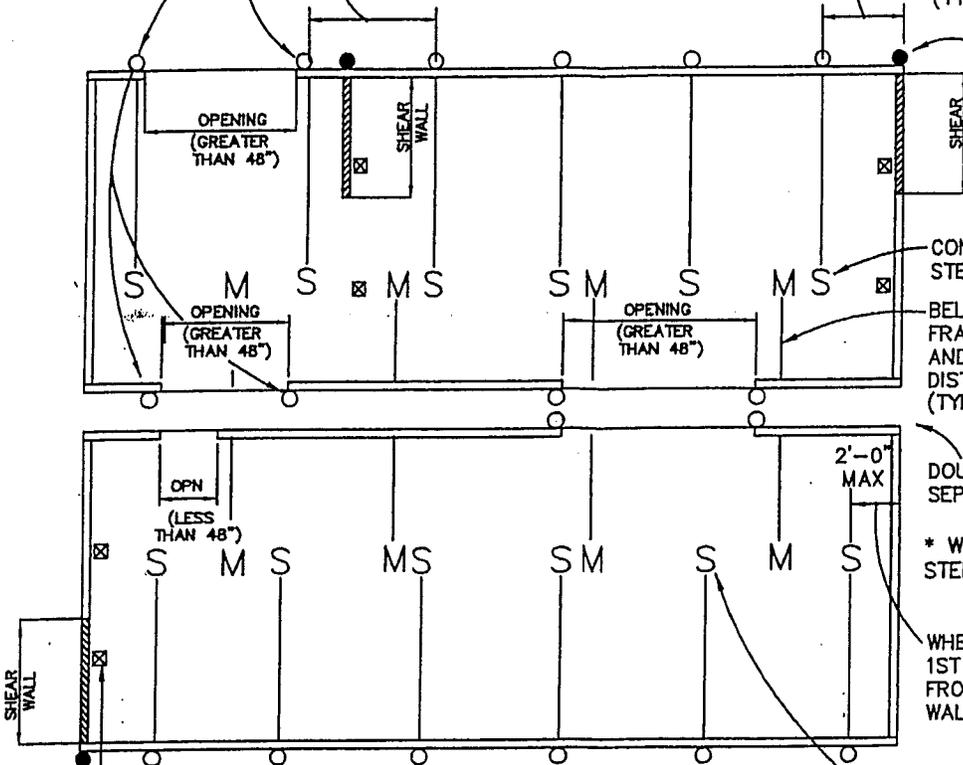
DOUBLEWIDE FLOOR SHOWN SEPARATED FOR CLARITY

* W/FRAMED TIEDOWNS CONNECTED TO STEEL BEAMS CLOSEST TO MARRIAGE WALL

WHEN ENDWALL IS NOT A SHEARWALL, INSTALL 1ST STANDARD VERTICAL TIEDOWN WITHIN 2' FROM THE END OF FLOOR (TYP EACH SIDEWALL AT EACH ENDWALL.)

INSTALL FRAME TIEDOWNS AT ALL STANDARD VERTICAL TIEDOWN LOCATIONS ALONG SIDEWALL (DO NOT INSTALL FRAME TIEDOWNS AT SHEARWALL VERTICAL TIEDOWN LOCATIONS)(TYP EACH SIDEWALL)

INSTALL STANDARD VERTICAL TIEDOWNS ALONG SIDEWALL WITH AN AVERAGE SPACING NOT TO EXCEED THE VALUE SPECIFIED ON OTHER DRAWINGS



EXCEPT FOR FULL WIDTH SHEAR WALLS, INSTALL VERTICAL FRAME TIEDOWN ON EACH STEEL BEAM WITHIN 8" OF SHEAR WALL (TYP)

KEY:

- ☒ = BEAM VERT. FRAME TIEDOWN
- = SHEARWALL VERTICAL TIEDOWN
- = SIDEWALL/MAR. WALL VERTICAL TIEDOWN
- S = CHASSIS FRAME TIEDOWN

P.E. SEAL	THIRD PARTY	REVISIONS			HORTON HOMES	
	<p>APPROVED</p> <p>BWG</p> <p>DEC 30 2005</p>	LTR	BY:	DATE:	<p>ANCHORAGE SYSTEM FAR BEAM METHOD</p> <p>DRAWN BY: TC DAPIA NO.: ST29</p> <p>DATE: 1/24/96 SC: N.T.S. SW-G-2</p>	

Federal Manufactured Home Construction And Safety Standards

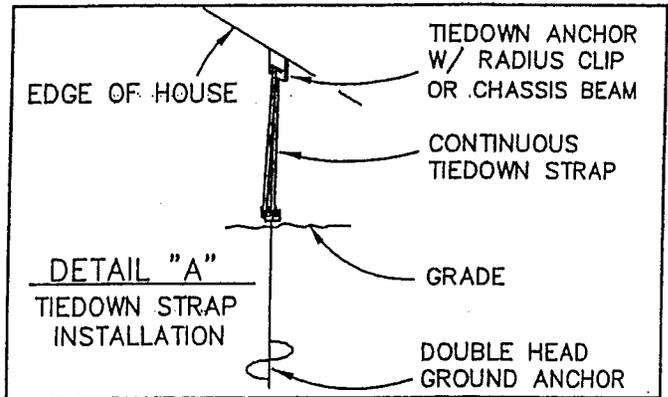
REV. E

SU-II-140

50140

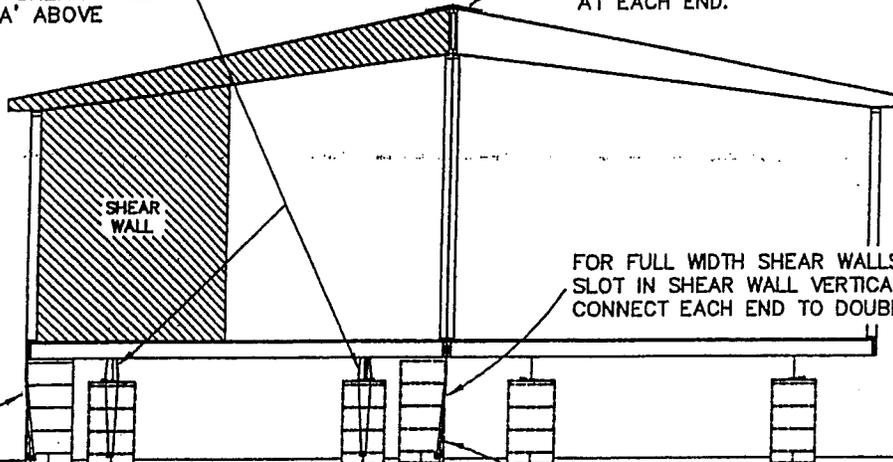
DOUBLEWIDE SHEAR WALL TIEDOWN SYSTEM

WIND ZONES 2 & 3



EXCEPT FOR FULL WIDTH SHEAR WALLS, INSTALL TIEDOWN STRAP OVER THE STEEL BEAM AND CONNECT EACH END TO A DOUBLE HEAD GROUND ANCHOR WITH STRAP PLACED VERTICALLY WITHIN 8" OF SHEAR WALL. SEE DETAIL "A" ABOVE

CONNECT 4 STRAPS ON TRUSS ABOVE SHEAR WALL TO BLOCKING IN OTHER HALF WITH (4) #10 x 1-1/2" SCREWS AT EACH END.



FOR FULL WIDTH SHEAR WALLS, LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR.

INSTALL PIER BELOW EDGE JOIST OPPOSITE SHEAR WALL WHEN SHEAR WALL TERMINATES OVER JOIST CANTILEVER.

GROUND ANCHOR (TYPICAL)

INSTALL PIER WITHIN 8" OF SHEAR WALL BELOW EDGE JOIST (TYPICAL).

LOOP STRAP THROUGH SLOT IN SHEAR WALL VERTICAL TIEDOWN ANCHOR AND CONNECT EACH END TO DOUBLE HEAD GROUND ANCHOR. SEE DETAIL "A" ABOVE.

NOTE:

ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 4000# ALLOWABLE WITHDRAWAL LOAD MIN. (ULTIMATE LOAD 6000# MIN.) WHEN LOADED PARALLEL WITH THE ANCHOR SHAFT.

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	<p style="font-size: 2em; font-weight: bold;">APPROVED</p> <p style="font-size: 2em; font-weight: bold;">HWG</p> <p style="font-size: 1.2em;">DEC 30 2005</p>	LTR:	BY:	DATE:
		<p style="font-size: 2em; font-weight: bold;">APPROVED</p>		
			ANCHORAGE SYSTEM FAR BEAM METHOD	
			DRAWN BY: TC	DAPIA NO.:
			DATE: 2/4/05	SC: N.T.S.
			SW-FI-4	

APPROVED

Federal Manufactured Home Construction And Safety Standards

APPROVED

SU-II-141

MAXIMUM TIEDOWN SPACINGS

WIND ZONES 2 AND 3

HING TRUSS

HOME SIZE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAX. SIDEWALL VERTICAL/FRAME TIEDOWN SPACING AND LOCATION	MAX. MARRIAGE WALL FRAME TIEDOWN SPACING	MINIMUM STEEL BEAM HEIGHT *	MAXIMUM STEEL BEAM HEIGHT *	GROUND ANCHOR BACKANGLE
140" FLOOR W/ 12" O.H. W/ 80" TRUSS DOUBLE WIDE ROOF PITCH > 20°	2	8'-0"	7'-0" O.C. FAR BEAM	14'-0" O.C.	24"	40"	20°
	3	8'-0"	6'-0" O.C. FAR BEAM	10'-0" O.C.	24"	40"	20°
160" FLOOR W/ 12" O.H. W/ 80" TRUSS DOUBLE WIDE ROOF PITCH > 20°	2	8'-0"	7'-3" O.C. FAR BEAM	14'-0" O.C.	24"	40"	20°
	3	8'-0"	6'-3" O.C. FAR BEAM	10'-0" O.C.	24"	40"	20°
177" FLOOR W/ 12" O.H. W/ 80" TRUSS DOUBLE WIDE ROOF PITCH > 20°	2	8'-0"	7'-6" O.C. FAR BEAM	14'-0" O.C.	24"	40"	20°
	3	8'-0"	6'-6" O.C. FAR BEAM	10'-0" O.C.	24"	40"	20°

REF. CALC #

APPROVED
MVO

DEC 30 2005

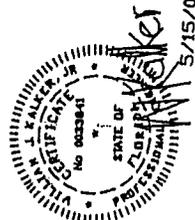
Federal Manufactured Home Construction And Safety Standards

APPROVED

* HEIGHT FROM GRADE TO TOP OF STEEL BEAM

O.H. = MAX. SIDEWALL ROOF EAVE OVERHANG

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 6000 LB) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT. SPECIFICATIONS ON THIS DRAWING SUPERSEDE ALL OTHER SPECIFICATIONS SHOWN ON OTHER DRAWINGS AND/OR IN THE SET-UP MANUAL. DURING ALL TIEDOWN INSTALLATIONS, PROTECTION MUST BE PROVIDED TO ALL TIEDOWN STRAPS AT ALL SHARP CORNERS. TRUSS HEIGHT = VERTICAL DIMENSION OF TRUSS ABOVE SIDEWALL



HORTON HOMES

DATE: 5/15/05
 CODES: MPESS
 LABELS: H20
 SCALE: NTS

REVISIONS:

DRAWN BY: WK
 SHEET

ANCHORAGE SYSTEM

WILLIAM J. KALKER, JR., P.E.
 CONSULTING ENGINEER

15 ROCKWOOD LANE
 SUITE 1000
 (203) 244-167

SW-G-3

APPROVED

HING TRUSS

WIND ZONES 2 AND 3

MAXIMUM TIEDOWN SPACINGS

HOME SIZE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAX. SIDEWALL VERTICAL/FRAME TIEDOWN SPACING AND LOCATION	MAX. MARRIAGE WALL/FRAME TIEDOWN SPACING	MINIMUM STEEL BEAM HEIGHT *	MAXIMUM STEEL BEAM HEIGHT *	GROUND ANCHOR BACKANGLE
160" FLOOR W/ 12" O.H. W/ 103" TRUSS DOUBLE WIDE ROOF PITCH > 20°	2	8'-0"	6'-9" O.C. FAR BEAM	12'-0" O.C.	24"	40"	20°
	3	8'-0"	5'-6" O.C. FAR BEAM	10'-0" O.C.	24"	40"	20°
177" FLOOR W/ 12" O.H. W/ 103" TRUSS DOUBLE WIDE ROOF PITCH > 20°	2	8'-0"	7'-0" O.C. FAR BEAM	12'-0" O.C.	24"	40"	20°
	3	8'-0"	5'-9" O.C. FAR BEAM	10'-0" O.C.	24"	40"	20°
168" FLOOR W/ 14" O.H. W/ 79-1/2" TRUSS DOUBLE WIDE ROOF PITCH > 20°	2	7'-6"	8'-0" O.C. FAR BEAM	14'-0" O.C.	24"	40"	20°
	3	7'-6"	7'-0" O.C. FAR BEAM	10'-0" O.C.	24"	40"	20°

REF. CALC # 1-3-12/30/5
1-9/9/1999

APPROVED
DEC 30 2005
Federal Manufactured Home Construction And Safety Standards

O.H.= MAX. SIDEWALL ROOF EAVE OVERHANG * HEIGHT FROM GRADE TO TOP OF STEEL BEAM

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 6000 LB) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT. SPECIFICATIONS ON THIS DRAWING SUPERSEDE ALL OTHER SPECIFICATIONS SHOWN ON OTHER DRAWINGS AND/OR IN THE SET-UP MANUAL. DURING ALL TIEDOWN INSTALLATIONS, PROTECTION MUST BE PROVIDED TO ALL TIEDOWN STRAPS AT ALL SHARP CORNERS. TRUSS HEIGHT = VERTICAL DIMENSION OF TRUSS ABOVE SIDEWALL

HORTON HOMES

DATE: 6/15/05
 CODES: MHSS
 LABELS: HUD
 SCALE: NTS

REVISIONS:
 DRAWN BY: WK
 SHEET: SW-G-3

ANCHORAGE SYSTEM

WILLIAM J. KALKER, JR., P.E.
 CONSULTING ENGINEER
 13 ROCKWOOD LANE
 FULTON, MO 65202
 (314) 241-1671



50144

MAXIMUM TIEDOWN SPACINGS

WIND ZONE 1

HOME SIZE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAX. SIDEWALL VERTICAL FRAME TIEDOWN SPACING AND LOCATION	MAX. MARRIAGE WALL FRAME TIEDOWN SPACING	MINIMUM STEEL BEAM HEIGHT *	MAXIMUM STEEL BEAM HEIGHT *	GROUND ANCHOR BACKANGLE
140" FLOOR W/ 12" O.H. DOUBLE WIDE	1	8'-0"	10' O.C. NEAR BEAM 5'-9" O.C. NEAR BEAM	N/A	24"	40"	0°
160" FLOOR W/ 12" O.H. DOUBLE WIDE	1	8'-0"	13' O.C. NEAR BEAM 7'-9" O.C. NEAR BEAM	N/A	24"	40"	0°
177" FLOOR W/ 12" O.H. DOUBLE WIDE	1	8'-0"	13' O.C. NEAR BEAM 9'-6" O.C. NEAR BEAM	N/A	24"	40"	0°
160" FLOOR W/ 4" O.H. SINGLE WIDE	1	8'-0"	12' O.C. NEAR BEAM 7' O.C. NEAR BEAM	N/A	24"	40"	0°
184" FLOOR W/ 4" O.H. SINGLE WIDE	1	8'-0"	14' O.C. NEAR BEAM 9' O.C. NEAR BEAM	N/A	24"	40"	0°

O.H.= MAX. SIDEWALL ROOF EAVE OVERHANG
ROOF PITCH < 20 DEGREES

* HEIGHT FROM GRADE TO TOP OF STEEL BEAM

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 350 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 350 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.

SPECIFICATIONS ON THIS DRAWING SUPERSEDE ALL OTHER SPECIFICATIONS SHOWN ON OTHER DRAWINGS AND/OR IN THE SET-UP MANUAL.

DURING ALL TIEDOWN INSTALLATIONS, PROTECTION MUST BE PROVIDED TO ALL TIEDOWN STRAPS AT ALL SHARP CORNERS.

Ref. Calc. # 1-2/3/4

APPROVED

FEDERAL MOBILE HOME CONSTRUCTION AND SAFETY STANDARDS

DATE: 1/10/04
CODES: MHSS
LABELS: HUD
SCALE: NTS

DRAWN BY: WK
SHEET

REVISIONS:

HORTON HOMES

WILLIAM J. KALKER, JR., P.E.
CONSULTING ENGINEER

33 ROCKWOOD AVE
MORRISVILLE, CT 06026
(203) 261-1617

WJG-3

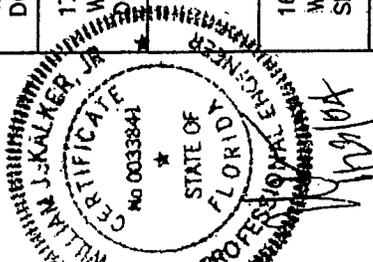
SU-197

50197

MAXIMUM TIEDOWN SPACINGS

WIND ZONE 2

HOME SIZE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAX SIDEWALL VERTICAL FRAME TIEDOWN SPACING AND LOCATION	MAX MARRIAGE WALL FRAME TIEDOWN SPACING	MINIMUM STEEL BEAM HEIGHT *	MAXIMUM STEEL BEAM HEIGHT *	GROUND ANCHOR BACKANGLE
140" FLOOR W/ 12" O.H. DOUBLE WIDE	2	8'-0"	9' O.C. NEAR BEAM 9' O.C. FAR BEAM	14' O.C.	24" >40"	40" 72"	0° 20°
160" FLOOR W/ 12" O.H. DOUBLE WIDE	2	8'-0"	11' O.C. NEAR BEAM 11' O.C. FAR BEAM	14' O.C.	24" >40"	40" 72"	0° 20°
177" FLOOR W/ 12" O.H. DOUBLE WIDE	2	8'-0"	11'-6" O.C. NEAR BEAM 11'-6" O.C. FAR BEAM	14' O.C.	24" >40"	40" 72"	0° 20°
160" FLOOR W/ 4" O.H. SINGLE WIDE	2	8'-0"	7' O.C. NEAR BEAM 7' O.C. FAR BEAM	N/A	24" >40"	40" 72"	0° 20°
184" FLOOR W/ 4" O.H. SINGLE WIDE	2	8'-0"	7'-9" O.C. NEAR BEAM 7'-9" O.C. FAR BEAM	N/A	24" >40"	40" 72"	0° 20°



APPROVED

FEB 3 2004

20° Federal Mobile
License Construction
And Safety Standards



APPROVED

O.H.= MAX. SIDEWALL ROOF EAVE OVERHANG
ROOF PITCH < 20 DEGREES

* HEIGHT FROM GRADE TO TOP OF STEEL BEAM

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4725 LB) MIN WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 6000 LB) MIN WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.

SPECIFICATIONS ON THIS DRAWING SUPERSEDE ALL OTHER SPECIFICATIONS SHOWN ON OTHER DRAWINGS AND/OR IN THE SET-UP MANUAL.

DURING ALL TIEDOWN INSTALLATIONS, PROTECTION MUST BE PROVIDED TO ALL TIEDOWN STRAPS AT ALL SHARP CORNERS.

Ref. Calc. # 2-2/3/4

HORTON HOMES	
DATE: 1/10/04	DRAWN BY: WK
CODES: MHCS	REVISIONS:
LABELS: HUB	SCALE: NTS
SHEET	
SW-G-3	
WILLIAM J. KALKER, JR., P.E. CONSULTING ENGINEER 33 ROCKWOOD LANE PLAINFIELD, CT 06468 (203) 284-187	

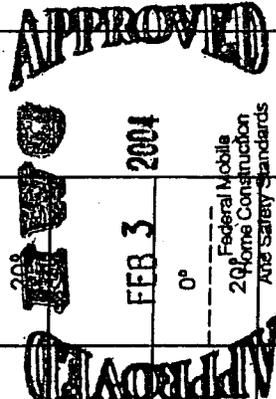
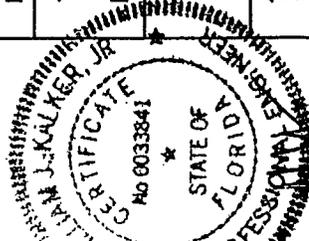
5077 198

SU-II-198

MAXIMUM TIEDOWN SPACINGS

WIND ZONE 3

HOME SIZE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAX. SIDEWALL VERTICAL/FRAME TIEDOWN SPACING AND LOCATION	MAX. MARRIAGE WALL FRAME TIEDOWN SPACING	MINIMUM STEEL BEAM HEIGHT *	MAXIMUM STEEL BEAM HEIGHT *	GROUND ANCHOR BACKANGLE
140" FLOOR W/ 12" O.H. DOUBLE WIDE	3	8'-0"	7'-3" O.C. NEAR BEAM 7'-3" O.C. FAR BEAM	12' O.C.	24" >40"	40" 72"	0° 20°
160" FLOOR W/ 12" O.H. DOUBLE WIDE	3	8'-0"	8'-6" O.C. NEAR BEAM 8'-6" O.C. FAR BEAM	12' O.C.	24" >40"	40" 72"	0° 20°
177" FLOOR W/ 12" O.H. DOUBLE WIDE	3	8'-0"	9 O.C. NEAR BEAM 9 O.C. FAR BEAM	12' O.C.	24" >40"	40" 72"	0° 20°
160" FLOOR W/ 4" O.H. SINGLE WIDE	3	8'-0"	6' O.C. NEAR BEAM 6' O.C. FAR BEAM	N/A	24" >40"	40" 72"	0° 20°
184" FLOOR W/ 4" O.H. SINGLE WIDE	3	8'-0"	6'-3" O.C. NEAR BEAM 6'-3" O.C. FAR BEAM	N/A	24" >40"	40" 72"	0° 20°



FEB 3 2004

Federal Mobile Home Construction Code Safety Standards

O.H. = MAX. SIDEWALL ROOF EAVE OVERHANG
ROOF PITCH < 20 DEGREES

* HEIGHT FROM GRADE TO TOP OF STEEL BEAM

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3100 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 4125 LB) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000 LB ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD = 6000 LB) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.

SPECIFICATIONS ON THIS DRAWING SUPERSEDE ALL OTHER SPECIFICATIONS SHOWN ON OTHER DRAWINGS AND/OR IN THE SET-UP MANUAL.

DURING ALL TIEDOWN INSTALLATIONS, PROTECTION MUST BE PROVIDED TO ALL TIEDOWN STRAPS AT ALL SHARP CORNERS.

<h3>HORTON HOMES</h3>		DATE: 1/10/04	DRAWN BY: WK
		CODES: MFCSS	REVISIONS:
		LABELS: HUD	SCALE: NTS
		SHEET	
WILLIAM J. KALKER, JR., P.E. CONSULTING ENGINEER		33 ROCKWOOD LAKE HONROR, CT 06448 (203) 261-1667	

SU II 199

Ref. Calc. # 2-2/3/4

SU-III-199

MAXIMUM TIEDOWN SPACINGS

FIELD INSTALLED

UNIT TYPE	WIND ZONE	MAXIMUM SIDEWALL HEIGHT	MAXIMUM SIDEWALL VERTICAL/FRAME TIEDOWN SPACING AND LOCATION	MAXIMUM DISTANCE BETWEEN MARRIAGE WALL FRAME TIEDOWN STRAPS	MINIMUM * STEEL BEAM HEIGHT	MAXIMUM * STEEL BEAM HEIGHT	GROUND ANCHOR BACKANGLE
160" FLOOR w/12" OVERHANG DOUBLEWIDE	2	102"	10'-0" o.c. NEAR BM	12'-0" o.c.	24"	48"	0
160" FLOOR w/12" OVERHANG DOUBLEWIDE	3	102"	8'-0" o.c. NEAR BM	10'-0" o.c.	24"	48"	0
177" FLOOR w/12" OVERHANG DOUBLEWIDE	2	102"	12'-0" o.c. NEAR BM	12'-0" o.c.	24"	48"	0
177" FLOOR w/12" OVERHANG DOUBLEWIDE	3	102"	9'-0" o.c. NEAR BM	10'-0" o.c.	24"	48"	0

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD 4725#) MIN. WHEN LOADED AT A 45° ANGLE FROM THE ANCHOR SHAFT AND A 4000# ALLOWABLE WITHDRAWAL LOAD (ULTIMATE LOAD 6000#) MIN. WHEN LOADED PARALLEL TO THE ANCHOR SHAFT.

NOTE DURING ALL TIEDOWN INSTALLATIONS, PROTECTION MUST BE PROVIDED TO ALL TIEDOWN STRAPS AT ALL SHARP CORNERS.

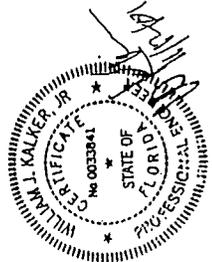
NOTE SPECIFICATIONS ON THIS DRAWING SUPERSEDE ALL OTHER SPECIFICATIONS SHOWN ON OTHER DRAWINGS AND/OR IN THE SET-UP MANUAL.

* HEIGHT FROM GRADE TO TOP OF STEEL BEAM.



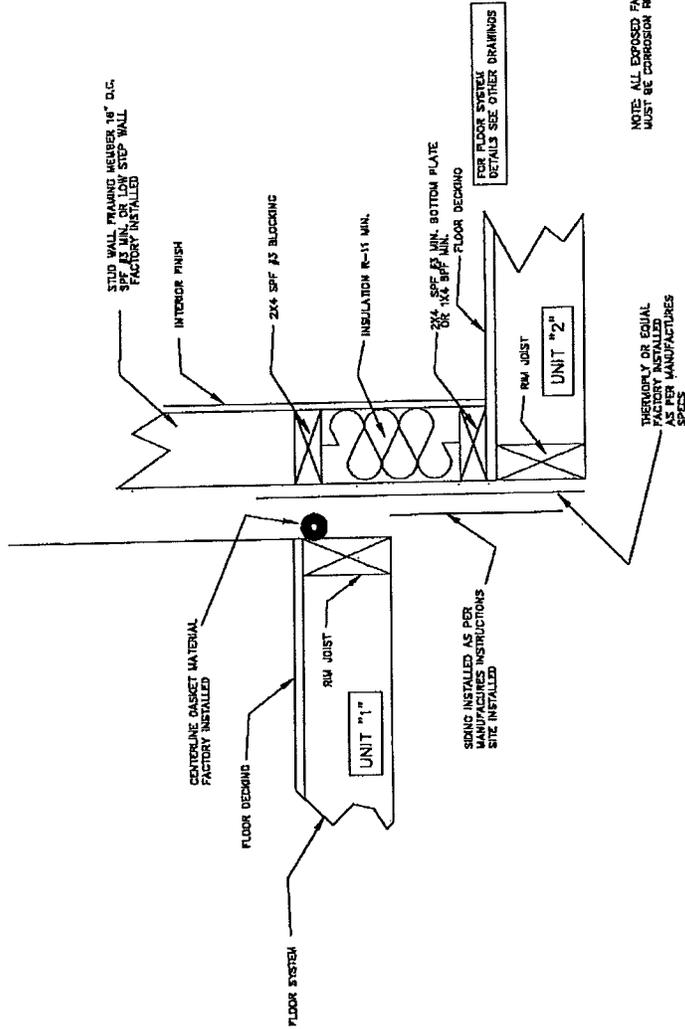
O.H. = MAX. SIDEWALL ROOF OVERHANG
Roof Pitch < 20°

SU-M-201



DRAWING NO.	SM-G-3 (FIELD)
TYPE	ANCHORAGE SYSTEM
DRAWN BY	WK
DATE	11/10/01
REV.	
DRAWN BY	WK
DATE	11/10/01
DRAW SCALE	N.T.S.

HORTON HOMES



NOTE: ALL EXPOSED FASTENERS MUST BE CORROSION RESISTANT

THERMOPLY OR EQUAL FACTORY INSTALLED PER MANUFACTURER'S SPECIFICATIONS

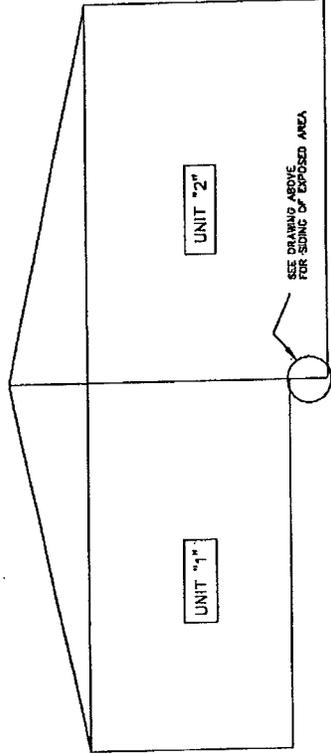
SU-III-STEP-DOWN Form# SU-III-204A

MORTON THOMAS, INC.
 FEDERAL MOBILE HOME CONSTRUCTION
 AND SAFETY STANDARDS

DATE 11-13-01
 REV.
 STEP-DOWN FLOOR CENTER SEALING

APPROVED
JUN 1 2004
APPROVED

Federal Mobile Home Construction And Safety Standards

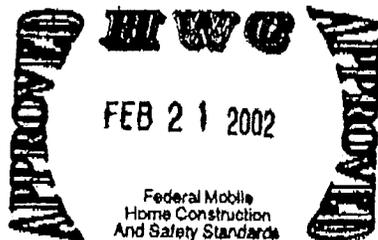
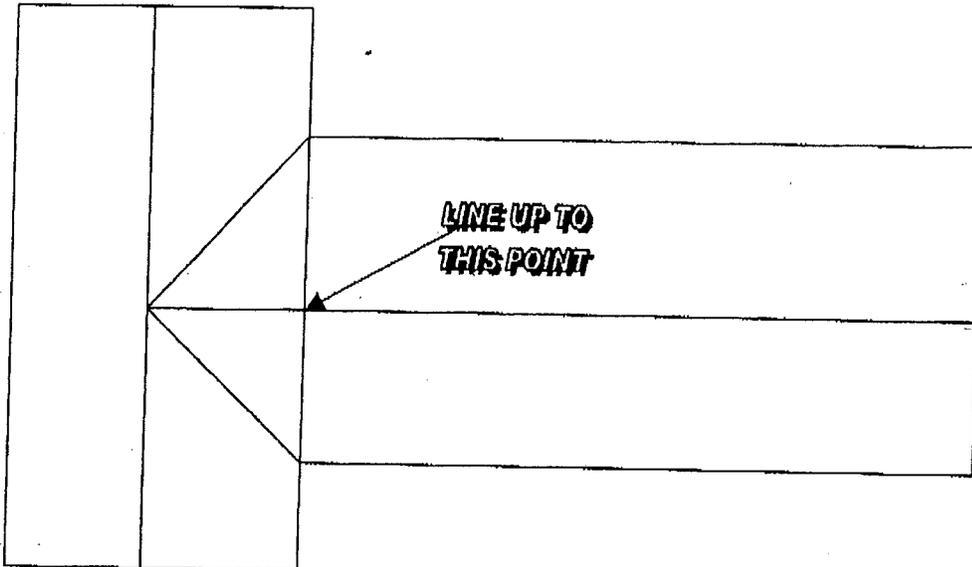


SU-III-204A



QUAD WIDE SET-UP

1. SET-UP FIRST TWO DOUBLE WIDE SECTIONS AS PER STANDARD SET-UP INSTRUCTIONS IN SET-UP MANUAL FOR WIND ZONES (Q AND K SECTIONS DORMER UNIT)
2. MATCH UP NEXT TWO SECTIONS TO DORMER PEAK IN ROOF LINE. *DO NOT LINE UP TO OPENINGS, AS THEY ARE NOT MEANT TO MATCH.*
3. SET-UP LAST TWO SECTIONS AS PER STANDARD SET-UP MANUAL FOR WIND ZONES.
4. CONNECT DORMER TO LAST TWO SECTIONS AS PER DRAWING LABEL (TAG/MAIN UNIT CONNECTIONS) IN MANUAL NO FASTENING AT FLOOR LINE IS REQUIRED AT THIS POINT
5. CONNECT ALL UTILITIES AS PER SET UP MANUAL.



SU-205

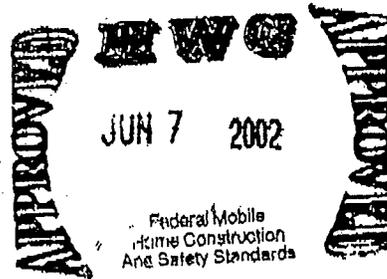
HORTON HOMES

IMPORTANT NOTICE TO INSTALLERS

SMOKE ALARMS

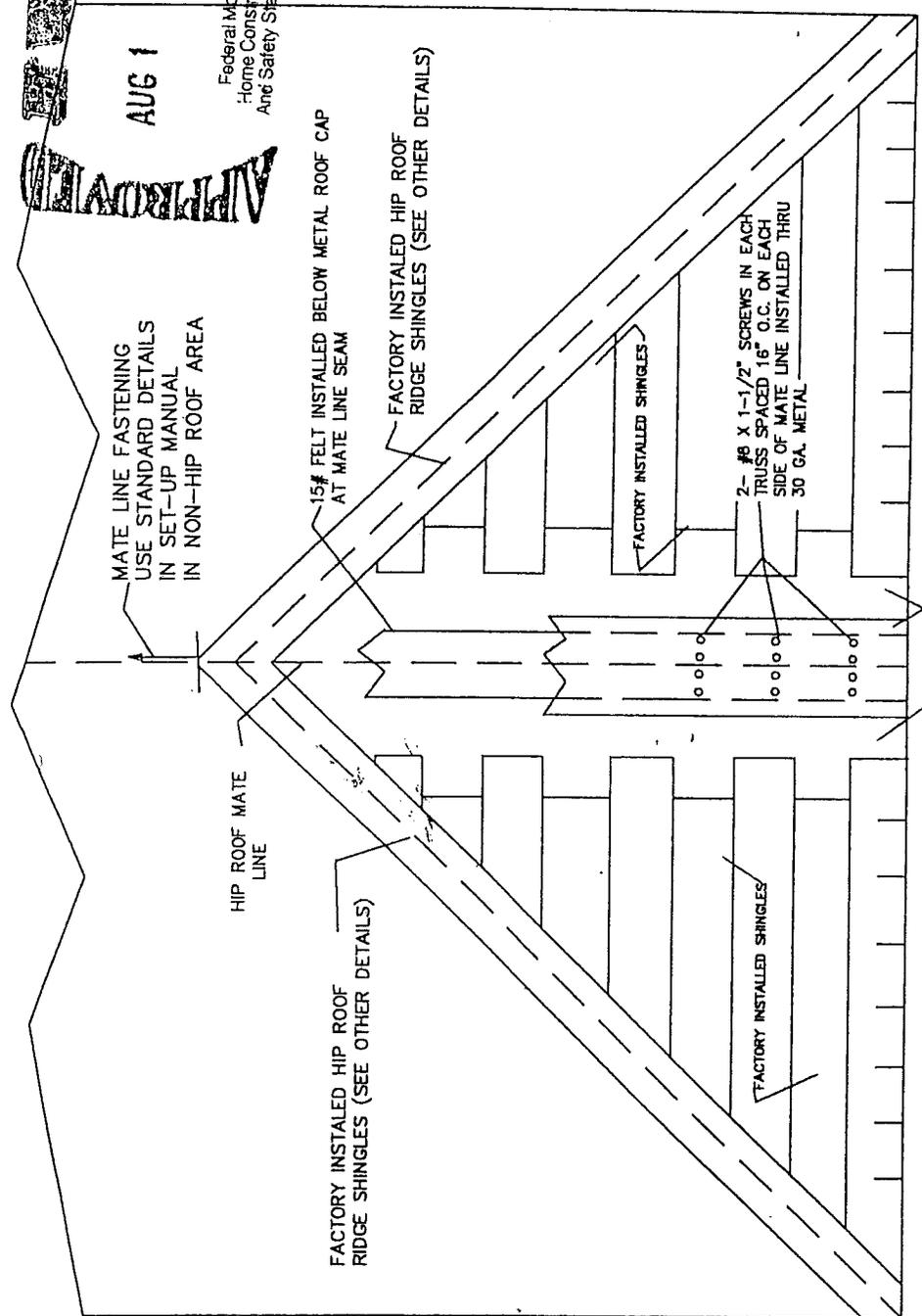
ALL SMOKE ALARMS MUST BE TESTED ONCE POWER IS INSTALLED, BEFORE HOME CAN BE OCCUPIED.

TEST EACH SMOKE ALARM AS PER SMOKE ALARMS TESTING AND OPERATIONAL INSTRUCTIONS AS PROVIDED WITH EACH HOME. WHEN TESTING ALARMS, LISTEN FOR OTHER SMOKE ALARMS TO SOUND THEIR HORNS. INSURE THAT EACH ALARM'S BACKUP BATTERY IS ACTIVATED. IF SMOKE ALARM DOES NOT OPERATE PROPERLY AS PER MANUFACTURERS INSTRUCTIONS, REPLACE SMOKE ALARM AND RETEST.



SU-206

APPROVED
APPROVED
AUG 1 2002
 Federal Mobile
 Home Construction
 And Safety Standards



SU-III-207

REF DWG SU-Z-1 OR SU-Z-2
 IN OWNERS MANUAL FOR OTHER DETAILS

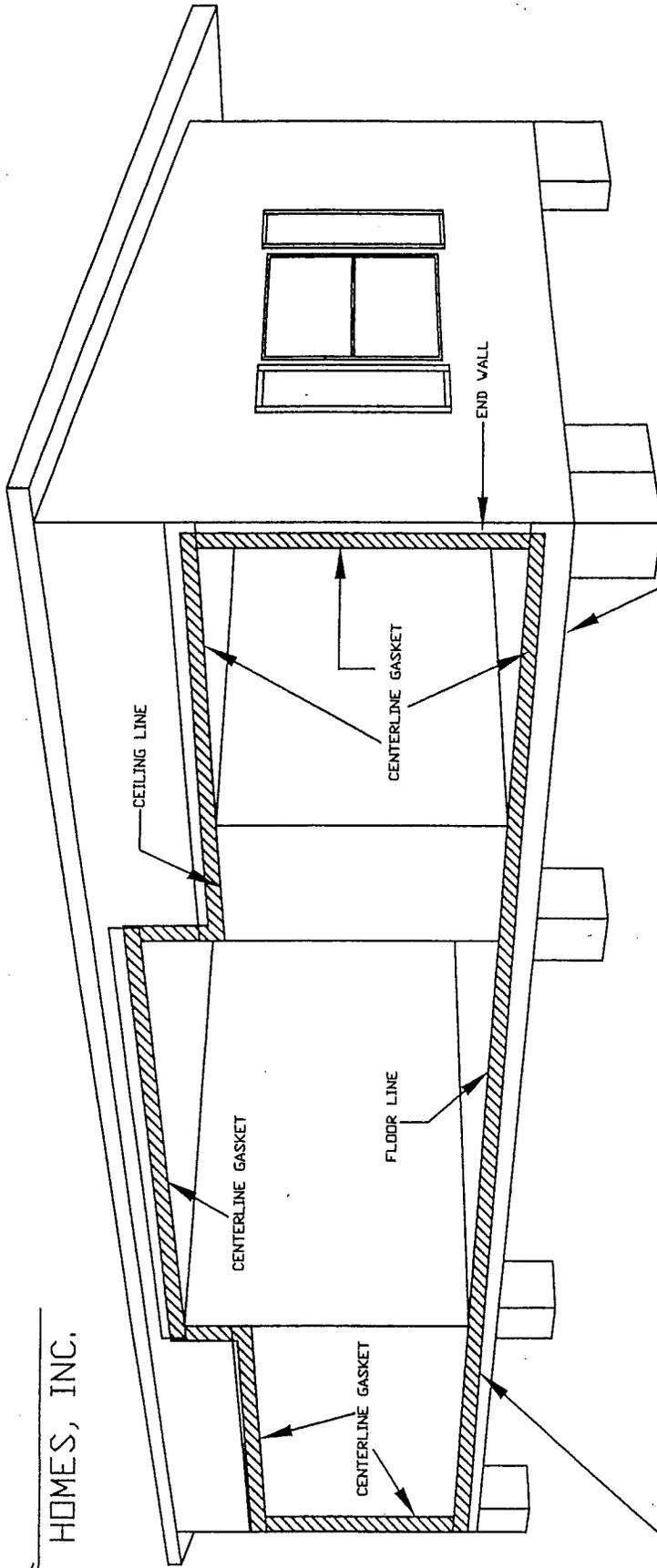
WIND ZONES 1,2 &3

Professional Engineer Seal
 STATE OF ALABAMA
 No. 000000000
 CERTIFICATE OF REGISTRATION
 PROFESSIONAL ENGINEER
 7/24/02

ORTON HOMES, INC.	
DATE BY	DATE
REVISIONS	DATE
SEE DETAILS FOR ROOF	
PAGE 8	

THORNTON HOMES, INC.

DYNASTY HOMES, INC.



APPROVED

FMV

OCT 14 2003

Federal Mobile Home Construction And Safety Standards

APPROVED

GASKET MATERIAL CAN BE ONE OR TWO-PART SYSTEMS; "CENTER-SEALED", "SOFT CHINK", FORMS, INSULATION WRAPPED IN POLY, INSULATION COVERED BY BUTYL OR OTHER LONG-LIFE TAPE ON ONE SIDE, INSULATION COVERED WITH FLOOR-LEVELING COMPOUND ON ONE SIDE. GASKET MATERIAL MUST BE INSTALLED AT CEILING LINE, END WALLS AND AT FLOOR. (SEE DRAWING ABOVE) FOR DOUBLE AND TRIPLE WIDE UNITS CENTER LINE GASKET MAYBE FACTORY INSTALLED NOTE: FAILURE TO SEAL MARRIAGE WALL AS NOTED ABOVE MAY VOID WARRANTY

THE BOTTOM BOARD OF THE HOME IS TO BE FREE OF CUTS AND TARES

SU-210

SEALING JOINT AT MARRIAGE WALL

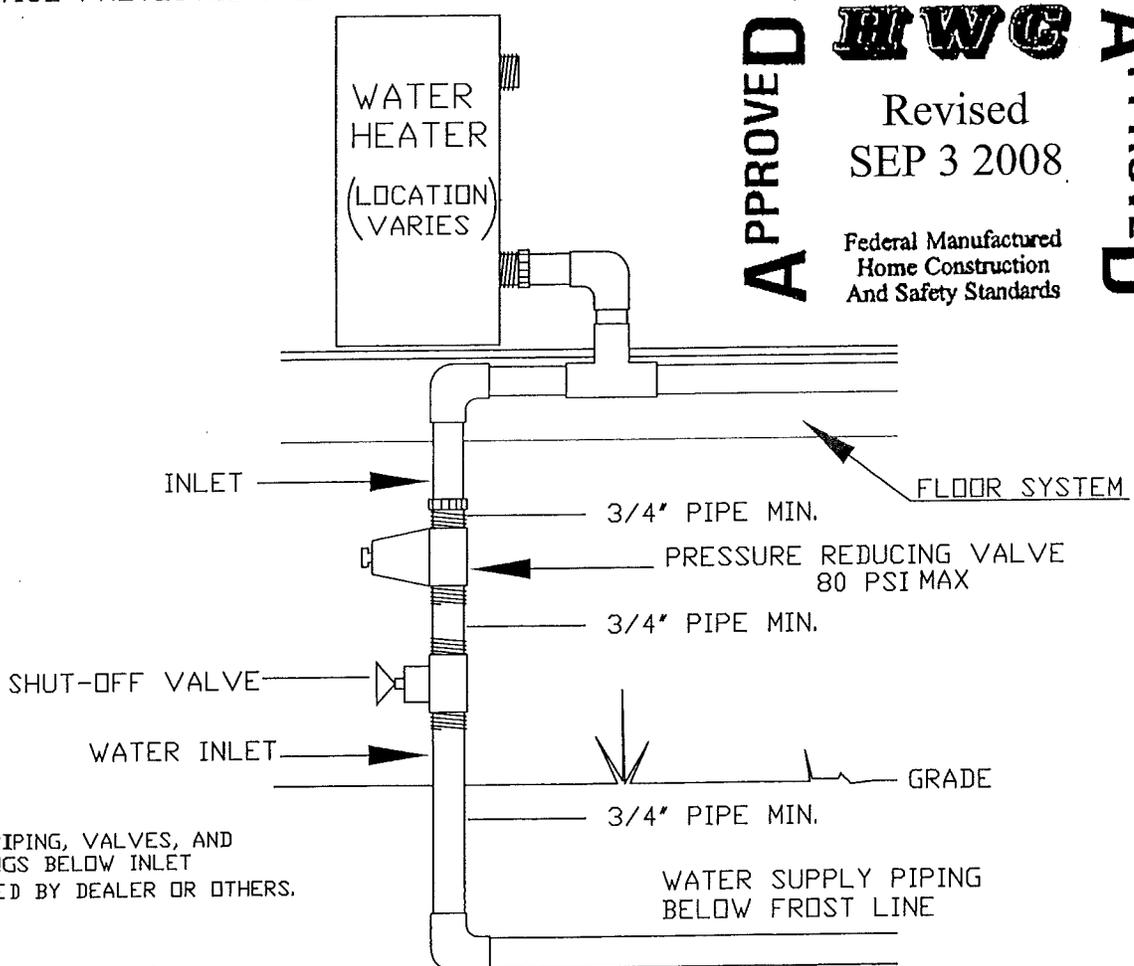
ILLUSTRATION OF INSTALLATION OF PRESSURE REDUCING VALVE AND SHUT-OFF VALVE

THIS HOME IS DESIGNED FOR AN INLET PRESSURE OF 80 P.S.I. MAXIMUM. IF SUPPLY WATER PRESSURE EXCEEDS 80 PSI, PRESSURE REDUCING VALVE MUST BE INSTALLED. FAILURE TO INSTALL PRESSURE REDUCING VALVE COULD DAMAGE PLUMBING SYSTEM. SUPPLY LINE MUST BE A MINIMUM OF 3/4" IN SIZE AND BE BURIED BELOW FROST LINE. RISER MUST BE PROTECTED FROM FREEZING.

A HEAT TAPE MAYBE USED IF NECESSARY FOR LOCAL FREEZING CONDITIONS. INSTALL HEAT TAPE PER MANUFACTURE'S INSTALLATION INSTRUCTIONS. HEAT TAPE IS TO BE LISTED OR APPROVED FOR MANUFACTURE HOME USE.

AT THE TIME OF INSTALLATION A MASTER COLD WATER SHUT-OFF FULL FLOW VALVE MUST BE INSTALLED AT FRESH WATER INLET (DEALER, OR OTHERS SUPPLIES, SEE ILLUSTRATION).

FREEZING PRTECTION: WATER LINE CONNECTIONS COMPLETED DURING INSTALLATION MUST BE PROTECTED FROM FREEZING. IF SUBJECT TO FREEZING TEMPERATURES, THE WATER CONNECTION MUST BE WRAPPED WITH INSULATION OR OTHERWISE PROTECTED TO PREVENT FREEZING. IN AREAS SUBJECT TO FREEZING OR SUBFREEZING TEMPERATURES, EXPOSED SECTIONS OF WATER SUPPLY PIPING, SHUTOFF VALVES, PRESSURE REDUCERS, AND PIPES IN WATER HEATER COMPARTMENTS MUST BE INSULATED OR OTHERWISE PROTECTED FROM FREEZING.



APPROVED **H W G** **APPROVED**
 Revised
 SEP 3 2008
 Federal Manufactured
 Home Construction
 And Safety Standards

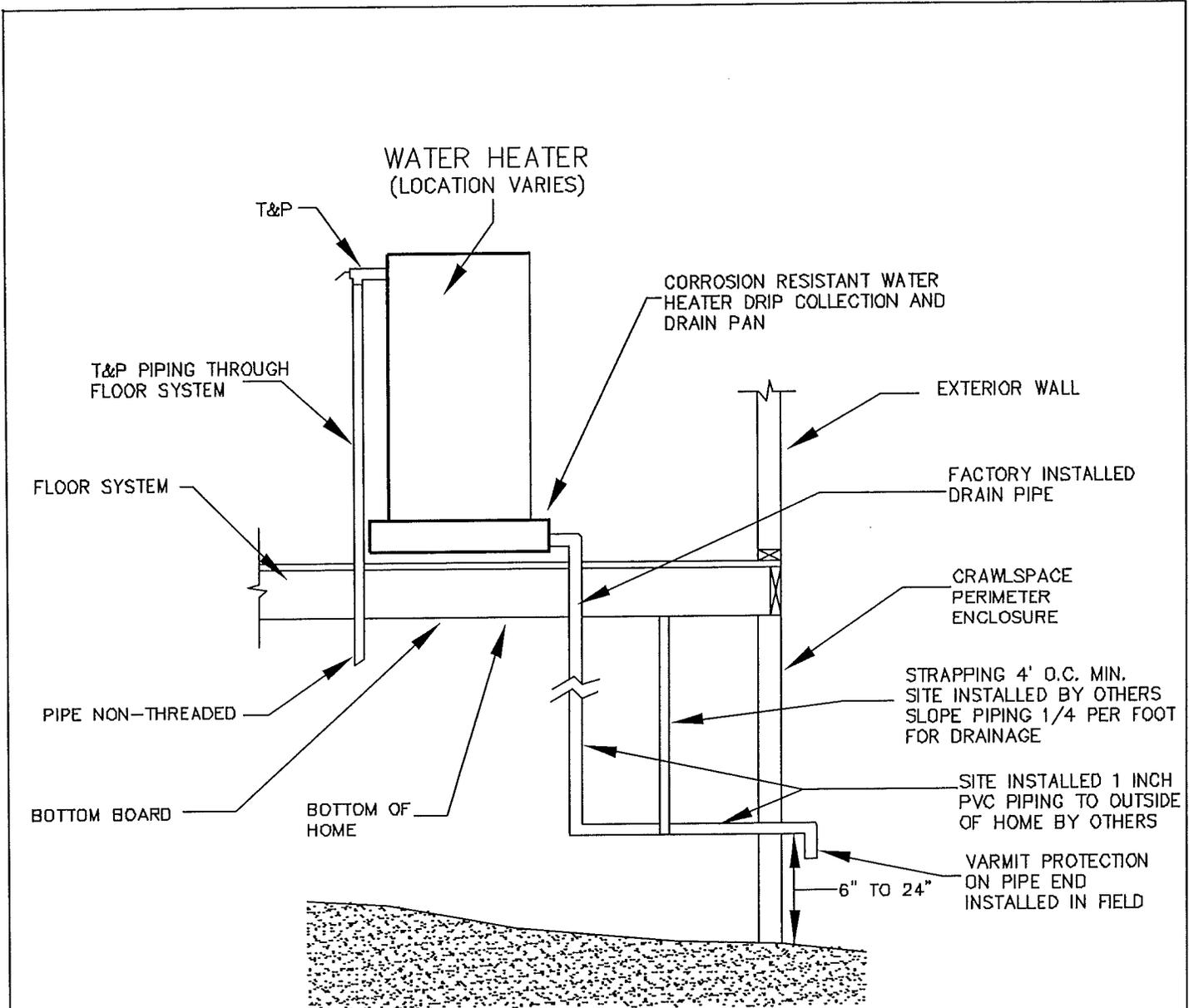
NOTE: ALL PIPING, VALVES, AND FITTINGS BELOW INLET SUPPLIED BY DEALER OR OTHERS.



DYNASTY HOMES, INC.

EFFECTIVE DATE: OCT. 20, 2008

SU-211.1



NOTE: HOMEOWNER SHOULD CHECK THAT DRAIN PIPING IS NOT BLOCKED TO ENSURE DRAINAGE. EXAMPLE : MUD DAUBER NEST

APPROVED **HWC** **APPROVED**
 Revised
 AUG 14 2008
 Federal Manufactured
 Home Construction
 And Safety Standards

**HORTON
 HOMES, INC.**

DYNASTY HOMES, INC.

**WATER HEATER COLLECTION
 AND DRAIN PAN**

PL-43.1
 SU-211A.1

SU-211A.1

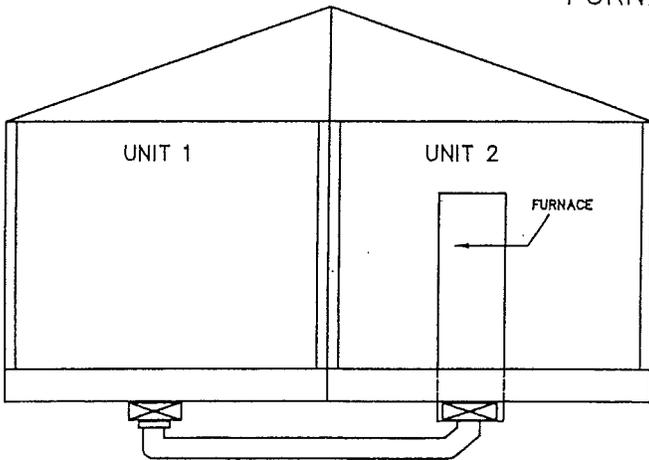


FIG. (A)

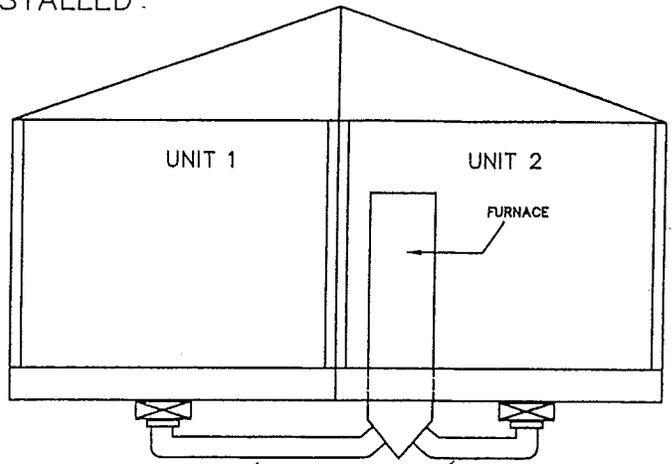


FIG. (B)

TYPICAL
FLEXIBLE DUCT CROSSOVER
(SITE INSTALLED BY OTHERS)

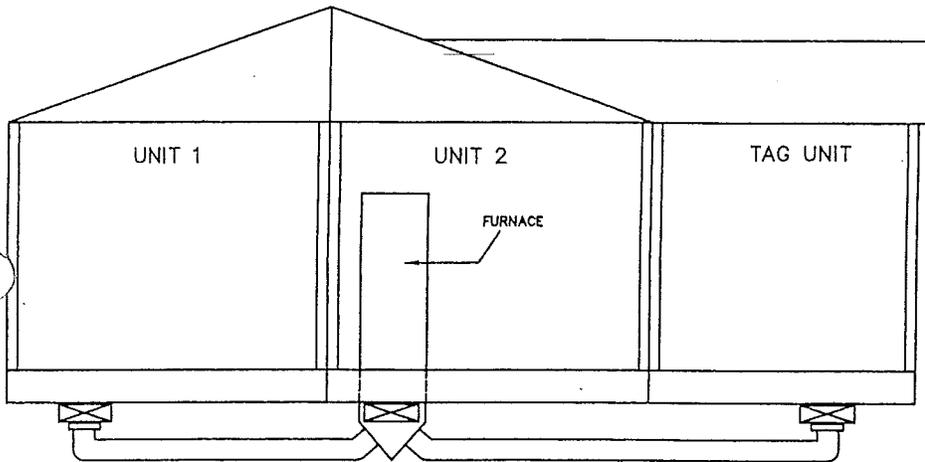


FIG. (C)

TYPICAL
FLEXIBLE DUCT CROSSOVER
(SITE INSTALLED BY OTHERS)

APPROVED

HTWG

APPROVED

OCT 14 2003

Federal Mobile
Home Construction
And Safety Standards

NOTES

- INSULATED FLEXIBLE CROSSOVER DUCT IS SUPPLIED BY THE MANUFACTURER WITH THE HOME WHEN FURNACE IS INSTALLED.
- FIG.(A) THE FLEXIBLE DUCT IS FASTENED FROM THE BOOT CONNECTOR UNDER THE FURNACE TO BOOT CONNECTOR ON SECOND HOME SECTION WITH CLAMPS PROVIDED.
- FIG.(B) AND FIG.(C) THE FLEXIBLE DUCT IS FASTENED FROM "V" BOX DIVERTER UNDER FURNACE TO METAL DUCT IN EACH SECTION WITH CLAMPS PROVIDED.
- SUPPORT FLEXIBLE DUCT 4' O.C. MAX. WITH WIRE OR PLASTIC TIES (NOT PROVIDED) SO THAT THE DUCT DOES NOT TOUCH THE GROUND.
- DO NOT KINK OR TWIST DUCT AS THIS WILL RESTRICT AIR FLOW

FIELD INSTALLED DUCT DIAGRAM

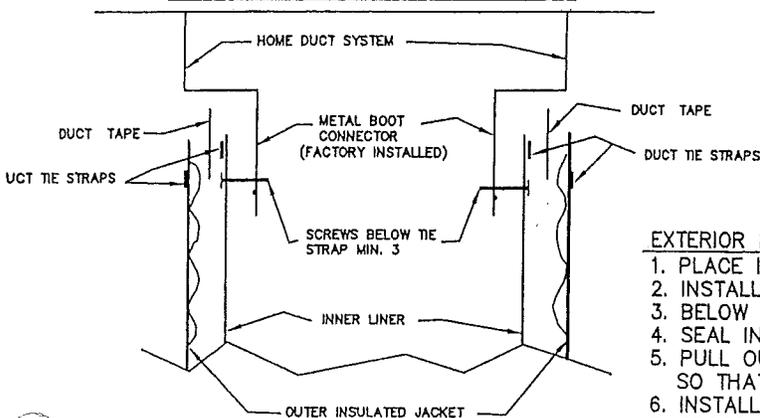


FIG. (D)

EXTERIOR FIELD INSTALLED DUCT (SEE FIG. D)

1. PLACE INNER LINER OVER CROSSOVER BOOT CONNECTOR
2. INSTALL NYLON OR METAL TIE STRAP
3. BELOW TIE STRAP INSTALL 3 MIN. METAL SCREWS
4. SEAL INNER LINER WITH DUCT TAPE
5. PULL OUTER INSULATED JACKET OVER INNER LINER SO THAT NO METAL IS SHOWING
6. INSTALL NYLON OR METAL TIE STRAP
7. CROSSOVER DUCT INSULATION IS TO BE PUSHED INTO BELLY OF HOME AND SEALED WITH TAPE OR FOAM SEALANT AT EACH END
8. ALL METAL COMPONENTS EXPOSED TO NON-CONDITIONED AIR MUST BE WRAPPED WITH INSULATION OF EQUAL R VALUE AS REQUIRED FOR DUCT

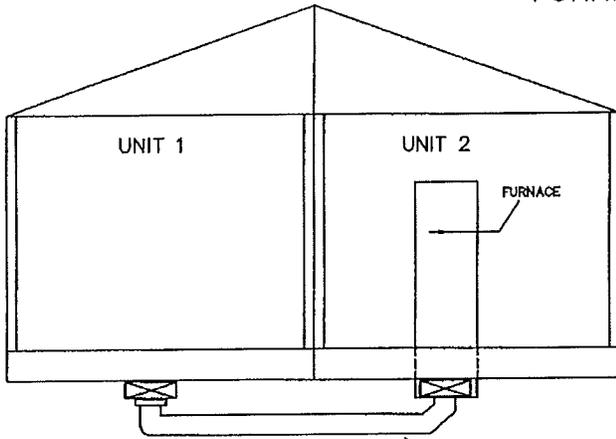


FIG. (A)

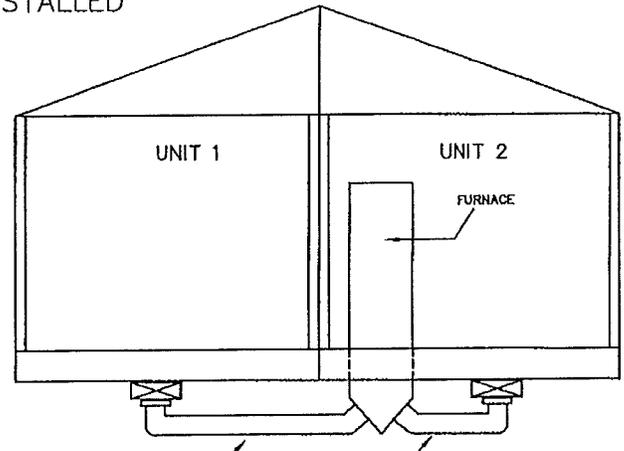


FIG. (B)

TYPICAL FLEXIBLE DUCT CROSSOVER (SITE INSTALLED BY OTHERS)

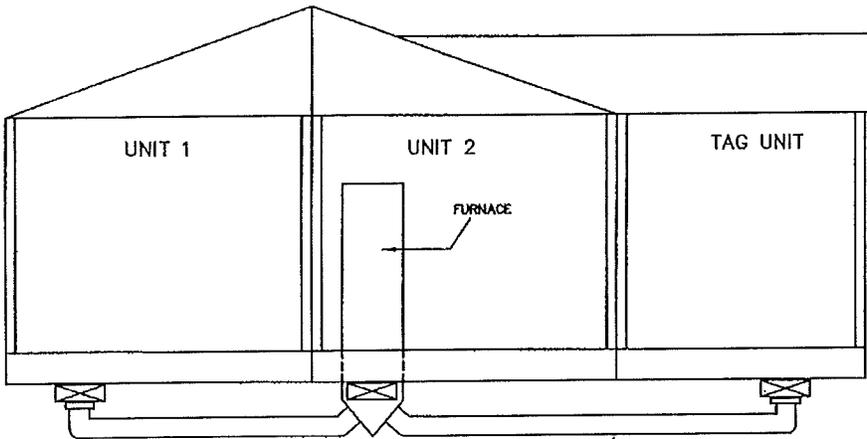


FIG. (C)

TYPICAL FLEXIBLE DUCT CROSSOVER (SITE INSTALLED BY OTHERS)

NOTE: SEALANTS AND TAPES ARE TO BE LISTED IN ACCORDANCE WITH UL 181A FOR RIGID DUCTS AND UL 181B FOR FLEXIBLE DUCTS.

APPROVED HWC APPROVED
FEB 22 2006
 Federal Manufactured Home Construction And Safety Standards

NOTES

- INSULATED FLEXIBLE CROSSOVER DUCT IS SUPPLIED BY THE MANUFACTURER WITH THE HOME WHEN FURNACE IS INSTALLED.
- FIG.(A) THE FLEXIBLE DUCT IS FASTENED FROM THE BOOT CONNECTOR UNDER THE FURNACE TO BOOT CONNECTOR ON SECOND HOME SECTION WITH CLAMPS PROVIDED.
- FIG.(B) AND FIG.(C) THE FLEXIBLE DUCT IS FASTENED FROM "V" BOX DIVERTER UNDER FURNACE TO METAL DUCT IN EACH SECTION WITH CLAMPS PROVIDED.
- SUPPORT FLEXIBLE DUCT 4" O.C. MAX. WITH WIRE OR PLASTIC TIES (NOT PROVIDED) SO THAT THE DUCT DOES NOT TOUCH THE GROUND.
- DO NOT KINK OR TWIST DUCT AS THIS WILL RESTRICT AIR FLOW

FIELD INSTALLED DUCT DIAGRAM

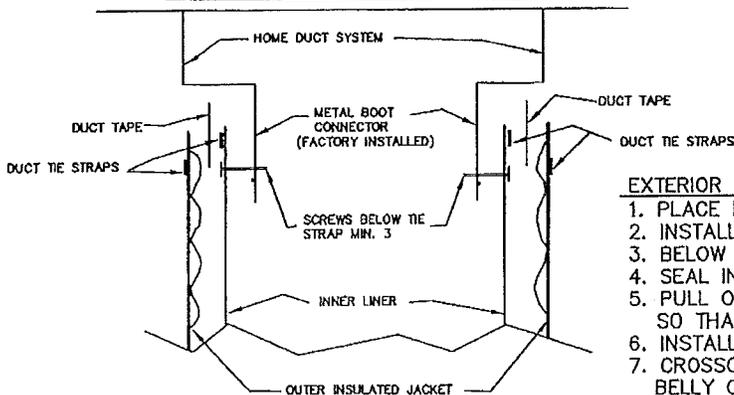


FIG. (D)

EXTERIOR FIELD INSTALLED DUCT (SEE FIG. D)

1. PLACE INNER LINER OVER CROSSOVER BOOT CONNECTOR
2. INSTALL NYLON OR METAL TIE STRAP
3. BELOW TIE STRAP INSTALL 3 MIN. METAL SCREWS
4. SEAL INNER LINER WITH DUCT TAPE
5. PULL OUTER INSULATED JACKET OVER INNER LINER SO THAT NO METAL IS SHOWING
6. INSTALL NYLON OR METAL TIE STRAP
7. CROSSOVER DUCT INSULATION IS TO BE PUSHED INTO BELLY OF HOME AND SEALED WITH TAPE OR FOAM SEALANT AT EACH END
8. ALL METAL COMPONENTS EXPOSED TO NON-CONDITIONED AIR MUST BE WRAPPED WITH INSULATION OF EQUAL R VALUE AS REQUIRED FOR DUCT

SU-212A

EFFECTIVE DATE: 5-30-06

SU-212A

**TYPICAL SITE INSTALLED
FIREPLACE CHIMNEY**

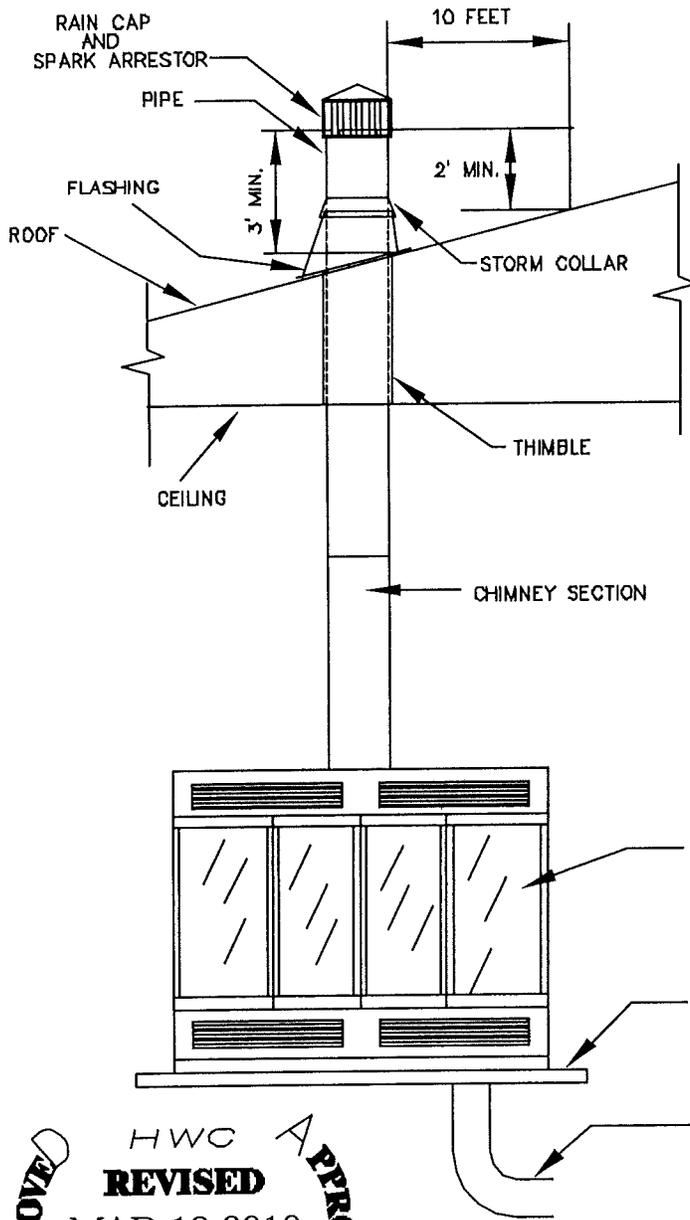
**MINIMUM FIREPLACE
CHIMNEY EXTENSIONS
ABOVE ROOF**

THE FINISHED CHIMNEY SHALL EXTEND AT LEAST 3 FEET ABOVE THE HIGHEST POINT AT WHICH IT PENETRATES THE ROOF AND AT LEAST 2 FEET HIGHER THAN ANY BUILDING OR OTHER OBSTRUCTION LOCATED WITHIN A HORIZONTAL DISTANCE OF 10 FOOT.

REFERENCE FIREPLACE MANUFACTURE'S INSTALLATION INSTRUCTIONS SUPPLIED WITH FIREPLACES FOR COMPLETE REQUIREMENTS

WARNING

FIREPLACE CHIMNEY AND TERMINATIONS MUST BE COMPLETE PRIOR TO OPERATION OF THE APPLIANCE.



IF HEARTH IS SHIPPED LOOSE, BE SURE TO FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS CAREFULLY FOR CORRECT INSTALLATION PROCEDURE.

COMBUSTION AIR INTAKE DUCT
WHEN SKIRTING IS INSTALLED, THE INSTALLER SHOULD INSTALL AND CONNECT THE COMBUSTION AIR DUCT TO THE OUTSIDE OF THE SKIRTING.
DO NOT BLOCK OPENING

APPROVED
HWC
REVISED
MAR 12 2010
Federal Mobile
Home Construction
And Safety Standards
APPROVED

SU-213.1

GAS SYSTEMS

The gas piping supply system has been designed for a maximum pressure of 14 inches of water column (1/2 psi) for safe and effective operation of the gas system. The gas supply pressure will be between 14 and 7 inches water column.

The gas system must be tested to ensure that it is free of leaks. Do not pressurize the gas line system more than 8 ounces maximum. If the system is pressurized more than 8 ounces, possible damage to the gas valves and regulators could result. The gas test must be performed by a qualified person.

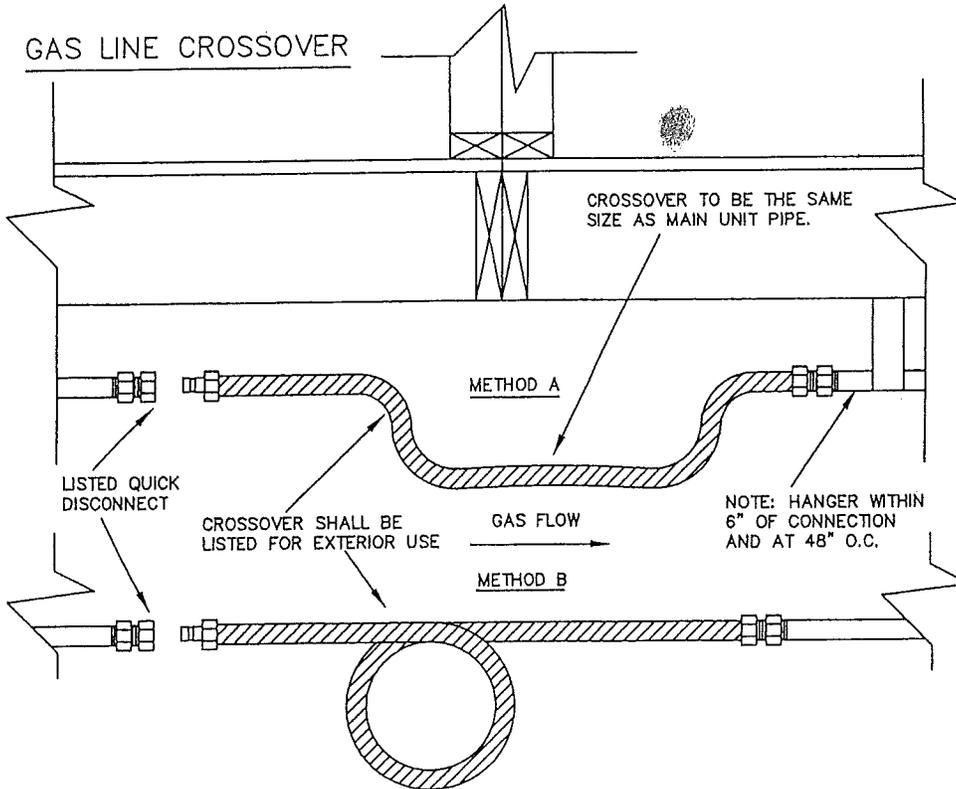
WARNING

Do not light appliance pilot light until each appliance has been checked to ensure that its roof Jack vent has been installed and is not damaged. All utility connections to be made and tested before pilot is lit.

CAUTION

At the time of shipment all gas appliances in the home are equipped for natural gas. If supply is liquified petroleum gas, it is necessary that the appliance be converted to LPG in accordance with the appliance manufactures provided instruction.

GAS LINE CROSSOVER



CROSSOVER TO BE THE SAME SIZE AS MAIN UNIT PIPE.

APPROVED

MWG

OCT 14 2003

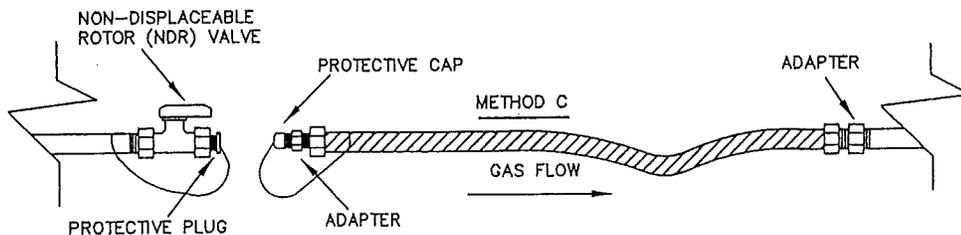
Federal Mobile Home Construction And Safety Standards

APPROVED

NOTES:

1. Remove the protective caps from the gas line connectors.
2. Attach the quick disconnect to the supply half and the connector to the other half.
3. The crossover shall be readily accessible from the exterior of the home.
4. Do not use tools to separate the "Quick Disconnect" device.
5. The manufacture shall supply gas connectors when applicable.

GAS CROSSOVER CONNECTION USING MANUAL SHUTOFF VALVE.



NOTES:

1. If fuel gas piping is required in more than one section of a home, the crossover assembly items necessary to complete the connection shall be factory installed.
2. Gas valve and flexible connection must be listed and approved for exterior use.

Procedure:

1. Remove the installed cap and nipple (or any other plug, such as a black iron plug) to provide a positive seal on the supply side.
2. Make the necessary connections and check for leaks.

SU-214

DRAIN LINES

SAMPLE DRAIN LINES

NTS (NOT TO SCALE)

SEE WASTE DRAINAGE PIPING SYSTEM DIAGRAM SUPPLIED WITH YOUR HOME.

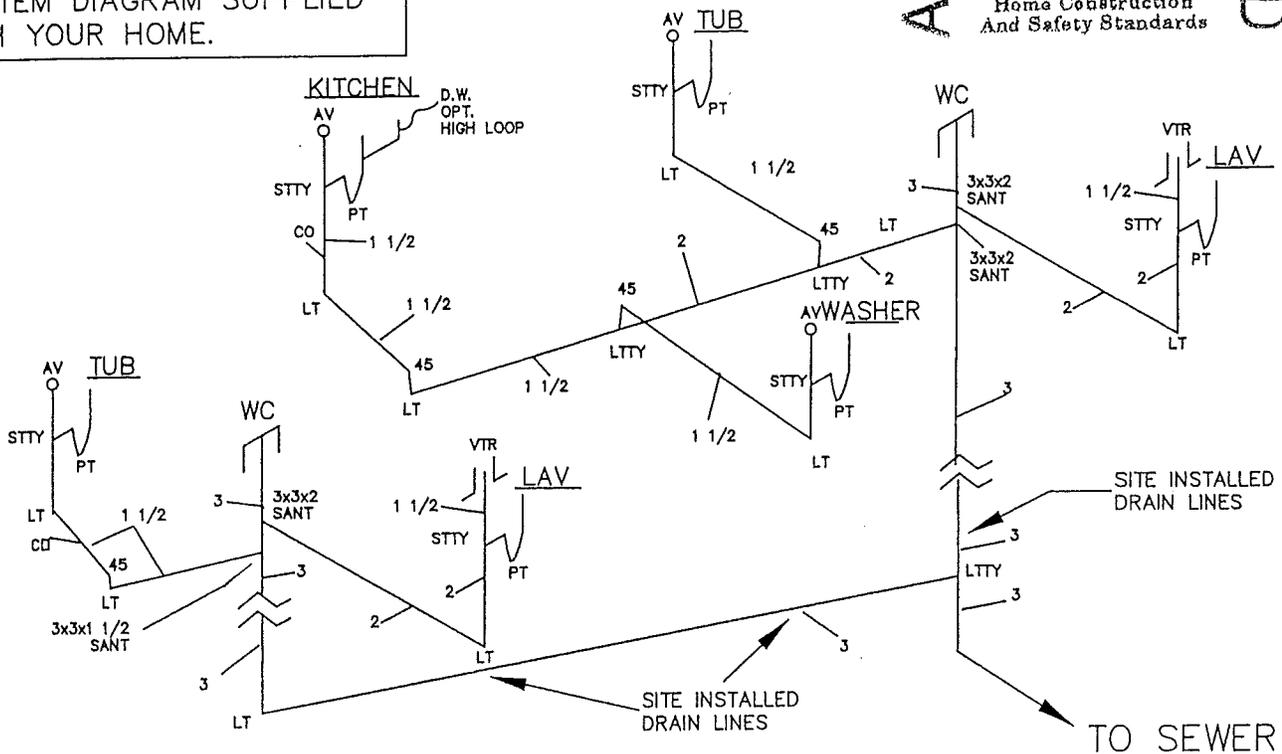
APPROVED

MWG

APPROVED

OCT 14 2003

Federal Mobile Home Construction And Safety Standards



SITE INSTALLED DRAIN LINES

Enclosed with your homeowner's information is a waste drainage piping system diagram for your home. On these diagrams is a break indication (⌘), which means that all piping below this marking (⌘) is to be assembled on site. The pipe and fittings for this site installed assembly are included with the home. The fittings will be one of two types - long turn or short turn, and the pipe sizes will be 1-1/2", 2", or 3". The proper pipe and fitting sizes will be indicated on the diagrams.

To ensure proper flow and venting of the waste drainage system, the enclosed drainage information should be followed at the time of set-up. The direction of flow is toward the main sewer outlet with a minimum slope of 1/4" per foot.

All site installed plumbing must be checked for leaks and should be installed by qualified personnel.

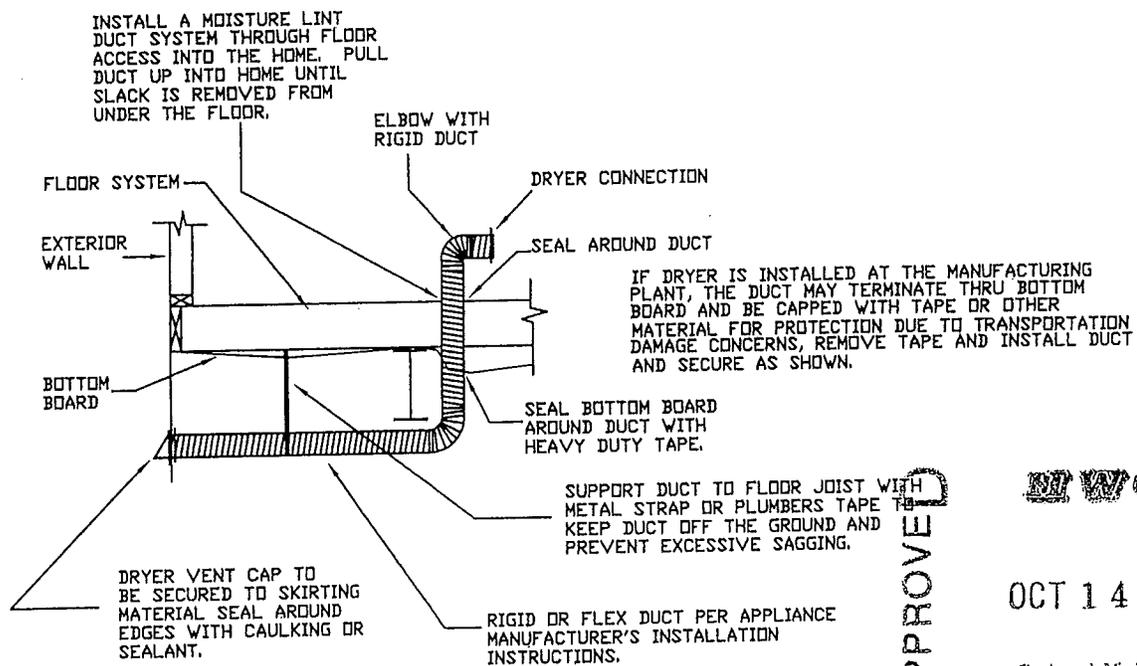
SU-215

DRYER VENT INSTALLATION

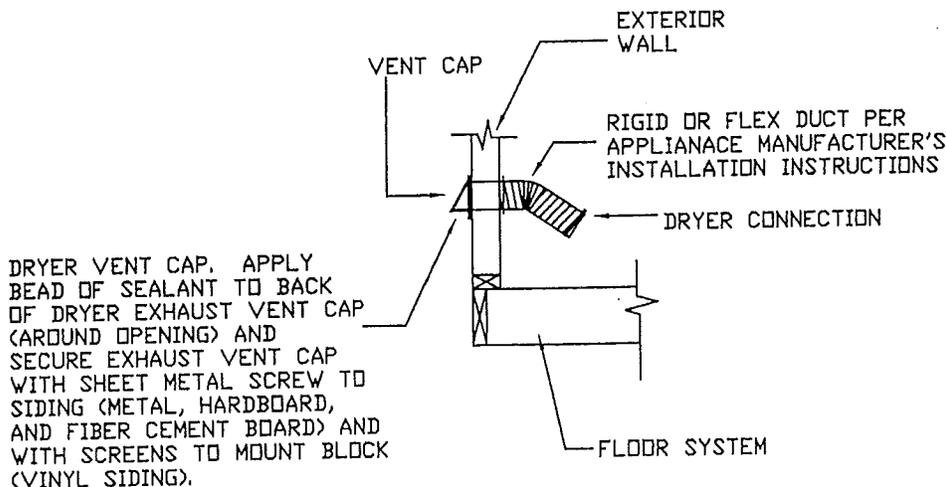
IF PROVISIONS ARE IN THE HOME FOR DRYER INSTALLATION, A DRYER VENT ROUGHED-IN OPENING HAS BEEN PROVIDED IN THE UTILITY AREA/ROOM WITH ACCESS THROUGH TH FLOOR OR EXTERIOR WALL. TO INSTALL, REMOVE THE MATERIAL CLOSING OFF THE ROUGHED-IN OPENING AND FOLLOW THESE DIRECTIONS GIVEN BELOW ALONG WITH THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

UNDER FLOOR DRYER DUCT MUST BE CONTINUOUS AND TERMINATE OUTSIDE THE PERIMETER OF THE HOME, OUTSIDE OF ANY SKIRTING OR FOUNDATION INSTALLED AROUND THE HOME. THE DUCT IS NOT SUPPLIED WITH HOME, REFERENCE DRYER MANUFACTURE'S INSTALLATION INSTRUCTIONS.

CAUTION: TERMINATION OF VENT UNDER THE HOME WILL VOID WARRANTY.



VENT BELOW FLOOR



VENT THROUGH EXTERIOR WALL

APPROVED

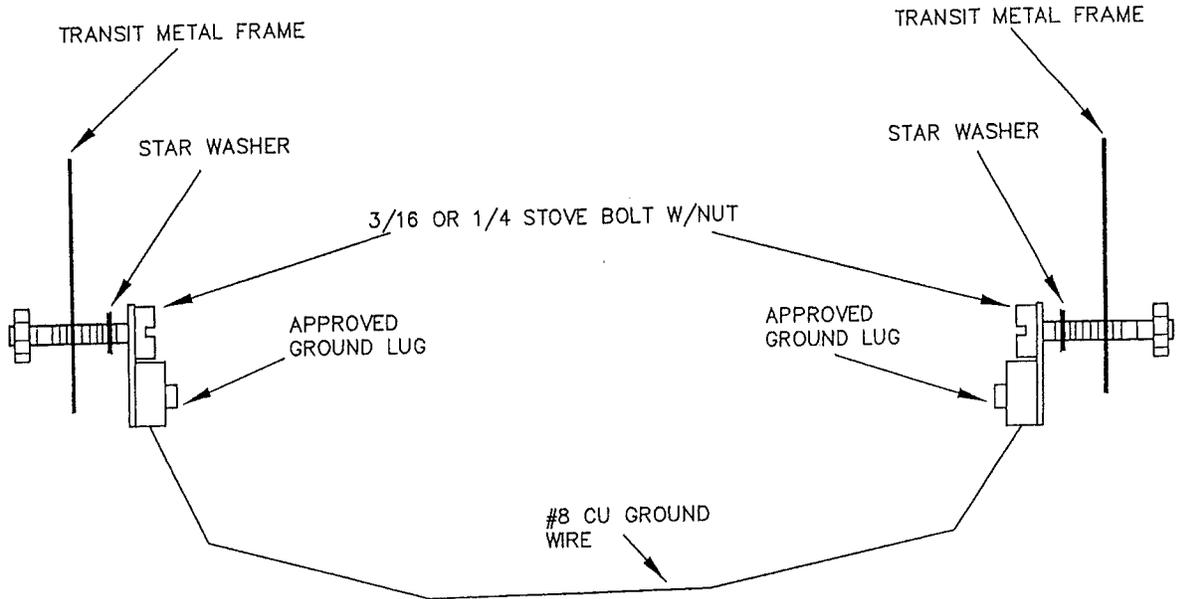
NWC

OCT 14 2003

Federal Mobile Home Construction and Safety Standards

APPROVED

**GROUNDING OF MULTI-WIDE UNITS OF FRAME TO FRAME
(ONLY ONE (1) METHOD NEEDS BE USED FOR GROUNDING)**



GROUNDING METHOD 1

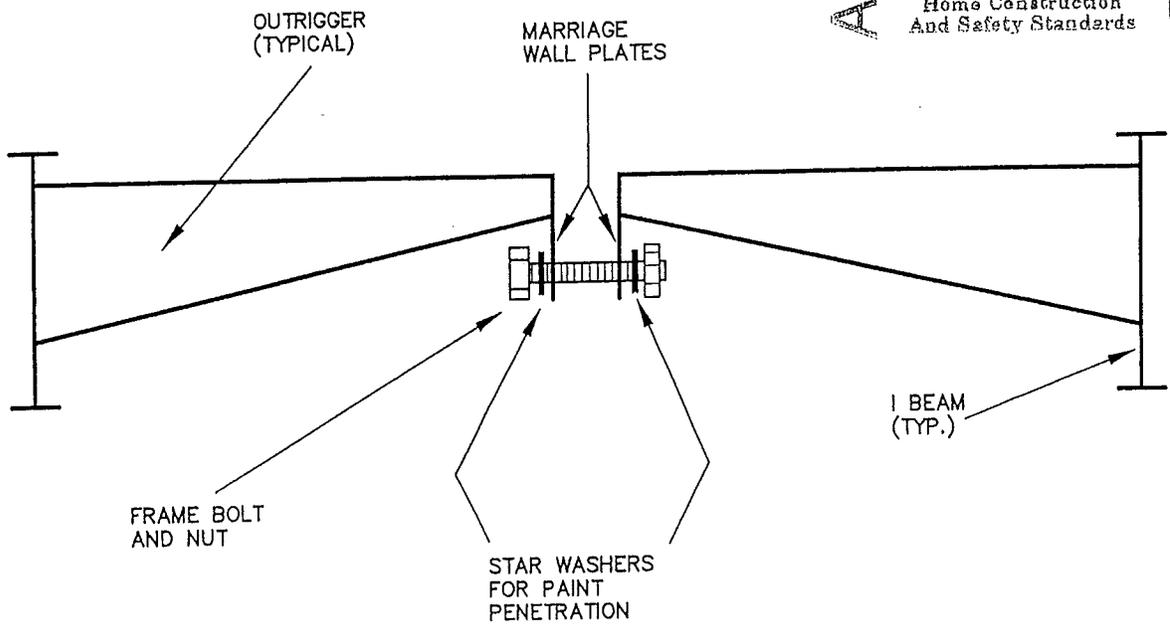
APPROVED

ETW/C

APPROVED

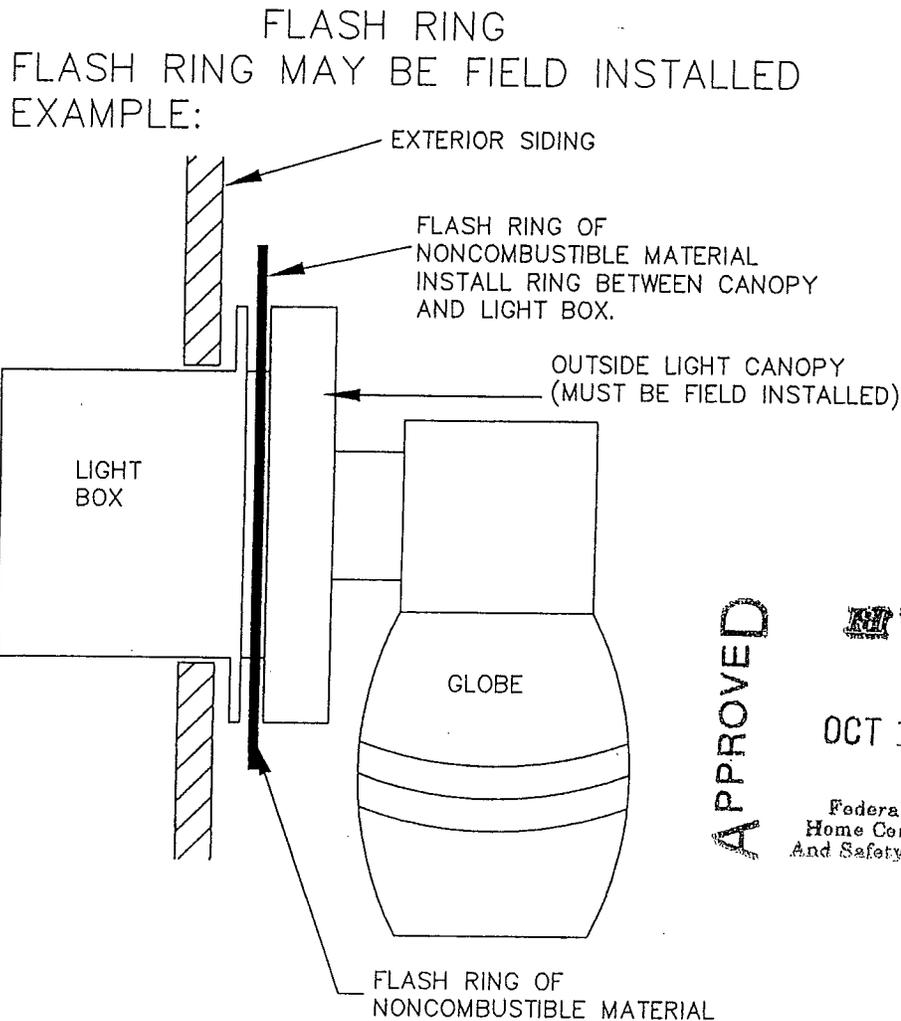
OCT 14 2003

Federal Mobile
Home Construction
And Safety Standards



GROUNDING METHOD 2

SU-217



APPROVED

NWCG

APPROVED

OCT 14 2003

Federal Mobile
Home Construction
And Safety Standards

PROCEDURE:

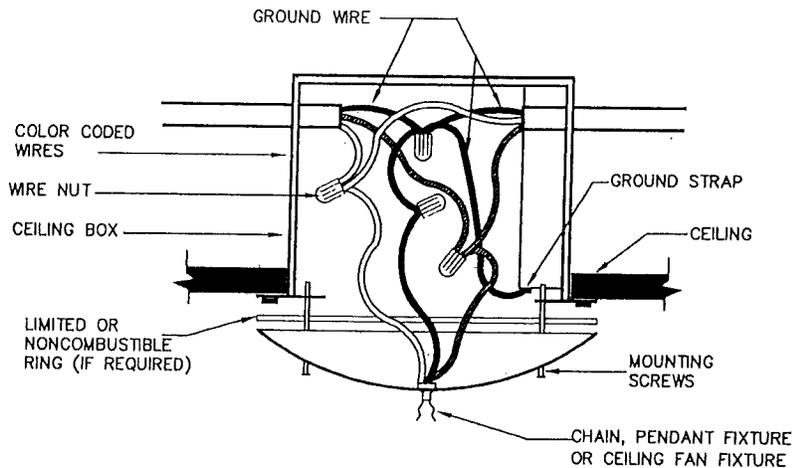
1. BEFORE ATTEMPTING TO INSTALL THE LIGHT FIXTURES, MAKE SURE THE POWER TO THE LIGHT WIRING IS OFF.
2. REMOVE BLANK COVER FROM JUNCTION BOX.
3. MAKE THE WIRING CONNECTIONS WITH THE WIRE NUTS PROVIDED, BLACK TO BLACK WIRES, WHITE TO WHITE WIRES AND GROUND TO GROUND WIRE.
4. PUSH CONNECTED WIRES INTO JUNCTION BOX. ADD NON-COMUSTIBLE RING BETWEEN FIXTURE CANOPY AND JUNCTION BOX. (SEE CAUTION)
5. SECURE CANOPY TO JUNCTION BOX. INSTALL LIGHT BULB AND ATTACH GLOBE OR SHADE IF NECESSARY.
6. APPLY SEALANT AROUND TOP AND SIDES OF CANOPY ON EXTERIOR LIGHT INSTALLATIONS.

CAUTION

NON-COMBUSTIBLE RING REQUIRED WHEN COMUBUSTILBE INTERIOR WALL, EXTERIOR WALL OR CEILING FININSH MATERIAL IS EXPOSED BETWEEN THE FIXTURE CANOPY AND JUNCTION BOX. HARDBOARD AND VINYL SIDING ARE CONSIDERED COMBUSTIBLE EXTERIOR SURFACES.

SU-218

**CEILING FAN/LIGHT MOUNTED TO FACTORY INSTALLED
ELECTRICAL BOX IN CEILING**



APPROVED

HWC

APPROVED

SEP 2 2008

**Federal Manufactured
Home Construction
And Safety Standards**

PROCEDURE:

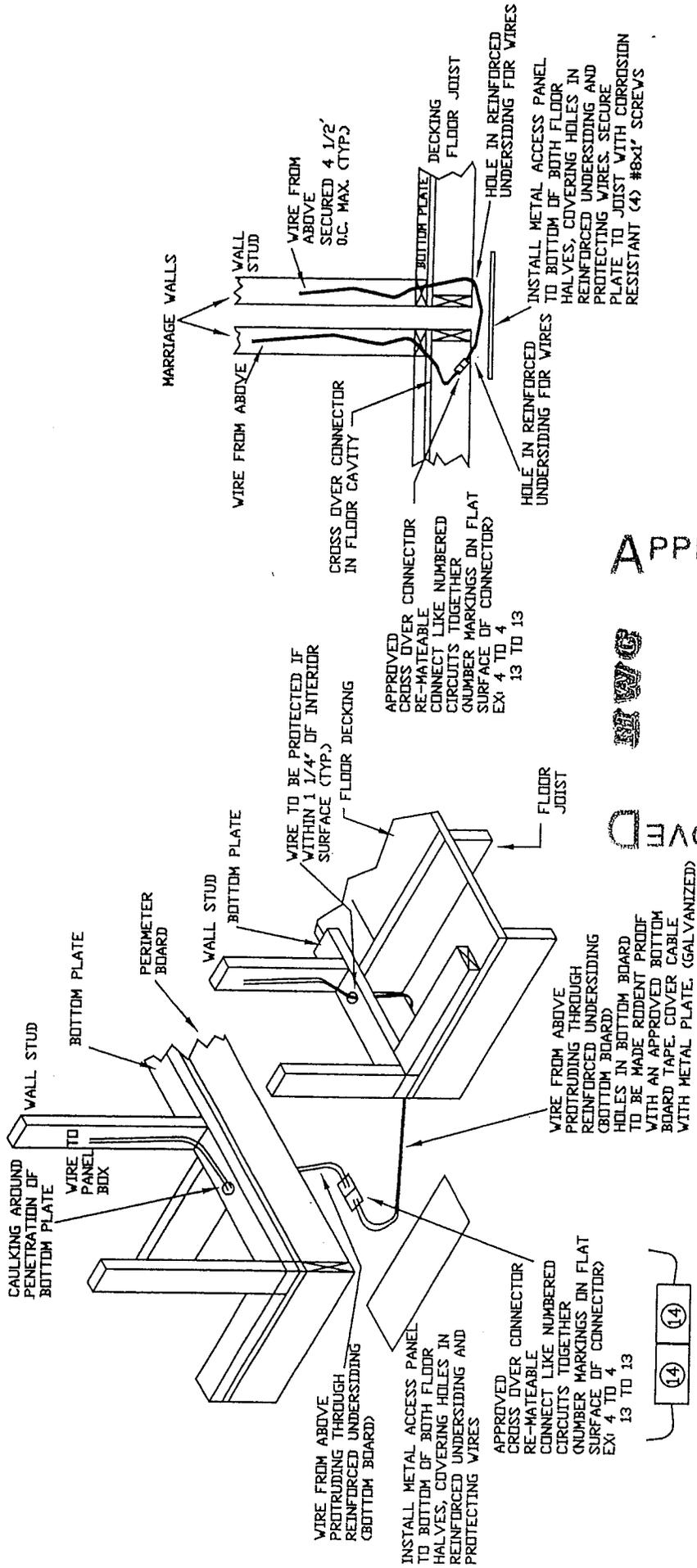
1. BEFORE ATTEMPTING TO INSTALL THE FAN/LIGHT FIXTURE, MAKE SURE THE POWER TO THE WIRING IS OFF.
2. REMOVE BLANK COVER FROM JUNCTION BOX.
3. MAKE THE WIRING CONNECTIONS WITH THE WIRE NUTS PROVIDED, BLACK TO BLACK WIRES, WHITE TO WHITE WIRES AND GROUND TO GROUND WIRE.
4. PUSH CONNECTED WIRES INTO JUNCTION BOX. ADD NON-COMBUSTIBLE RING BETWEEN FIXTURE CANOPY AND JUNCTION (IF REQUIRED).
5. SECURE CANOPY TO JUNCTION BOX. INSTALL LIGHT BULB AND ATTACH GLOBE OR SHADE IF NECESSARY. OR INSTALL CEILING FAN AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

- CEILING FANS. CEILING-SUSPENDED (PADDLE) FANS MUST BE CONNECTED TO JUNCTION BOX LISTED AND MARKED FOR CEILING FAN APPLICATION, IN ACCORDANCE WITH ARTICLE 314.27(b) OF THE NATIONAL ELECTRICAL CODE, NFPA NO. 70-2005.
- DO NOT USE ANY CEILING FANS OR LIGHT FIXTURES THAT EXCEED THE WEIGHT RATING OF THE BOX (35 LBS UNLESS OTHERWISE NOTED).
- THE CEILING FAN MUST BE INSTALLED WITH THE TRAILING EDGES OF THE BLADES AT LEAST 6 FEET 4 INCHES ABOVE THE FINISHED FLOOR.
- THE WIRING MUST BE CONNECTED IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- GROUND FANS/LIGHTS USING A FIXTURE-GROUNDING DEVICE OR A FIXTURE-GROUNDING WIRE AS SPECIFIED IN THE MANUFACTURER'S INSTRUCTIONS.
- A QUALIFIED ELECTRICIAN SHOULD INSTALL LIGHTING AND FANS. BEFORE CONNECTING THE CEILING FAN OR LIGHT, DISCONNECT POWER TO THE WIRES. ANY UNIT INSTALLED OUTSIDE OR THE HOME (SUCH AS IN A PORCH CEILING) SHALL BE LISTED FOR WET LOCATIONS.
- WHEN LIGHT FIXTURE IS A HANGING CHAIN STYLE FIXTURE, THE WEIGHT OF THE FIXTURE SHALL BE SUSPENDED FROM THE CHAIN AND NOT ON THE WIRE.

EFFECTIVE DATE: OCT. 20, 2008

SU-218A

ELECTRICAL WIRING INSTALLATION OF CROSS OVER CONNECTORS AT MARRIAGE WALL.



MARRIAGE WALL-ISOMETRIC VIEW

MARRIAGE WALL -SIDE VIEW

APPROVED



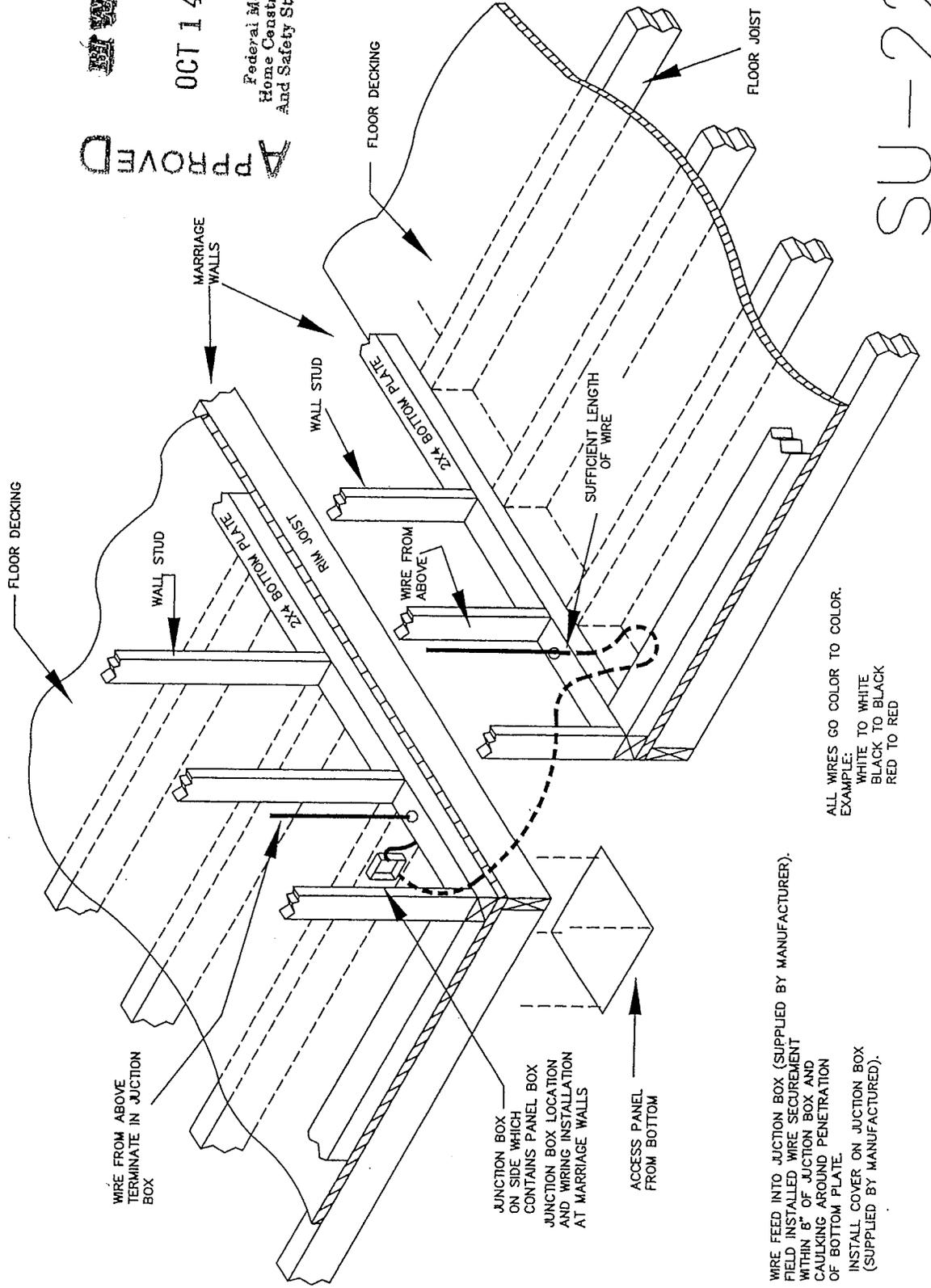
OCT 14 2003

Federal Mobile Home Construction And Safety Standards

APPROVED

SU-219

APPROVED
THORNTON
 OCT 14 2003
 Federal Mobile
 Home Construction
 And Safety Standards

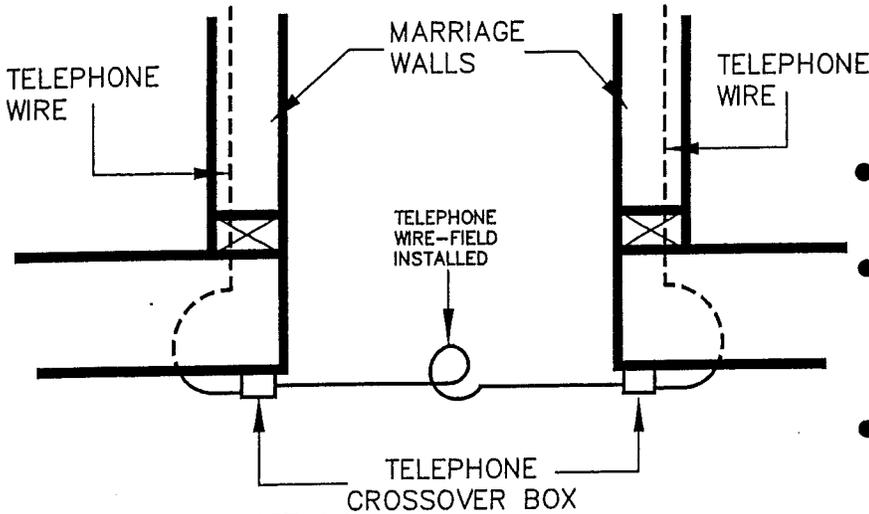


WIRE FEED INTO JUNCTION BOX (SUPPLIED BY MANUFACTURER).
 FIELD INSTALLED WIRE SECUREMENT
 WITHIN 6" OF JUNCTION BOX AND
 CAULKING AROUND PENETRATION
 OF BOTTOM PLATE.
 INSTALL COVER ON JUNCTION BOX
 (SUPPLIED BY MANUFACTURER).

ALL WIRES GO COLOR TO COLOR.
 EXAMPLE:
 WHITE TO WHITE
 BLACK TO BLACK
 RED TO RED

SU-220

TELEPHONE WIRE CONNECTION LOCATIONS

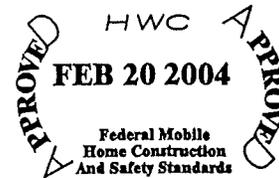
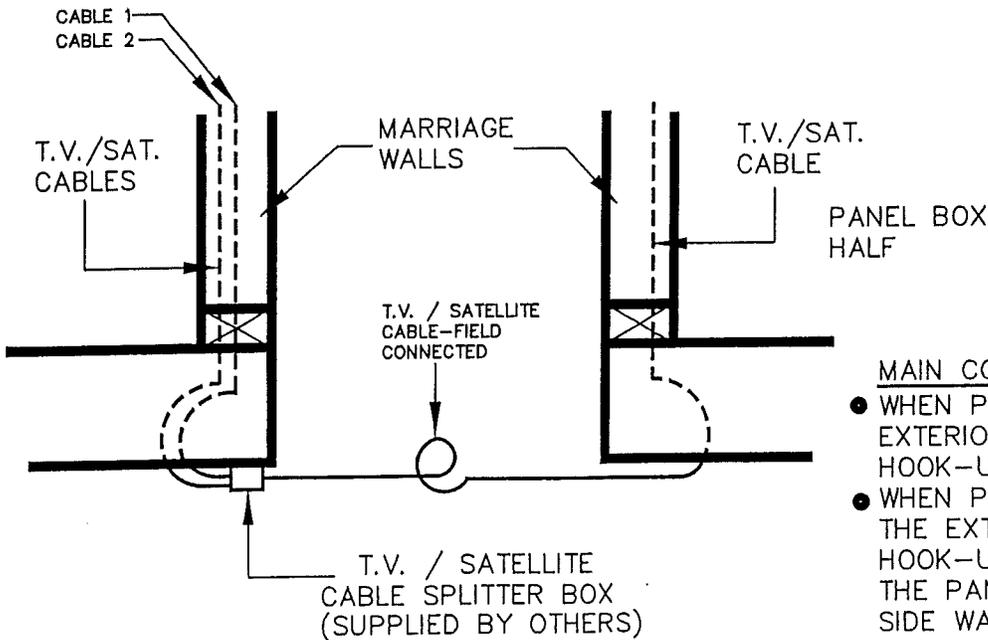


TYPICAL WIRING METHOD IS A DAISY CHAIN METHOD.

MAIN CONNECTION LOCATION

- WHEN PANEL BOX IS LOCATED ON EXTERIOR SIDE WALL, THE MAIN HOOK-UP WILL BE AT THIS LOCATION.
- WHEN PANEL BOX IS NOT LOCATED ON THE EXTERIOR SIDE WALL, THE MAIN HOOK-UP WILL BE ACROSS FROM THE PANEL BOX ON THE EXTERIOR SIDE WALL ON THE SAME SIDE OF HOUSE.
- MAIN HOOK-UP LOCATION WILL BE AT BOTTOM SIDE OF UNIT.

T.V. AND SATELLITE CABLE CONNECTION LOCATIONS

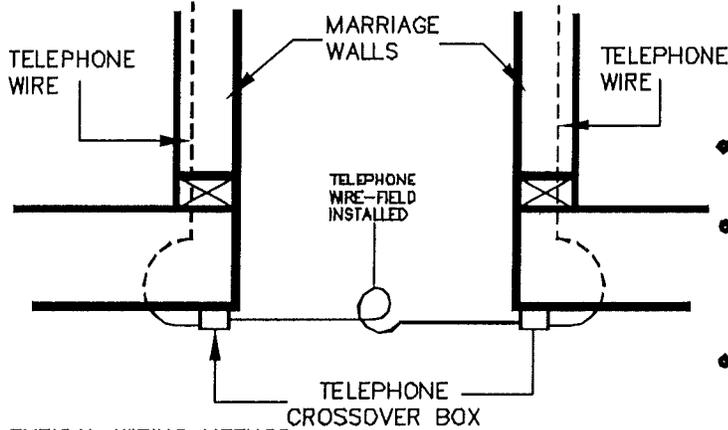


MAIN CONNECTION LOCATION

- WHEN PANEL BOX IS LOCATED ON EXTERIOR SIDE WALL, THE MAIN HOOK-UP WILL BE AT THIS LOCATION.
- WHEN PANEL BOX IS NOT LOCATED ON THE EXTERIOR SIDE WALL, THE MAIN HOOK-UP WILL BE ACROSS FROM THE PANEL BOX ON THE EXTERIOR SIDE WALL ON THE SAME SIDE OF HOUSE.
- MAIN HOOK-UP LOCATION WILL BE AT BOTTOM SIDE OF UNIT.

SU-221

TELEPHONE WIRE CONNECTION LOCATIONS

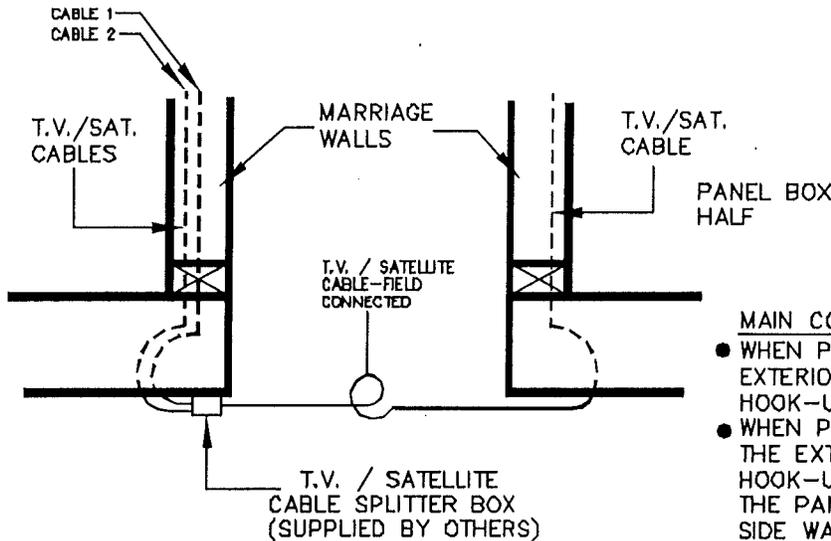


TYPICAL WIRING METHOD IS A DAISY CHAIN METHOD.

MAIN CONNECTION LOCATION

- WHEN PANEL BOX IS LOCATED ON EXTERIOR SIDE WALL, THE MAIN HOOK-UP WILL BE AT THIS LOCATION.
- WHEN PANEL BOX IS NOT LOCATED ON THE EXTERIOR SIDE WALL, THE MAIN HOOK-UP WILL BE ACROSS FROM THE PANEL BOX ON THE EXTERIOR SIDE WALL ON THE SAME SIDE OF HOUSE.
- MAIN HOOK-UP LOCATION WILL BE AT BOTTOM SIDE OF UNIT.

T.V. AND SATELLITE CABLE CONNECTION LOCATIONS



MAIN CONNECTION LOCATION

- WHEN PANEL BOX IS LOCATED ON EXTERIOR SIDE WALL, THE MAIN HOOK-UP WILL BE AT THIS LOCATION.
- WHEN PANEL BOX IS NOT LOCATED ON THE EXTERIOR SIDE WALL, THE MAIN HOOK-UP WILL BE ACROSS FROM THE PANEL BOX ON THE EXTERIOR SIDE WALL ON THE SAME SIDE OF HOUSE.
- MAIN HOOK-UP LOCATION WILL BE AT BOTTOM SIDE OF UNIT.

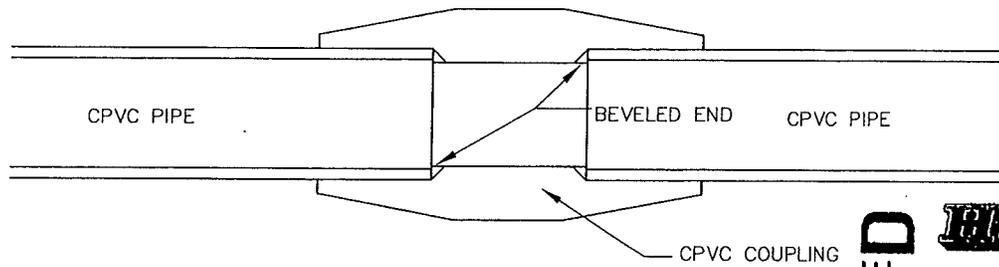
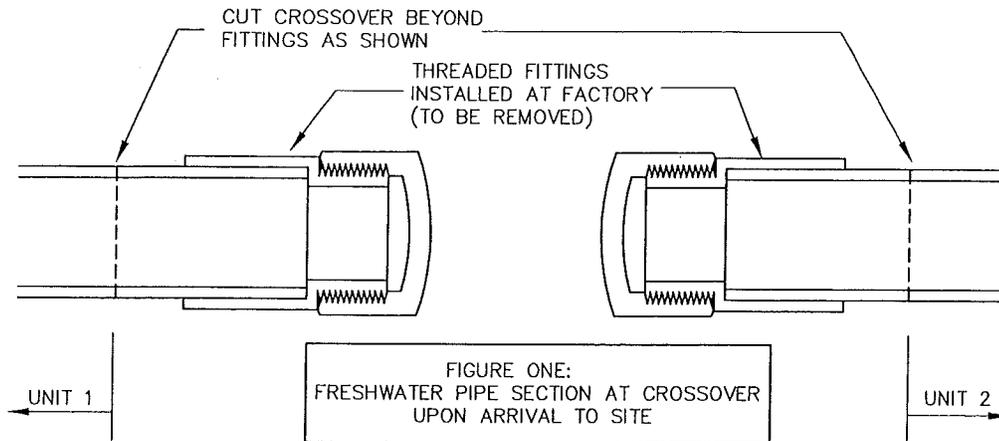
APPROVED **BWG** **APPROVED**
AUG 29 2008
 Federal Manufactured Home Construction And Safety Standards

INSTALL TELEPHONE AND CABLE TELEVISION WIRING IN ACCORDANCE WITH THE REQUIREMENTS OF THE LAHJ, THE NEC AND NFPA NO. 70-2005. WHEN MAKING CROSSOVER CONNECTIONS OR INSTALLING TELEPHONE OR CABLE TELEVISION WIRES, DO NOT RUN THEM IN THE SAME RACEWAY AS OR IN CLOSE PROXIMITY TO, HIGH VOLTAGE ELECTRICAL CONDUCTORS OR CABLES.

WRES SHOULD ONLY BE INSTALLED BY TRAINED PROFESSIONALS.

SU-221A **EFFECTIVE DATE OCT. 20, 2008**

CROSSOVER PROCEDURE FOR CPVC FRESH WATER LINES



APPROVED **HWC** **APPROVED**
 Revised
 SEP 3 2008
 Federal Manufactured
 Home Construction
 And Safety Standards

INSTRUCTIONS FOR JOINING CPVC PIPING AT CROSSOVER

1. CUT CPVC PIPE (SQUARE CUT) BEYOND THE FACTORY INSTALLED FITTINGS AT ALL UNITS WHICH HAVE A CROSSOVER (AS SHOWN IN FIGURE ONE).
2. REMOVE ANY RIDGES AND/OR BURRS FROM THE INSIDE AND OUTSIDE DIAMETER OF THE NEWLY CUT PIPE IN ORDER TO PREPARE THE PIPE FOR FITTINGS. THEN BEVEL EDGES AS SHOWN (FIGURE ONE) AND CLEAN THE INSIDE AND OUTSIDE DIAMETERS OF THE PIPE TUBING AND FITTINGS USING A CLEAN AND DRY COTTON RAG. DO NOT ATTEMPT TO SOLVENT WELD WET SURFACES.
3. APPLY CPVC CEMENT ENDS OF CPVC PIPING AND TO THE SOCKET OF THE COUPLINGS PROVIDED.
4. JOIN PIPE AND FITTINGS AT ONCE AND GIVE PIPE A 1/4 TURN.
5. REPEAT STEPS 3 AND 4 TO COMPLETE THE CONNECTION FROM ONE UNIT TO THE OTHER.
6. CHECK WATER LINES FOR LEAKS.
7. CHECK BOTTOM BOARD. INSULATE AND REPAIR IF NEEDED.

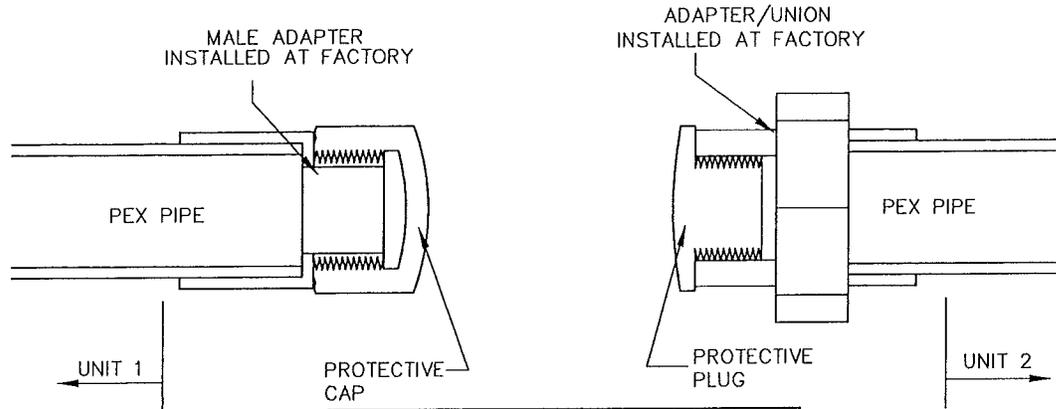
IMPORTANT NOTE: BE SURE TO CONNECT HOT WATER LINES TO HOT WATER LINES AND COLD TO COLD. (HOT WATER LINES ARE DENOTED AT THE FACTORY WITH RED TAPE WRAPPED AROUND THE END)

FREEZING PROTECTION: WATER LINE CROSSOVERS COMPLETED DURING INSTALLATION MUST BE PROTECTED FROM FREEZING. IF SUBJECT TO FREEZING TEMPERATURES, THE WATER CONNECTION MUST BE WRAPPED WITH INSULATION OR OTHERWISE PROTECTED TO PREVENT FREEZING.

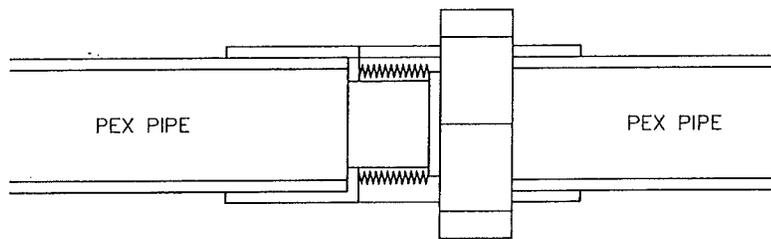
EFFECTIVE DATE: OCT. 20, 2008

SU-222.1

CROSSOVER PROCEDURE FOR PEX FRESH WATER LINES



**FIGURE ONE:
FRESHWATER PIPE SECTION AT CROSSOVER
UPON ARRIVAL TO SITE**



**FIGURE TWO:
FRESHWATER PIPE SECTION AT CROSSOVER
(AFTER CROSSOVER PROCEDURE IS COMPLETED)**

APPROVED
HWC
Revised
SEP 3 2008
Federal Manufactured
Home Construction
And Safety Standards
APPROVED

INSTRUCTIONS FOR JOINING PEX PIPING AT CROSSOVER

1. REMOVE PROTECTIVE PLUG AND CAP.
2. CONNECT ADAPTER/UNION TO MALE ADAPTER.
THE CONNECTOR FITTINGS ARE DESIGNED TO BE USED WITHOUT ANY LUBRICANTS OR SEALANTS.
3. CHECK WATER LINES FOR LEAKS.
4. CHECK BOTTOM BOARD. INSULATE AND REPAIR IF NEEDED.

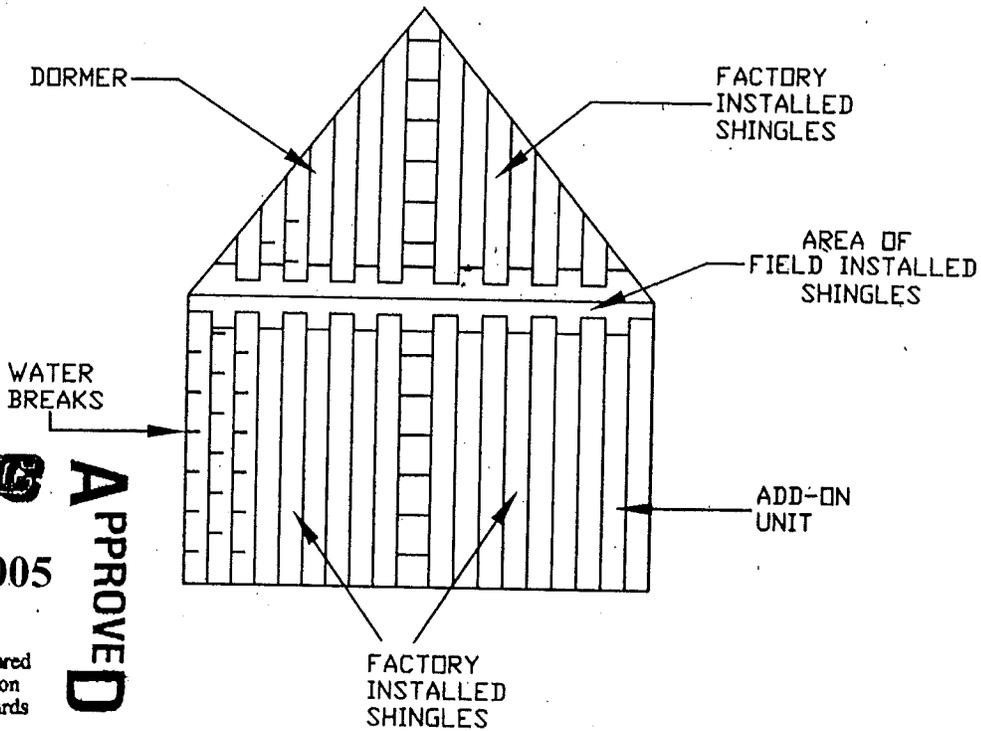
IMPORTANT NOTE: BE SURE TO CONNECT HOT WATER LINES TO HOT WATER LINES AND COLD TO COLD. (HOT WATER LINES ARE DENOTED AT THE FACTORY)

FREEZING PROTECTION: WATER LINE CROSSOVERS COMPLETED DURING INSTALLATION MUST BE PROTECTED FROM FREEZING. IF SUBJECT TO FREEZING TEMPERATURES, THE WATER CONNECTION MUST BE WRAPPED WITH INSULATION OR OTHERWISE PROTECTED TO PREVENT FREEZING.

EFFECTIVE DATE: OCT. 20, 2008

SU-223.1

ADD-ON SHINGLE INSTRUCTIONS



APPROVED

HWG

APPROVED

DEC 9 2005

Federal Manufactured
Home Construction
And Safety Standards

Install felt paper in area that shingles are to be installed. Cut each shingle to size and stagger water breaks so that they are not over each other. Fasten shingles with roofing nails. **DO NOT** fasten in adhesive strips. Follow shingle manufactures fastening instructions. This information can be found on wrapper that shingles are shipped in.

TRANSIT WIND DEFLECTOR AND ROOF SHIPPING PLASTIC REMOVAL

On the front end of your home is a transit wind deflector. The wind deflector is installed on the leading edge of the shingle to protect them in transit. The wood wind deflector is to be removed at the time of set-up.

When the deflector is removed, care should be taken to prevent damage to the shingles. After the deflector is removed, there will be some holes in the shingles. These holes must be repaired with roofing mastic to prevent the possibility of roof leaks. (Asphalt plastic cement should conform to ASTM D 4586.)

Shipping Plastic may be installed on the leading edge of the shingle roof and leading edge of dormer. At the time of set-up, remove plastic and repair holes from fasteners with roofing mastic. (Asphalt plastic cement should conform to ASTM D 4586.)

TRANSIT WIRE DEFLECTOR

Remove shipping wire deflector, by removing screws or nails. After the wire deflector is removed, there is some holes in the shingles. These holes need to be repaired with roofing mastic to prevent the possibility of roof leaks. (Use Asphalt Plastic Cement Conforming To ASTM D-4586)

**ORTON
HOMES, INC.**

DYNASTY HOMES, INC.

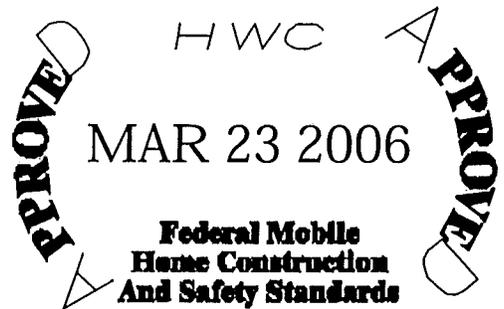
TRANSIT WIND DEFLECTOR AND ROOF
SHIPPING PLASTIC/SCREEN REMOVAL
OPTIONAL METHOD

On the front end of your home is a transit wind deflector. The wind deflector is installed on the leading edge of the shingle to protect them in transit. The wood wind deflector is to be removed at the time of set-up.

When the deflector is removed, care should be taken to prevent damage to the shingles. After the deflector is removed, there will be some holes in the shingles. These holes must be repaired with roofing mastic to prevent the possibility of roof leaks. (Asphalt plastic cement should conform to ASTM D 4586.)

Shipping Plastic/Screen may be installed on the shingle roof. Shipping plastic/screen may be installed at multiple locations along the roof. At the time of set-up, remove plastic/screen and repair holes from fasteners with roofing mastic. (Asphalt plastic cement should conform to ASTM D 4586.)

PLASTIC/SCREEN
I.E. EXAMPLE: MESH, FABRIC, PLASTIC, SCREEN

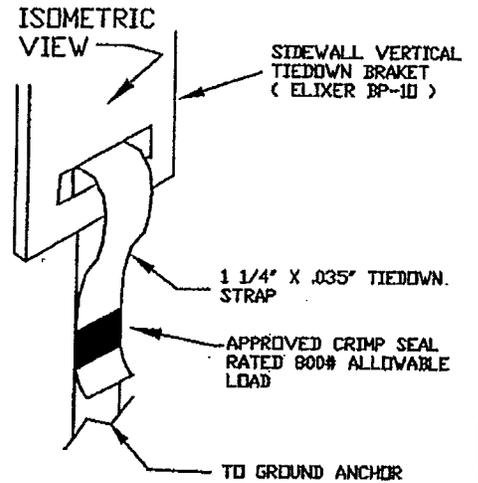
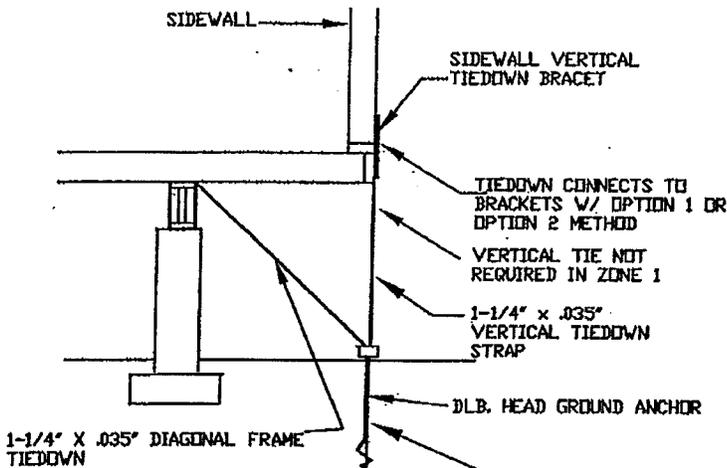


SU-224A

**THORNTON
HOMES, INC.**

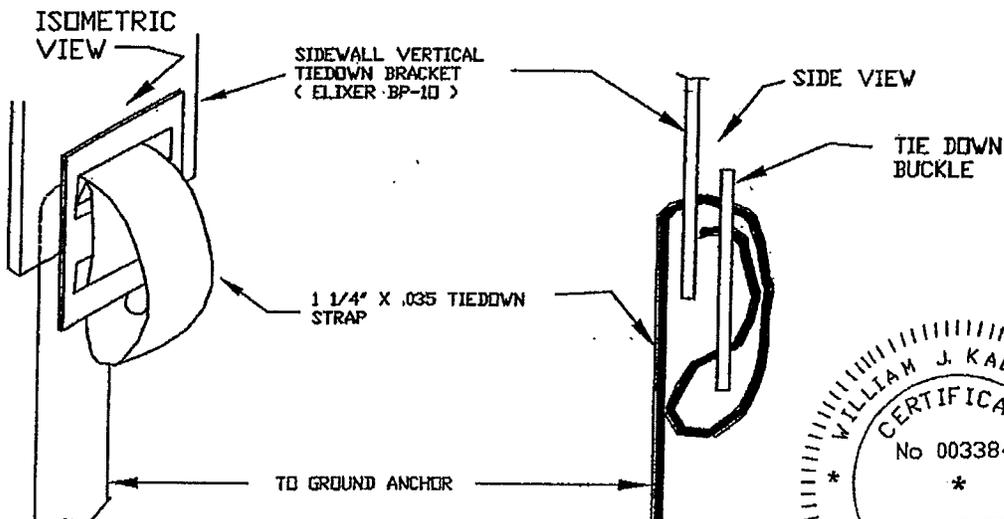

DYNASTY HOMES, INC.

VERTICAL TIEDOWN CONNECTION ALL WIND ZONES



GROUND ANCHOR MAY BE LOCATED
UP TO 6' INSIDE PLANE OF SIDEWALL

OPTION # 1 CRIMPED SEAL CONNECTION



OPTION # 2 THREAD BUCKLE CONNECTION



APPROVED

DEC 30 2005

Federal Manufactured
Home Construction
And Safety Standards

APPROVED

SU-10-225 225

TAG UNIT SET-UP

WIND ZONES 1, 2, & 3:
160" FLOOR MAX.
12" OVERHANG MAX.

PLAN KEY



INDICATES TYPICAL FRAME PIER (UNDERNEATH I-BEAMS) - REFER TO SETUP MANUAL FOR INFORMATION.



INDICATES TYPICAL MARRIAGE WALL, SHEARWALL, AND SIDEWALL PIER--REFER TO SETUP MANUAL FOR INFORMATION.



INDICATES TYPICAL LONGITUDINAL TIEDOWN LOCATION (UNDERNEATH I-BEAMS) - REFER TO SETUP MANUAL FOR INFORMATION.

- - STANDARD SIDEWALL VERTICAL TIEDOWN
- - SHEARWALL VERTICAL TIEDOWN OR MARRIAGE WALL VERTICAL TIEDOWN

Install vertical and frame tiedowns on main unit per specs for homes without tag units. (vertical tiedowns not required in Wind Zone 1)

Install on-site fastenings at floor and roof line between main unit and tag unit per other dwgs.

LOCATION VARIES

MARRIAGE WALL OPENINGS GREATER THAN 4'-0" (LOCATION VARIES)

Install one (1) longitudinal tiedown strap with ground anchor below each steel beam at each end of floor per set-up manual specifications (typical). Not required Zone 1.

18" max (typ. ea. tag endwall)

7'-0" o.c. max.

Install shear wall vertical tiedowns on each of shear wall adjacent to pier as shown. (Location may vary along sidewall.)

12" max (typ)

SHEARWALL (LOCATION VARIES)



Install standard vertical tiedown within 2'-0" of each steel beam. (Typ. each endwall). Not required Zone 1.

APPROVED
W W G
DEC 30 2005
Federal Manufactured Home Construction And Safety Standards

FOUNDATION DIMENSIONS			
A	B	C	STEEL BEAM SPACING
FLOOR WIDTH	PIER TO PIER	FLOOR EDGE	
14	32-1/4"	32-1/4"	95-1/2"

1-10/19/1999
REF. CALC # 1-6/20/1995

HORTON HOMES, INC.
DYNASTY HOMES, INC.
FAYATON, GA 31024

TYPICAL F.U.D. FOUNDATION PLAN AND ANCHOR SET-UP
DRAWN BY: N.T.S.
DATE: REV.
DWG. #:

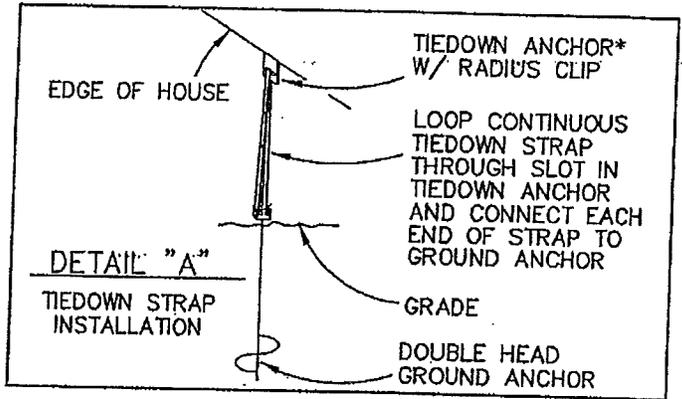
SI-M-096

PORCH POST ANCHORAGE SYSTEM

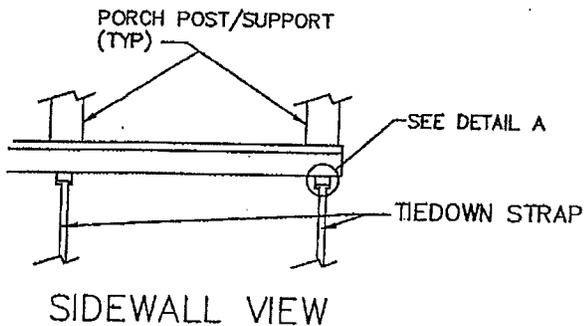
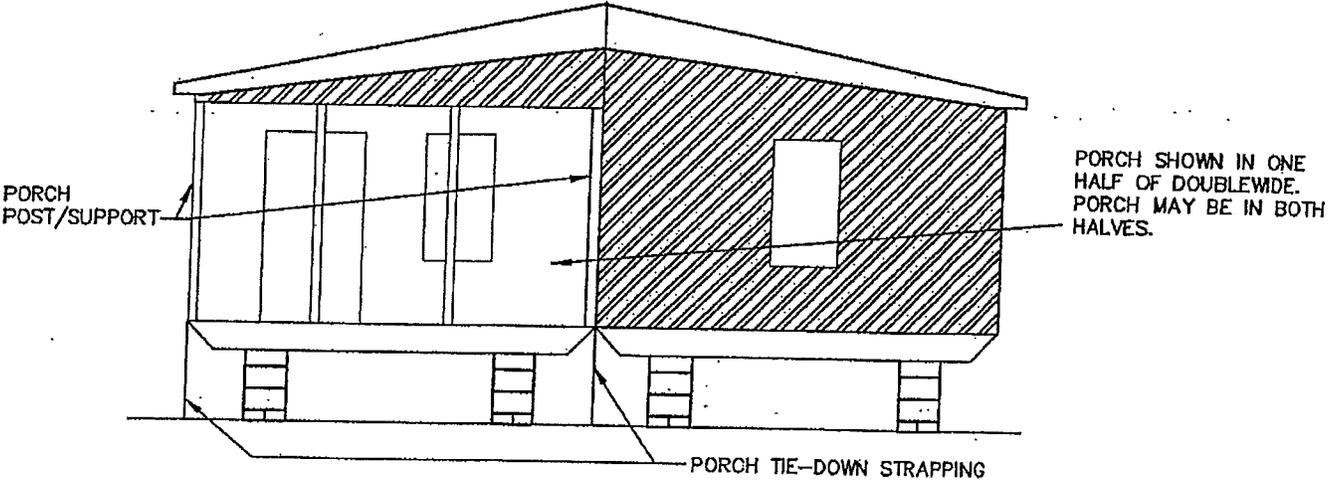
ALL WIND ZONES

IN ADDITION TO STANDARD TIEDOWNS, INSTALL TIEDOWN STRAP AT ANCHORS ON PORCH POSTS/SUPPORTS ON MARRIAGE WALL AND SIDEWALL AS SHOWN.

INSPECT ALL PORCH POSTS TO VERIFY ANCHOR LOCATIONS AND INSTALL TIEDOWN STRAPS ON EACH ANCHOR PER THIS DETAIL



*ANCHOR FACTORY INSTALLED



NOTE:
ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91.

ALL GROUND ANCHORS SPECIFIED ON THIS DRAWING MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 4000# ALLOWABLE WITHDRAW. LOAD MIN.(ULTIMATE LOAD 6000# MIN.) WHEN LOADED PARALLEL WITH THE ANCHOR SHAFT.

P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES	
	<p style="font-size: 2em; font-weight: bold;">APPROVED</p> <p style="font-size: 1.5em; font-weight: bold;">B.W.G.</p> <p style="font-size: 1.5em; font-weight: bold;">APPROVED</p>	BY: _____	DATE: _____	PORCH ANCHORAGE SYSTEM
		<p style="font-size: 1.5em; font-weight: bold;">DEC 30 2005</p>		DRAWN BY: CRP
<p style="font-size: 0.8em;">Federal Manufactured Home Construction And Safety Standards</p>		<p style="font-size: 0.8em;">DATE: 2/4/05</p>		<p style="font-size: 0.8em;">SC: N.T.S.</p>

84-II-227

50227



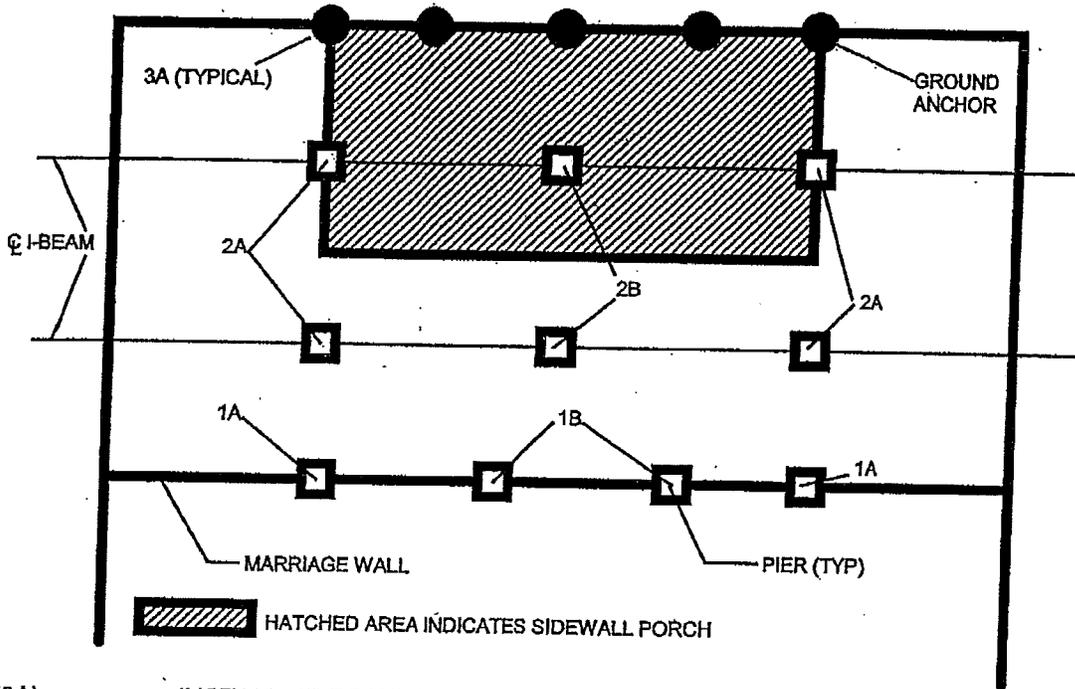
SIDEWALL PORCH SET-UP

Note: This information is for houses which have a recessed porch along the sidewall. It is not, however, intended to replace the set-up procedures, tiedowns requirements, etc. specified in the Set-Up Manual for the remainder of the house that is not affected by the sidewall porch.

1. Piers along Marriage Wall.
 - 1A. At the marriage wall install a pier adjacent to each end of the porch.
 - 1B. Install additional piers along marriage wall between the end piers specified above spaced 72" o.c. max.

2. Piers along I-beams at chassis.
 - 2A. Along the I-beams (on the half containing the sidewall porch only) install a pier in alignment with the end of the porch at each end of the porch
 - 2B. Install additional piers (on the half containing the sidewall porch only) along each I-beam between the steel beam end piers specified above spaced at 8'-0" o.c. max.

3. Ground Anchors along porch at sidewall.
 - 3A. Anchor brackets have been factory installed at the ends of the porch along the sidewall and at each porch post along the sidewall. Install ground anchors directly below these anchor brackets. Install uplift straps on each bracket and connect the brackets to each ground anchor with equipment capable of resisting an allowable working load equal to or exceeding 3150 lbs. and shall be capable of withstanding a 50% overload (4725 lbs. total) without failure of either the anchoring equipment or the attachment point on the home.

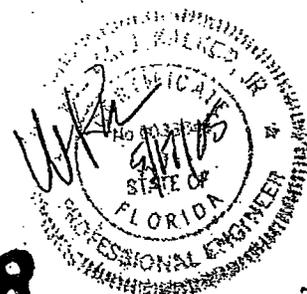


(3A) CONT INSTALL PIERS WITHIN 12" OF EACH GROUND ANCHOR TO SUPPORT THE PORCH POSTS UNDER THE SIDEWALL EDGE JOIST.

APPROVED
HWC
 DEC 30 2005
 Federal Manufactured Home Construction And Safety Standards
APPROVED

REF. CALC # 1-1/31/1995

SU-II-228



SU 228

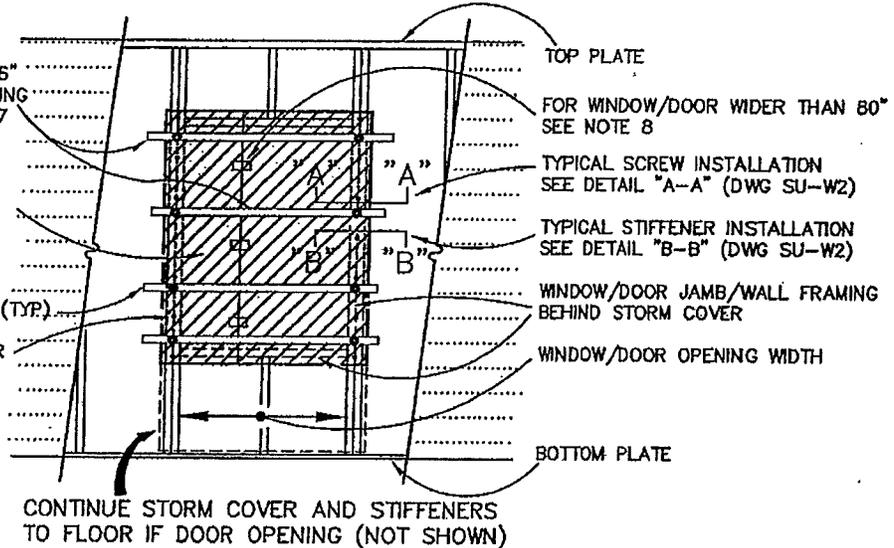
WINDOW / DOOR STORM PROTECTION

2x4 SYP#2 STIFFENERS WITHIN 6" OF TOP AND BOTTOM OF OPENING AND 16" OC (MAX) SEE NOTE 7

PLYWOOD STORM COVER
 - INSTALL WITH FACE GRAIN PLACED HORIZONTAL (TYP)
 - SEE TABLE BELOW FOR PLYWOOD SPECIFICATIONS

LOCATE PLYWOOD SEAMS OVER CENTERLINE OF 2x4 STIFFENER (TYP)

FASTEN PLYWOOD STORM COVER TO WINDOW VERTICAL FRAMING WITH (1) #10 x 2-1/2" PENETRATION SCREW EACH SIDE OF STIFFENER AND 8" O.C. (MAX.)



STORM PROTECTION FOR WINDOWS AND DOORS

REF. CALC # 8-7/22/1994

PLYWOOD STORM COVER SPECIFICATIONS
 USE EXTERIOR GRADE RATED SHEATHING PLYWOOD WITH THE MINIMUM THICKNESS AND SPAN INDEX SPECIFIED BELOW:

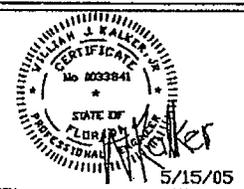
MAX OPENING WIDTH	MINIMUM THICKNESS	SPAN INDEX
48"	1/2"	24/0
84"	5/8"	32/16

SEE NOTE 7 WHEN OPENING WIDTH EXCEEDS 84"

STORM PROTECTION FOR WINDOWS

GENERAL NOTES:

1. INSTALLER MUST REMOVE ALL DECORATIVE SHUTTERS FROM WINDOWS AND DOORS PRIOR TO INSTALLING THE STORM COVERS SPECIFIED ON THIS DRAWING:
2. WHEN HURRICANE OR SEVERE WIND STORMS APPROACH, THE WINDOW AND DOOR PROTECTION COVERS SPECIFIED ON THIS DRAWING SHOULD BE INSTALLED.
3. IMMEDIATELY AFTER INSTALLING THESE COVERS THE BUILDING MUST BE VACATED AND/OR NO OCCUPANTS SHOULD REMAIN IN THE STRUCTURE.
4. NOTE: THIS STORM PROTECTION SYSTEM DOES NOT PERMIT EGRESS FROM THE BUILDING UNDER FIRE OR OTHER EMERGENCY CONDITIONS.
5. AS SOON AS THE STORM HAS SUBSIDED, ALL STORM PROTECTION COVERS MUST IMMEDIATELY REMOVED BEFORE OCCUPANCY OF THE BUILDING IS PERMITTED.
6. ALL WOOD SCREW HOLES RESULTING FROM THE STORM COVER INSTALLATION MUST BE FILLED WITH GOOD QUALITY EXTERIOR GRADE CAULK.
7. WHEN OPENING WIDTH EXCEEDS 84" UP TO A MAXIMUM OF 120", REPLACE 2x4 STIFFENERS WITH 2x6 SPF#2 AND USE 3/4" PLYWOOD WITH SPAN INDEX OF 48/24. ALL OTHER INSTALLATION SPECIFICATIONS REMAIN UNCHANGED.
8. FOR OPENING WIDER THAN 80", LOCATE STORM COVER BUTT JOINT WITHIN 30" OF VERTICAL STUDS AND INSTALL "H" CLIPS BETWEEN LUMBER STIFFENERS AS SHOWN.

P.E. SEAL 	THIRD PARTY HWG DEC 30 2005	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="font-size: small;">LTR.</th> <th style="font-size: small;">BY:</th> <th style="font-size: small;">DATE:</th> </tr> <tr> <td style="text-align: center;">A</td> <td></td> <td></td> </tr> </table>	LTR.	BY:	DATE:	A			HORTON HOMES WINDOW/DOOR STORM PROTECTION FIELD INSTALLED DRAWN BY: TC DAPIA NO.: SU-W1 DATE: 1/26/96 SC: N.T.S.
LTR.	BY:	DATE:							
A									

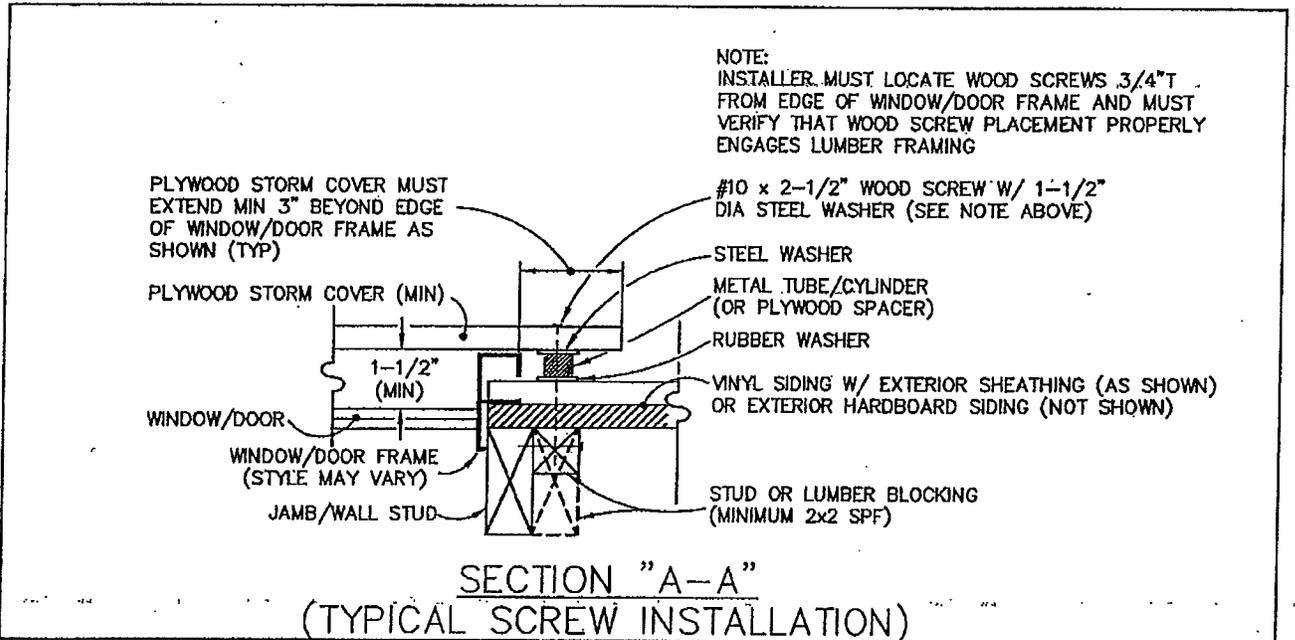
A APPROVED
 Federal Manufactured Home Construction And Safety Standards

APPROVED
D

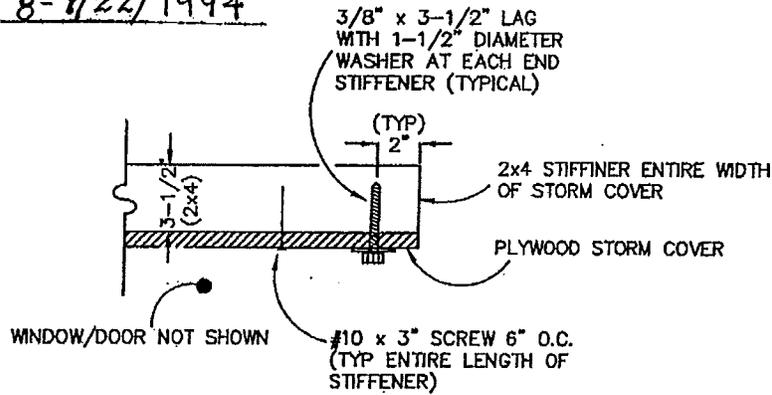
SU-II-250

50250

WINDOW / DOOR STORM PROTECTION



REF. CALC # 8-7/22/1994



P.E. SEAL	THIRD PARTY	REVISIONS	HORTON HOMES		
	APPROVED DEC 30 2005	BY: _____	DATE: _____	WINDOW/DOOR STORM PROTECTION FIELD INSTALLED	
		APPROVED 	DRAWN BY: TC		DAPIA NO.: SU-W2
		Federal Manufactured Home Construction And Safety Standards	DATE: 1/26/96		SC: N.T.S.

SU-II-251

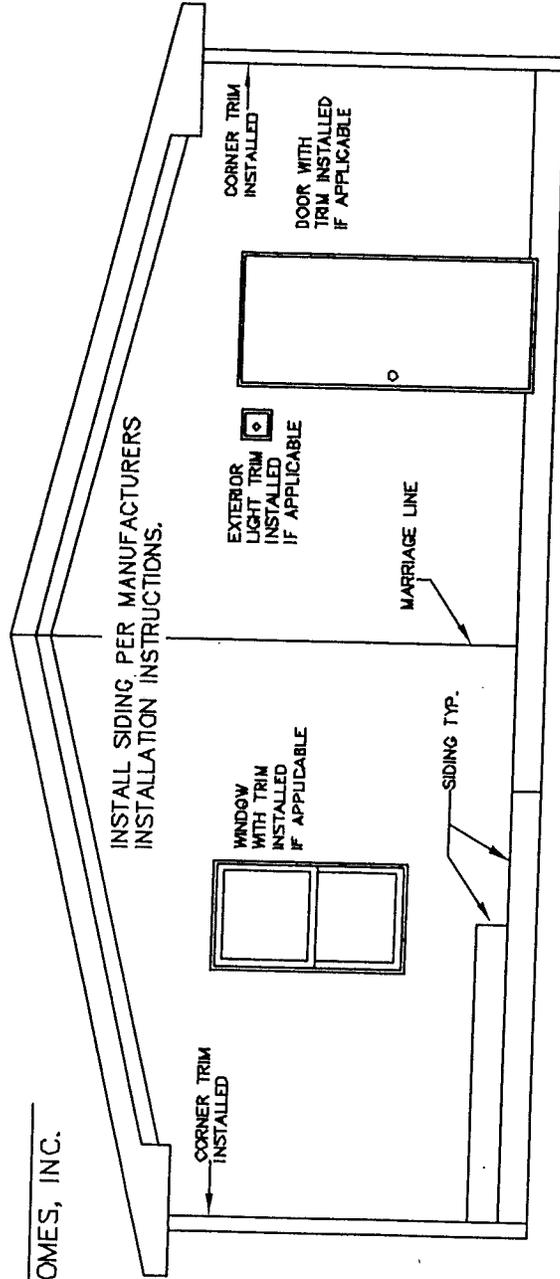
50257



DYNASTY HOMES, INC.

FIELD APPLIED HORIZONTAL LAP SIDING

APPROVED **AWG** **APPROVED**
FEB 23 2006
Federal Manufactured
Home Construction
And Safety Standards



MULTI-SECTION HOMES WITH HORIZONTAL LAP SIDING MAY BE SHIPPED WITHOUT SIDING ON FRONT AND REAR END WALLS. THE FOLLOWING ITEMS WOULD BE INSTALLED: DOORS/WINDOW TRIM IF APPLICABLE AND CORNER TRIM; AND COVERED WITH PLASTIC SHEETING FOR TRANSIT. ALL SIDING, STARTER TRIM AND FASTENERS WILL BE SHIPPED LOOSE IN THE HOME FOR INSTALLATION ON SET UP.

HOME INSTALLER TO COMPLETE INSTALLATION AFTER HOME IS SET UP. EXTERIOR SIDING AND ROOFING NECESSARY TO JOIN ALL SECTIONS OF THE HOME MUST BE INSTALLED ACCORDING TO THE PRODUCT MANUFACTURER INSTALLATION INSTRUCTIONS. PRIOR TO INSTALLING THE SIDING, THE POLYETHYLENE SHEETING COVERING EXTERIOR WALLS FOR TRANSIT, MUST BE COMPLETELY REMOVED.

HORTON HOMES, INC.

TESTING

ELECTRICAL TESTING

After completion of all electrical wiring and connections, including crossovers, electrical lights, and ceiling fans, the electrical system must be inspected and tested at the site. Each manufactured home must be subjected to the following tests:

Fill water heater before turning on power to the home or switching on the circuit breaker for water heater.

- **Continuity Test-** An electrical continuity test to ensure that metallic parts are effectively bonded.
- **Operational test-** After turning on electrical power to home, conduct an Operational test of all devices and utilization equipment, except water heaters, electric ranges, electric furnaces, dishwashers, clothes washers/dryers, and portable appliances, to demonstrate that they are connected and in working order.
- **Polarity Checks-** For electrical equipment installed or completed during installation, electrical polarity checks must be completed to determine that connections have been made properly. Visual verification is an acceptable electrical polarity check.
- **Smoke Alarms-** All smoke alarms must be tested once power is installed, before home can be occupied. Test each smoke alarm as per smoke alarms testing and operational instructions as provided with each home. When testing alarms, listen for other smoke alarms to sound their horns. Insure that each alarm's backup battery is activated. If smoke alarm does not operate properly as per manufactures instructions, replace smoke alarm and retest.

FRESH WATER LINE TEST

Before testing close all water faucets, spigots and toilet tank float valves.

- **Hydrostatic (preferred):**
 1. **Fill water heater.** Confirm that the water heater tank is full of water.
 2. **Pressurize system.** Using an air compressor or other means, pressurize the system with water at 100 psi, and then isolate it from the pressure source. Bleed all air from the highest and farthest points in the system.
 3. **Hold pressure.** Monitor the pressure for at least 15 minutes.
 4. **Fix leaks.** If the pressure drops below 100 psi, locate and correct any leaks by cutting out and discarding bad pipe sections or joints and installing new pipe or joints with couplings.
 5. **Repeat.** Repeat the test until all leaks have been eliminated.
- **Pneumatic:**
 1. **Bypass water heater.** Bypass the hot water heater by disconnecting the hot outlet and cold inlet water lines from the water heater and joining them together. This will protect the hot water tank from damage and protect those involved in the test from possible injury.
 2. **Pressurize system.** Connect an air pump and pressure gauge to the water inlet, pressurize the system to 100 psi and isolate the pressure source from the system.

EFFECTIVE DATE: OCT. 20, 2008

APPROVED **HWG** **APPROVED**
AUG 29 2008
Federal Manufactured
Home Construction
And Safety Standards

SU-253

HORTON HOMES, INC.

3. **Hold Pressure.** Monitor the pressure for least 15 minutes. If the pressure drops below 100 psi, locate any leaks by applying soapy water to the connections and looking for bubbles.
4. **Fix leaks.** Correct any leaks by cutting out and discarding bad pipe sections or joints and installing new pipe or joints with couplings.
5. **Retest.** Repeat the procedure until all leaks have been eliminated.
6. **Restore connections.** Reconnect the water heater and the water supply.

Testing water lines. Only use pneumatic (air) testing when hydrostatic testing is not practical. Air under pressure is explosive. Exercise extreme caution and notify all site personnel of the test. Wear protective eyewear and take precautions to prevent impact damage to the system while the test is in progress. Do not pneumatically test CPVC systems. Pneumatically test Flow Guard Gold systems only at low pressure levels (20 psi or less).

GAS TEST

Test the gas piping system in the following tow ways: 1) piping only and 2) entire system. Consult with the LAHJ for any additional testing or start-up requirements.

Gas testing should be performed by qualified personnel only.

Before testing is begun, the temperature of the ambient air and the piping should be approximately the same. Conduct the tests when and where air temperatures will remain constant.

Piping only test (all appliances isolated)

1. **Isolate appliances.** Isolate all appliances from the system by closing all appliance shut-off valves.
2. **Attach gauge.** Attach to the home's gas inlet a mercury manometer or slope gauge calibrated in increments of not more than 1/10 lb.
3. **Pressurize system.** Using an air compressor, pressurize the system with compressed air to three psi and isolate the pressure source from the system.
4. **Monitor pressure.** Monitor the pressure for at least 10 minutes.
5. **Check for leaks.** If pressure drops below three psi, check for leaks by applying a non-corrosive, ammonia-free gas leak detection fluid to the joints at all valves, appliance connections and crossover connections (do not use dish washing detergents, soap or other household chemicals). If bubbles form, tighten the connection and recheck.
6. **Repair leaks.** If leaks persist, replace defective pipes or fittings with sound material and retest.
7. **Release pressure.** Release pressure and open all appliances shut-off valves.
8. **Rinse connections.** Thoroughly rinse all tested connections with water to remove leak detections fluid.

Entire system test (with appliances)

1. **Close appliances.** Close all gas equipment controls and pilot light valves according to the individual gas equipment manufacture's instructions.

APPROVED **HWC** APPROVED
Aug 29 2008
Federal Manufactured
Home Construction
And Safety Standards

EFFECTIVE DATE: OCT. 20, 2008

SU-254

HORTON HOMES, INC.

2. **Open valves.** Assure that gas shut-off valves for all gas equipment are in the open position.
3. **Attach gauge.** Attach to the home's gas inlet a pressure gauge calibrated in ounces.
4. **Pressurize system.** Pressurize the system with compressed air to six to eight ounces (3/8 to 1/2 psi, or 10 to 14 inches of water column).
5. **Check for leaks.** Check for leaks as described in the previous section step 4 of the piping only test. Replace defective pipes or fittings with sound material and re-test.
6. **Rinse connections.** Thoroughly rinse all tested connections with water to remove leak detection fluid.

GAS APPLIANCE START-UP.

Open the shut-off valve for each appliance and adjust the burners according to the appliance manufacturer's instructions. Verify that the furnace and water heater thermostats are operating properly and set them to the desired temperatures.

OIL SERVICE CONNECTION AND TESTING

Homes that are equipped with oil burning furnaces must have oil supply piping installed and tested on site by a qualified professional in accordance with NFPA 31, Standard for the Installation of Oil Burning Equipment, 2001 or the requirements of the LAHJ, whichever is more stringent. The home manufacturer does not supply oil piping or tanks.

Oil Connection.

Consult the furnace manufacturer's instructions for proper sizing and installation procedures. Where piping is run through the bottom of the home, ensure all holes in the bottom board are sealed tight with foam, mastic, and/or tape specially made for that purpose and made rodent proof.

When equipping the home with an oil storage tank, comply with the following:

- Install the pipe with a gradual slope toward the fill end or drain plug (if so equipped) to facilitate pumping or draining of water and sludge.
- Provide a readily accessible approved manual shut-off valve at the outlet, installed to close against the supply.
- Except for integrally mounted tanks equip the tank with an approved oil filter or strainer located downstream from the tank shut-off valve. Use a filter or strainer containing a sump with a drain to trap water.
- Equip under ground tanks with a filler neck extending one foot above grade and a minimum 1-1/4 inch diameter vent pipe extending at least two feet above grade.
- Locate the tank to be accessible for service and inspection, and safe from fire and other hazards.
- If the tank is located inside a compartment of the home, provide ventilation at the bottom of the compartment to permit diffusion of vapors. If the tank is fixed to the home, provide for filling and draining from the outside.

APPROVED
HWC
APPROVED
AUG 29 2008
Federal Manufactured
Home Construction
And Safety Standards

EFFECTIVE DATE: OCT. 20, 2008

SU-255

HORTON HOMES, INC.

- Insulate interior tanks from the structural members of the home. Provide tanks so installed with an outside fill and vent pipe and an approved liquid level gauge.
- Install tanks that feed vaporizing type oil furnaces so that oil flows by gravity. To achieve efficient gravity flow, make sure that the bottom of the tank is at least 18 inches above the furnace oil control level.
- Tanks for gun type oil furnaces (these furnaces include a fuel pump) may be installed above or below ground.

Oil System Testing.

Before operating the system, fill the tank to capacity with the fuel to be burned and visually check all joints in the system for leakage. Replace (do not repair) parts that leak.

WASTE LINE TESTING

CONNECT DRAIN, WASTE AND VENT LINES AND TESTING

Complete portions of the drain, waste and vent (DWV) system that are below the floor as follows:

1. Remove caps. Remove shipping covers from pipes extending through the bottom board; inspect pipes and fittings and clean them of dirt, obstructions and burrs.
2. Assemble pipes. Using the drain schematic drawing provided with the home, begin assembling the DWV system starting at the location farthest from the sewer/septic connection and working towards the outlet, fastening the pipe with cement. (Use only solvents and glues compatible with the pipe, ABS or PVC. Follow manufacture's instructions.) As the system is assembled, support the piping with temporary blocking. Unless otherwise noted on the schematic diagram, provide a minimum $\frac{1}{4}$ inch per foot slope towards the sewer/septic using a plumber's level. Where a slope of $\frac{1}{4}$ inch per foot cannot be maintained, use a minimum slope of $\frac{1}{8}$ per foot and install a full size clean-out at the uppermost point of the run.(Figure 1)

APPROVED **HWG** **APPROVED**
AUG 29 2008
Federal Manufactured
Home Construction
And Safety Standards

HORTON HOMES, INC.

ALL SITE INSTALLED PLUMBING MUST BE CHECKED FOR LEAKS AND SHOULD BE INSTALLED BY QUALIFIED PERSONNEL.

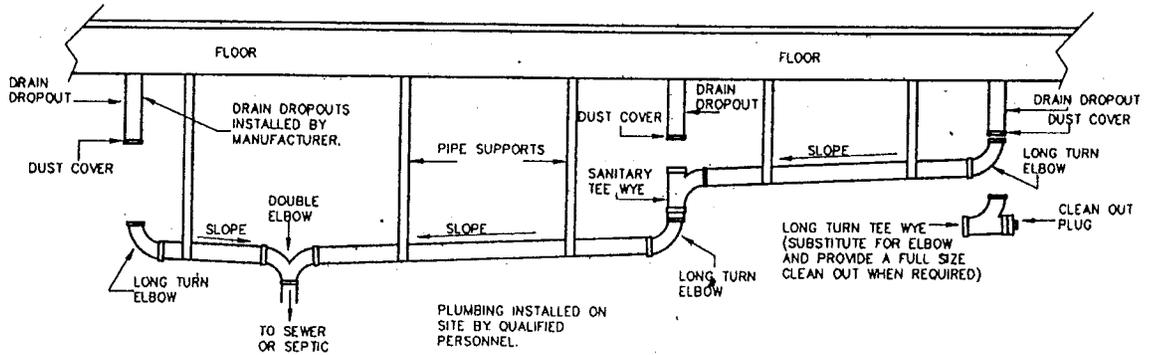


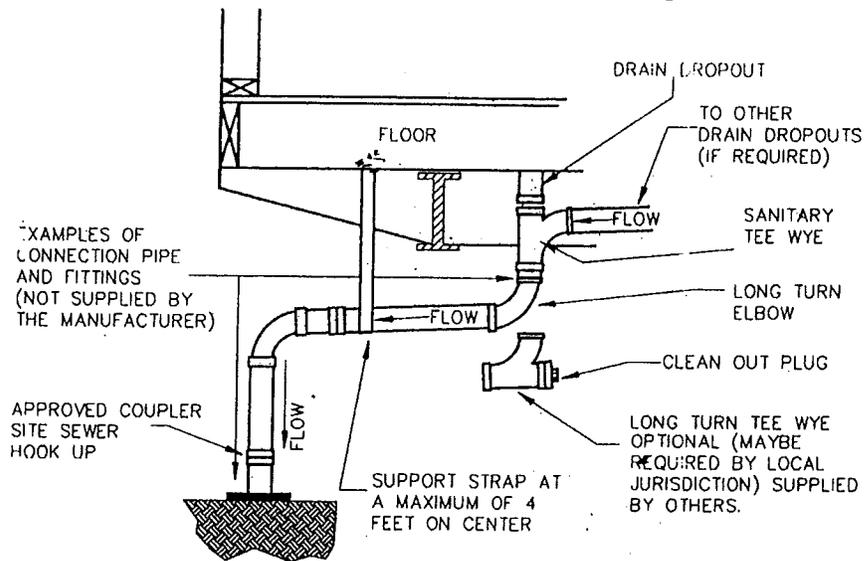
Figure 1 DWV System

3. **Test.** Conduct a two part leakage test on the completed drainage system as follows:
 - Part 1. With the home in a level position, all fixtures connected, and all tub and shower drains plugged, the drainage piping system shall be filled with water to the rim of the toilet bowl. Release all trapped air and allow the system to stand at least 15 minutes. Check for leaks. Drain the system. If leaks are found, repair and retest.
 - Part 2. Plug all fixtures, sinks, showers, and tubs and fill with water. Release the water in all fixtures simultaneously to obtain the maximum possible drain piping flow. As water is draining, check for leaks. If any are found, repair and retest.
4. **Connect to outlet.** Connect the main drain line to the site sewer/septic hook-up, using an approved coupling (Figure 2)

APPROVED **HWG** **APPROVED**
AUG 29 2008
Federal Manufactured
Home Construction
And Safety Standards

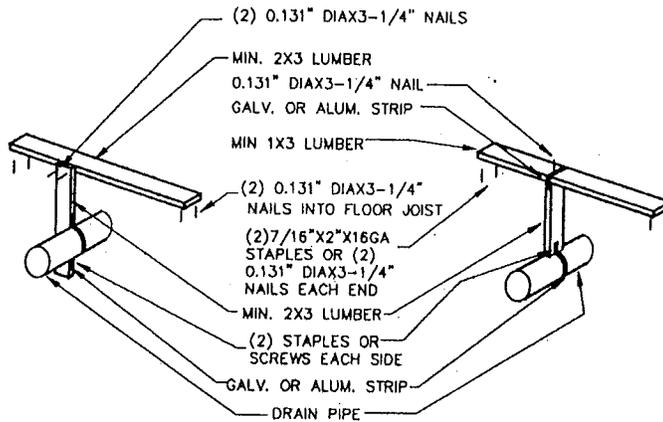
HORTON HOMES, INC.

Figure 2. DWV Connection to Sewer/Septic.



5. **Install supports.** Install permanent drain line supports at a distance of four feet o.c. or less. (see Figure 1, Figure 3, and Figure 4)

Figure 3 and Figure 4. Permanent Drain Line Supports



Insulate. Replace all insulation and make sure all potentially exposed portions of the DWV system are well insulated.

APPROVED **HWC** **APPROVED**

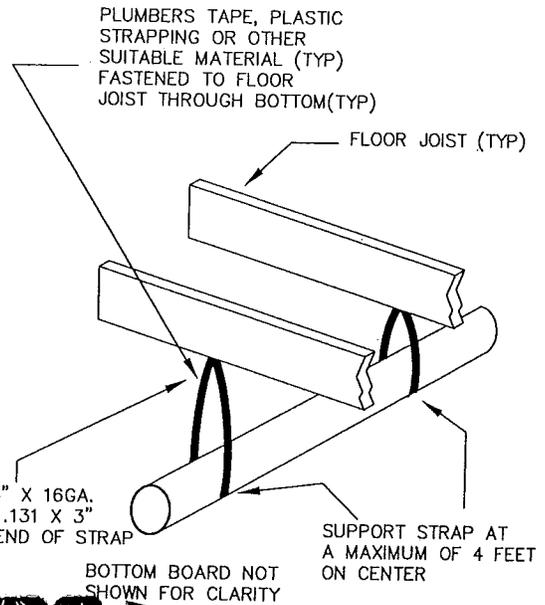
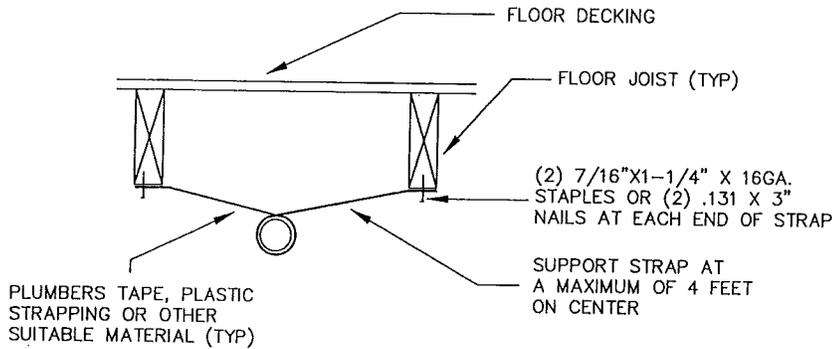
AUG 29 2008

Federal Manufactured Home Construction And Safety Standards

SU-258

ONSITE WASTE LINE PERMANENT DRAIN LINE SUPPORTS.

THIS PIPE STRAPPING METHOD IS FOR ONSITE USE.
WOOD BLOCKING NOT REQUIRED.

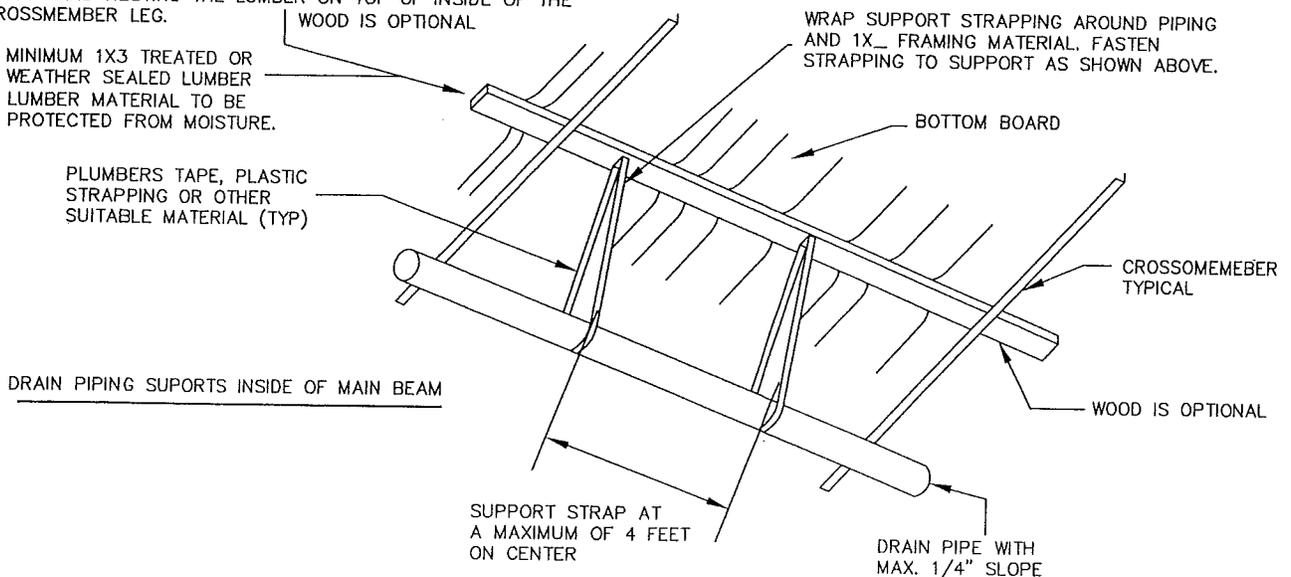


STRAPPING MAY ALSO BE INSTALLED DIRECTLY TO THE STEEL CHASIS WITH SELF-TAPPING SCREWS. ADD ADDITIONAL STRAP WITHIN 12 INCHES OF WHERE THE PIPE TURNS VERTICAL.

APPROVED
RWC
APPROVED
FEB 13 2009
Federal Manufactured Home Construction And Safety Standards

DRAIN PIPE WITH MAX. 1/4" SLOPE

A MINIMUM 1X3 LUMBER MAYBE USED BETWEEN CROSSMEMBERS DIRECTLY ABOVE DRAIN PIPING BY PUSHING UP ON THE BOTTOM BOARD AND RESTING THE LUMBER ON TOP OF INSIDE OF THE CROSSMEMBER LEG.



OTHER METHODS TO PROVIDE SUPPORTS MAY BE USED TO MAINTAIN MIN. PIPE SLOPE REQUIREMENTS WITH THE APPROVAL OF THE LOCAL AUTHORITY HAVING JURISDICTION.

SU-258A

HORTON HOMES, INC.

DISPLAY AND STORAGE OF HOMES

APPROVED **HWC** **APPROVED**
AUG 29 2008
Federal Manufactured
Home Construction
And Safety Standards

WEATHER PROTECTION

If the installation is not started immediately upon delivery of the home, the retailer and/or installer has the responsibility to ensure the exterior weather protection covering of marriage walls and the roof of homes with hinged roofs has not been damaged during shipment. Inspect the home immediately upon the delivery and frequently during storage. Promptly repair tears in the home closure materials to prevent damage from the elements. Inspect and repair roof shingles and sidings as needed.

SUPPORTING A HOME FOR DISPLAY

When a new or used manufactured home is to be displayed at a retail location, temporarily block and support the home. Set up single section homes with single block piers spaced no further apart than 12 feet o.c. beneath each I-beam. The tire and axle system may be used as one of these required supports, and the hitch jack may be used as another. Locate the first pier no further than two feet from the rear of the home (Figure 1). Place additional piers along the perimeter on either side of openings great the four feet (i.e. sliding doors, bay windows, etc.).

For multi section homes locate additional piers along the marriage line under support columns. These locations will be marked by the manufacturer.

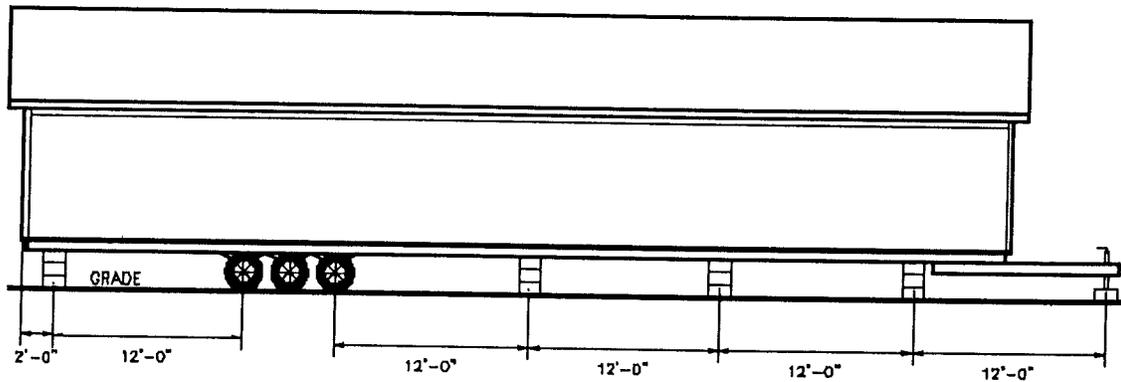


FIGURE 1. SUPPORTING A HOME FOR DISPLAY

For all homes, place footings below each pier. Footings may be placed directly on the surface grade without excavation and may be ABS pads, 2x10 by 16 inch long pressure treated lumber or 16"x16" by 4 inch thick concrete pads.

SUPPORTING A HOME FOR STORAGE

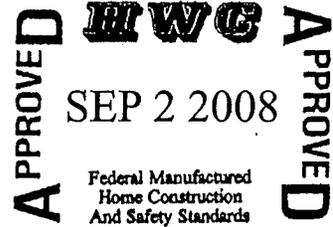
To prevent damage to homes being stored but not on display (i.e. people shall not be permitted inside the home) for a period exceeding 30 days, locate piers below each I-beam no further than two feet from each end of the home and at the approximate center of the length.

EFFECTIVE DATE: OCT. 20, 2008

SU-259

HORTON HOMES, INC.

INSTALLER RESPONSIBILITIES OF INSTALLATION IN HUD-ADMINISTERED STATES



PURPOSE

The purpose of this subpart E is to set out the responsibilities of the installer who is the responsibilities of the installer who is accountable for the installation of a manufactured home in compliance with the requirements of the HUD-administered installation program.

LICENSING REQUIREMENTS

An installer of manufactured homes must comply with the licensing requirements set forth in subpart C of this part.

INSTALLATION SUITABILITY

SITE APPROPRIATENESS

Before installing a manufactured home at any site, the installer must assure that the site is suitable for installing the home by verifying that:

1. The site is accessible;
2. The site is appropriate for the foundation or support and stabilization system that is to be used to install the home in accordance with the federal installation standards or alternative requirements in part 3285;
3. The data plat is affixed to the home, that the home is designed for the roof load, wind load, and the thermal zones that are applicable to the intended site; and
4. The installation site is protected from surface run-off and can be graded in accordance with part 3285.

INSTALLER NOTIFICATION OF UNSUITABLE SITE

If the installer determines that the home cannot be installed properly at the site, the installer must:

1. Notify the purchaser or other person with whom the installer contracted for the installation work, identifying the reasons why the site is unsuitable;
2. Notify the retailer that contracted with the purchaser for the sale of the home, identifying the reasons why the site is unsuitable;
3. Notify HUD, identifying the reasons why the site is unsuitable;
4. Decline to install the home until the site and the home are both verified by the installer as suitable for the site under this section; and
5. Ensure that all unique characteristics of the site have been fully addressed.

INSTALLER NOTIFICATION OF FAILURES TO COMPLY WITH THE CONSTRUCTION AND SAFETY STANDARDS.

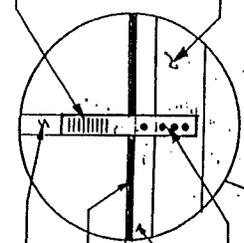
If the installer notices and recognizes failures to comply with the construction and safety standards in part 3280 prior to beginning an installation work, during the course of the installation work, or after the installation work is complete, the installer must notify the manufacturer and retailer of each failure to comply.

RETAILER NOTIFICATION

The retailer must provide a copy of the notification received in sections "INSTALLER NOTIFICATION OF UNSUITABLE SITE" and "INSTALLER NOTIFICATION OF FAILURES TO COMPLY WITH THE CONSTRUCTION AND SAFETY STANDARDS" to any subsequent installer.

EFFECTIVE DATE: OCT, 20 2008

FACTORY STRAP TRUSS TO TAG ROOF
 4" 1-1/2" x 20 GA STRAP AND
 (9) 14 GA x 1-1/2" STAPLES OR
 (10) 15 GA x 1-1/2" STAPLES
 PER END (STRAPS: 40" O.C. MAX.)

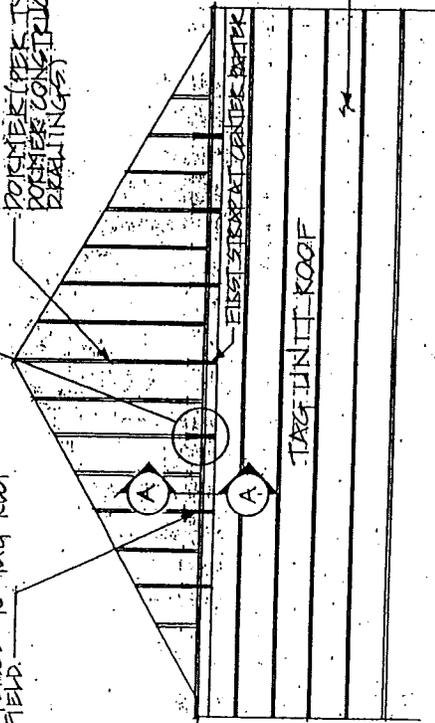


DOORMER RAFTER
 DOORMER FRONT WALL
 SHTG PER SECTION "A-A"
 TAG UNIT TRUSS
 FIELD INSTALLED FASTENERS
 (4) #10 x 1-1/2" SCREWS PER
 STRAP

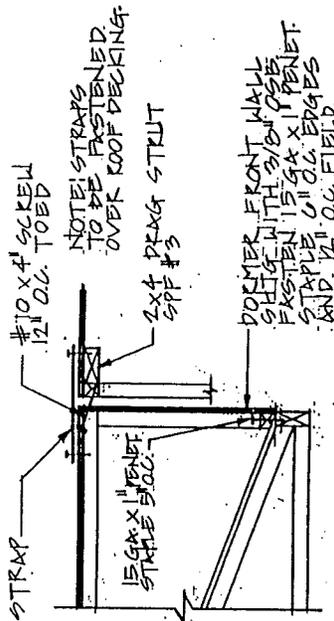
2x4 SPP#3 BRAG
 START GABLE UNIT
 TO TAG UNIT TRUSS
 17/16 GA x 2-1/2" STAPLES
 AT 9" O.C.

DOORMER (PER TYPE
 DOORMER CONSTRUCTION)

STRAPS INSTALLED ON
 DOORMER IN FACTORY AND
 FASTENED TO TAG ROOF
 IN FIELD.



PLAN VIEW OF TAG ROOF INTERSECTING DOORMER
 (ROOF DECKING NOT SHOWN FOR CLARITY)

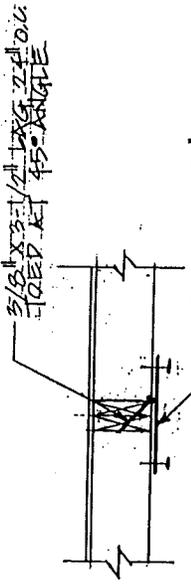


NOTE: STRAPS
 TO BE FASTENED
 OVER ROOF DECKING

2x4 PEAK STRUT
 SPP #3

DOORMER FRONT WALL
 SHTG WITH 3/8" O.C.
 FASTEN 15 GA x 1/2"
 STAPLES 6" O.C. EDGES
 AND 21" O.C. FIELD.

SECTION "A-A"



FASTENING AT FLOOR

REF CALC NO 1 JUN 20 '95

TAG / MAIN UNIT CONNECTIONS

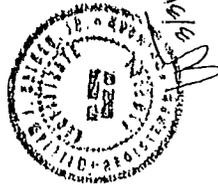
WIND ZONE III (110 MPH)

APPROVED
TRWG
APPROVED

NOV 4 2008

Federal Manufactured
 Home Construction
 And Safety Standards

HORTON HOMES	
DATE: 3/21/95	DWG BY: D.P.
SCALE:	REV:
TYPE: TAG UNIT	
DWG NO:	
L. KALKER & ASSOC.	



SU-261

DORMER RAFTER
 DORMER FRONT WALL SHTG. PER SECTION "A-A"
 TAG UNIT TRUSS
 FIELD INSTALLED FASTENERS (4) #10 X 1-1/2" SCREWS PER STRAP
 STRAPS INSTALLED ON DORMER IN FACTORY AND FASTENED TO TAG ROOF IN FIELD.
 DORMERS (PER TYP DORMER CONSTRUCTION DRAWINGS)
 LISTED DORMER FRONT TRUSS
 SHEATH TAG UNIT ROOF SAME AS MAIN UNIT.
 TAG UNIT ROOF
 PLAN VIEW OF TAG ROOF INTERSECTING DORMER (ROOF DECKING NOT SHOWN FOR CLARITY)
 DRM CONNECTIONS W/DORM & TAG ROOFS AT SAME HEIGHT
 TAG / MAIN UNIT CONNECTIONS

FACTORY STRAP TRUSS TO TAG ROOF W/ 1-1/2" X 20 GA. STRAP AND (9) - 14 GA X 1-1/2" STAPLES OR (10) - 15 GA X 1-1/2" STAPLES PER END (STRAPS 48" O.C. MAX.)
 2X4 SPP#3 CONTINUOUS BRACKING GLUE/NAILED TO TAG UNIT TRUSS W/ 1/2" GA X 2-1/2" STAPLES AT 90" O.C.

DORMER FRONT WALL SHTG. WITH 1/2" INTERMEDIATE FASTENERS 16 GA X 1 1/2" STAPLE 3" O.C. EDGES AND 1/2" O.C. FIELD.

NOTE: STRAPS TO BE FASTENED OVER ROOF DECKING.

2X4 BRACKING SPP #3

* STRUCTURAL REQ. THEREAFTER

REF CALC NO 1 JUNE 20 1995

20 GA X 1-1/2" STRAP W/ 1-3/8" X 3-1/2" LAG EACH END 32" O.C.

FASTENING AT FLOOR

WIND ZONE 3

HORTON HOMES

DATE: 3/21/95 Dwg BY: D.P.

SCALE: NTS REV: 10/15/97

TYPE: TAG UNIT

DWG NO:

W. KALKER = ASOC.

SU-261A

HORTON HOMES

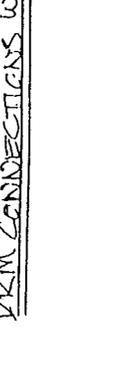
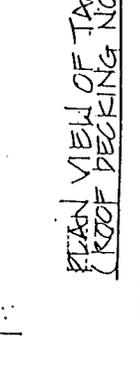
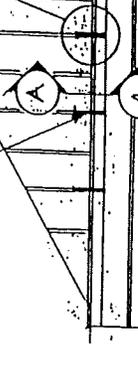
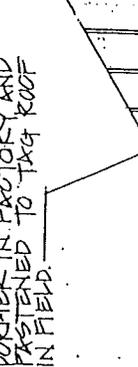
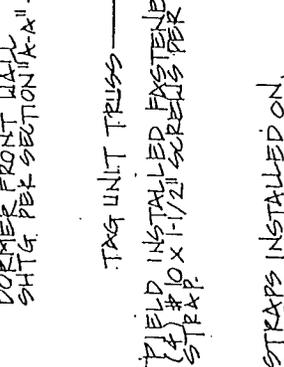
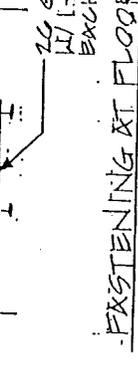
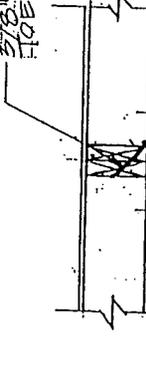
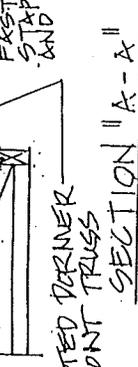
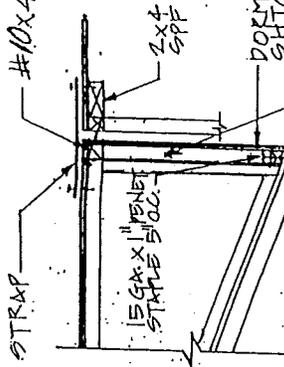
DATE: 3/21/95 Dwg BY: D.P.

SCALE: NTS REV: 10/15/97

TYPE: TAG UNIT

DWG NO:

W. KALKER = ASOC.



Xi2 TOTAL SUPPORT SYSTEM TIE-DOWN ENGINEERING

WINDZONE ONE (1) ONLY

HORTON HOMES, INC/ DYNASTY HOMES, INC

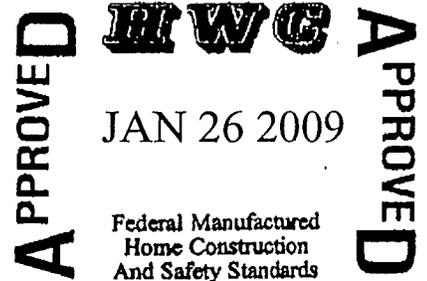
Horton Homes, Inc./ Dynasty Homes, Inc. reviewed Tie-Down Engineering's test report for an alternate Xi2 Total Support System for Wind Zone 1 Test Report by Radco. Report number RAD-3461 project number F-4308 dated August 2004, and also Tie-Down's Installation Instructions for above system. DAPIA reviewed system for use with Horton Homes, Inc./ Dynasty Homes, Inc. and the system is consistent with the Manufactured Home design and conforms to the requirements of the Manufactured Home Construction and Safety Standards (MHCSS) and is approved for use of Tie-Down Xi2 Total Support System.

Installer must use and follow Tie-Down Engineering's Xi2 Foundation System Installation Instructions dated 10/10/06 or 8/09/06 for installation of system. Installation instructions can be found at Horton Homes, Inc. website www.hortonhomes.com or contact Tie-Down Engineering at www.tiedown.com or (404)344-0000. **Installer must check with local authority and or state authority having jurisdiction for acceptances of system.**

For WindZones 2 or 3, installer must have design and approval performed by a registered licensed engineer or architect. Additionally, the system must be acceptable to the local authority and or state authority having jurisdiction.

The set-up of Horton Homes, Inc./ Dynasty Homes, Inc. can not exceed the listed conditions listed below:

1. Windzone one only.
2. Max Pier Height 48"
3. Max roof pitch less than 20 degrees. (approx. 4.37/12 roof pitch)
4. Main I-beam spacing 95.5"
5. Max sidewall height 8'-0"
6. Max length home 76' (not including hitch)
7. Max overhang 1'-0"
8. Max building width 31'-0"

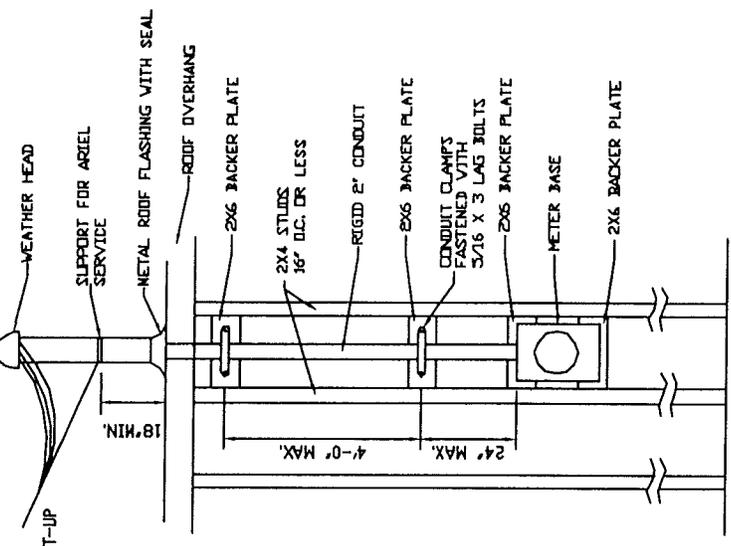


Additional vertical anchors are required by Horton Homes, Inc./ Dynasty Homes, Inc. See set-up manual for details.

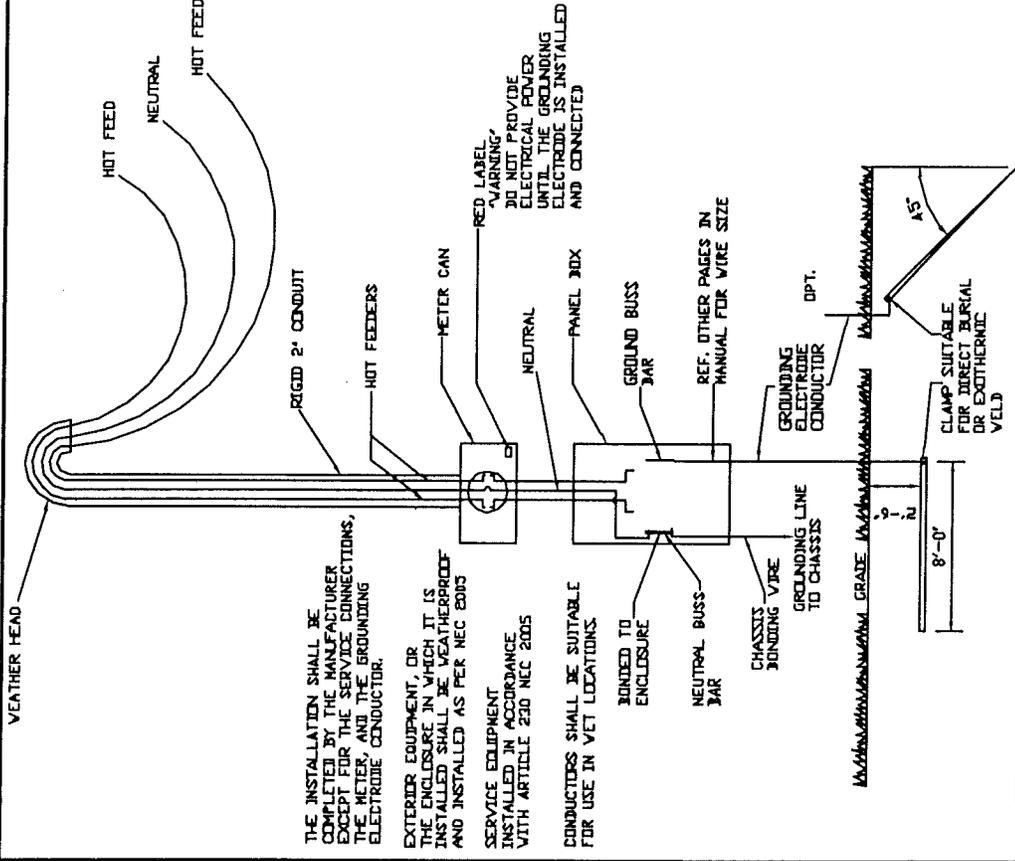
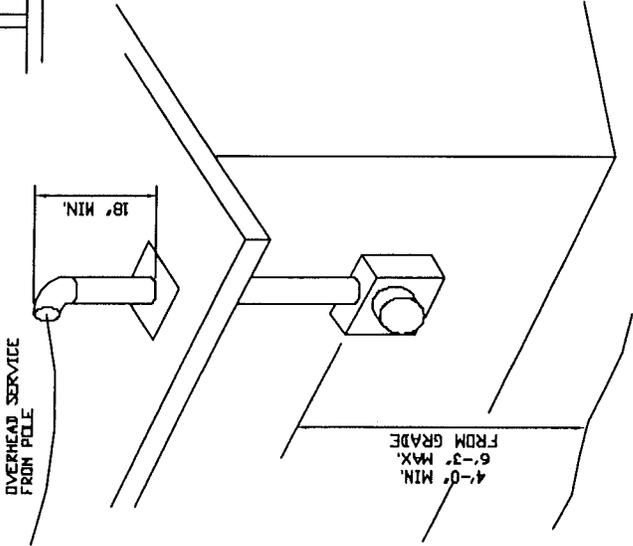
1. All vertical shear wall anchors (brackets painted green)
2. Sidewall openings greater than 4'-0" (ie. Glass sliding door)
3. Marriage wall openings greater than 4'-0"

SU-262

See S.D.#1-#4 January 26, 2009



SERVICE CONNECTORS FIELD INSTALLED (SEE OTHER PAGES IN SET-UP MANUAL FOR WIRE SIZES)



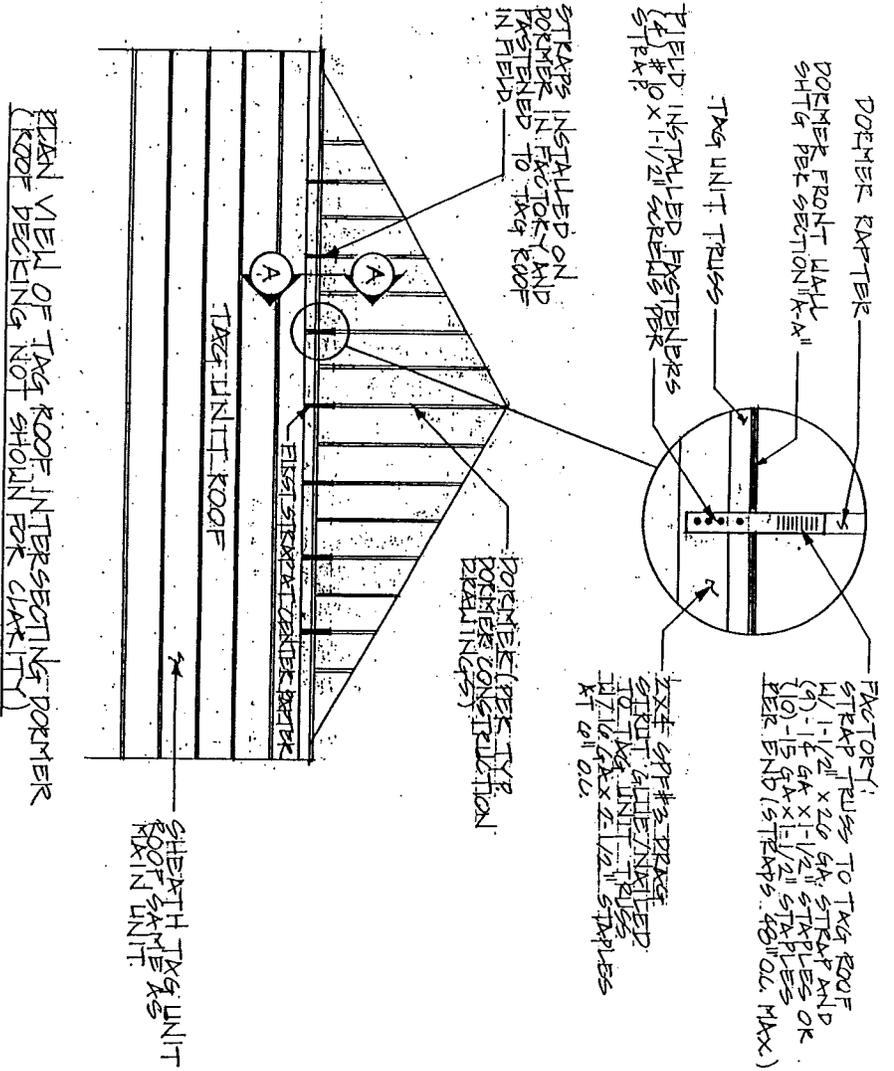
2005 NEC - 250.5. THE ELECTRODE SHALL BE INSTALLED SUCH THAT AT LEAST 18\"/>

APPROVED
APR 14 2009
APPROVED

Federal Manufactured Home Construction And Safety Standards

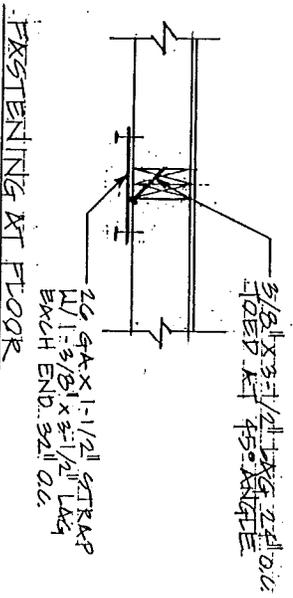
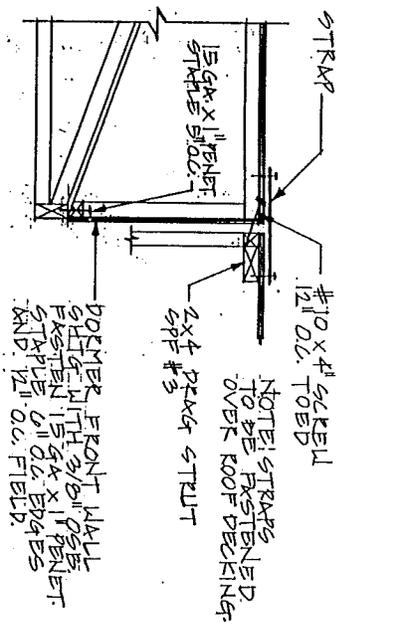
SU-263

HORTON HOMES, INC.	
CENTRAL, GA. 30504	
SCALE	DRAWN BY
DATE: 4-14-09	REV
FACTORY INSTALLED SERVICE EQUIPMENT	
DVS #	



REF CALC NO 1 JUN 20 '95

PLAN VIEW OF TAG ROOF INTERSECTING DOEMER (ROOF DECKING NOT SHOWN FOR CLARITY)



TAG / DORMER CONNECTIONS
WIND ZONE III (110 MPH)

TAG UNIT

HORTON HOMES	
DATE: 3/27/05	PLG BY: D.P.
DRAWN BY: [Signature]	REV: [Signature]
TYPE: TAG UNIT	
PLG NO: [Signature]	
W. KALKER ASSOC.	

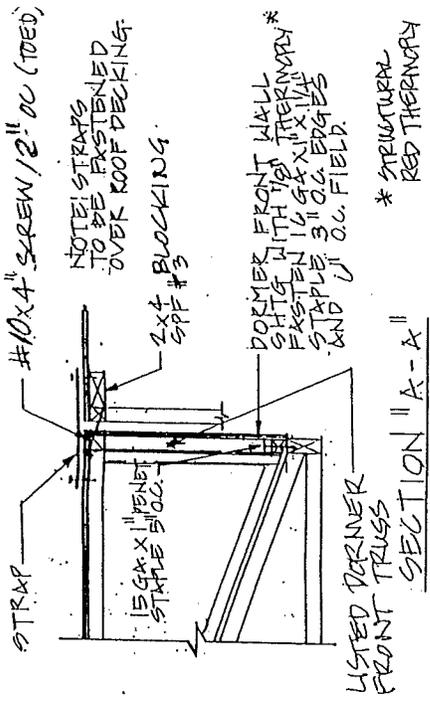
SU-III-264

APPROVED **D W G** **APPROVED**

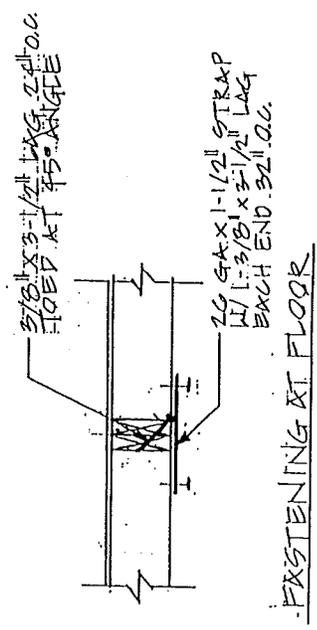
Federal Manufactured Home Construction And Safety Standards

APR 14 2009

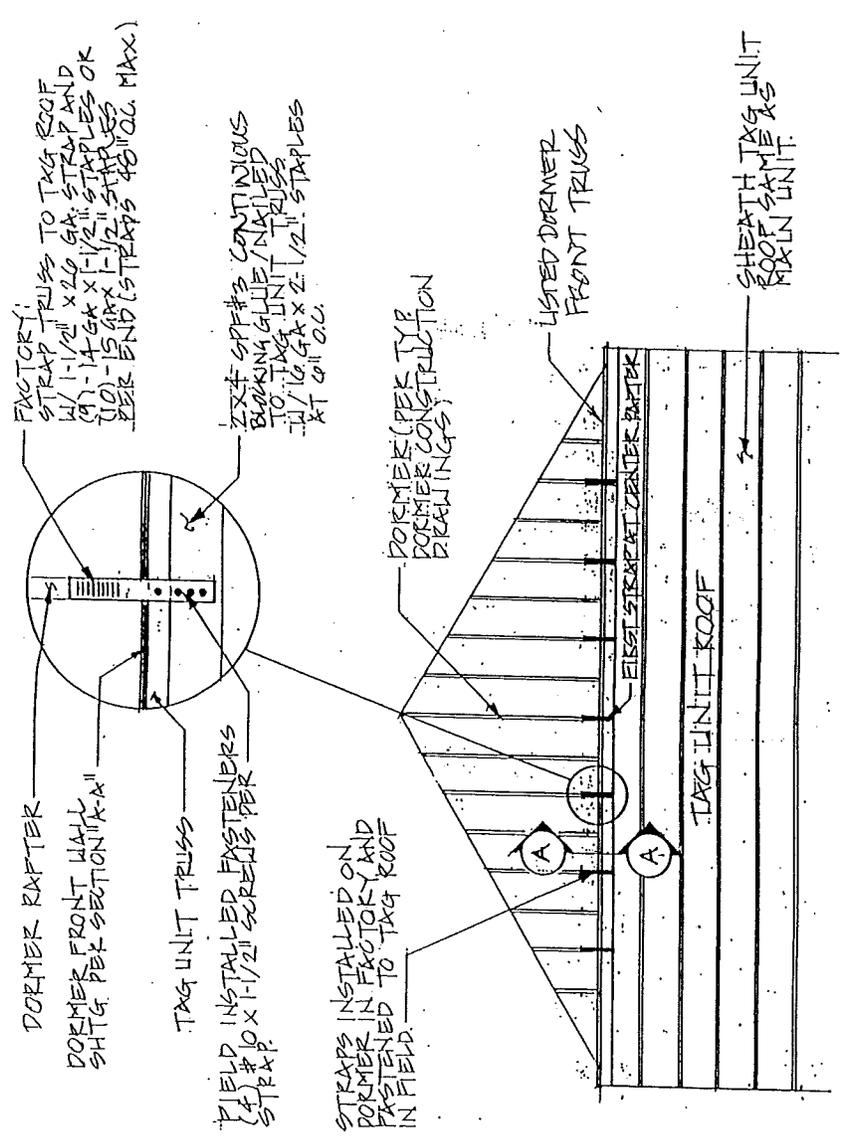
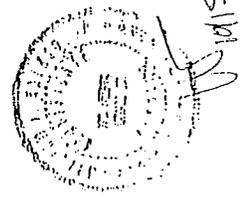
HORTON HOMES



REF CALC NO 1 JUNE 20 1985



HORTON HOMES	
DATE: 3/21/95	DWG BY: D.P.
SCALE: NTS	REV: 10/15/97
TYPE: TAG UNIT	
DWG NO: L. KUKER = ASSOC.	



PLAN VIEW OF TAG ROOF INTERSECTING DORMER (ROOF DECKING NOT SHOWN FOR CLARITY)

DRM CONNECTIONS W/DORM & TAG ROOFS AT SAME HEIGHT

TAG / MAIN UNIT CONNECTIONS

APPROVED

APPROVED
 APR 14 2009
 Federal Manufactured Home Construction And Safety Standards

W. J. KALKER, PE

C:\PE>pierb

PIER LOAD ANALYSIS

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE CHASSIS STEEL BEAMS.

SEP 23 2004

CALC# S*PG- 1/2

PIER LOADS

FOOTING AREAS

100" PIER
W/4" OH (S.W)

30 PSF ROOF LL
10 PSF ROOF DL

- 7
- 40
- 6.7
- 50
- 12
- 8
- 45
- 300
- 100

TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

TYPE THE TOTAL ROOF LOAD IN PSF:

TYPE THE FLOOR TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

TYPE THE TOTAL FLOOR LOAD IN PSF:

TYPE THE WEIGHT OF THE STEEL BEAM IN PLF:

TYPE THE HEIGHT OF THE EXTERIOR WALL IN FEET:

TYPE THE WEIGHT OF THE EXTERIOR WALL IN PSF:

TYPE THE WEIGHT OF THE PIER IN POUNDS:

TYPE THE WEIGHT OF THE FOOTING IN PSF:

CHASSIS PIERS

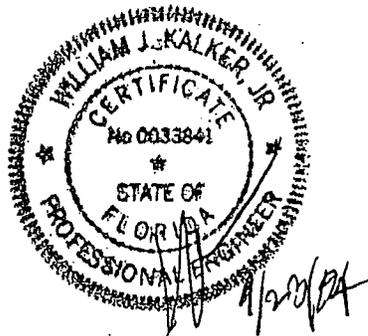
PIER SPACE (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED				
		1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4.	3948.	680.	438.	323.	256.	212.
5.	4935.	838.	539.	397.	315.	260.
6.	5922.	996.	640.	472.	373.	310.
7.	6909.	1154.	742.	547.	433.	358.
8.	7896.	1312.	844.	622.	492.	407.
9.	8883.	1469.	945.	696.	552.	457.
10.	9870.	1627.	1046.	771.	611.	505.

C:\PE>a

APPROVED HWC APPROVED

SEP 27 2004

Federal Manufactured Home Construction And Safety Standards



HORTON

W.J. KALKER, PE

C:\PE>pier

PIER LOAD ANALYSIS

SEP 23 2004
CALC# 5*PG- 2/2

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE COLUMNS AT EACH END OF A SIDEWALL HEADER OR MARRIAGE WALL RIDGE BEAM.

- 7 TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:
- 40 TYPE THE TOTAL ROOF LOAD IN PSF:
- 300 TYPE THE WEIGHT OF THE PIER IN POUNDS:
- 100 TYPE THE WEIGHT OF THE FOOTING IN PSF:
- 1 TYPE 1 TO EVALUATE CLEAR SPANS - TYPE 2 TO EVALUATE TRIBUTARY SPANS:

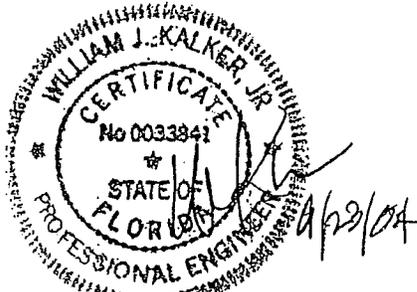
ⓑ SIDEWALL
OPENING

CLEAR SPAN (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED				
		1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4.	560.	138.	89.	66.	53.	43.
6.	840.	183.	117.	87.	69.	57.
8.	1120.	227.	146.	108.	86.	71.
10.	1400.	273.	175.	129.	103.	85.
12.	1680.	317.	204.	151.	119.	99.
14.	1960.	362.	233.	172.	136.	112.
16.	2240.	407.	262.	193.	153.	127.
18.	2520.	452.	291.	214.	169.	140.
20.	2800.	496.	320.	235.	187.	155.
22.	3080.	542.	348.	256.	204.	168.
24.	3360.	586.	377.	278.	220.	183.
26.	3640.	631.	406.	299.	237.	196.
28.	3920.	676.	434.	320.	254.	210.
30.	4200.	720.	463.	342.	270.	224.
32.	4480.	765.	492.	363.	287.	237.
34.	4760.	810.	521.	384.	304.	252.
36.	5040.	855.	550.	405.	321.	265.
38.	5320.	899.	579.	427.	338.	280.
40.	5600.	945.	607.	448.	355.	293.

NOTE: THE TABLE ABOVE SPECIFIES THE PIER LOAD AND MINIMUM FOOTING AREA REQUIRED FOR PIERS SUPPORTING 'END STUD' COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMN ONLY). THE PIER LOAD AND MINIMUM FOOTING AREA FOR PIERS SUPPORTING 'CENTER STUD' COLUMNS (CLEAR SPAN ON BOTH SIDES OF THE COLUMN) CAN BE DETERMINED BY ADDING THE VALUES SPECIFIED ABOVE WHICH CORRESPOND TO THE CLEAR SPANS ON EACH SIDE OF THE COLUMN. SIMILARLY, COLUMN LOADS FROM AN ADJACENT UNIT/ROOF WHICH ARE NOT CONSIDERED IN THE INPUT DATA ABOVE CAN BE SUPPORTED BY THE SAME PIER AND/OR FOOTING WHICH SUPPORTS THE ROOF LOADS DEFINED ABOVE BY ADDING THE PIER LOADS AND MINIMUM FOOTING AREAS REQUIRED BY THE ADJACENT UNIT/ROOF LOADS TO THE VALUES SPECIFIED IN THIS TABLE.

APPROVED **HWC** **APPROVED**
SEP 27 2004
Federal Manufactured Home Construction And Safety Standards

C:\PE>



SU-3001

SU-3001

HORTON HOMES, INC.

HORTON

W.J. KALKER, PE

C:\PE>pierb

PIER LOAD ANALYSIS

MAR 12 2010

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE CHASSIS STEEL BEAMS.

CALC# 1 *PG- 1/1

PIER LOADS

7.67

&

FOOTING AREAS

40

6.7

50

12

8

45

300

100

⊙ 160" FLOOR

W/12" BRKING

TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

TYPE THE TOTAL ROOF LOAD IN PSF:

TYPE THE FLOOR TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

TYPE THE TOTAL FLOOR LOAD IN PSF:

TYPE THE WEIGHT OF THE STEEL BEAM IN PLF:

TYPE THE HEIGHT OF THE EXTERIOR WALL IN FEET:

TYPE THE WEIGHT OF THE EXTERIOR WALL IN PSF:

TYPE THE WEIGHT OF THE PIER IN POUNDS:

TYPE THE WEIGHT OF THE FOOTING IN PSF:

PIER SPACE (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED				
		1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4.	4055.	697.	448.	331.	282.	217.
5.	5089.	859.	552.	408.	322.	267.
6.	6083.	1022.	657.	485.	384.	317.
7.	7097.	1184.	781.	562.	444.	368.
8.	8110.	1346.	885.	638.	505.	418.
9.	9124.	1508.	970.	715.	566.	468.
10.	10138.	1671.	1074.	792.	627.	519.

CHASSIS PIERS

30 PSF ROOF LOAD

10 PSF ROOF DL

40 PSF FLOOR LL



APPROVED **HWC** **APPROVED**
 APR 1 2010
 Federal Manufactured Home Construction And Safety Standards

SU-III-3002

HORTON HOMES, INC.

W.J. KALKER, PE

C:\PE>pier

PIER LOAD ANALYSIS

MAR 12 2010

CALC# 1 *PG- 2/10

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE COLUMNS AT EACH END OF A SIDEWALL HEADER OR MARRIAGE WALL RIDGE BEAM.

7.87

TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

40

TYPE THE TOTAL ROOF LOAD IN PSF:

300

TYPE THE WEIGHT OF THE PIER IN POUNDS:

100

TYPE THE WEIGHT OF THE FOOTING IN PSF:

1

TYPE 1 TO EVALUATE CLEAR SPANS - TYPE 2 TO EVALUATE TRIBUTARY SPANS:

SIDEWALL OPEN PIERS

30 PSF ROOF LOAD
10 PSF ROOF DL

CLEAR SPAN (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED				
		1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4.	814.	147.	95.	70.	56.	46.
6.	920.	196.	128.	93.	73.	62.
8.	1227.	245.	158.	116.	92.	76.
10.	1534.	294.	189.	139.	111.	92.
12.	1841.	343.	221.	163.	129.	107.
14.	2148.	392.	252.	186.	147.	122.
16.	2454.	442.	283.	209.	166.	137.
18.	2761.	490.	315.	232.	184.	153.
20.	3068.	539.	347.	255.	203.	168.
22.	3375.	588.	379.	279.	221.	183.
24.	3682.	637.	410.	303.	239.	198.
26.	3988.	687.	442.	326.	258.	214.
28.	4295.	736.	473.	349.	277.	229.
30.	4602.	785.	505.	372.	294.	244.
32.	4909.	834.	538.	395.	313.	259.
34.	5216.	883.	567.	418.	332.	275.
36.	5522.	932.	599.	442.	349.	289.
38.	5829.	982.	631.	465.	368.	305.
40.	6136.	1030.	663.	488.	387.	320.

NOTE: THE TABLE ABOVE SPECIFIES THE PIER LOAD AND MINIMUM FOOTING AREA REQUIRED FOR PIERS SUPPORTING 'END STUD' COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMN ONLY). THE PIER LOAD AND MINIMUM FOOTING AREA FOR PIERS SUPPORTING 'CENTER STUD' COLUMNS (CLEAR SPAN ON BOTH SIDES OF THE COLUMN) CAN BE DETERMINED BY ADDING THE VALUES SPECIFIED ABOVE WHICH CORRESPOND TO THE CLEAR SPANS ON EACH SIDE OF THE COLUMN.

SIMILARLY, COLUMN LOADS FROM AN ADJACENT UNIT/ROOF WHICH ARE NOT CONSIDERED IN THE INPUT DATA ABOVE CAN BE SUPPORTED BY THE SAME PIER AND/OR FOOTING WHICH SUPPORTS THE ROOF LOADS DEFINED ABOVE BY ADDING THE PIER LOADS AND MINIMUM FOOTING AREAS REQUIRED BY THE ADJACENT UNIT/ROOF LOADS TO THE VALUES SPECIFIED IN THIS TABLE.

C:\PE>a



APPROVED **HWC** **APPROVED**
APR 1 2010
Federal Manufactured Home Construction And Safety Standards

SU-III-3003

HORTON HOMES, INC.

W.J. KALKER, PE

MAR 12 2010

CALC# 1 *PG- 3/6

C:\PE>pier

PIER LOAD ANALYSIS

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE COLUMNS AT EACH END OF A SIDEWALL HEADER OR MARRIAGE WALL RIDGE BEAM.

TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

6.7

TYPE THE TOTAL ROOF LOAD IN PSF:

40

TYPE THE WEIGHT OF THE PIER IN POUNDS:

300

TYPE THE WEIGHT OF THE FOOTING IN PSF:

100

TYPE 1 TO EVALUATE CLEAR SPANS - TYPE 2 TO EVALUATE TRIBUTARY SPANS:

1

CLEAR SPAN (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED				
		1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4.	538.	134.	86.	64.	51.	42.
6.	804.	177.	114.	84.	67.	55.
8.	1072.	220.	142.	105.	83.	69.
10.	1340.	263.	169.	125.	98.	82.
12.	1608.	306.	197.	145.	115.	96.
14.	1876.	348.	224.	166.	131.	108.
16.	2144.	392.	252.	186.	147.	122.
18.	2412.	435.	279.	206.	163.	135.
20.	2680.	477.	307.	227.	180.	148.
22.	2948.	520.	335.	247.	195.	162.
24.	3216.	563.	363.	267.	212.	175.
26.	3484.	606.	389.	287.	228.	189.
28.	3752.	648.	417.	308.	243.	201.
30.	4020.	692.	445.	328.	260.	215.
32.	4288.	735.	472.	348.	276.	228.
34.	4556.	777.	500.	369.	292.	242.
36.	4824.	820.	528.	389.	308.	255.
38.	5092.	863.	555.	409.	324.	268.
40.	5360.	906.	582.	430.	340.	282.

MAR WALL OPENG.
PIERS
30 PSF ROOF LOAD
10 PSF ROOF DL

LOADS ARE PER HALF

NOTE: THE TABLE ABOVE SPECIFIES THE PIER LOAD AND MINIMUM FOOTING AREA REQUIRED FOR PIERS SUPPORTING 'END STUD' COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMN ONLY). THE PIER LOAD AND MINIMUM FOOTING AREA FOR PIERS SUPPORTING 'CENTER STUD' COLUMNS (CLEAR SPAN ON BOTH SIDES OF THE COLUMN) CAN BE DETERMINED BY ADDING THE VALUES SPECIFIED ABOVE WHICH CORRESPOND TO THE CLEAR SPANS ON EACH SIDE OF THE COLUMN. SIMILARLY, COLUMN LOADS FROM AN ADJACENT UNIT/ROOF WHICH ARE NOT CONSIDERED IN THE INPUT DATA ABOVE CAN BE SUPPORTED BY THE SAME PIER AND/OR FOOTING WHICH SUPPORTS THE ROOF LOADS DEFINED ABOVE BY ADDING THE PIER LOADS AND MINIMUM FOOTING AREAS REQUIRED BY THE ADJACENT UNIT/ROOF LOADS TO THE VALUES SPECIFIED IN THIS TABLE.



C:\PE>a

APPROVED **HWG** **APPROVED**
APR 1 2010
Federal Manufactured Home Construction And Safety Standards

SU-III-3004

HORTON HOMES, INC.

W.J. KALKER, PE

MAR 12 2010

CALC# | *PG- 416

pierb

PIER LOAD ANALYSIS

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE CHASSIS STEEL BEAMS.

TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

TYPE THE TOTAL ROOF LOAD IN PSF:

TYPE THE FLOOR TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

TYPE THE TOTAL FLOOR LOAD IN PSF:

TYPE THE WEIGHT OF THE STEEL BEAM IN PLF:

TYPE THE HEIGHT OF THE EXTERIOR WALL IN FEET:

TYPE THE WEIGHT OF THE EXTERIOR WALL IN PSF:

TYPE THE WEIGHT OF THE PIER IN POUNDS:

TYPE THE WEIGHT OF THE FOOTING IN PSF:

*140" Floor
w/12" AIRING*

6.83

40

5.83

50

12

8

45

300

100

CHASSIS PIERS

30 PSF ROOF LOAD

10 PSF ROOF DL

40 PSF FLOOR LL

PIER SPACE (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED				
		1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4.	3747.	648.	416.	307.	243.	201.
5.	4684.	798.	513.	378.	299.	248.
6.	5620.	948.	609.	449.	356.	294.
7.	6557.	1097.	708.	520.	412.	341.
8.	7494.	1247.	802.	591.	468.	387.
9.	8430.	1397.	898.	663.	524.	434.
10.	9367.	1547.	995.	733.	581.	481.

C:\>a



APPROVED **HWC** **APPROVED**
 APR 1 2010
 Federal Manufactured Home Construction And Safety Standards

SU-III-3005

HORTON HOMES, INC.

W.J. KALKER, PE

MAR 12 2010

CALC# 1*PG- 9/11

C:\>pier

PIER LOAD ANALYSIS

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE COLUMNS AT EACH END OF A SIDEWALL HEADER OR MARRIAGE WALL RIDGE BEAM.

TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

6.83

TYPE THE TOTAL ROOF LOAD IN PSF:

40

TYPE THE WEIGHT OF THE PIER IN POUNDS:

300

TYPE THE WEIGHT OF THE FOOTING IN PSF:

100

TYPE 1 TO EVALUATE CLEAR SPANS - TYPE 2 TO EVALUATE TRIBUTARY SPANS:

1

*SIDEWALL OPEN
PIERS*

*30 PSF ROOF LOAD
10 PSF ROOF DL*

CLEAR SPAN (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED				
		1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4.	548.	138.	87.	65.	52.	43.
6.	820.	179.	115.	86.	67.	56.
8.	1093.	224.	144.	108.	84.	70.
10.	1368.	287.	172.	127.	100.	83.
12.	1639.	311.	200.	148.	117.	97.
14.	1912.	355.	228.	168.	133.	110.
16.	2186.	398.	257.	189.	149.	124.
18.	2459.	442.	284.	210.	166.	137.
20.	2732.	486.	312.	230.	183.	152.
22.	3005.	529.	340.	251.	198.	165.
24.	3278.	573.	369.	272.	215.	178.
26.	3552.	617.	397.	292.	232.	192.
28.	3825.	660.	425.	313.	248.	205.
30.	4098.	704.	453.	334.	264.	219.
32.	4371.	748.	481.	354.	281.	232.
34.	4644.	792.	509.	375.	297.	246.
36.	4918.	835.	537.	396.	314.	259.
38.	5191.	879.	565.	416.	330.	274.
40.	5464.	923.	593.	437.	346.	287.

NOTE: THE TABLE ABOVE SPECIFIES THE PIER LOAD AND MINIMUM FOOTING AREA REQUIRED FOR PIERS SUPPORTING 'END STUD' COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMN ONLY). THE PIER LOAD AND MINIMUM FOOTING AREA FOR PIERS SUPPORTING 'CENTER STUD' COLUMNS (CLEAR SPAN ON BOTH SIDES OF THE COLUMN) CAN BE DETERMINED BY ADDING THE VALUES SPECIFIED ABOVE WHICH CORRESPOND TO THE CLEAR SPANS ON EACH SIDE OF THE COLUMN. SIMILARLY, COLUMN LOADS FROM AN ADJACENT UNIT/ROOF WHICH ARE NOT CONSIDERED IN THE INPUT DATA ABOVE CAN BE SUPPORTED BY THE SAME PIER AND/OR FOOTING WHICH SUPPORTS THE ROOF LOADS DEFINED ABOVE BY ADDING THE PIER LOADS AND MINIMUM FOOTING AREAS REQUIRED BY THE ADJACENT UNIT/ROOF LOADS TO THE VALUES SPECIFIED IN THIS TABLE.

WJK
3/12/10
Professional Engineer
STATE OF FLORIDA
No. 0023241

C:\>a

APPROVED **HWC** **APPROVED**
APR 1 2010
Federal Manufactured
Home Construction
And Safety Standards

SU-III-3006

HORTON HOMES, INC.

W.J. KALKER, PE

MAR 12 2010

CALC# 1 *PG- 410

C:\a pier

PIER LOAD ANALYSIS

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE COLUMNS AT EACH END OF A SIDEWALL HEADER OR MARRIAGE WALL RIDGE BEAM.

TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

5.83

TYPE THE TOTAL ROOF LOAD IN PSF:

40

TYPE THE WEIGHT OF THE PIER IN POUNDS:

300

TYPE THE WEIGHT OF THE FOOTING IN PSF:

100

TYPE 1 TO EVALUATE CLEAR SPANS - TYPE 2 TO EVALUATE TRIBUTARY SPANS:

MAR. WALL

1

OPEN PIERS

30 PSF ROOF LOAD

10 PSF ROOF DL

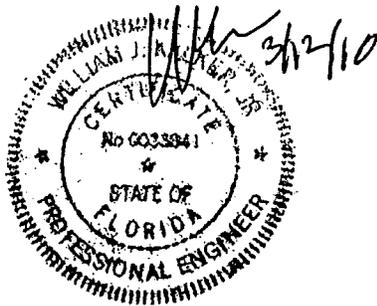
LOADS ARE

PER HALF

CLEAR SPAN (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED				
		1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4.	488.	123.	80.	58.	46.	39.
6.	700.	180.	103.	76.	61.	50.
8.	933.	198.	127.	94.	74.	62.
10.	1188.	235.	152.	112.	88.	73.
12.	1399.	273.	175.	129.	103.	85.
14.	1632.	309.	200.	147.	116.	97.
16.	1866.	347.	223.	165.	131.	108.
18.	2099.	384.	247.	183.	144.	119.
20.	2332.	422.	272.	200.	159.	131.
22.	2565.	459.	295.	217.	172.	143.
24.	2798.	496.	319.	235.	186.	155.
26.	3032.	534.	343.	253.	200.	166.
28.	3265.	571.	367.	271.	214.	177.
30.	3498.	608.	392.	288.	229.	189.
32.	3731.	645.	415.	306.	242.	200.
34.	3964.	683.	439.	324.	257.	213.
36.	4198.	720.	463.	342.	270.	224.
38.	4431.	757.	487.	359.	284.	235.
40.	4664.	795.	512.	376.	298.	247.

NOTE: THE TABLE ABOVE SPECIFIES THE PIER LOAD AND MINIMUM FOOTING AREA REQUIRED FOR PIERS SUPPORTING 'END STUD' COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMN ONLY). THE PIER LOAD AND MINIMUM FOOTING AREA FOR PIERS SUPPORTING 'CENTER STUD' COLUMNS (CLEAR SPAN ON BOTH SIDES OF THE COLUMN) CAN BE DETERMINED BY ADDING THE VALUES SPECIFIED ABOVE WHICH CORRESPOND TO THE CLEAR SPANS ON EACH SIDE OF THE COLUMN. SIMILARLY, COLUMN LOADS FROM AN ADJACENT UNIT/ROOF WHICH ARE NOT CONSIDERED IN THE INPUT DATA ABOVE CAN BE SUPPORTED BY THE SAME PIER AND/OR FOOTING WHICH SUPPORTS THE ROOF LOADS DEFINED ABOVE BY ADDING THE PIER LOADS AND MINIMUM FOOTING AREAS REQUIRED BY THE ADJACENT UNIT/ROOF LOADS TO THE VALUES SPECIFIED IN THIS TABLE.

C:\a



APPROVED **HWG** **APPROVED**
 APR 1 2010
 Federal Manufactured Home Construction And Safety Standards

SU-III-3007

W.J. KALKER, PE

HORTON HOMES, INC.

HORTON

JUL 2 - 2010

C:\PE>PIERB

PIER-LOAD ANALYSIS

CALC# 1*PG- 1/2

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE CHASSIS STEEL BEAMS.

PIER LOADS

φ

FOOTING AREAS

7.67

40

7.67

50

12

8

8

300

100

18" FLOOR
NO OVERHANG
SINGLEWIDE

TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

TYPE THE TOTAL ROOF LOAD IN PSF:

TYPE THE FLOOR TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

TYPE THE TOTAL FLOOR LOAD IN PSF:

TYPE THE WEIGHT OF THE STEEL BEAM IN PLF:

TYPE THE HEIGHT OF THE EXTERIOR WALL IN FEET:

TYPE THE WEIGHT OF THE EXTERIOR WALL IN PSF:

TYPE THE WEIGHT OF THE PIER IN POUNDS:

TYPE THE WEIGHT OF THE FOOTING IN PSF:

PIER SPACE (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED				
		1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4.	3001.	528.	340.	251.	198.	164.
5.	3752.	648.	417.	308.	243.	201.
6.	4502.	768.	494.	365.	289.	238.
7.	5252.	889.	572.	422.	334.	277.
8.	6002.	1009.	649.	478.	379.	314.
9.	6753.	1129.	726.	535.	423.	351.
10.	7503.	1249.	803.	592.	468.	388.

① CHASSIS PIERS
30 PSF ROOF LOAD
10 PSF ROOF DL
40 PSF FLOOR LL



APPROVED

HWC

APPROVED

JULY 2 2010

Federal Manufactured Home Construction And Safety Standards

SU-III-3008

HORTON HOMES, INC.

W.J. KALKER, PE

C:\PE>pier

PIER LOAD ANALYSIS

JUL 2 2010

CALC# 1 *PG- 1/2

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE COLUMNS AT EACH END OF A SIDEWALL HEADER OR MARRIAGE WALL RIDGE BEAM.

7.67

TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

40

TYPE THE TOTAL ROOF LOAD IN PSF:

300

TYPE THE WEIGHT OF THE PIER IN POUNDS:

100

TYPE THE WEIGHT OF THE FOOTING IN PSF:

1

TYPE 1 TO EVALUATE CLEAR SPANS - TYPE 2 TO EVALUATE TRIBUTARY SPANS:

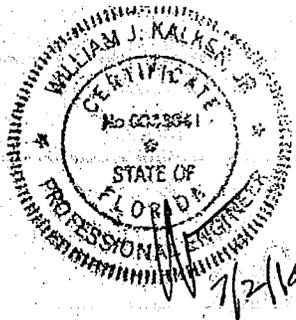
SIDEWALL OPEN PIERS

30 PSF ROOF LOAD
10 PSF ROOF DL

CLEAR SPAN (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED				
		1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4.	614.	147.	95.	70.	56.	46.
6.	920.	196.	126.	93.	73.	62.
8.	1227.	245.	158.	116.	92.	76.
10.	1534.	294.	189.	139.	111.	92.
12.	1841.	343.	221.	163.	129.	107.
14.	2148.	392.	252.	186.	147.	122.
16.	2454.	442.	283.	209.	166.	137.
18.	2761.	490.	315.	232.	184.	153.
20.	3068.	539.	347.	255.	203.	168.
22.	3375.	588.	379.	279.	221.	183.
24.	3682.	637.	410.	303.	239.	198.
26.	3988.	687.	442.	326.	258.	214.
28.	4295.	736.	473.	349.	277.	229.
30.	4602.	785.	505.	372.	294.	244.
32.	4909.	834.	536.	395.	313.	259.
34.	5216.	883.	567.	418.	332.	275.
36.	5522.	932.	599.	442.	349.	289.
38.	5829.	982.	631.	465.	368.	305.
40.	6136.	1030.	663.	488.	387.	320.

NOTE: THE TABLE ABOVE SPECIFIES THE PIER LOAD AND MINIMUM FOOTING AREA REQUIRED FOR PIERS SUPPORTING 'END STUD' COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMN ONLY). THE PIER LOAD AND MINIMUM FOOTING AREA FOR PIERS SUPPORTING 'CENTER STUD' COLUMNS (CLEAR SPAN ON BOTH SIDES OF THE COLUMN) CAN BE DETERMINED BY ADDING THE VALUES SPECIFIED ABOVE WHICH CORRESPOND TO THE CLEAR SPANS ON EACH SIDE OF THE COLUMN. SIMILARLY, COLUMN LOADS FROM AN ADJACENT UNIT/ROOF WHICH ARE NOT CONSIDERED IN THE INPUT DATA ABOVE CAN BE SUPPORTED BY THE SAME PIER AND/OR FOOTING WHICH SUPPORTS THE ROOF LOADS DEFINED ABOVE BY ADDING THE PIER LOADS AND MINIMUM FOOTING AREAS REQUIRED BY THE ADJACENT UNIT/ROOF LOADS TO THE VALUES SPECIFIED IN THIS TABLE.

C:\PE>a



APPROVED **HWG** **APPROVED**
JULY 2 2010
Federal Manufactured Home Construction And Safety Standards

SU-III-3009

HORTON HOMES, INC.

HORTON

W.J. KALKER, PE

C:\PE>pierb

PIER LOAD ANALYSIS

MAR 12 2010

THIS ANALYSIS COMPUTES THE PIER LOADS AND MINIMUM FOOTING SIZES REQUIRED FOR THE PIERS SUPPORTING THE CHASSIS STEEL BEAMS.

CALC# 1 *PG- 1/10

REV 7/2/10

REP LOADS

&

FOOTING AREAS

- 7.87
- 40
- 8.7
- 50
- 12
- 8
- 6
- 300
- 100

Ⓢ 160" FLOOR
W/12" CURING

TYPE THE ROOF TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

TYPE THE TOTAL ROOF LOAD IN PSF:

TYPE THE FLOOR TRIBUTARY DISTANCE SUPPORTED BY THE PIER IN FEET:

TYPE THE TOTAL FLOOR LOAD IN PSF:

TYPE THE WEIGHT OF THE STEEL BEAM IN PLF:

TYPE THE HEIGHT OF THE EXTERIOR WALL IN FEET:

TYPE THE WEIGHT OF THE EXTERIOR WALL IN PSF:

TYPE THE WEIGHT OF THE PIER IN POUNDS:

TYPE THE WEIGHT OF THE FOOTING IN PSF:

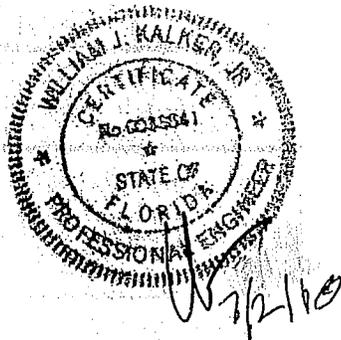
CHASSIS PIERS

30 PSF ROOF LOAD

10 PSF ROOF DL

40 PSF FLOOR LL

PIER SPACE (FT)	PIER LOAD (LBS)	MIN. FOOTING AREA (SQ. IN.) FOR SOIL PRESSURE SPECIFIED			
		1000 PSF	1500 PSF	2000 PSF	2500 PSF
4.	2807.	497.	320.	236.	187.
5.	3509.	609.	393.	289.	229.
6.	4211.	723.	464.	343.	271.
7.	4913.	835.	536.	396.	313.
8.	5614.	947.	609.	449.	358.
9.	6316.	1059.	681.	502.	397.
10.	7018.	1172.	754.	555.	440.



APPROVED **HWC** APPROVED
 JULY 2 2010
 Federal Manufactured Home Construction And Safety Standards

FOUNDATION SYSTEM GENERAL

Most manufactured homes constructed by Horton Homes, Inc.\ Dynasty Homes, Inc. are designed to be supported by a "pier" foundation. A home constructed in this manner utilizes the steel undercarriage as an integral part of the foundation system. The weight of the home is supported by the undercarriage that is placed on a series of "columns" or "piers."

The pier and beam foundation system on which this home is to be placed must be capable of sustaining the total weight of the home. At times, additional temporary loads caused by the elements will vary throughout the country. The department of Housing and Urban Development has established design requirements to resist these additional loads. The load zone map reflecting these requirements are shown on a Certificate of Compliance sheet which is usually posted inside a kitchen cabinet, inside the furnace compartment, or in some other convenient location. Other specific design data to which this home was constructed will also be shown on the compliance certificate. This home must not be placed in an area of the country where the construction is not adequately based on the design requirements.

In various parts of the country, local, or state governing agencies occasionally impose additional loading requirements which may differ from the design condition of your home. It is the responsibility of the homeowner, dealer, and/or the setup personnel to assure that the actual construction and setup meets all requirements for local and state codes.

This manual describes and depicts engineered approved methods for the installation of a manufactured home. There are also other methods that can be used in installing a manufactured home. **However, if any method is used other than described in this section, the design and approval must be performed by a registered licensed engineer or architect. Additionally, the system or product must be acceptable to the local authority and or state authority having jurisdiction.**

Any additional parts required for local, state or independent installation/setup requirements will not be provided by the manufacturer.

SITES PRONE TO FLOODING

Special elevations and anchoring techniques are required when locating a home in an area prone to flooding. Consult a registered licensed engineer or architect and local building official to make sure that the design and construction of the foundation system conform to applicable federal, state, and local codes and regulations.

VEGETATION CONTROL

Cut back low hanging tree branches, bushes, other vegetation and debris which could scrape walls and roof when the home is installed. Consider future growth and possible swaying movement of branches in projected wind, snow or ice conditions. Remove all vegetation from under the home site. This will make it easier to place footings and piers. Any debris that could become termite infested should be removed completely from the home site and surrounding area.

APPROVED
HWC
APPROVED
JAN 11 2005
Federal Manufactured
Home Construction
And Safety Standards

SU-F-100

HORTON HOMES, INC.

ALTERNATE FOUNDATION SYSTEM AND/OR ANCHORING SYSTEMS

ALTERNATE SYSTEMS

A registered licensed engineer or architect must prepare and certify that the installation instructions meet or exceed the Model Installation Standards for foundation support and anchoring whenever:

- (1) An alternative foundation system or anchoring system is employed, including designs for basements and perimeter support foundations systems, whether or not it is included in the installation instructions; or
- (2) Materials such as metal piers or alternatives to concrete footing materials are required by the installation instructions; or
- (3) Foundation support and anchoring systems are designed for use in areas subject to freezing or for use in areas subject to flood damage or high seismic risk; or
- (4) Foundations support and anchoring systems are designed to be used in special snow load conditions or in severe wind design areas; or
- (5) Site conditions do not allow the use of the manufacturer's installation instructions; or
- (6) There are any other circumstances in which the manufacturer's installation instructions would not permit the home to be installed in conformance with the Installation Standards or the MHCSS.

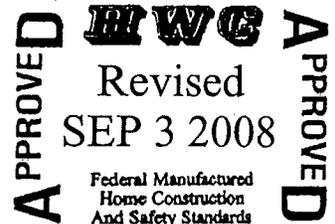
VARIATIONS TO INSTALLATION INSTRUCTIONS

Before an installer provides support or anchorage that are different than those methods specified in the manufacturer's installation instructions, or when the installer encounters site or other conditions (such as areas that are subject to flood damage or high seismic risk) that prevent the use of the instructions, the installer must:

- (1) First attempt to obtain DAPIA approved designs and instructions prepared by the manufacturer; or
- (2) If designs and instructions are not available from the manufacturer, obtain an alternate design prepared and certified by a registered licensed engineer or architect for the support and anchorage of the manufactured home that is consistent with the manufactured home design, conforms to the requirements of the MHCSS, and has been approved by the manufacturer and the DAPIA.
- (3) **Horton Homes, Inc. /Dynasty Homes, Inc. is NOT responsible for approval cost or additional set-up cost or inspections that maybe incurred.**

ANCHORING FOR FLOOD SEISMIC ZONES LOAD

The anchor systems in this manual does not consider flood or seismic loads and is not intended for use in flood or seismic hazard areas. In those areas, the anchorage system is to be designed by a professional engineer or architect.



EFFECTIVE DATE: OCTOBER 20, 2008

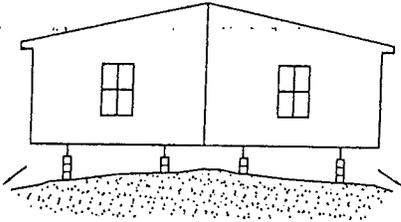
SU-F-100A.1

UTILITY LOCATIONS

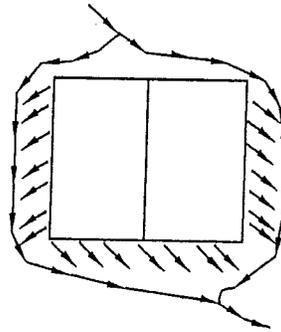
Review the location of utility inlets for water, gas and electricity and the outlet for the sewer connection. Evaluate the site location for any provided utility connections and determine there are no obstructions to making these connections to the home.

MOISTURE CONTROL AND PROPER DRAINAGE (Ground Water)

The area beneath and around the home must be graded and sloped to avoid surface water accumulation. Rain and irrigation water must not be allowed to flow under the home. Should water be allowed to stand under the home for long periods of time, could result in condensation problems, or the unavoidable result will be deterioration of the home and adverse affect to the comfort level of the home. Proper drainage prevents water build-up under the home, which can cause shifting, or settling of the footings, damage to siding, buckling of walls, floors and roofs, and operation of doors and windows. Warranty could be voided.



Crown and grade site to slope away from the home.



Natural drainage should be diverted around the home.

VENTILATION IN CRAWL SPACE

If you decide to underpin your home, proper ventilation must be maintained. Do not completely enclose the underside of your home without proper ventilation as this may damage your home.

If the underside of the manufactured home is to be closed-in, ventilation must be provided for by installing openings with a net area of at least one square foot for each 150 square feet of under home area. The openings should be approximately equally distributed along the length of the home on the opposite sides with some of the openings to be located within 3 feet to the corners to provide cross ventilation. A layer of 6 mil polyethylene plastic or equal material must be used to fully cover the ground under the home for a vapor retardant. Ground cover material shall have at least 12 inches of material over lapping at all joints. Check with local jurisdiction. Some local jurisdictions will allow ventilation requirements to be reduced with above ground cover up to one square foot for each 1500 square foot. Ground must be fully covered with vapor barrier, except under pier locations. Failure to install a vapor barrier will void your warranty.

APPROVED

HWG

APPROVED

JAN 11 2005

Federal Manufactured
Home Construction
And Safety Standards

SU-F-101

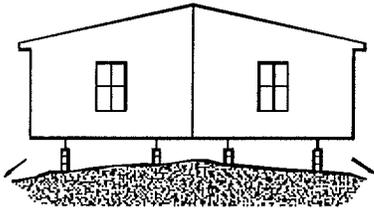
HORTON HOMES, INC.

UTILITY LOCATIONS

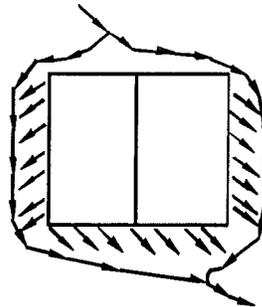
Review the location of utility inlets for water, gas and electricity and the outlet for the sewer connection. Evaluate the site location for any provided utility connections and determine there are no obstructions to making these connections to the home.

MOISTURE CONTROL AND PROPER DRAINAGE (Ground Water)

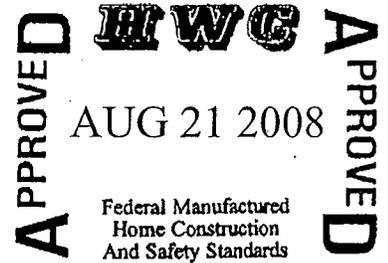
The area beneath and around the home must be graded and sloped to avoid surface water accumulation. Rain and irrigation water must not be allowed to flow under the home. Should water be allowed to stand under the home for long periods of time, could result in condensation problems, or the unavoidable result will be deterioration of the home and adverse affect to the comfort level of the home. Proper drainage prevents water build-up under the home, which can cause shifting, or settling of the footings, damage to siding, buckling of walls, floors and roofs, and operation of doors and windows. Crown the site away from the foundation for the first ten feet with a minimum slope of ½ inch per foot. Warranty could be voided.



Crown and grade site to slope away from the home.



Natural drainage should be diverted around the home.



VENTILATION IN CRAWL SPACE

If you decide to underpin your home, proper ventilation must be maintained. **Do not completely enclose the underside of your home without proper ventilation as this may damage your home.**

If the underside of the manufactured home is to be closed-in, ventilation must be provided for by installing openings with a net area of at least one square foot for each 150 square feet of under home area. The openings should be approximately equally distributed along the length of the home on the opposite sides with some of the openings to be located within 3 feet to the corners to provide cross ventilation. A layer of 6 mil polyethylene plastic or equal material must be used to fully cover the ground under the home for a vapor retardant. Ground cover material shall have at least 12 inches of material over lapping at all joints. Check with local jurisdiction. Some local jurisdictions will allow ventilation requirements to be reduced with above ground cover up to one square foot for each 1500 square foot. Ground must be fully covered with vapor barrier, except under pier locations. **Failure to install a vapor barrier will void your warranty.**

Ventilation opening must be placed as high as practicable above the ground. Ventilation opening must be located on at least two opposite sides to provide cross-ventilation.

Ventilation openings must be covered for their full height and width with a perforated corrosion and weather-resistant covering that is designed to prevent the entry of rodents. In areas subject to freezing, the covering for ventilation openings must also be of the adjustable type, permitting them to be in the open or closed position depending on the climate conditions.

Access opening(s) in crawl space not less than 18 inches in width and 24 inches in height and not less than 3 square feet in area must be provided and must be located so that any utility connections located under the home are accessible.

EFFECTIVE OCTOBER 20,2008

SU-F-101A

DRAINAGE FOR PORCHES

CAUTION: Area under porches should not be graded or enclosed by a foundation that prevents water from draining away from the home. Foundation or underpinning shall follow the exterior wall of the main sections.

PIERS, FOOTINGS, AND SOIL REQUIREMENTS

Typically, concrete blocks are used for piers. The piers selected must be capable of withstanding the loads imposed (including the weight of home, its furnishings, and temporary roof loading) to foundation below. The maximum pier capacity must not be exceeded. Single stacked pier maximum height may not exceed 40 inches. When site conditions require the home to be supported at heights greater than 40 inches up to 80 inches, the pier system must be doubled tiered with blocks interlocked. Pier heights greater than 80 inches, where permitted by local authority, shall be designed by a registered professional or structural engineer. The bottom of the home's floor joist from the grade must not be less than 18 inches. Maximum pier spacing is 8'-0" o.c. and within 2'-0" of each end of home. Pier spacing other than those shown in this manual may also be used as long as spacing does not exceed the maximum pier spacing shown in manual. Reference charts and drawings for other details.

EXTERIOR SIDEWALL/MARRIAGE WALL BLOCKING - In addition to providing piers for supporting the frame, piers also are required to support the special roof loads. These support piers are required at all marriage wall and sidewall openings greater than 4ft. in width. These piers should be placed at each side of such openings. Typical sidewall openings - sliding glass door/full bay windows. Typical marriage wall openings - cathedral openings, passageway openings greater than 4'-0". In addition to these supports, it is optional that support piers may be installed around the perimeter of the house.

Note: In some situations forces and materials may interact in such a way as to result in some areas in a slight crowning of floor joists from the I-beam of the frame to the exterior wall. When this situation does occur, it is required that the dealer exercises the option with respect to exterior sidewall blocking and installs support piers around the perimeter of the house 8ft. O.C. Max.

Footings and foundation, unless specifically designed otherwise, shall be constructed of precast, or un-reinforced concrete. ABS plastic pads or equivalent bearing area are acceptable substitutions when used according to the pad manufacturers instructions and acceptable to the local authority and or state authority having jurisdiction. In geographical areas subject to severe freezes the bottom of the foundation must extend below the frost line established by local jurisdiction. Footings are required under each pier to distribute the load of the home to the ground. The size of the footing is determined by the allowable soil bearing, pressure and load at each pier. Footings shall be so designed that the allowable bearing capacity of the soil is not exceeded. To prevent settling of the home, locate it on firm, undisturbed soil or fill compacted to at least 90% of its maximum relative density free of organic material. Fill material is subject approval of local building officials. Installation on loose, uncompacted fill could cause the home to shift and settle. Shifting and settling may damage the home, which may void the warranty.

APPROVED
JAN 11 2005
Federal Manufactured
Home Construction
And Safety Standards
APPROVED

SU-F-102

HORTON / DYNASTY

EFFECTIVE DATE 5-30-06

DRAINAGE FOR PORCHES

CAUTION: Area under porches should not be graded or enclosed by a foundation that prevents water from draining away from the home. Foundation or underpinning shall follow the exterior wall of the main sections.

PIERS, FOOTINGS, AND SOIL REQUIREMENTS

Typically, concrete blocks are used for piers. The piers selected must be capable of withstanding the loads imposed (including the weight of home, its furnishings, and temporary roof loading) to foundation below. The maximum pier capacity must not be exceeded. Single stacked pier maximum height may not exceed 40 inches. When site conditions require the home to be supported at heights greater than 40 inches up to 80 inches, the pier system must be doubled tiered with blocks interlocked. Pier heights greater than 80 inches, where permitted by local authority, shall be designed by a registered professional or structural engineer. The bottom of the home's floor joist from the grade must not be less than 18 inches. Maximum pier spacing is 8'-0" o.c. and within 2'-0" of each end of home. Pier spacing other than those shown in this manual may also be used as long as spacing does not exceed the maximum pier spacing shown in manual. Reference charts and drawings for other details.

EXTERIOR SIDEWALL/MARRIAGE WALL/SHEARWALLS BLOCKING

- In addition to providing piers for supporting the frame, piers also are required to support the special roof loads. These support piers are required at all marriage wall and sidewall openings greater than 4ft. in width. These piers should be placed at each side of such openings. **Typical sidewall openings** – all exterior doors/full bay windows. Piers for doors less than 4'-0" are for adjustment of levelness. **Typical marriage wall openings** – cathedral openings, passageway openings greater than 4'-0". **Typical shearwall locations.** The pier locations are marked by white paint. Shearwalls marked with green brackets. In addition to these supports, it is optional that support piers may be installed around the perimeter of the house. See blocking details in manual.

Note: In some situations forces and materials may interact in such a way as to result in some areas in a slight crowning of floor joists from the I-beam of the frame to the exterior wall. When this situation does occur, it is required that the dealer exercises the option with respect to exterior sidewall blocking and installs support piers around the perimeter of the house 8ft. O.C. Max.

Footings and foundation, unless specifically designed otherwise, shall be constructed of precast, or un-reinforced concrete. ABS plastic pads or equivalent bearing area are acceptable substitutions when used according to the pad manufacturer's instructions and acceptable to the local authority and or state authority having jurisdiction. In geographical areas subject to severe freezes the bottom of the foundation must extend below the frost line established by local jurisdiction. Footings are required under each pier to distribute the load of the home to the ground. The size of the footing is determined by the allowable soil bearing, pressure and load at each pier. Footings shall be so designed that the allowable bearing capacity of the soil is not exceeded. To prevent settling of the home, locate it on firm, undisturbed soil or fill compacted to at least 90% of its maximum relative density free of organic material. Fill material is subject approval of local building officials. Installation on loose, uncompacted fill could cause the home to shift and settle. Shifting and settling of the home may damage the home, which may void the warranty.

APPROVED
H W G
APPROVED
JAN 25 2006
Federal Manufactured
Home Construction
And Safety Standards

SU-F-102A

SU-F-102A

Where the bearing capacity of soil is not definitely known or is in question, local building officials may require load test or other adequate proof as to the permissible safe bearing capacity at that particular location. **If soil bearing capacity is not determined, use 1000 psf as a minimum.**

The following resources may be consulted to determine the soil type/bearing.

1. Soil bearing test devices (Example: pocket penetrometer)
2. Compliance with the local code
3. Competent opinion by local registered professional engineer or building official

SOIL BEARING TEST

PROCEDURE TO DETERMINE THE SOIL BEARING CAPACITY

The following is one method for determining the allowable soil bearing capacity to be used in sizing of footings. Such a method is only an approximation, and the results should be properly interpreted. A pocket penetrometer may be obtained from engineering or a manufactured housing supply house.

1. Obtain a pocket penetrometer.
2. Test an area adjacent to, or within 10 feet of, the perimeter of the home. Additional test area maybe required.
3. Dig down to undisturbed soil a minimum of 4 inches. (Below frost-line in test location) Uncover an area of at least one square foot.
4. Using the pocket penetrometer, take at least seven readings
5. Take an average of the middle five readings, disregarding the highest and the lowest readings. Round this average down to the nearest soil bearing value. Use this value for determining minimum footing sizes.
6. Drive a wooden stake beside the test area in the event an inspector desires to verify the results.

CAUTION:

MOST SOIL PENETROMETERS READ IN TSF (TONS PER FOOT) NOT PSF (POUNDS PER FOOT). 1 TSF = 2000 PSF

EXAMPLE: 1.5 PENETROMETER READING TIMES 2000 PSF= 3000 PSF. USE 3000 PSF PIER LOAD CHARTS.

CAUTION:

IF THERE IS ANY EVIDENCE THAT THE SOILS UNDER THE HOME ARE OF THE EXPANSIVE TYPE (SUCH AS A DRY CLAY THAT SWELLS WHEN WATER IS APPLIED), SPECIAL ANALYSIS WILL BE REQUIRED. CONTACT A LOCAL ENGINEER FOR ADDITIONAL GUIDANCE.

Foundations should be built upon natural solid ground. Where solid ground does not occur at the foundation depth, such foundation shall be extended down to natural solid ground or piles should be used. Foundations built upon mechanically compacted

APPROVED
HWG
APPROVED
JAN 11 2005
Federal Manufactured
Home Construction
And Safety Standards

SU-F-103

HORTON HOMES, INC.

Where the bearing capacity of soil is not definitely known or is in question, local building officials may require load test or other adequate proof as to the permissible safe bearing capacity at that particular location. **If soil bearing capacity is not determined, use 1000 psf as a minimum.**

The following resources may be consulted to determine the soil type/bearing.

1. Soil bearing test devices (Example: pocket penetrometer)
2. Compliance with the local code
3. Competent opinion by local registered professional engineer or building official

SOIL BEARING TEST

PROCEDURE TO DETERMINE THE SOIL BEARING CAPACITY

The following is one method for determining the allowable soil bearing capacity to be used in sizing of footings. Such a method is only an approximation, and the results should be properly interpreted. A pocket penetrometer may be obtained from engineering or a manufactured housing supply house.

1. Obtain a pocket penetrometer.
2. Test an area adjacent to, or within 10 feet of, the perimeter of the home. Additional test area maybe required.
3. Dig down to undisturbed soil a minimum of 4 inches. (Below frost-line in test location) Uncover an area of at least one square foot.
4. Using the pocket penetrometer, take at least seven readings
5. Take an average of the middle five readings, disregarding the highest and the lowest readings. Round this average down to the nearest soil bearing value. Use this value for determining minimum footing sizes.
6. Drive a wooden stake beside the test area in the event an inspector desires to verify the results.

CAUTION:

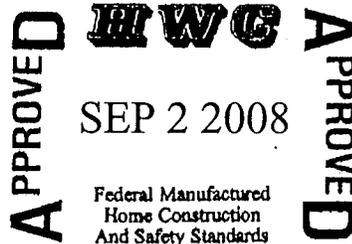
MOST SOIL PENETROMETERS READ IN TSF (TONS PER FOOT) NOT PSF (POUNDS PER FOOT). 1 TSF = 2000 PSF

EXAMPLE: 1.5 PENETROMETER READING TIMES 2000 PSF= 3000 PSF. USE 3000 PSF PIER LOAD CHARTS.

CAUTION:

IF THERE IS ANY EVIDENCE THAT THE SOILS APPEARS TO BE COMPOSED OF PEAT, ORGANIC CLAYS, OR UNCOMPACTED FILL, OR APPEARS TO HAVE UNUSUAL CONDITIONS, A REGISTERED PROFESSIONAL GEOLOGIST, REGISTERED PROFESSIONAL ENGINEER, OR REGISTERED ARCHITECT MUST DETERMINE THE SOIL CLASSIFICATION AND MAXIMUM ALLOWABLE SOIL BEARING CAPACITY.

EFFECTIVE DATE: OCT 20, 2008



SU-F-103A

HORTON HOMES, INC.

TABLE TO § 3285.202

SOIL CLASSIFICATION		SOIL DESCRIPTION	ALLOWABLE SOIL BEARING PRESSURE (PSF) ¹	BLOW COUNT ASTM D 1586-99	TORQUE PROBE ³ VALUE ⁴ (INCH-POUNDS)-
CLASSIFICATION NUMBER	ASTM D 2487-00 OR D 2488-00 (INCORPORATED BY REFERENCE, SEE § 3285.4)				
1.....	ROCK OR HARD PAN.....	4000+.....		
2.....	GW, GP, SW, SP GM, SM.	SANDY GRAVEL AND GRAVEL; VERY THAN DENSE AND/OR CEMENTED SANDS; COURSE GRAVEL/ COBBLES; PRELOADED SILTS, CLAYS AND CORAL.	2000.....	40+	MORE THAN 550.
3.....	GC, SC, ML, CL	SAND; SILTY SAND; CLAYEY AND; SILTY GRAVEL; MEDIUM DENSE COURSE SANDS; SANDY GRAVEL; AND VERY STIFF SILT, SAND CLAYS.	1500.....	24-39	351-550
4A.....	CG, MH ²	LOOSE TO MEDIUM DENSE SANDS; FIRM TO STIFF CLAYS AND SILTS; ALLUVIAL FILLS.	1000.....	18-23	276-350
4B.....	CH, MH ²	LOOSE SANDS; FIRM CLAYS; ALLUVIAL FILLS.....	1000.....	12-17	175-275
5.....	OL, OH, PT.....	UNCOMPACTED FILL; ORGANIC CLAYS.....	REFER TO 3285.202(e)	0-11	LESS THAN 175

NOTES:

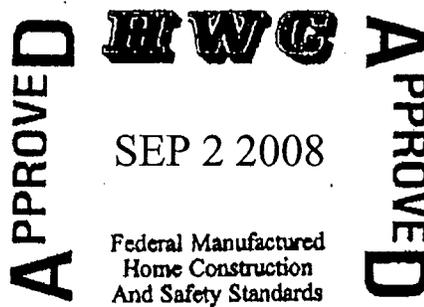
¹THE VALUES PROVIDED IN THIS TABLE HAVE NOT BEEN ADJUSTED FOR OVERBURDEN PRESSURE, EMBEDMENT DEPTH, WATER TABLE HEIGHT, OR PROBLEMS.

²FOR SOILS CLASSIFIED AS CH OR MH, WITHOUT EITHER TORQUE PROBE VALUES OR BLOW COUNT TEST RESULTS, SELECTED ANCHORS MUST BE RATED FOR A 4B SOIL.

³THE TORQUE TEST PROBE IS A DEVICE FOR MEASURING THE TORQUE VALUE OF SOILS TO ASSIST IN EVALUATING THE HOLDING CAPACITY OF SOIL IN WHICH THE GROUND ANCHOR IS PLACED. THE SHAFT MUST BE OF SUITABLE LENGTH FOR THE FULL DEPTH OF THE GROUND ANCHOR.

⁴THE TORQUE VALUE IS A MEASURE OF THE LOAD RESISTANCE PROVIDED BY THE SOIL WHEN SUBJECT TO THE TURNING OR TWISTING FORCE OF THE PROBE.

Foundations should be built upon natural solid ground. Where solid ground does not occur at the foundation depth, such foundation shall be extended down to natural solid ground or piles should be used. Foundations built upon mechanically compacted



EFFECTIVE DATE: OCT 20, 2008

SU-F-103B

earth or fill material are subject to the approval of local building officials to show evidence that the proposed loads will be adequately supported.

TYPICAL FOOTER SIZES

- 16"X16" = 256 SQ. INCHES MINIMUM SIZE
- 16"X24" = 384 SQ. INCHES
- 20"X20" = 400 SQ. INCHES ---OR 24" ROUND PAD
- 24"X24" = 576 SQ. INCHES ---OR 28" ROUND PAD
- 24"X30" = 720 SQ. INCHES
- 28"X28" = 784 SQ. INCHES ---OR 32" ROUND PAD
- 32"X32" = 1024 SQ. INCHES ---OR 36" ROUND PAD

ALTERNATE FOUNDATIONS

Alternate foundation designs, other than shown in this manual, may be used if prepared by a registered professional engineer or architect. Plans, details and or test data must be submitted to the local enforcement agency for approval.

**IMPORTANT NOTE: SETTING UP OF A MANUFACTURED HOME
MUST BE PERFORMED BY QUALIFIED PERSONNEL.**

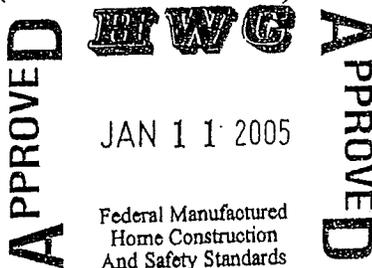
Before placing home, make sure the following items have been completed.

1. The site is properly prepared.
2. Obtain soil bearing capacity.
3. Concrete work necessary to setting the home is completed.
4. Position of utilities
5. Any trenching required
6. Items that could be difficult to install after home are sited (such as anchors).

Warning: The homes structure weighs several tons. Adequate support blocking must be used to safe guard personnel and structure during all installation procedures. Personnel should not be permitted to work under home where they might be injured if the home should accidentally slip during the jacking process.

SETTING UP A SINGLE WIDE

1. Site is properly prepared.
2. Obtain a soil bearing capacity for type and size piers to be used.
3. Place unit into position
4. Remove all shipping materials; roof wind strips, siding strips, poly, etc.
5. Using a water level, level unit lengthwise first, then widthwise by means of hydraulic jack on low side.
6. Block as per blocking instructions.
7. Anchor per instructions to proper wind zone (See Anchoring Systems)
8. Check exterior and interior doors and windows for operation (Adjust as needed).
9. Connect utilities. (See details in manual)



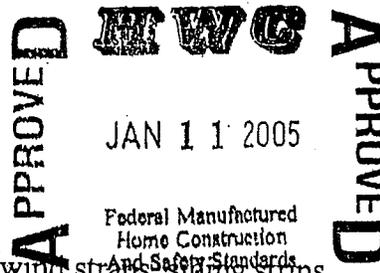
SU-F-104

Note: (Ventilation in crawl space) If you decide to underpin you manufactured home, proper ventilation must be maintained. (Reference manual)

SETTING UP A DOUBLE-WIDE
TO DEALER AND SET UP CREW ON DOUBLE WIDE UNITS: POLY MUST BE REMOVED IN THE RAFTER AREA IN ORDER FOR AIR MOVEMENT BETWEEN UNIT HALVES.

NOTE:

1. Place first section into position.
2. Remove all shipping straps and fasteners, roof wind strips, siding strips, fascia screws, etc.
3. Strip first section (removing **all** poly and fasteners) making sure poly in roof section is removed for passage of air.
4. Using a water level, level section first lengthwise then widthwise with hydraulic jacks.
5. Block as per blocking instructions.
6. On second section remove **all** shipping straps and fasteners, roof wind strips, siding strips, fascia screws, etc.
7. Strip second section (removing **all** poly and fasteners) making sure poly in roof section is removed for passage of air.
8. Seal **all** shipping strip fastening holes.
9. Check factory installed center gasket for damage and repair if required.
10. Connect furnace cross-over duct in roof area. (overhead duct models)
11. Align sections with a maximum of 6" between sections.
12. Jack up section and put a sheet of 4x8 plywood (greased) under wheels or rollers.
13. Lower jack to allow wheels to rest on plywood.
14. Attach each end of come-along to I-beam near an outrigger.
15. Using come-along (or equivalent), pull the second section as close as possible to the first section.
16. Block and level the second section in respect to the first section. Block and anchor all marriage wall openings greater than 48 inches in width. Block as per blocking instructions.
17. Butt end floor walls and ceiling up tight. (Note: a Gap of up to 1" is permissible between halves)
18. Fasten floor – Ref. 'Double-wide On Site Fastening' see Floor Fastening Drawing
19. Fasten roof – Ref. 'Double-wide On Site Fastening' see Floor Fastening Drawing
20. Anchor per instructions for proper wind zone (See Anchor Systems)
21. Shingle roof – Install shingles on ridge



22. Connect wire(s) in dry side marked smoke detector and/or GFI to wires in junction box marked the same.
23. Hanging wire(s) with numerical designations are to be attached to the same numbered circuit breaker in the main panel box. (Ensure frames are grounded)
24. Install front and rear metal or exterior materials
25. Adjust front and rear metal or exterior materials.
26. Hook-up fresh water, sewage plumbing and check for leaks.
27. Connect furnace cross-over ducts.

APPROVED
JAN 11 2005
Federal Manufactured
Home Construction
And Safety Standards

NOTE: A gap of 1" may be between both sections. When a gap from 1/4" to 1" exist, the gaps at all fastenings must be filled with either lumber (i.e., spruce or pine), plywood or oriented strand board and all fasteners specified in the Set-Up Manual drawings must be increased in length by a dimension equal to the gap width. Install expanding foam insulation in the gap in interior openings at walls, headers and at floor line.

Install expanding foam between gap at floor on underside of house. If no foam is used install insulation in the gap at the floor line on the underside of the house, then cover the gap between both halves and bottom board with polyethylene tape along the entire length of the house. If no gap is between the units on the underside of the house, cover the joining floor line with polyethylene tape along the entire length of the house.

NOTE: (1) Refer to pages regarding connections and hook-ups of electrical, fresh water and plumbing systems. IT IS THE RESPONSIBILITY OF THE PERSON(S) PERFORMING THE SET-UP OF THE HOME, (I.E. DEALER, SET-UP CONTRACTOR, UTILITY INSTALLATION REPRESENTATIVE OR CUSTOMER) TO INSPECT THE VARIOUS ASPECTS OF THE ELECTRICAL (INCLUDING SMOKE ALARMS) AND PLUMBING SYSTEMS TO DETERMINE PROPER FUNCTIONING. FOR EXAMPLE, THE WATER HEATER CAVITY PANEL SHOULD BE REMOVED TO MAKE CERTAIN THE HEATER IS OPERATING PROPERLY AND THERE ARE NO LEAKING LINES OR VALVES. HORTON HOMES, INC. CAN NOT BE RESPONSIBLE FOR DAMAGE TO THE HOME RESULTING FROM A FAILURE TO MAKE THE INSPECTIONS OUTLINES ABOVE.

NOTE: (2) Due to shipping and setup, I-Beam lag bolts must be retightened. Failure to retighten may cause floor squeaks.

SETTING UP DOUBLE WIDE WITH ADD ON SECTION

1. Pull first section into position
2. Strip first section (removing all poly and fasteners) making sure poly in roof section is removed for passage of air.
3. Level section lengthwise with hydraulic jacks.
4. Level section widthwise with hydraulic jacks.
5. Block as per blocking instructions and anchor as per instructions.
6. Strip second section (removing all poly and fasteners) making sure poly in roof section is removed or cut for passage of air.
7. Align sections with a maximum of 6" between sections.

HORTON/ DYNASTY

8. Jack up section and install sheets of 4x8 plywood (greased) under wheels or rollers.
9. Lower jacks and let wheels rest on plywood.
10. Attach each end of a come-along to I-Beam near an outrigger.
11. Using said device or equivalent, pull the second section as close as possible to the first section, block and level, block and anchor all marriage wall openings greater than 4'-0" in width. Block and anchor as per instructions.
12. Butt end floor wall and ceiling up tight. (Note: A gap of 1" between sections is permissible). Install insulation around gap in opening at walls, headers, and at floor line.
13. Floor fastening – See Drawing.
14. Fasten roof – See Drawing.
15. Pull add-on section into position, strip add-on section (removing all poly and fasteners) making sure poly in roof section is removed or cut for passage of air.
16. Align sections with cut-out in overhang at dormer area.
17. Jack up and add on section and put a sheet of plywood (greased) under wheels or rollers.
18. Lower jack and let wheels rest on plywood.
19. Using (2) come-alongs, attach each end to I-Beam near outriggers.
20. Using said device or equivalent, pull the add on section into position with respect to the second section.
21. Block and level the add on section with respect to second section. Block and anchor as per instructions.
22. Floor fastening – See Drawings.
23. Fasten roof – See Drawings.
24. Hanging wires with numeric designations must be attached to the same number on opposite side. (Ensure frame(s) are grounded.
25. Electrical at panel box refer to electrical in set up manual.
26. Install shingles on ridge and at add on section.
27. Install front, rear and add on unit overhang trim and siding.
28. Hook up fresh water and sewage plumbing and check for leaks.
29. Connect furnace cross-over duct.

Important

In certain areas the customer may experience difficulty with excessive condensation, and loss of conditioned air, if the following procedure is not followed.

NOTE: A gap of 1" may be between both sections. When a gap from ¼" to 1" exist, the gaps at all fastenings must be filled with either lumber (i.e., spruce or pine), plywood or oriented strand board and all fasteners specified in the Set-Up Manual drawings must be increased in length by a dimension equal to the gap width. Install expanding foam insulation in the gap in interior openings at walls, headers and at floor line.

Install expanding foam between gap at floor on underside of house. If no foam is used install insulation in the gap at the floor line on the underside of the house, then cover

APPROVED

HWC

JAN 11 2005

Federal Manufactured
Home Construction
And Safety Standards

APPROVED

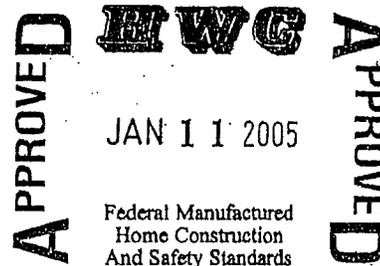
SU-F-107

HORTON/ DYNASTY

the gap between both halves and bottom board with polyethylene tape along the entire length of the house. If no gap is between the units on the underside of the house, cover the joining floor line with polyethylene tape along the entire length of the house.

NOTE: (1) Refer to pages regarding connections and hook-ups of electrical, fresh water and plumbing systems. **IT IS THE RESPONSIBILITY OF THE PERSON(S) PERFORMING THE SET-UP OF THE HOME, (I.E. DEALER, SET-UP CONTRACTOR, UTILITY INSTALLATION REPRESENTATIVE OR CUSTOMER) TO INSPECT THE VARIOUS ASPECTS OF THE ELECTRICAL (INCLUDING SMOKE ALARMS) AND PLUMBING SYSTEMS TO DETERMINE PROPER FUNCTIONING. FOR EXAMPLE, THE WATER HEATER CAVITY PANEL SHOULD BE REMOVED TO MAKE CERTAIN THE WATER HEATER IS OPERATING PROPERLY AND THERE ARE NO LEAKING LINES OR VALVES. HORTON HOMES, INC. CAN NOT BE RESPONSIBLE FOR DAMAGE TO THE HOME RESULTING FROM A FAILURE TO MAKE THE INSPECTIONS OUTLINES ABOVE.**

NOTE: (2) Due to shipping and set-up, I-Beam lag bolts must be retightened. Failure to retighten may cause floor squeaks.



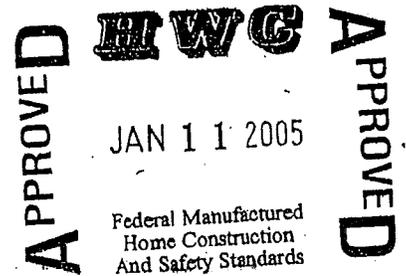
SU-F-108

HORTON / DYNASTY

William J. Kalker, Jr., P.E.
Consulting Engineer
33 Rockwood Lane
Monte, Connecticut 06468
203/261-1167

Nov 10, 1999

Horton Homes
101 Industrial Blvd
Eatonton, GA 31024



SUB: Gaps Between The Modules During The
Set-Up Of Double Wide Homes

To Whom It May Concern:

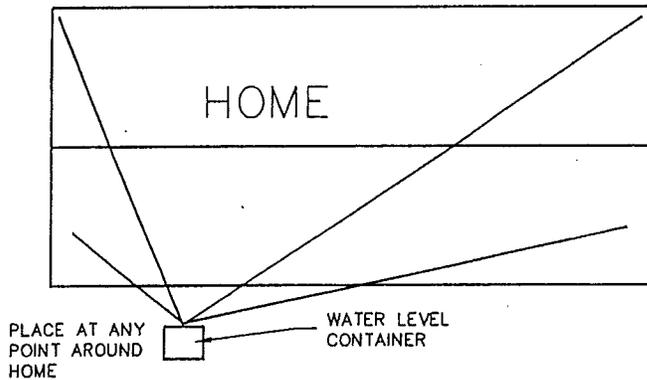
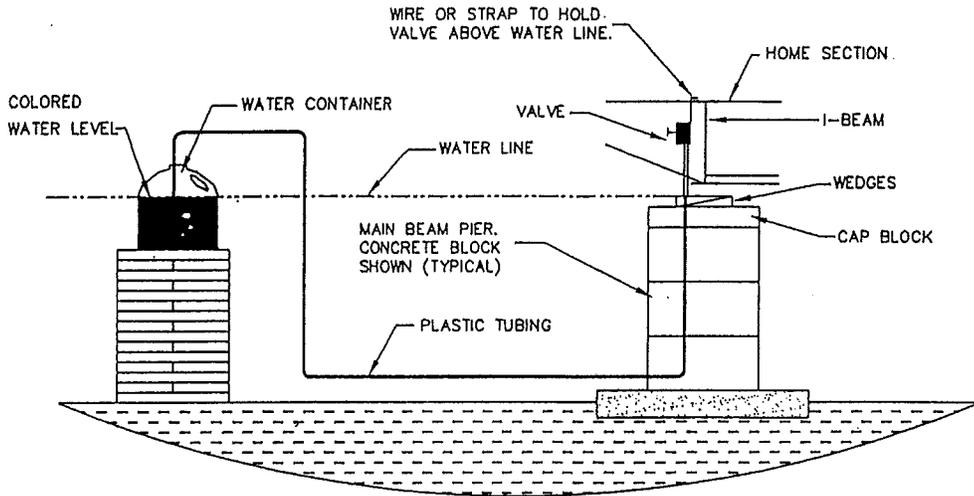
This letter certifies that gaps up to 1" may exist between the modules of double wide manufactured homes at either the floor, roof or endwall connections and still permit an acceptable installation.

When gaps exist, the gaps at all required fastenings must be filled with either lumber (i.e., spruce or pine), plywood or oriented strand board and all fasteners specified in the Set-Up Manual drawings must be increased in length by a dimension equal to the gap width. All installed fasteners must achieve the penetration which would have been obtained if the fasteners shown in the Set-Up Manual were installed without any gap present.

In addition, all gaps not filled with lumber, plywood or oriented strand board must be filled with insulation and/or sealant as required to maintain the integrity of the thermal envelope surrounding the living space of the home.

SU-F-109

TYPICAL WATER LEVEL APPLICATION

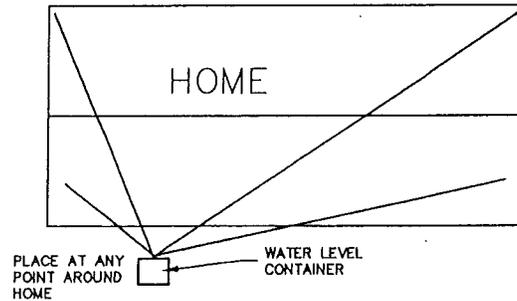
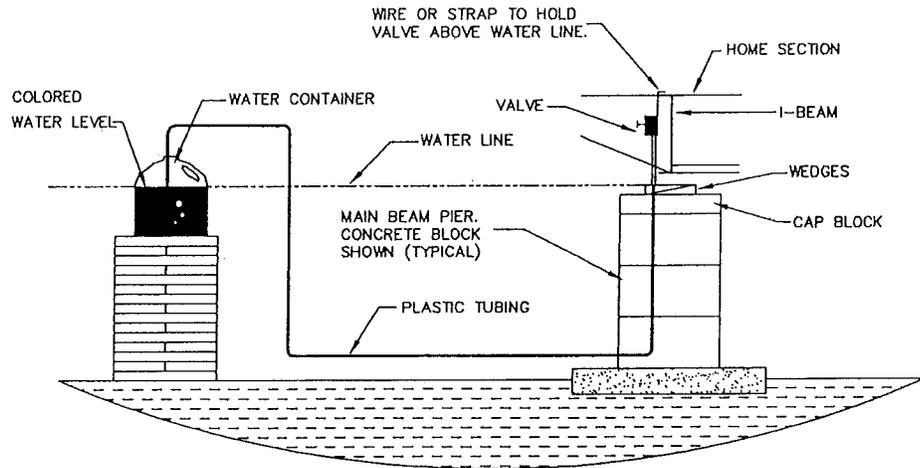


APPROVED **HWG** **APPROVED**
 JAN 11 2005
 Federal Manufactured Home Construction And Safety Standards

PROCEDURE ON USING A WATER LEVEL

1. POSITION WATER LEVEL CONTAINER AT ANY POINT AROUND THE HOME THAT PERMITS LENGTH OF PLASTIC TUBING AND VALVE TO REACH ALL SUPPORT PIER LOCATIONS.
2. DO NOT LET PLASTIC TUBING BE COMPRESSED OR KINKED.
3. FILL WATER CONTAINER WITH WATER.
4. BLEED AIR FROM PLASTIC TUBING BY HOLDING PLASTIC LINE BELOW LEVEL OF WATER CONTAINER AND OPENING VALVE.
5. CONTAINER IS LOCATED SO THAT ALL AREAS OF THE HOME CAN BE REACHED. BUILD UP WATER CONTAINER SO THAT VALVE END OF TUBING IS AT PREDETERMINED HEIGHT OF SUPPORT PIERS WILL BE SET.
6. TO LEVEL SECURE VALVE ABOVE DETERMINED HEIGHT AND OPEN VALVE. SET THE PIER HEIGHT TO THE LEVEL OF THE COLORED WATER IN THE PLASTIC TUBING CLOSE VALVE AND REPEAT FOR OTHER PIERS.
7. LOWER HOME SECTION ONTO PIERS.

SU-F-110



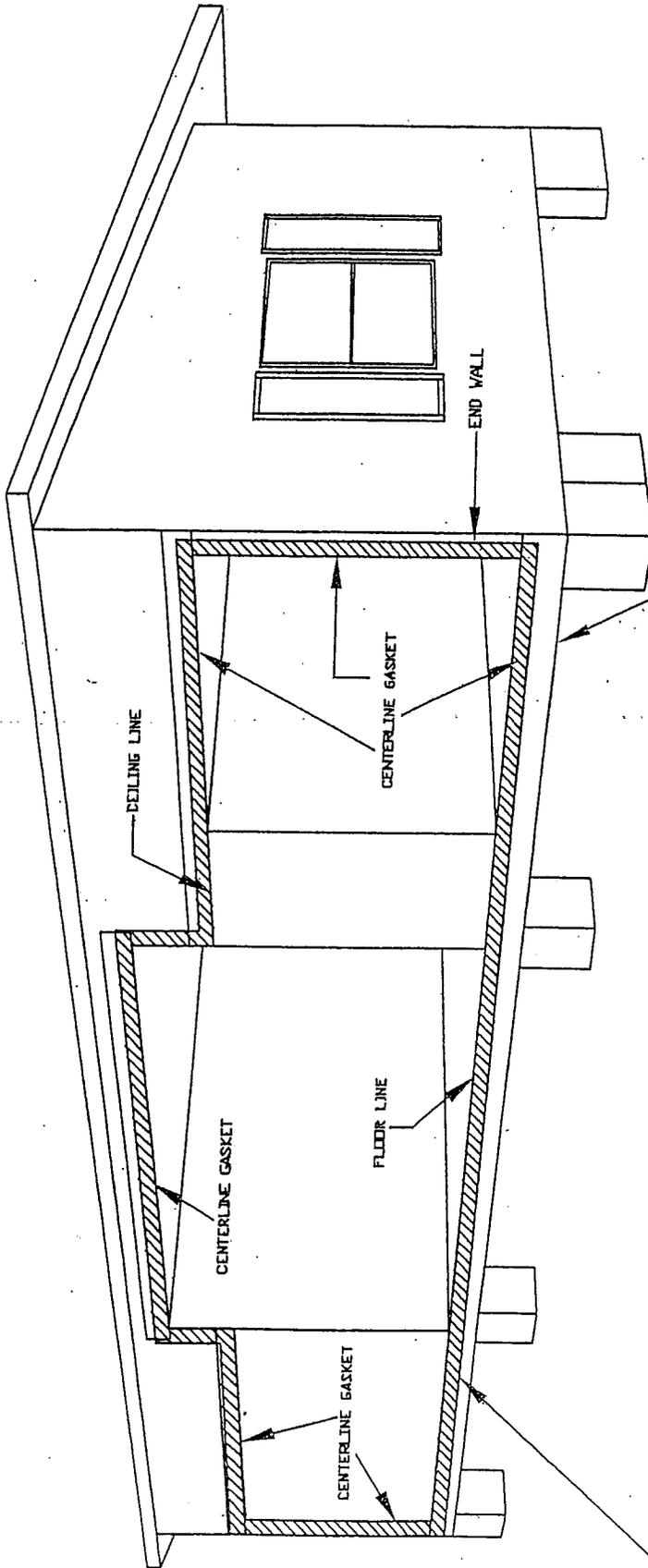
APPROVED **HWC** **APPROVED**
AUG 20 2008
 Federal Manufactured
 Home Construction
 And Safety Standards

PROCEDURE ON USING A WATER LEVEL

1. POSITION WATER LEVEL CONTAINER AT ANY POINT AROUND THE HOME THAT PERMITS LENGTH OF PLASTIC TUBING AND VALVE TO REACH ALL SUPPORT PIER LOCATIONS.
2. DO NOT LET PLASTIC TUBING BE COMPRESSED OR KINKED.
3. FILL WATER CONTAINER WITH WATER.
4. BLEED AIR FROM PLASTIC TUBING BY HOLDING PLASTIC LINE BELOW LEVEL OF WATER CONTAINER AND OPENING VALVE.
5. CONTAINER IS LOCATED SO THAT ALL AREAS OF THE HOME CAN BE REACHED. BUILD UP WATER CONTAINER SO THAT VALVE END OF TUBING IS AT PREDETERMINED HEIGHT OF SUPPORT PIERS WILL BE SET.
6. TO LEVEL SECURE VALVE ABOVE DETERMINED HEIGHT AND OPEN VALVE. SET THE PIER HEIGHT TO THE LEVEL OF THE COLORED WATER IN THE PLASTIC TUBING CLOSE VALVE AND REPEAT FOR OTHER PIERS.
7. LOWER HOME SECTION ONTO PIERS.

FINAL LEVELING OF MANUFACTURED HOME

THE MANUFACTURED HOME MUST BE ADEQUATELY LEVELED PRIOR TO COMPLETION OF THE INSTALLATION SO THAT THE HOME'S PERFORMANCE WILL NOT BE ADVERSELY AFFECTED. THE HOME WILL BE CONSIDERED ADEQUATELY LEVELED IF THERE IS NO MORE THAN 1/4 INCH DIFFERENCE BETWEEN ADJACENT PIER SUPPORTS (FRAME OR PERIMETER) AND THE EXTERIOR DOORS AND WINDOWS OF THE HOME DO NOT BIND AND CAN BE PROPERLY OPERATED.



APPROVED



JAN 11 2005

Federal Manufactured Home Construction And Safety Standards

APPROVED

GASKET MATERIAL CAN BE ONE OR TWO-PART SYSTEMS; CENTER-SEALED, SOFT CHINK, FORMS, INSULATION WRAPPED IN POLY, INSULATION COVERED BY BUTYL OR OTHER LONG-LIFE TAPE ON ONE SIDE, INSULATION COVERED WITH FLOOR-LEVELING COMPOUND ON ONE SIDE. GASKET MATERIAL MUST BE INSTALLED AT CEILING LINE, END WALLS AND AT FLOOR. (SEE DRAWING ABOVE) FOR DOUBLE AND TRIPLE WIDE UNITS CENTER LINE GASKET MAYBE FACTORY INSTALLED. NOTE: FAILURE TO SEAL MARRIAGE WALL AS NOTED ABOVE MAY VOID WARRANTY

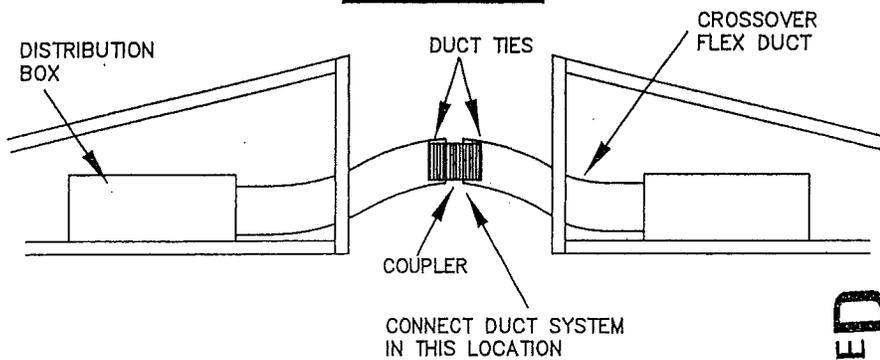
THE BOTTOM BOARD OF THE HOME IS TO BE FREE OF CUTS AND TARES

SEALING JOINT AT MARRIAGE WALL

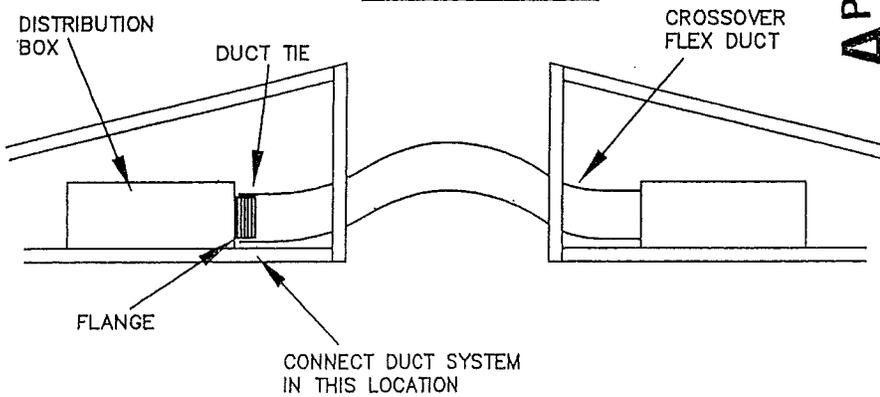
OVERHEAD DUCT CROSSOVER CONNECTIONS

1. Remove shipping plastic before units are fastened together and find duct crossover location.
2. Depending on the house model, the duct crossover will connect in one of 2 ways.
 - Method 1: Join duct from unit 1 to unit 2 with metal coupler and 2 duct ties supplied.
 - Method 2: Join duct from unit 1 to the distribution box on unit 2 with 1 duct tie.
3. Ensure that duct is secured tight with duct ties and no crimping of the duct has occurred.

METHOD 1

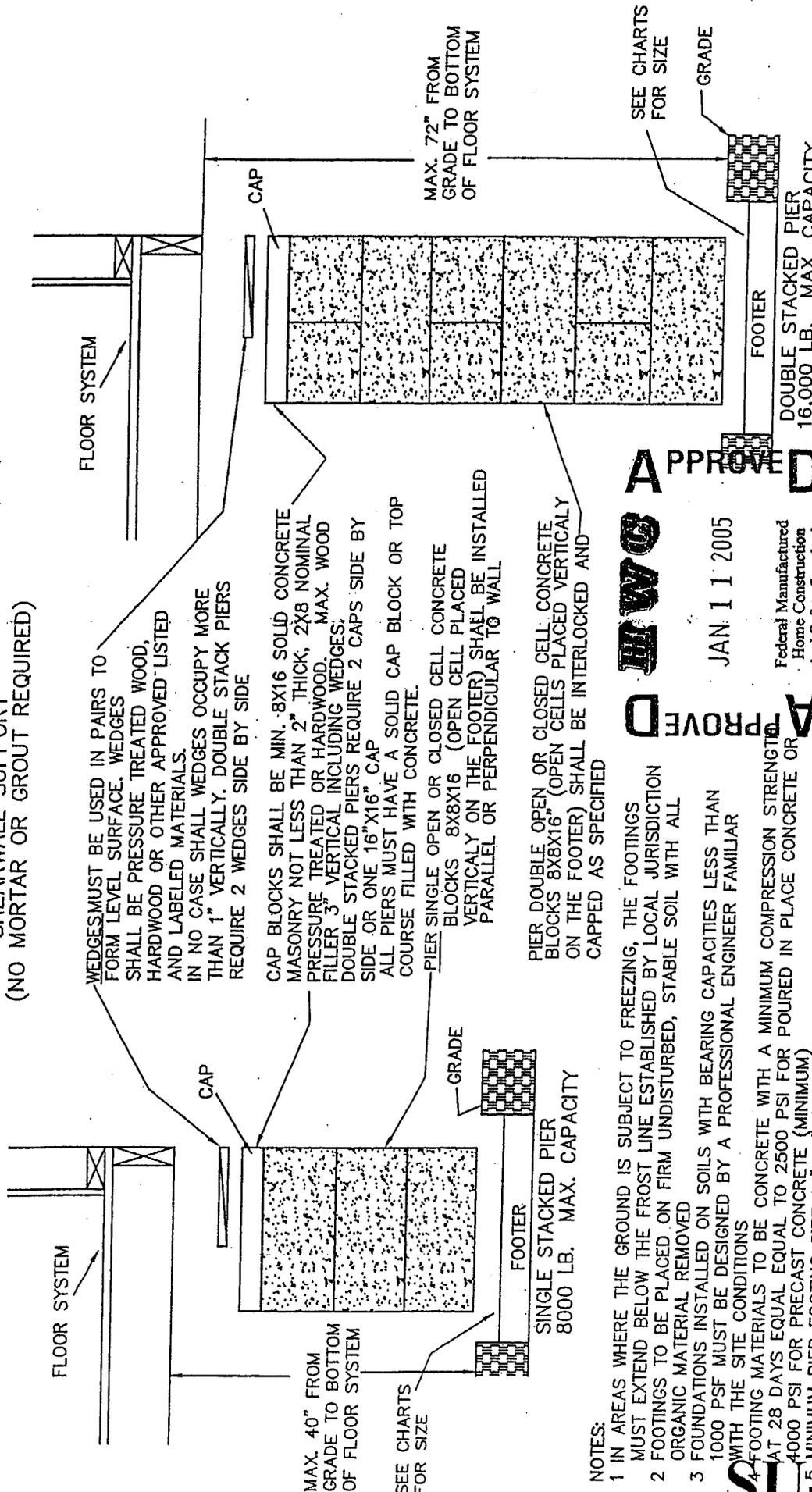


METHOD 2



APPROVED
HWC
APPROVED
 JAN 11 2005
 Federal Manufactured Home Construction And Safety Standards

**SINGLE AND DOUBLE STACKED PIERS
EXTERIOR WALL OPENINGS, MARRIAGE WALL COLUMN SUPPORT
SHEARWALL SUPPORT
(NO MORTAR OR GROUT REQUIRED)**



WEDGES MUST BE USED IN PAIRS TO FORM LEVEL SURFACE. WEDGES SHALL BE PRESSURE TREATED WOOD, HARDWOOD OR OTHER APPROVED LISTED AND LABELED MATERIALS. IN NO CASE SHALL WEDGES OCCUPY MORE THAN 1" VERTICALLY. DOUBLE STACK PIERS REQUIRE 2 WEDGES SIDE BY SIDE

CAP BLOCKS SHALL BE MIN. 8X16 SOLID CONCRETE MASONRY NOT LESS THAN 2" THICK, 2X8 NOMINAL PRESSURE TREATED OR HARDWOOD. MAX. WOOD FILLER 3" VERTICAL INCLUDING WEDGES. DOUBLE STACKED PIERS REQUIRE 2 CAPS SIDE BY SIDE OR ONE 16"X16" CAP. ALL PIERS MUST HAVE A SOLID CAP BLOCK OR TOP COURSE FILLED WITH CONCRETE.

PIER SINGLE OPEN OR CLOSED CELL CONCRETE BLOCKS 8X8X16 (OPEN CELL PLACED VERTICALLY ON THE FOOTER) SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO WALL

PIER DOUBLE OPEN OR CLOSED CELL CONCRETE BLOCKS 8X8X16" (OPEN CELLS PLACED VERTICALLY ON THE FOOTER) SHALL BE INTERLOCKED AND CAPPED AS SPECIFIED

MAX. 72" FROM GRADE TO BOTTOM OF FLOOR SYSTEM

SEE CHARTS FOR SIZE

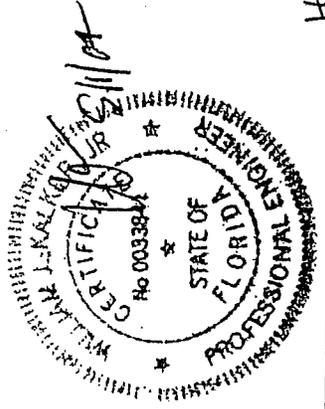
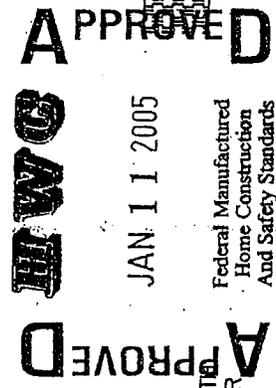
GRADE

DOUBLE STACKED PIER
16,000 LB. MAX. CAPACITY

SINGLE STACKED PIER
8000 LB. MAX. CAPACITY

NOTES:

- 1 IN AREAS WHERE THE GROUND IS SUBJECT TO FREEZING, THE FOOTINGS MUST EXTEND BELOW THE FROST LINE ESTABLISHED BY LOCAL JURISDICTION
- 2 FOOTINGS TO BE PLACED ON FIRM UNDISTURBED, STABLE SOIL WITH ALL ORGANIC MATERIAL REMOVED
- 3 FOUNDATIONS INSTALLED ON SOILS WITH BEARING CAPACITIES LESS THAN 1000 PSF MUST BE DESIGNED BY A PROFESSIONAL ENGINEER FAMILIAR WITH THE SITE CONDITIONS
- 4 FOOTING MATERIALS TO BE CONCRETE WITH A MINIMUM COMPRESSION STRENGTH AT 28 DAYS EQUAL TO 2500 PSI FOR PRECAST CONCRETE (MINIMUM) 4000 PSI FOR PRECAST CONCRETE (MINIMUM)
- 5 MINIMUM PIER FOOTING SIZE 16"X16" (256 SQ. INCHES)
- 6 THE THICKNESS AND DEPTH OF THE FOOTING MUST BE IN COMPLIANCE WITH LOCAL CODE REQUIREMENTS. THE FOOTING MUST, HOWEVER, HAVE A MINIMUM THICKNESS EQUAL TO THE PROJECTION OF THE FOOTING BEYOND THE PIER. (WITH UNREINFORCED CONCRETE FOOTING); ALSO A 4" MIN. THICKNESS IS REQUIRED FOR PRECAST CONCRETE, AND 6" MIN. THICKNESS IS REQUIRED FOR POURED CONCRETE FOOTINGS
- 7 ALTERNATIVE FOOTING MATERIALS ACCEPTABLE TO THE LOCAL JURISDICTION MAYBE USED IN LIEU OF FOOTINGS LISTED ABOVE (INSTALLED AS PER PRODUCT INSTRUCTIONS)
- 8 PIER HEIGHTS SHALL BE SUCH THAT A MINIMUM CLEARANCE OF 18" IS MAINTAINED BETWEEN GRADE AND BOTTOM OF FLOOR JOIST
- 9 ALL CORNER PIERS OVER (3) BLOCKS HIGH SHALL BE DOUBLED TIERED
- 10 THERE MUST ALWAYS BE AT LEAST ONE PIECE OF WOOD BETWEEN CONCRETE PIERS AND BOTTOM OF FLOOR SYSTEM



SU-F-113

HORTON



DYNASTY HOMES, INC.

PIER APPLICATIONS

APPROVED

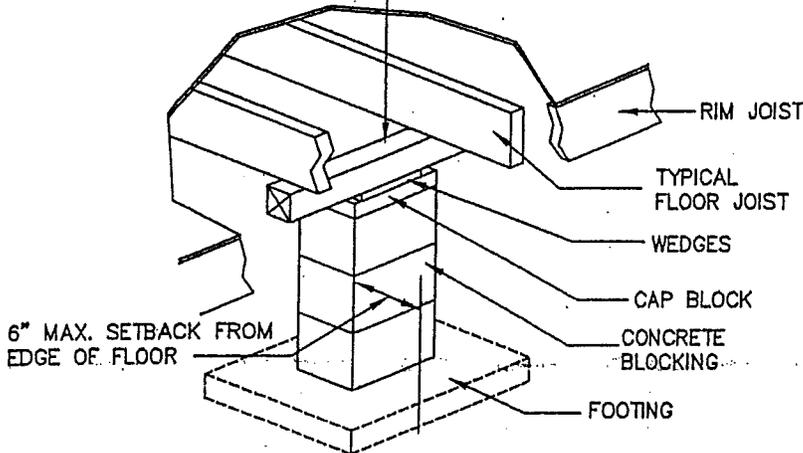
HWC

APPROVED

JAN 11 2005

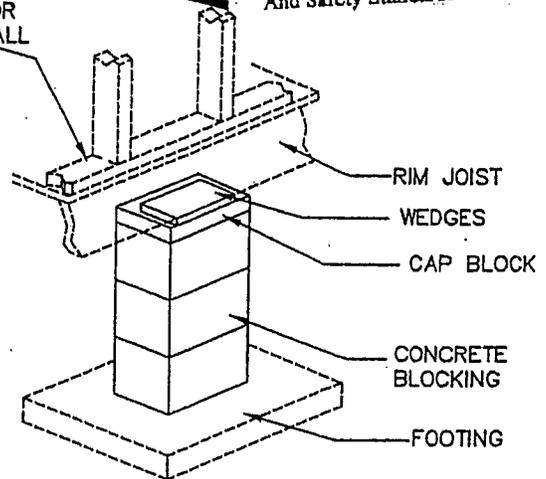
Federal Manufactured
Home Construction
And Safety Standards

(1) 4X4 OR (2)-2X4'S ON EDGE
(NAILED TOGETHER) SPANNING
MINIMUM 2 FLOOR JOISTS.

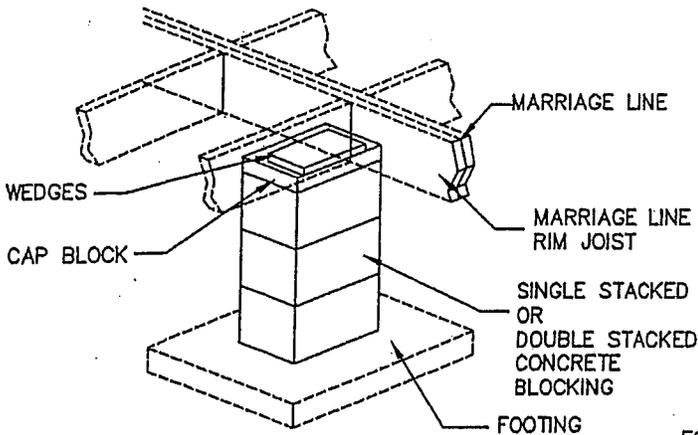


SIDEWALL APPLICATION
BLOCKS PARALLEL AND RECESSED
BACK FROM EDGE OF FLOOR

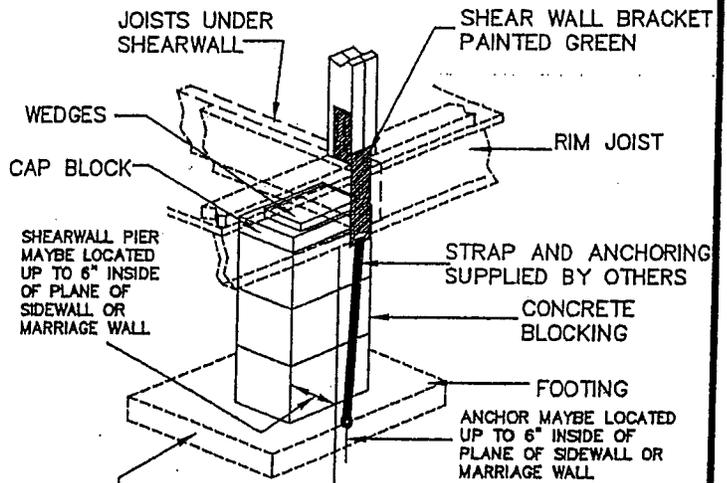
EXTERIOR
SIDE WALL



SIDEWALL APPLICATION
BLOCKS PARALLEL WITH
EDGE OF FLOOR



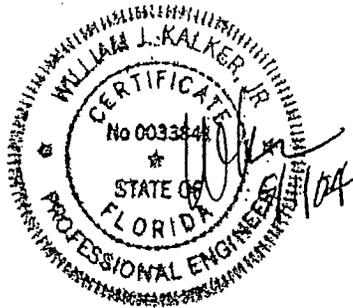
MARRIAGE WALL APPLICATION



FOOTING CAPACITY USE
4000 LBS OR 3000 LBS
FOR SHEARWALL 300 PLF
OR LESS.

WHEN OUTRIGGER IS
LOCATED AT SHEARWALL
LOCATION, INSTALL
SUPPORT PIER WITHIN
6 INCHES OF OUTRIGGER
LOCATION.

SHEARWALL PIER



SINGLE SECTION PIER LOADS

HORTON HOMES

PIER LOADS SINGLE 14 WIDE

14' WIDE WITH MAX. 4 INCH OVERHANG
(168" FLOOR WITH MAX. 4 INCH OVERHANG) 20 PSF LIVE LOAD

MAX. PIER SPACING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ.INCHES MIN.** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0" O.C.	2488		446	288	256 **	256 **	256 **
5'-0" O.C.	3110		546	351	258	256 **	256 **
6'-0" O.C.	3731		646	415	306	256 **	256 **
7'-0" O.C.	4353		745	479	353	280	256 **
8'-0" O.C.	4975		845	543	400	317	262

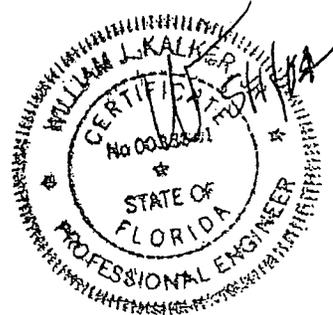
- PIERS TO BE INSTALLED NOT MORE THAN 2'-0" FROM EACH END OF FLOOR AND AT A MAXIMUM PIER SPACING AS SPECIFIED IN CHART SHOWN ABOVE
- INDIVIDUAL PIER SPACING MAYBE EXCEEDED BY UP TO 10% SO LONG AS THE AVERAGE SPACING DOES NOT EXCEED TABULATED SPACING VALUES SHOWN ABOVE

SIDEWALL OPENING FOOTING AREAS

MAXIMUM OPENING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ.INCHES MIN.** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0"	440		256 **	256 **	256 **	256 **	256 **
6'-0"	660		256 **	256 **	256 **	256 **	256 **
8'-0"	880		256 **	256 **	256 **	256 **	256 **
10'-0"	1099		256 **	256 **	256 **	256 **	256 **
12'-0"	1319		259	256 **	256 **	256 **	256 **
14'-0"	1539		295	256 **	256 **	256 **	256 **
16'-0"	1759		330	256 **	256 **	256 **	256 **
18'-0"	1979		365	256 **	256 **	256 **	256 **
20'-0"	2199		400	258	256 **	256 **	256 **
22'-0"	2419		436	280	256 **	256 **	256 **
24'-0"	2639		471	303	256 **	256 **	256 **
26'-0"	2859		506	325	256 **	256 **	256 **
28'-0"	3079		542	348	256 **	256 **	256 **
30'-0"	3299		576	370	273	256 **	256 **

- THE SIDEWALL OPENING CHART ABOVE SPECIFIES THE PIER LOAD AND MIN. FOOTING AREA REQUIRED FOR SUPPORTING END STUD COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMNS ONLY). FOR PIERS SUPPORTING CENTER STUD COLUMNS ADD THE CLEAR SPANS ON EACH SIDE OF CENTER COLUMNS TOGETHER BEFORE USING THE TABLE TO DETERMINE THE REQUIRED PIER LOAD AND FOOTING AREA.
- SHEARWALL PIERS MUST BE DESIGNED TO SUPPORT A PIER LOAD OF 4000 POUNDS EXCEPT FOR SHEAR WALLS WITH PLF RATINGS THAT DO NOT EXCEED 300PLF, THE PIER DESIGN LOAD MAYBE REDUCED TO 3000 POUNDS.

APPROVED **HWC** **APPROVED**
 JAN 11 2005
 Federal Manufactured Home Construction And Safety Standards



HORTON

REF. CALC. # | JAN 11 2005

SU-F-117

SINGLE SECTION PIER LOADS

HORTON HOMES							
PIER LOADS SINGLE 16 WIDE							
16' WIDE WITH MAX. 4 INCH OVERHANG (184" FLOOR WITH MAX. 4 INCH OVERHANG) 20 PSF LIVE LOAD							
MAX. PIER SPACING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ.INCHES MIN.** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0" O.C.	2702		481	309	256 **	256 **	256 **
5'-0" O.C.	3378		589	379	279	256 **	256 **
6'-0" O.C.	4053		697	448	330	262	256 **
7'-0" O.C.	4729		805	518	382	303	256 **
8'-0" O.C.	5404		913	588	433	343	284

1. PIERS TO BE INSTALLED NOT MORE THAN 2'-0" FROM EACH END OF FLOOR AND AT A MAXIMUM PIER SPACING AS SPECIFIED IN CHART SHOWN ABOVE

2. INDIVIDUAL PIER SPACING MAYBE EXCEEDED BY UP TO 10% SO LONG AS THE AVERAGE SPACING DOES NOT EXCEED TABULATED SPACING VALUES SHOWN ABOVE

SIDEWALL OPENING FOOTING AREAS

MAXIMUM OPENING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ.INCHES MIN.** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0"	480		256 **	256 **	256 **	256 **	256 **
6'-0"	720		256 **	256 **	256 **	256 **	256 **
8'-0"	960		256 **	256 **	256 **	256 **	256 **
10'-0"	1200		256 **	256 **	256 **	256 **	256 **
12'-0"	1440		279	256 **	256 **	256 **	256 **
14'-0"	1680		317	256 **	256 **	256 **	256 **
16'-0"	1920		356	256 **	256 **	256 **	256 **
18'-0"	2160		394	256 **	256 **	256 **	256 **
20'-0"	2400		433	278	256 **	256 **	256 **
22'-0"	2640		471	303	256 **	256 **	256 **
24'-0"	2880		509	327	256 **	256 **	256 **
26'-0"	3120		547	352	259	256 **	256 **
28'-0"	3360		586	377	278	256 **	256 **
30'-0"	3600		625	401	296	256 **	256 **

1. THE SIDEWALL OPENING CHART ABOVE SPECIFIES THE PIER LOAD AND MIN. FOOTING AREA REQUIRED FOR SUPPORTING END STUD COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMNS ONLY). FOR PIERS SUPPORTING CENTER STUD COLUMNS ADD THE CLEAR SPANS ON EACH SIDE OF CENTER COLUMNS TOGETHER BEFORE USING THE TABLE TO DETERMINE THE REQUIRED PIER LOAD AND FOOTING AREA.
2. SHEARWALL PIERS MUST BE DESIGNED TO SUPPORT A PIER LOAD OF 4000 POUNDS EXCEPT FOR SHEAR WALLS WITH PLF RATINGS THAT DO NOT EXCEED 300PLF, THE PIER DESIGN LOAD MAYBE REDUCED TO 3000 POUNDS.

APPROVED HWG APPROVED

JAN 11 2005

Federal Manufactured
Home Construction
And Safety Standards



REF. CALC #

JAN 11 2005

SU-F-118

Horton



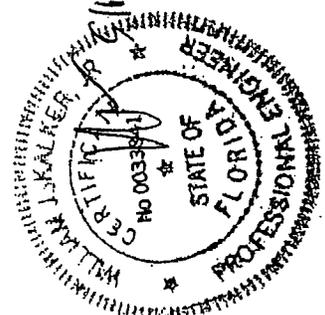
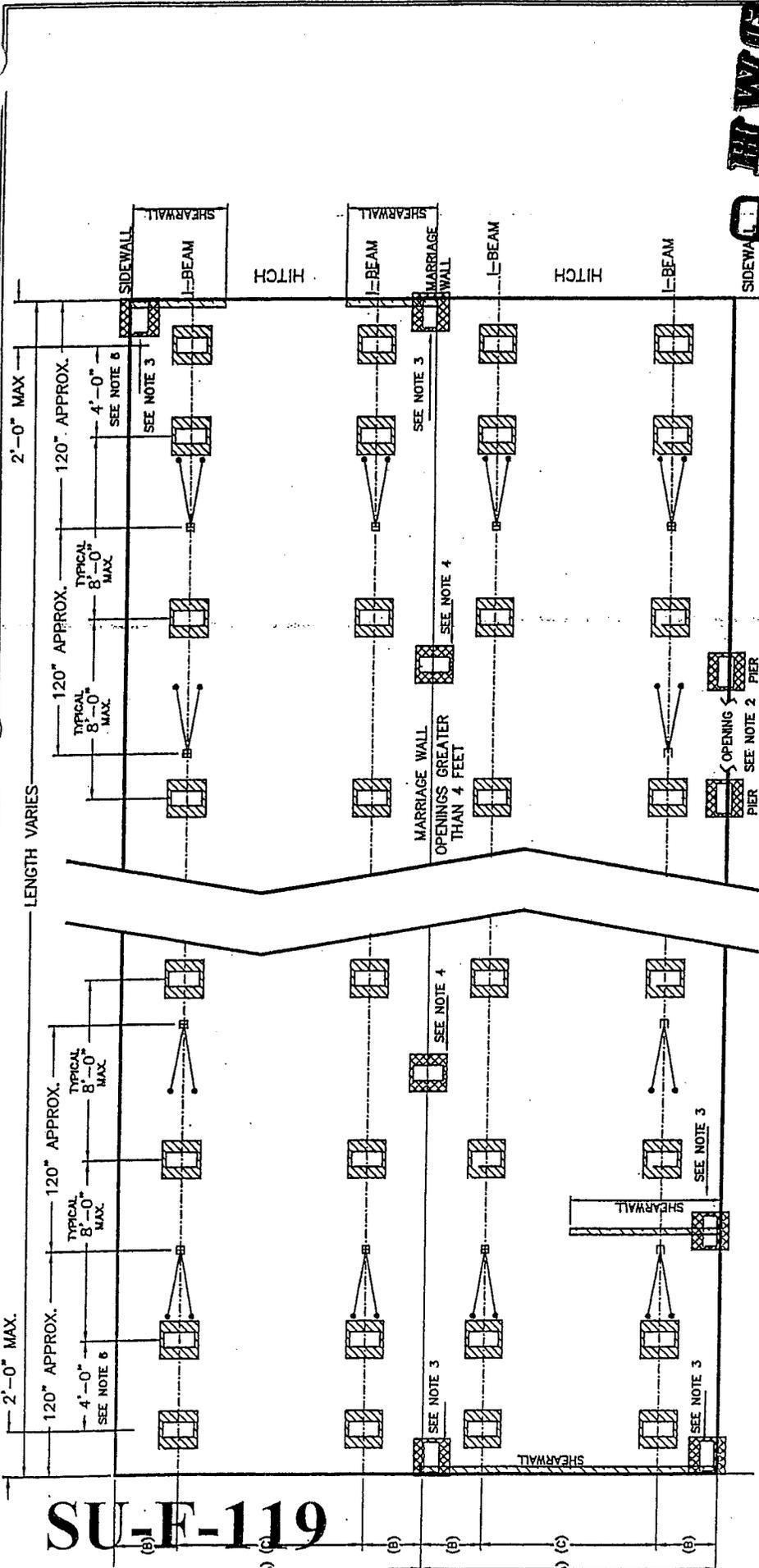
JAN 11 2005

Federal Manufactured Home Construction And Safety Standards

HORTON, HOMES, INC.
DYNASTY HOMES, INC.

TYPICAL FOUNDATION PLAN

SCALE: N.T.S.



PLAN KEY

- INDICATES TYPICAL FRAME PIER (UNDERNEATH I-BEAMS) - REFER TO SETUP MANUAL FOR INFORMATION.
- INDICATES TYPICAL MARRIAGE WALL, SHEARWALL AND SIDEWALL PIER - REFER TO SETUP MANUAL FOR INFORMATION.
- INDICATES TYPICAL LONGITUDINAL TIEDOWN LOCATION (UNDERNEATH I-BEAMS) - REFER TO SETUP MANUAL FOR INFORMATION WHEN REQUIRED.

TYPICAL FOUNDATION PLAN

FOUNDATION DIMENSIONS			
A. PIER WIDTH	B. PIER TO PIER SPACING	C. PIER TO PIER SPACING	D. PIER TO PIER SPACING
24 WIDE	11'-6"	22-1/4"	95-1/2"
27 WIDE	13'-4"	32-1/4"	95-1/2"
28 WIDE	14'-0"	38-1/4"	95-1/2"
32 WIDE	14'-9"	40-3/4"	95-1/2"

NOTES:

- THIS FOUNDATION DIAGRAM IS FOR 95.0" I-BEAM SPACING ONLY.
- ADDITIONAL PIERS ARE REQUIRED AT EXTERIOR WALL OPENINGS GREATER THAN 48" IN WIDTH. (IE: GLASS SLIDING DOORS AND MULLED WINDOWS) OR BELOW LARGE CONCENTRATED LOADS (I.E. WATER BEDS).
- ADDITIONAL PIERS ARE REQUIRED AT ENDS OF ALL SHEARWALLS IN ACCORDANCE WITH THE SETUP MANUAL. SHEARWALLS ARE MARKED ON HOUSE WITH GREEN TIE DOWN BRACKETS. REFER TO SETUP MANUAL FOR ADDITIONAL INFORMATION.
- MARRIAGE WALL PIERS (MULTI UNIT HOMES ONLY) ARE REQUIRED AT MARRIAGE WALL OPENINGS GREATER THAN 48" IN WIDTH. MARRIAGE WALL PIER LOCATIONS SHOWN ON PLAN ARE OFFSET 12" MAX. (CENTERLINE OF PIER TO CENTERLINE OF STRAP) TO ALLOW FOR VERTICAL ANCHORS (STRAPS). MAXIMUM PIER SPACING IS 8'-0". ACTUAL REQUIRED PIER SPACING WILL VARY ACCORDING TO FOOTING SIZE AND SOIL CAPACITY. REFER TO MANUAL FOR ADDITIONAL INFORMATION.
- PIER SPACING MAY VARY TO ALLOW FOR LONGITUDINAL TIEDOWNS.
- REFER TO MANUAL FOR ADDITIONAL SETUP INFORMATION.

NOTE: SEE OTHER DRAWINGS FOR ADDITIONAL SPECIFICATIONS

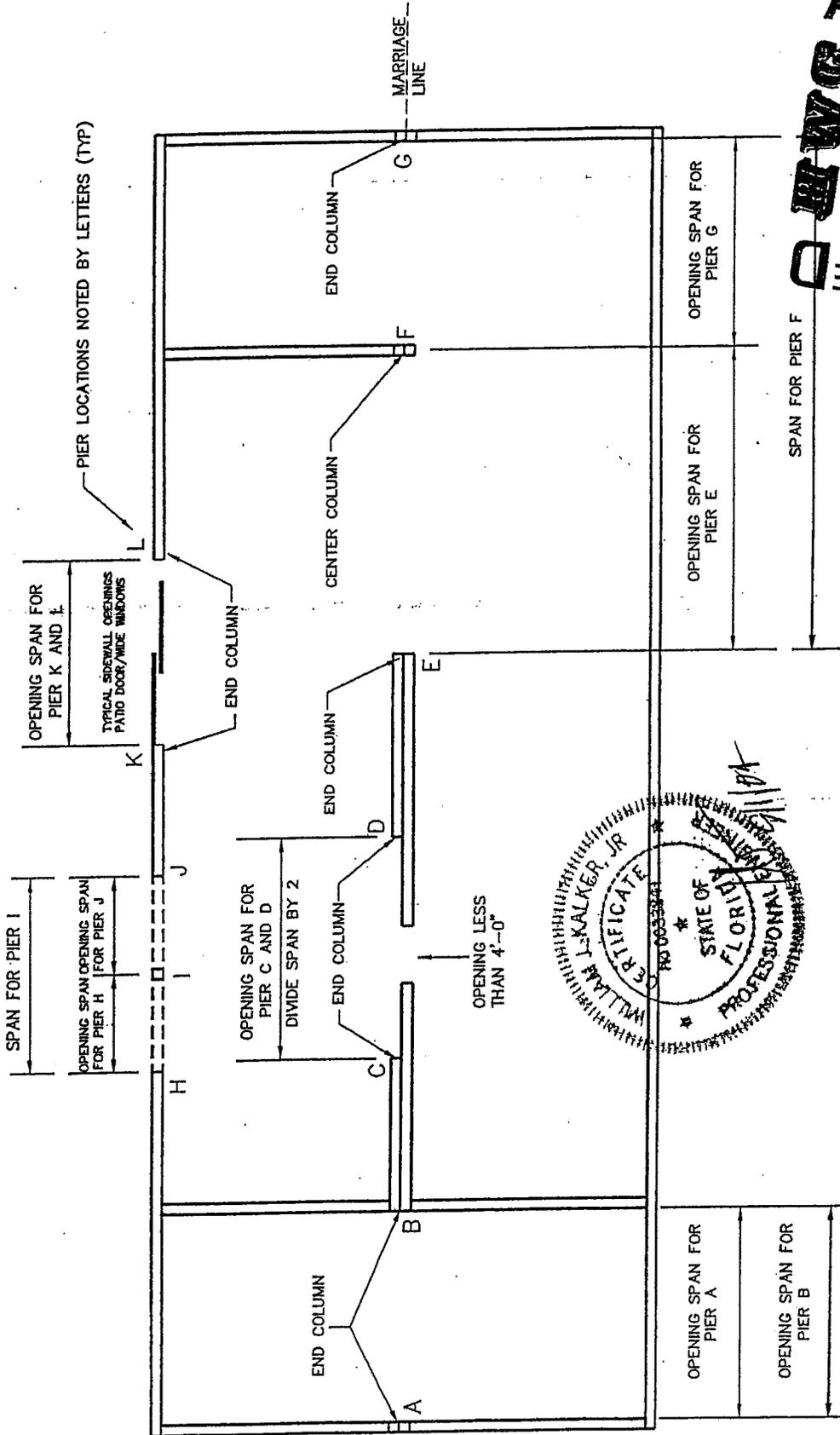
SU-F-119



DYNASTY HOMES, INC.

SIDEWALL AND MARRIAGE WALL
OPENING PROCEDURE FOR OPENINGS
GREATER THAN 4'-0" IN WIDTH

INSTALL PIERS ON EACH SIDE OF OPENINGS GREATER THAN 48" IN WIDTH



INSTALL PIERS BELOW END COLUMNS AND CENTER COLUMNS AS NOTED ON THIS DRAWING

APPROVED
G M W G
APPROVED
JAN 11 2005
Federal Manufactured
Home Construction
and Safety Standards

SU-F-120

HORTON / DYNASTY

MULTIPLE SECTION PIER LOADS

24 DOUBLE WIDE
UNITS
20 PSF ROOF

12' WIDE WITH MAX. 12 INCH OVERHANG
(144" FLOOR WITH MAX. 12 INCH OVERHANG)

MAX. PIER SPACING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ. INCHES MIN. ** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0" O.C.	2216		458	267	256 **	256 **	256 **
5'-0" O.C.	2770		572	333	256 **	256 **	256 **
6'-0" O.C.	3324		685	400	283	256 **	256 **
7'-0" O.C.	3878		799	467	330	256 **	256 **
8'-0" O.C.	4432		913	533	376	291	265

- PIERS TO BE INSTALLED NOT MORE THAN 2'-0" FROM EACH END OF FLOOR AND AT A MAXIMUM PIER SPACING AS SPECIFIED IN CHART SHOWN ABOVE.
- INDIVIDUAL PIER SPACING MAYBE EXCEEDED BY UP TO 10% SO LONG AS THE AVERAGE SPACING DOES NOT EXCEED TABULATED SPACING VALUES SHOWN ABOVE.

SIDEWALL OPENINGS FOOTING AREAS

MAXIMUM OPENING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ. INCHES MIN. ** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0"	490		256 **	256 **	256 **	256 **	256 **
6'-0"	735		256 **	256 **	256 **	256 **	256 **
8'-0"	980		256 **	256 **	256 **	256 **	256 **
10'-0"	1225		256 **	256 **	256 **	256 **	256 **
12'-0"	1471		284	256 **	256 **	256 **	256 **
14'-0"	1716		323	256 **	256 **	256 **	256 **
16'-0"	1961		363	256 **	256 **	256 **	256 **
18'-0"	2206		402	256 **	256 **	256 **	256 **
20'-0"	2451		441	283	256 **	256 **	256 **

MARRIAGE WALL OPENINGS FOOTING AREAS

MAXIMUM OPENING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ. INCHES MIN. ** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0"	840		256 **	256 **	256 **	256 **	256 **
6'-0"	1260		256 **	256 **	256 **	256 **	256 **
8'-0"	1680		317	256 **	256 **	256 **	256 **
10'-0"	2100		385	256 **	256 **	256 **	256 **
12'-0"	2520		452	291	256 **	256 **	256 **
14'-0"	2940		519	334	256 **	256 **	256 **
16'-0"	3360		586	377	278	256 **	256 **
18'-0"	3780		654	420	310	256 **	256 **
20'-0"	4200		720	463	342	270	256 **
22'-0"	4620		787	506	373	295	256 **
24'-0"	5040		855	550	405	321	265
26'-0"	5460		922	593	437	346	286
28'-0"	5880		989	636	469	371	308
30'-0"	6300		1056	680	501	396	328
32'-0"	6720		1124	723	532	421	349
34'-0"	7140		1191	766	565	447	370
36'-0"	7560		1258	809	596	472	391
38'-0"	7980		1325	852	628	497	411
40'-0"	8400		1393	895	659	522	433

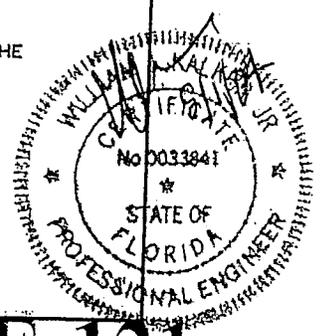
- THE SIDEWALL OPENING CHART ABOVE SPECIFIES THE PIER LOAD AND MIN. FOOTING AREA REQUIRED FOR SUPPORTING END STUD COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMNS ONLY). FOR PIERS SUPPORTING CENTER STUD COLUMNS ADD THE CLEAR SPANS ON EACH SIDE OF CENTER COLUMNS TOGETHER BEFORE USING THE TABLE TO DETERMINE THE REQUIRED PIER LOAD AND FOOTING AREA.
- THE MARRIAGE WALL OPENING CHART ABOVE SPECIFIES THE PIER LOAD AND MIN. FOOTING AREA REQUIRED FOR SUPPORTING END STUD COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMNS ONLY). FOR PIERS SUPPORTING CENTER STUD COLUMNS ADD THE CLEAR SPANS ON EACH SIDE OF CENTER COLUMNS TOGETHER BEFORE USING THE TABLE TO DETERMINE THE REQUIRED PIER LOAD AND FOOTING AREA.

THE MARRIAGE WALL CHART ABOVE ASSUMES A COLUMN IS LOCATED IN BOTH HALFS OF THE DOUBLE WIDE HOME (LOAD IN THE TABLE IS LOAD FROM EACH HALF COMBINED). FOR COLUMNS LOCATED IN ONLY ONE HALF OF THE DOUBLE WIDE DIVIDE THE CLEAR SPAN OR SUM OF CLEAR SPANS BY 2 BEFORE USING THE TABLE ABOVE.

- SHEARWALL PIERS MUST BE DESIGNED TO SUPPORT A PIER LOAD OF 4000 POUNDS. FOR PLF LOADS THAT DO NOT EXCEED 300PLF, PIER LOADS MAYBE REDUCED TO 3000 POUNDS.

APPROVED HWC APPROVE

JAN 11 2005



HORTON

REF. CALC #

JAN 11 2005

Federal Manufactured
Home Construction
And Safety Standards

SUP-121

HORTON / DYNASTY

MULTIPLE SECTION PIER LOADS

EXAMPLE
27 DOUBLE WIDE UNITS
20 PSF ROOF

14' WIDE WITH MAX. 14 INCH OVERHANG
(168" FLOOR WITH MAX. 14 INCH OVERHANG)

MAX. PIER SPACING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ. INCHES MIN. ** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0" O.C.	2588		463	267	297	256 **	256 **
5'-0" O.C.	3236		364	269	256 **	256 **	256 **
6'-0" O.C.	3883		669	431	317	256 **	256 **
7'-0" O.C.	4530		773	498	367	290	256 **
8'-0" O.C.	5177		877	564	415	329	273

1. PIERS TO BE INSTALLED NOT MORE THAN 2'-0" FROM EACH END OF FLOOR AND AT A MAXIMUM PIER SPACING AS SPECIFIED IN CHART SHOWN ABOVE

2. INDIVIDUAL PIER SPACING MAYBE EXCEEDED BY UP TO 10% SO LONG AS THE AVERAGE SPACING DOES NOT EXCEED TABULATED SPACING VALUES SHOWN ABOVE

SIDEWALL OPENINGS FOOTING AREAS

MAXIMUM OPENING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ. INCHES MIN. ** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0"	440		256 **	256 **	256 **	256 **	256 **
6'-0"	660		256 **	256 **	256 **	256 **	256 **
8'-0"	880		256 **	256 **	256 **	256 **	256 **
10'-0"	1099		256 **	256 **	256 **	256 **	256 **
12'-0"	1319		259	256 **	256 **	256 **	256 **
14'-0"	1539		295	256 **	256 **	256 **	256 **
16'-0"	1759		330	256 **	256 **	256 **	256 **
18'-0"	1979		365	256 **	256 **	256 **	256 **
20'-0"	2199		400	258	256 **	256 **	256 **

MARRIAGE WALL OPENINGS FOOTING AREAS

MAXIMUM OPENING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ. INCHES MIN. ** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0"	720		256 **	256 **	256 **	256 **	256 **
6'-0"	1080		298	256 **	256 **	256 **	256 **
8'-0"	1440		366	256 **	256 **	256 **	256 **
10'-0"	1800		432	322	256 **	256 **	256 **
12'-0"	2160		500	284	256 **	256 **	256 **
14'-0"	2520		568	366	268	256 **	256 **
16'-0"	2880		634	408	302	256 **	256 **
18'-0"	3240		702	454	334	264	256 **
20'-0"	3600		770	434	366	288	256 **
22'-0"	3960		836	538	396	314	260
24'-0"	4320		904	582	428	338	280
26'-0"	4680		970	544	402	366	302
28'-0"	5040		1038	668	492	390	324
30'-0"	5400		1106	710	524	416	344
32'-0"	5760		1172	754	556	440	366
34'-0"	6120		1238	798	588	466	386
36'-0"	6480		1308	840	620	490	406
38'-0"	6840		1374	884	652	516	428
40'-0"	7200		1440	926	684	540	448

1. THE SIDEWALL OPENING CHART ABOVE SPECIFIES THE PIER LOAD AND MIN. FOOTING AREA REQUIRED FOR SUPPORTING END STUD COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMNS ONLY). FOR PIERS SUPPORTING CENTER STUD COLUMNS ADD THE CLEAR SPANS ON EACH SIDE OF CENTER COLUMNS TOGETHER BEFORE USING THE TABLE TO DETERMINE THE REQUIRED PIER LOAD AND FOOTING AREA.
2. THE MARRIAGE WALL OPENING CHART ABOVE SPECIFIES THE PIER LOAD AND MIN. FOOTING AREA REQUIRED FOR SUPPORTING END STUD COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMNS ONLY). FOR PIERS SUPPORTING CENTER STUD COLUMNS ADD THE CLEAR SPANS ON EACH SIDE OF CENTER COLUMNS TOGETHER BEFORE USING THE TABLE TO DETERMINE THE REQUIRED PIER LOAD AND FOOTING AREA.

THE MARRIAGE WALL CHART ABOVE ASSUMES A COLUMN IS LOCATED IN BOTH HALFS OF THE DOUBLE WIDE HOME (LOAD IN THE TABLE IS LOAD FROM EACH HALF COMBINED). FOR COLUMNS LOCATED IN ONLY ONE HALF OF THE DOUBLE WIDE DIVIDE THE CLEAR SPAN OR SUM OF CLEAR SPANS BY 2 BEFORE USING THE TABLE ABOVE.

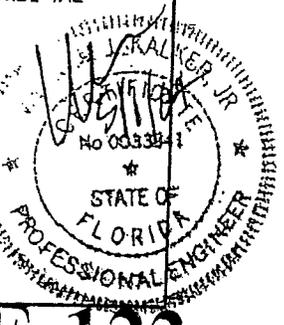
3. SHEARWALL PIERS MUST BE DESIGNED TO SUPPORT A PIER LOAD OF 4000 POUNDS. FOR PLF LOADS THAT DO NOT EXCEED 300PLF, PIER LOADS MAYBE REDUCED TO 3000 POUNDS.

APPROVED HWG

APPROVED

JAN 11 2005

Federal Manufactured Home Construction And Safety Standards



HORTON REF. CALC # 1

JAN 11 2005

SU-F-122

HORTON / DYNASTY

MULTIPLE SECTION PIER LOADS

EXAMPLE
32 DOUBLE WIDE UNITS
20 PSF ROOF

15' WIDE WITH MAX. 14 INCH OVERHANG
(180" FLOOR WITH MAX. 14 INCH OVERHANG)

MAX. PIER SPACING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ. INCHES MIN. ** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0" O.C.	2748		488	314	256 **	256 **	256 **
5'-0" O.C.	3436		598	385	284	256 **	256 **
6'-0" O.C.	4123		708	456	335	266	256 **
7'-0" O.C.	4810		818	527	388	307	256 **
8'-0" O.C.	5497		928	596	439	348	288

- PIERS TO BE INSTALLED NOT MORE THAN 2'-0" FROM EACH END OF FLOOR AND AT A MAXIMUM PIER SPACING AS SPECIFIED IN CHART SHOWN ABOVE
- INDIVIDUAL PIER SPACING MAYBE EXCEEDED BY UP TO 10% SO LONG AS THE AVERAGE SPACING DOES NOT EXCEED TABULATED SPACING VALUES SHOWN ABOVE

SIDEWALL OPENINGS FOOTING AREAS

MAXIMUM OPENING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ. INCHES MIN. ** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0"	520		256 **	256 **	256 **	256 **	256 **
6'-0"	780		256 **	256 **	256 **	256 **	256 **
8'-0"	1040		256 **	256 **	256 **	256 **	256 **
10'-0"	1300		256 **	256 **	256 **	256 **	256 **
12'-0"	1516		298	256 **	256 **	256 **	256 **
14'-0"	1821		339	256 **	256 **	256 **	256 **
16'-0"	2081		382	256 **	256 **	256 **	256 **
18'-0"	2341		423	273	256 **	256 **	256 **
20'-0"	2601		465	298	256 **	256 **	256 **

MARRIAGE WALL OPENINGS FOOTING AREAS

MAXIMUM OPENING	PIER LOADS IN POUNDS	MIN. FOOTING AREA (SQ. INCHES) ** 256 SQ. INCHES MIN. ** FOR SOIL BEARING CAPACITY SPECIFIED					
		SOIL BEARING CAPACITY	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
4'-0"	900		256 **	256 **	256 **	256 **	256 **
6'-0"	1350		265	256 **	256 **	256 **	256 **
8'-0"	1800		336	256 **	256 **	256 **	256 **
10'-0"	2250		408	263	256 **	256 **	256 **
12'-0"	2700		480	309	256 **	256 **	256 **
14'-0"	3150		553	355	262	256 **	256 **
16'-0"	3600		625	401	296	256 **	256 **
18'-0"	4050		696	448	330	280	256 **
20'-0"	4500		768	494	365	334	256 **
22'-0"	4950		840	540	398	362	261
24'-0"	5400		913	587	432	362	284
26'-0"	5850		1056	633	467	388	306
28'-0"	6300		1106	680	501	416	328
30'-0"	6750		1128	726	535	442	350
32'-0"	7200		1200	772	569	450	373
34'-0"	7650		1273	818	603	478	396
36'-0"	8100		1345	864	637	505	417
38'-0"	8550		1418	911	671	532	440
40'-0"	9000		1488	957	706	559	462

- THE SIDEWALL OPENING CHART ABOVE SPECIFIES THE PIER LOAD AND MIN. FOOTING AREA REQUIRED FOR SUPPORTING END STUD COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMNS ONLY). FOR PIERS SUPPORTING CENTER STUD COLUMNS ADD THE CLEAR SPANS ON EACH SIDE OF CENTER COLUMNS TOGETHER BEFORE USING THE TABLE TO DETERMINE THE REQUIRED PIER LOAD AND FOOTING AREA.
 - THE MARRIAGE WALL OPENING CHART ABOVE SPECIFIES THE PIER LOAD AND MIN. FOOTING AREA REQUIRED FOR SUPPORTING END STUD COLUMNS (CLEAR SPAN ON ONE SIDE OF COLUMNS ONLY). FOR PIERS SUPPORTING CENTER STUD COLUMNS ADD THE CLEAR SPANS ON EACH SIDE OF CENTER COLUMNS TOGETHER BEFORE USING THE TABLE TO DETERMINE THE REQUIRED PIER LOAD AND FOOTING AREA.
- THE MARRIAGE WALL CHART ABOVE ASSUMES A COLUMN IS LOCATED IN BOTH HALFS OF THE DOUBLE WIDE HOME (LOAD IN THE TABLE IS LOAD FROM EACH HALF COMBINED). FOR COLUMNS LOCATED IN ONLY ONE HALF OF THE DOUBLE WIDE DIVIDE THE CLEAR SPAN OR SUM OF CLEAR SPANS BY 2 BEFORE USING THE TABLE ABOVE.

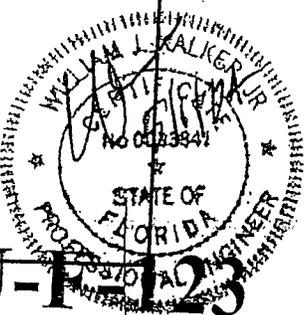
3 SHEARWALL PIERS MUST BE DESIGNED TO SUPPORT A PIER LOAD OF 4000 POUNDS. FOR PLF LOADS THAT DO NOT EXCEED 300PLF, PIER LOADS MAYBE REDUCED TO 3000 POUNDS.

APPROVED

APPROVED

SU-P-123

JAN 11 2005

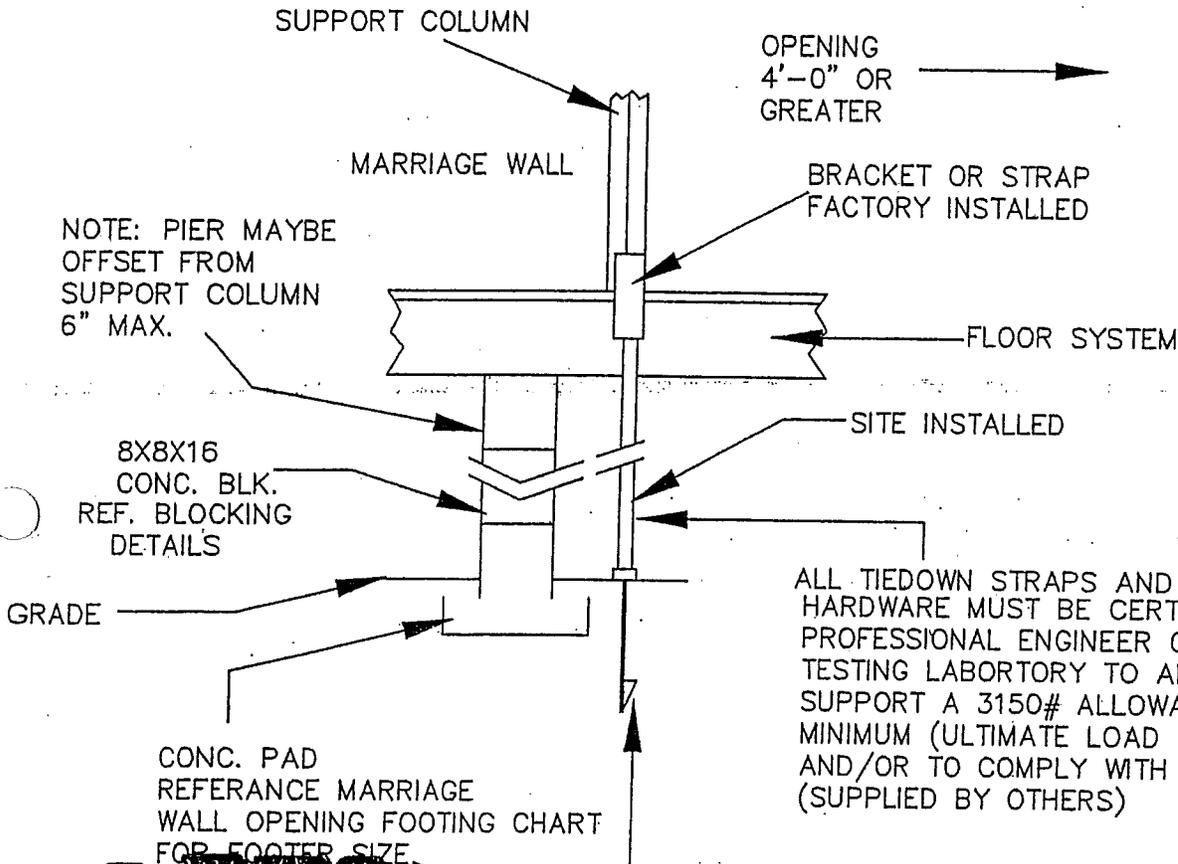


HORTON REF. CALC # 1 JAN 11 2005

Federal Manufactured Home Construction And Safety Standards



UPLIFT ANCHORAGE TO GROUND
AT MARRIAGE WALL OPENINGS

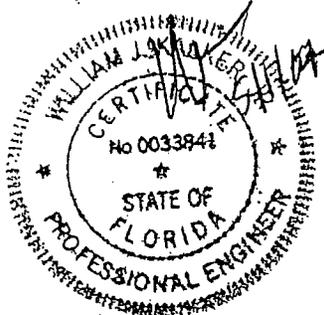


ALL TIEDOWN STRAPS AND CONNECTING HARDWARE MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER OR A RECOGNIZED TESTING LABORATORY TO ADEQUATELY SUPPORT A 3150# ALLOWABLE LOAD MINIMUM (ULTIMATE LOAD 4725# MINIMUM) AND/OR TO COMPLY WITH ASTM D3953-91. (SUPPLIED BY OTHERS)

INSTALL VERTICAL TIEDOWN STRAPS AND OR SECURE THE VERTICAL TIEDOWN STRAPS TO GROUND ANCHORS AT EACH MARRIAGE WALL OPENING STUD FOR OPENINGS 48" OR GREATER WHEN VERTICAL STRAPS ARE IN BOTH HALVES AT THE SAME GROUND ANCHOR LOCATION USE DOUBLE HEADED GROUND ANCHOR AND CONNECT BOTH STRAPS TO THE SAME GROUND ANCHOR (SITE INSTALLED) (SUPPLIED BY OTHERS)

SEE DETAILS FOR THE STRAP CONNECTIONS ON OTHER DRAWINGS

APPROVED **HWG** **APPROVED**
 JAN 11 2005
 Federal Manufactured Home Construction And Safety Standards



HORTON / DYNASTY

INTERIOR

Shim and case out doorways & openings. If required, install molding. Adjust all doors and windows if shifted in transit

ELECTRICAL CONNECTIONS FOR MULTI-UNIT HOMES

1. All connection wires for "DRY" or opposing sections are located in wall cavity behind or adjacent to the location of the electrical panel box for units with main panel box on marriage wall. Others use junction box (See item 3 - below).
2. Loose hanging wires numbered 13,14,15, & 16 as needed are to be connected directly to factory installed circuit breakers having same number as cable. Electrical connections are made prior to sections of double wide being pulled together. Pg 103 or 104

NOTE: If the wiring connections are not made prior to the sections being joined together, the paneling around the main electrical panel box may be removed to provide access to the wall cavities in both sections. The dealer assumes full responsibility for repair or replacement of paneling and/or trim damaged by removal and replacement.

3. A junction box (when required) will be accessibly located on the marriage wall - cable to be connected will be identified with like number or GFI, and shall be connected white to white, bare to bare, and black to black. These wires must be mechanically and electrically secure.

MAIN ELECTRICAL HOOK UP SITE INSTALLED

MAIN ELECTRICAL HOOK UP TO BE DONE BY LICENSED ELECTRICIAN ONLY.

1. FOR 100 AMP PANEL BOX:

A. Feeder raceway sized for 75 degrees C rated copper, sized #4 AWG or #2 ALM circuit conductors and size #8 AWG grounding conductor. Run 1 1/2" conduit from breaker box on service pole to conduit or JB on home. JB size if installed is 12" min. If metal JB box is used, box must be grounded. If 1 1/2" conduit is PVC pipe, it must be listed for electrical use. Use 2" conduit for ALM. feeders.

2. For 150 AMP Panel Box:

A. Feeder raceway sized for 75 degrees C rated copper, sized #1 AWG or #2/0 ALM circuit conductors and size #6 AWG grounding conductor. Run 2" conduit from breaker box on service pole to conduit or JB on home. JB size if installed is 16" min. If metal JB box is used, box must be grounded. If 2 inch conduit is PVC pipe, it must be listed for electrical use.

3. For 200 AMP Panel Box:

A. Feeder raceway sized for 75 degrees C rated copper, sized #20 AWG or #4/0^{ALM} circuit conductors and size #6 AWG grounding conductor. Run 2" conduit from breaker box on service pole to conduit or JB on home. JB size if installed is 16" min. If metal JB box is used, box must be grounded. If 2" conduit is PVC pipe, it must be listed for electrical use. Use 2 1/2" conduit for ALM. feeders.

APPROVED
HWC
Revised
Nov 16 2005
Federal Manufactured
Home Construction
And Safety Standards
APPROVED

SU-F-125.1

HORTON / DYNASTY

SEWAGE HOOK-UP

IMPORTANT: Sewage connections must be installed in accordance with sewage drop diagrams supplied with this home. If sewage drop diagram is missing or does not seem to supply enough information for sewage drop please contact Horton Homes Service Department for information and or diagram.

Come off each 3" sewage drop (which is usually located under water closet) with a 3" 90 degree sewage elbow using proper glue to seal. Run 3" sewage pipe from end of elbow to field installed main drain line which leads to sewer or septic tank.

Additional drops may be found at such locations as kitchens, showers, tubs, lavatories, or washing machines. These drops must be tied into the field installed drain system at the time of set up. Be sure that all drop lines are hooked up and draining. (Note: All drain lines must have minimum ¼" per foot of length slope.) The materials needed for these connections were provided with the home at the time of delivery to the dealer.

FRESHWATER HOOK-UP

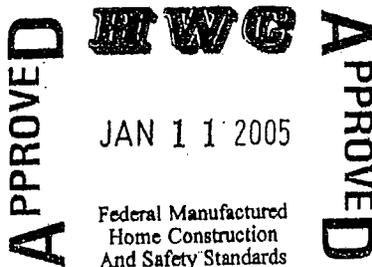
This home is designed for an inlet pressure of 80 P.S.I. maximum. If supply water pressure exceeds 80 PSI, pressure reducing valve must be installed. Failure to install pressure reducing valve could damage plumbing system (see illustration). Supply line must be a minimum of ¾" in size and be buried below frost line. Riser must be protected from freezing.

At the time of installation a master cold water shut-off full flow valve must be installed at fresh water inlet (dealer supplies, see illustration).

Additions and Accessories

Additions to the home shall be a structure which is of a free standing design. The structure shall have columns to support the additional weight. Follow applicable building codes and manufacturer recommendations for the accessories or additions to be installed to the home.

Examples: patio covers, decks, awnings, carports, or room additions.



SU-F-126

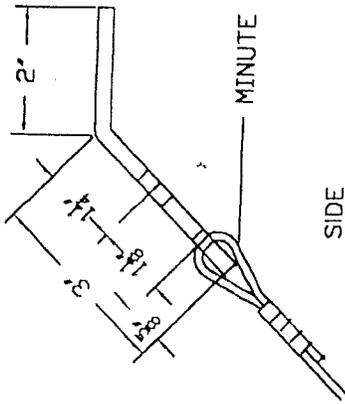
TRWG

APPROVED

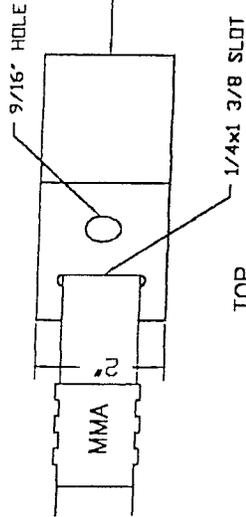
APPROVED

OCT 23 2008

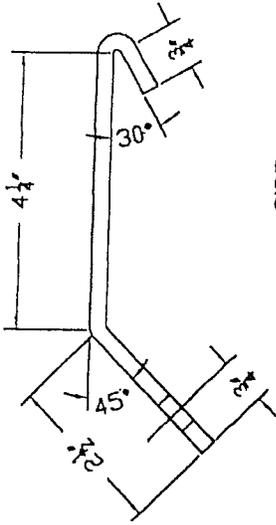
Federal Manufactured Home Construction And Safety Standards



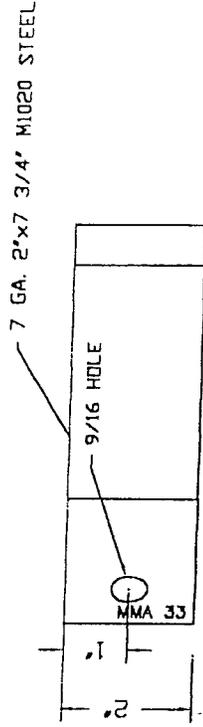
MINUTE MAN STRAP W/RADIUS CLIP



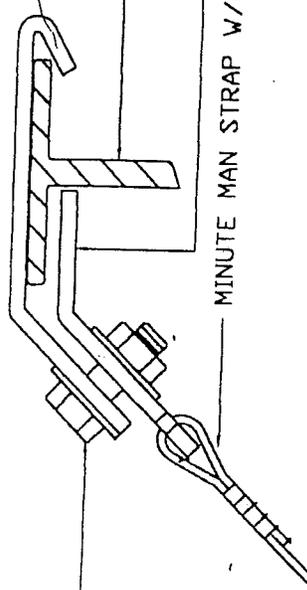
7 GA. x2x5 1/8 M1020 STEEL SWIVEL CLIP



SIDE



TOP



1/2x1" GRADE 5 BOLT & NUT WITH WASHERS

NOTE:

GALV. OR P. INTED W/ BLACK WATER RESISTANT COATING.

ALL DIMENSIONS +/- 0.0625"

MINUTE MAN STRAP W/RADIUS CLIP

HOME FRAME

SWIVEL CLIP MUST NOT VARY MORE THAN 10 DEG. FROM PERPENDICULAR TO BEAM.

MMA-33 ASSEMBLED UNIT

HORTON HOMES, INC.

MINUTE MAN ANCHORS, INC.

305 WEST KING STREET
EAST FLAT ROCK, NC 28726
PHONE: (828) 692-0256
FAX: (828) 692-0258

TITLE: LOCKING FRAME CLAMP II

DATE: 10/22/98

MODEL: MMA 33

DRAWN BY TC

SEE SUP. DATA #1 JUN 16 1999

SU-F-127



APPROVED

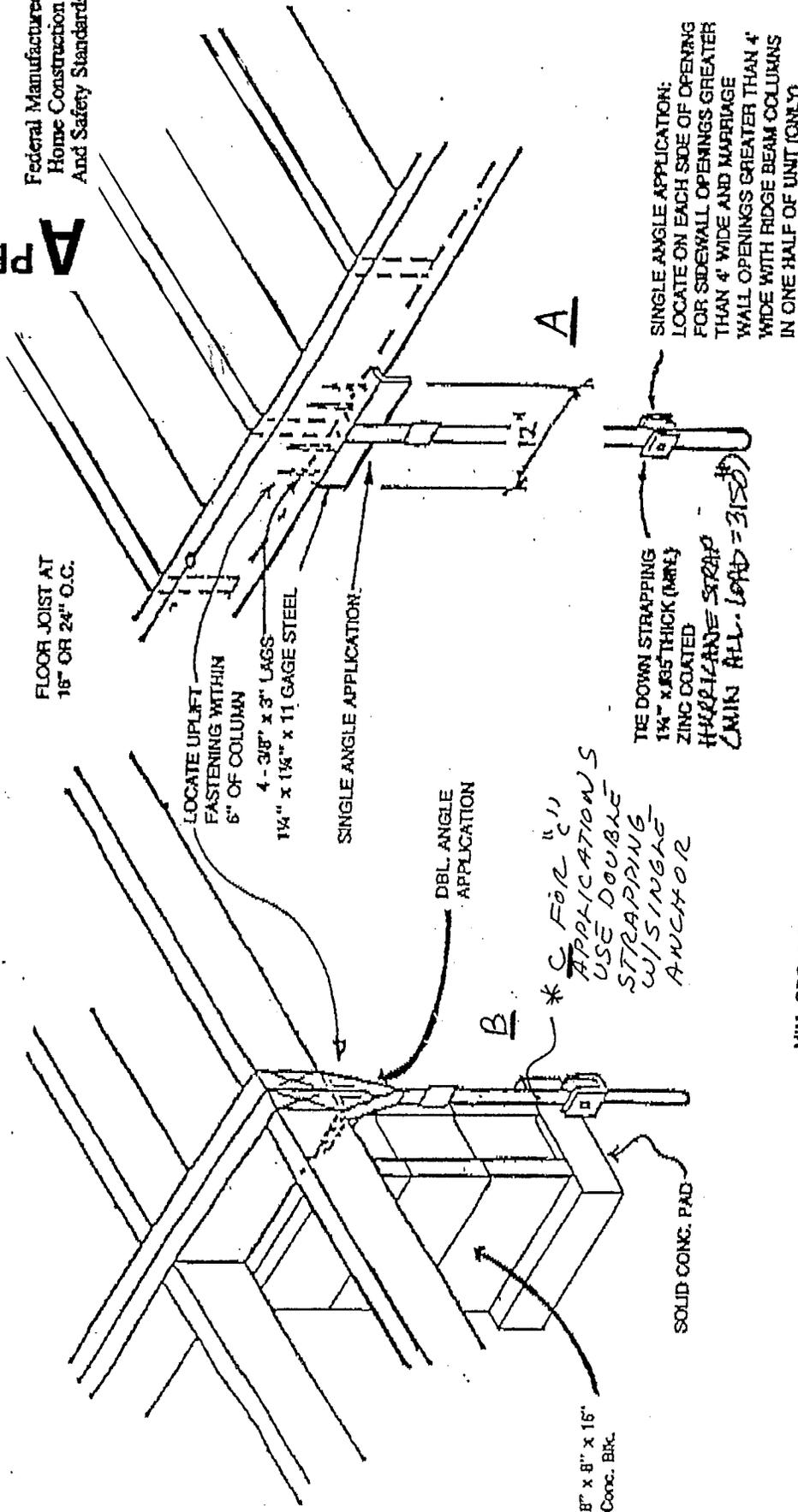
APPROVED

OCT 23 2008

Federal Manufactured Home Construction And Safety Standards

PORCH AND TIE DOWN ANCHORING

DOUBLE ANGLE APPLICATION:
LOCATE ON EACH SIDE OF OPENING FOR MAIRLAGE WALL OPENINGS GREATER THAN 4' WIDE WITH RIDGE BEAM COLUMNS IN BOTH HALVES OF UNIT.

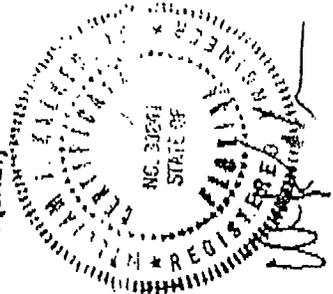


MIN. GROUND ANCHOR STRAP AND CONNECTING HARDWARE CAPACITY = 4725# (ALLOWABLE LOAD)

SINGLE ANGLE APPLICATION:
LOCATE ON EACH SIDE OF OPENING FOR SIDEWALL OPENINGS GREATER THAN 4' WIDE AND MAIRLAGE WALL OPENINGS GREATER THAN 4' WIDE WITH RIDGE BEAM COLUMNS IN ONE HALF OF UNIT (ONLY)

TIE DOWN STRAPPING
1 1/2" x 1/8" THICK (MIN)
ZINC COATED
HURRICANE STRAP
MIN. ALL. LOAD = 3150#

* C FOR "C" APPLICATIONS USE DOUBLE STRAPPING W/ SINGLE ANCHOR



ALL LAGS FULLY THREADED

HORTON HOMES, INC.

SU-F-128

THIS PAGE TO BE INCLUDED WITH THE MOBILE HOME SET-UP INSTRUCTIONS

REF. CALC. # 1 MAY 23 1991

HORTON HOMES, INC.

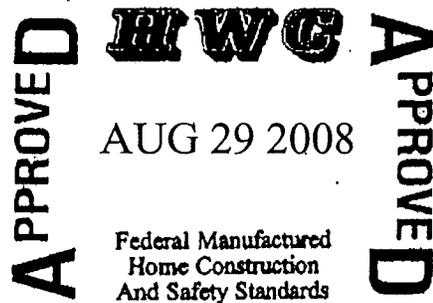
HINGED ROOFS AND EAVES

Hinged roofs and eaves must be completed during installation in compliance with all requirements of the Manufactured Home Construction and Safety Standards and the Manufactured Home Procedural and Enforcement Regulations. Unless exempted by the following provisions, hinged roofs are also subject to a final inspection for compliance with the Manufactured Home Construction and Safety Standards by the IPIA or a qualified independent inspector acceptable to the IPIA. Homes with hinged roofs that are exempted from IPIA inspection are instead to be completed and inspected in accordance with the Manufactured Home Installation Program.

This includes homes:

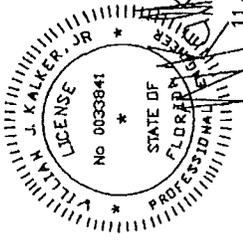
1. That are designed to be located in Wind Zone I;
2. In which the pitch of the hinged roof is less than 7:12; and
3. In which fuel burning appliance flue penetrations are not above the hinge.

WINDZONES 2 AND 3 REQUIRE AN ALTERNATE CONSTRUCTION (AC) LETTER.



EFFECTIVE DATE: OCT 20, 2008

SUH-25

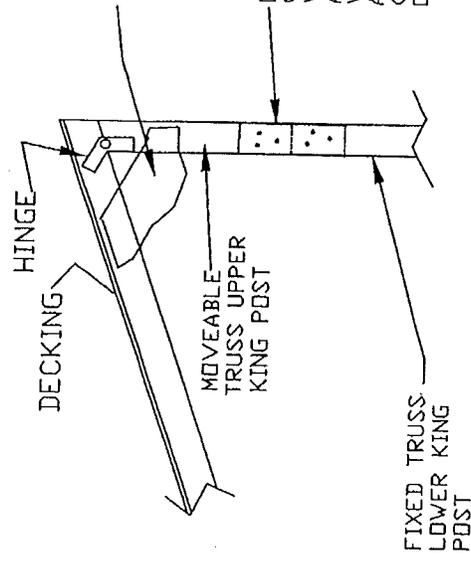


11/1/07

SEALED FOR WIND DESIGN ONLY

NOTE: ALL WORK TO BE SITE INSTALLED UNLESS OTHERWISE NOTED

SHEATH TRUSSES ABOVE SHEAR WALLS WITH 3/8" MIN. RATED SHEATHING WITH 15 GA X 1-1/2" STA. 2" O.C. EDGES AND FIELD WITH 2X SPF VERTICAL BLOCKING INSTALLED 16" O.C. BETWEEN THE TRUSS MEMBERS TO SUPPORT SHEATHING (SITE INSTALL THE SHEATHING ON MOVABLE PORTIONS OF TRUSS)



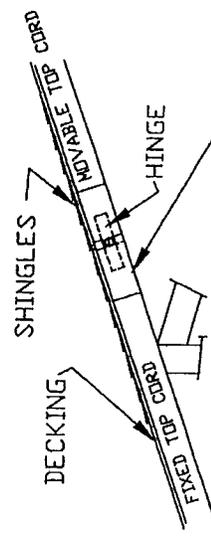
ON EACH TRUSS INSTALL A MIN. (2X4) X 8" SPF #3 SPLICE BLOCK WITH MIN. 4" LAP ON BOTH THE FIXED AND MOVEABLE KING POSTS FASTENED WITH 100% PVA GLUE COVERAGE AND MIN. (3) 15 GA X 1" STAPLES OR (3) .120" X 1-1/2" NAILS EACH END OF SPLICE BLOCK

STRAIGHT UPPER KING POST FASTENING

DETAIL VALID FOR FOLLOWING TRUSSES:

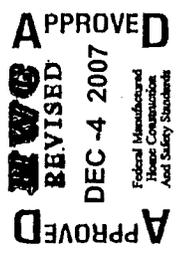
- UFP TRUSS #HC252605
- UFP TRUSS #HM390607
- UFP TRUSS #HC310404
- UFP TRUSS #HM228610

REF. CALL # 1-DEC -4 2007
REF. CALL # 1-JUNE 26 2007



INSTALL SPF 2X4 #3 BLOCKING TO ENSURE 100% CONTACT BETWEEN FIXED AND MOVABLE TOP CORDS 6' MIN. LAP ON FIXED AND MOVABLE SECTIONS BEYOND METAL HINGE MATERIAL FASTENED W/ 100% PVA GLUE AND MIN 5-15 GA X 2-1/2" STAPLES EACH END

REQUIRED AT SHEAR WALL LOCATIONS ONLY SHEAR WALL RATING NOT TO EXCEED 500 PLF



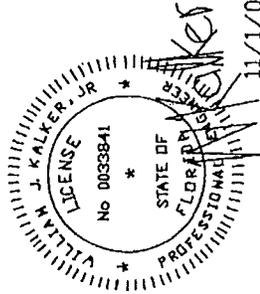
APPROVAL PENDING AC LETTER FOR WIND ZONE 2&3 ONLY.

FACTORY CONSTRUCTION SPECIFICATIONS

(3) SHEATHING MUST BE FASTENED TO THE FIXED PORTIONS OF TRUSSES LOCATED OVER SHEAR WALLS USING THE FASTENING SPECS PROVIDED ABOVE FOR THE SITE INSTALLED SHEATHING

HORTON HOMES
HINGE TRUSS SET-UP
SCAB BLOCK METHOD

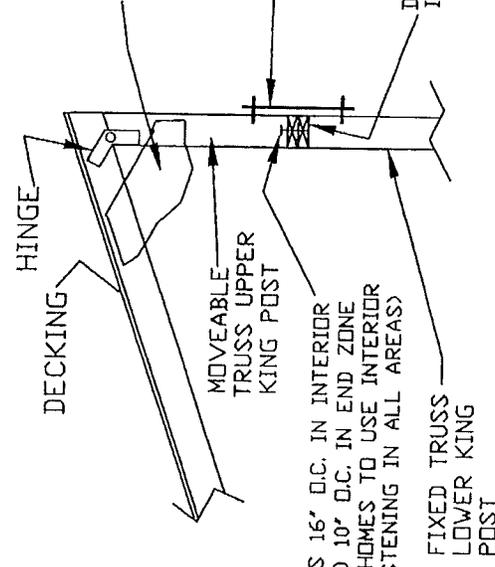
SUH-50.1



SEALED FOR WIND DESIGN ONLY

NOTE: ALL WORK TO BE SITE INSTALLED UNLESS OTHERWISE NOTED

SHEATH TRUSSES ABOVE SHEAR WALLS WITH 3/8" MIN. RATED SHEATHING WITH 15 GA X 1-1/2" STA. 2' O.C. EDGES AND FIELD WITH 2X SPF VERTICAL BLOCKING INSTALLED 16" O.C. BETWEEN THE TRUSS MEMBERS TO SUPPORT SHEATHING (SITE INSTALL THE SHEATHING ON MOVABLE PORTIONS OF TRUSS)



ON EACH TRUSS INSTALL 1-1/2" X 26 GA STRAP W/ (5) 15 GA X 1" STAPLES OR (5) .120" X 1-1/2" NAILS EACH END OF STRAP FROM THE FIXED KING POST TO THE MOVABLE KING POST AS SHOWN

DOUBLE 2X4 SPF FACTORY INSTALLED RUNNERS

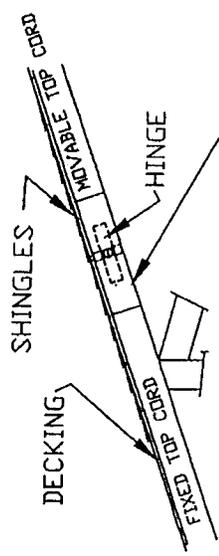
STRAIGHT UPPER KING POST FASTENING

DETAIL VALID FOR FOLLOWING TRUSSES:

- UFP TRUSS #HC182206
- UFP TRUSS #HM633605
- UFP TRUSS #HC252605
- UFP TRUSS #HM390607
- UFP TRUSS #HC310404
- UFP TRUSS #HM228610

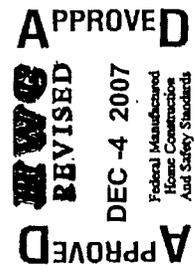
REF. CALC # 1 - DEC-4 2007
REF. CALC # 1 JUNE 26 2007

SUH-50A.1



INSTALL SPF 2X4 #3 BLOCKING TO ENSURE 100% CONTACT BETWEEN FIXED AND MOVABLE TOP CORDS 6" MIN. LAP ON FIXED AND MOVABLE SECTIONS BEYOND METAL HINGE MATERIAL FASTENED W/ 100% PVA GLUE AND MIN 5-15 GA X 2-1/2" STAPLES EACH END

REQUIRED AT SHEAR WALL LOCATIONS ONLY
SHEAR WALL RATING NOT TO EXCEED 500 PLF



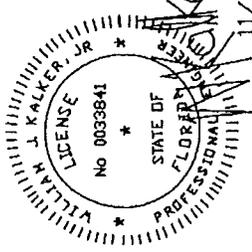
APPROVAL PENDING AC LETTER FOR WIND ZONE 2&3 ONLY.

FACTORY CONSTRUCTION SPECIFICATIONS:

- (1) THE TRUSS FIXED KING POST MAY REQUIRE SHORTENING TO ACCOMMODATE THE DOUBLE 2X4 RUNNERS. SEE THE TRUSS DRAWINGS TO VERIFY THE FIXED KING POST HEIGHT REQUIRED TO INSTALL THE RUNNERS
- (2) THE UPPER RUNNER MUST BE FASTENED TO THE UPPER KING POST AND THE LOWER RUNNER MUST BE FASTENED TO THE LOWER KING POST WITH 4-15 GA X 2-1/2" STAPLES
- (3) SHEATHING MUST BE FASTENED TO THE FIXED PORTIONS OF TRUSSES LOCATED OVER SHEAR WALLS USING THE FASTENING SPECS PROVIDED ABOVE FOR THE SITE INSTALLED SHEATHING

HORTON HOMES
HINGE TRUSS SET-UP
RUNNER & STRAP METHOD

ATT 1



11/19/07

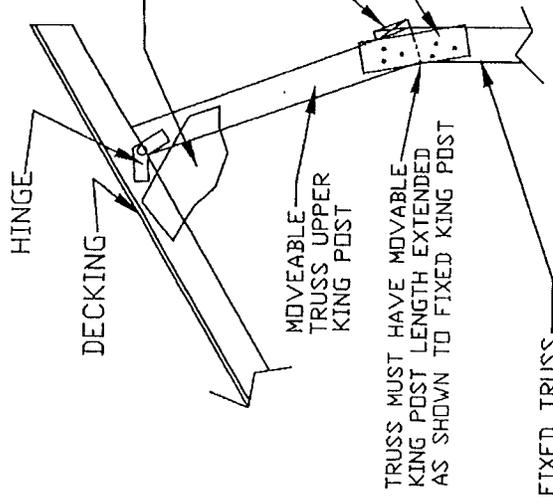
SEALED FOR WIND DESIGN ONLY

NOTE: ALL WORK TO BE SITE INSTALLED UNLESS OTHERWISE NOTED

SHEATH: TRUSSES ABOVE SHEAR WALLS WITH 3/8" MIN. RATED SHEATHING WITH 15 GA X 1-1/2" STA. 2" O.C. EDGES AND FIELD WITH 2X SPF VERTICAL BLOCKING INSTALLED 16" O.C. BETWEEN THE TRUSS MEMBERS TO SUPPORT SHEATHING (SITE INSTALL THE SHEATHING ON MOVABLE PORTIONS OF TRUSS)

INSTALL A CONT. 1X3 SPF BRACE FASTENED TO EACH TRUSS MOVABLE UPPER KING POST WITH (2) 15 GA X 1-3/4" STAPLES

ON EACH TRUSS INSTALL A MIN. (2X4) X 12" SPF#3 SPLICE BLOCK WITH MIN. 6" LAP ON BOTH THE FIXED AND MOVABLE KING POSTS FASTENED WITH 100% PVA GLUE COVERAGE AND MIN. (3) 15 GA X 1" STAPLES OR (3) 120" X 1-1/2" NAILS EACH END OF SPLICE BLOCK

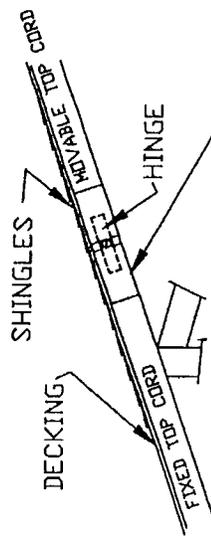


DETAIL VALID FOR FOLLOWING TRUSSES:

- UFP TRUSS #HC182011*
- UFP TRUSS #HM230916*

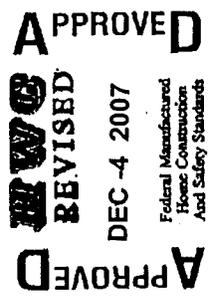
* WITH THE MOVABLE KING POST LENGTH INCREASED TO CONTACT THE FIXED KING POST AS SPECIFIED IN 'ALT. CONSTRUCTION DETAIL', TRUSS #166102, JOB 44718

REF. CALC. #1-JUNE 26 2007
REF. CALC #1-DEC-4-2007



INSTALL SPF 2X4 #3 BLOCKING TO ENSURE 100% CONTACT BETWEEN FIXED AND MOVABLE TOP CORDS. 6" MIN. LAP ON FIXED AND MOVABLE SECTIONS BEYOND METAL HINGE MATERIAL FASTENED W/ 100% PVA GLUE AND MIN 5-15 GA X 2-1/2" STAPLES EACH END

REQUIRED AT SHEAR WALL LOCATIONS ONLY
SHEAR WALL RATING NOT TO EXCEED 500 PLF



APPROVAL PENDING AC LETTER FOR WIND ZONE 2&3 ONLY.

FACTORY CONSTRUCTION SPECIFICATIONS:

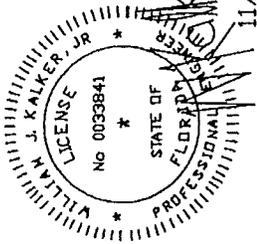
- (1) THE TRUSS MOVABLE KING POST MAY REQUIRE SHORTENING TO ACCOMMODATE THE DOUBLE 2X4 RUNNERS. SEE THE TRUSS DRAWINGS TO VERIFY THE MOVABLE KING POST DIMENSION REQUIRED TO INSTALL THE RUNNERS
- (2) THE UPPER RUNNER MUST BE FASTENED TO THE UPPER KING POST AND THE LOWER RUNNER MUST BE FASTENED TO THE LOWER KING POST WITH 4-15 GA X 2-1/2" STAPLES
- (3) SHEATHING MUST BE FASTENED TO THE FIXED PORTIONS OF TRUSSES LOCATED OVER SHEAR WALLS USING THE FASTENING SPECS PROVIDED ABOVE FOR THE SITE INSTALLED SHEATHING

HORTON HOMES
HINGE TRUSS SET-UP
RUNNER & STRAP METHOD

SUH-50B.1

11/1/07

NOTE: ALL WORK TO BE SITE INSTALLED UNLESS OTHERWISE NOTED

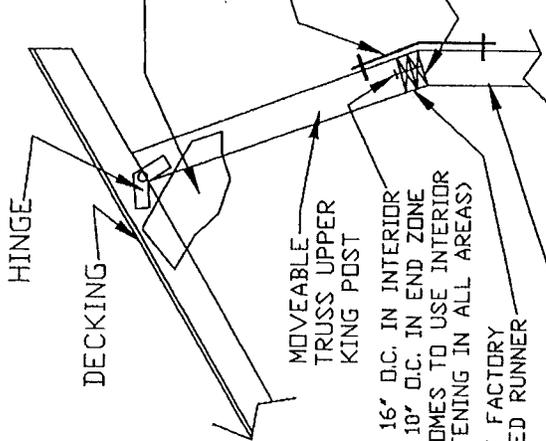


SEALED FOR WIND DESIGN ONLY

SHEATH TRUSSES ABOVE SHEAR WALLS WITH 3/8" MIN. RATED SHEATHING WITH 15 GA X 1-1/2" STA. 2' O.C. EDGES AND FIELD WITH 2X SPF VERTICAL BLOCKING INSTALLED 16' O.C. BETWEEN THE TRUSS MEMBERS TO SUPPORT SHEATHING (SITE INSTALL THE SHEATHING ON MOVABLE PORTIONS OF TRUSS)

ON EACH TRUSS INSTALL 1-1/2" X 26 GA STRAP W/(5) 15 GA X 1" STAPLES OR (5) .120" X 1-1/2" NAILS EACH END OF STRAP FROM THE FIXED KING POST TO THE MOVABLE KING POST AS SHOWN (ALL FASTENERS MUST BE INTO SIDE GRAIN)

2X4 SPF FACTORY INSTALLED RUNNER



10d NAILS 16' O.C. IN INTERIOR ZONE AND 10' O.C. IN END ZONE (ZONE 1 HOMES TO USE INTERIOR ZONE FASTENING IN ALL AREAS)

2X4 SPF FACTORY INSTALLED RUNNER

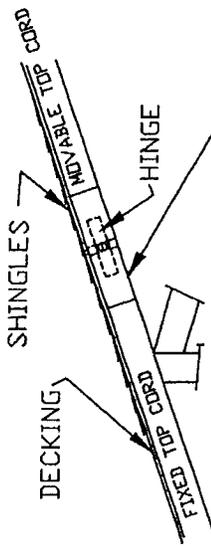
FIXED TRUSS LOWER KING POST

ANGLED UPPER KING POST FASTENING

DETAIL VALID FOR FOLLOWING TRUSSES:

UFP TRUSS #HC182011
UFP TRUSS #HM230916

REF. CALC. # 1-DEC-4, 2007
REF. CALC. # 1-JUNE 26 2007



INSTALL SPF 2X4 #3 BLOCKING TO ENSURE 100% CONTACT BETWEEN FIXED AND MOVABLE TOP CORDS. 6" MIN. LAP ON FIXED AND MOVABLE SECTIONS BEYOND METAL HINGE MATERIAL FASTENED W/ 100% PVA GLUE AND MIN 5-15 GA X 2-1/2" STAPLES EACH END

REQUIRED AT SHEAR WALL LOCATIONS ONLY
SHEAR WALL RATING NOT TO EXCEED 500 PLF

APPROVED
REVISED
DEC-4 2007
Federal Manufactured Home Construction and Safety Standards

APPROVAL PENDING AC LETTER FOR WIND ZONE 2&3 ONLY.

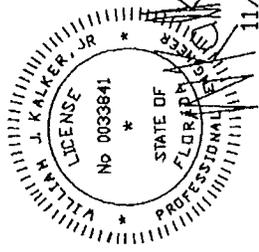
FACTORY CONSTRUCTION SPECIFICATIONS:

- (1) THE TRUSS MOVABLE KING POST MAY REQUIRE SHORTENING TO ACCOMMODATE THE DOUBLE 2X4 RUNNERS. SEE THE TRUSS DRAWINGS TO VERIFY THE MOVABLE KING POST DIMENSION REQUIRED TO INSTALL THE RUNNERS
- (2) THE UPPER RUNNER MUST BE FASTENED TO THE UPPER KING POST AND THE LOWER RUNNER MUST BE FASTENED TO THE LOWER KING POST WITH 4-15 GA X 2-1/2" STAPLES
- (3) SHEATHING MUST BE FASTENED TO THE FIXED PORTIONS OF TRUSSES LOCATED OVER SHEAR WALLS USING THE FASTENING SPECS PROVIDED ABOVE FOR THE SITE INSTALLED SHEATHING

HORTON HOMES
HINGE TRUSS SET-UP
RUNNER & STRAP METHOD

SUH-50C.1

ATTN: A

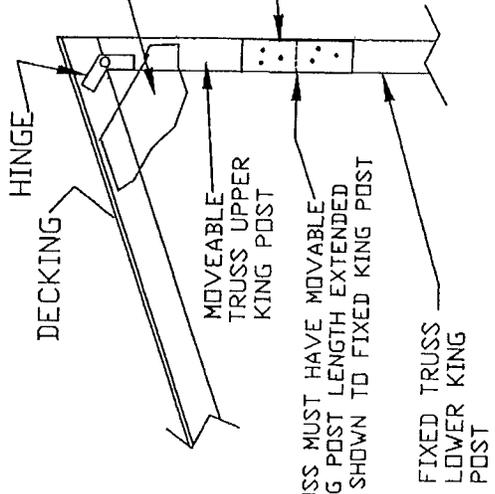


11/19/07

SEALED FOR WIND DESIGN ONLY

NOTE: ALL WORK TO BE SITE INSTALLED UNLESS OTHERWISE NOTED

SHEATH TRUSSES ABOVE SHEAR WALLS WITH 3/8" MIN. RATED SHEATHING WITH 15 GA X 1-1/2" STA. 2" O.C. EDGES AND FIELD WITH 2X SPF VERTICAL BLOCKING INSTALLED 16" O.C. BETWEEN THE TRUSS MEMBERS TO SUPPORT SHEATHING (SITE INSTALL THE SHEATHING ON MOVABLE PORTIONS OF TRUSS)



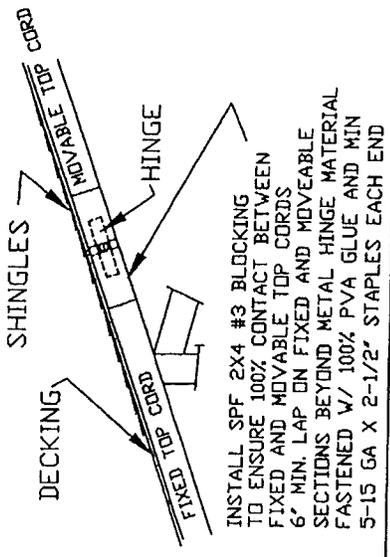
ON EACH TRUSS INSTALL A MIN. (2X4) X 8" SPF #3 SPLICE BLOCK WITH MIN. 4" LAP ON BOTH THE FIXED AND MOVABLE KING POSTS FASTENED WITH 100% PVA GLUE COVERAGE AND MIN. (3) 15 GA X 1" STAPLES OR (3) .120" X 1-1/2" NAILS EACH END OF SPLICE BLOCK

TRUSS MUST HAVE MOVABLE KING POST LENGTH EXTENDED AS SHOWN TO FIXED KING POST

STRAIGHT UPPER KING POST FASTENING

DETAIL VALID FOR FOLLOWING TRUSSES:
UFP TRUSS #HC182206*
UFP TRUSS #HM633605*

* WITH THE MOVABLE KING POST LENGTH INCREASED TO CONTACT THE FIXED KING POST AS SPECIFIED IN 'ALT. CONSTRUCTION DETAIL', TRUSS #166102, JOB 44718
REF: CALC #1 - DEC-04, 2007
REF CALC #1 - JUNE 26 2007



INSTALL SPF 2X4 #3 BLOCKING TO ENSURE 100% CONTACT BETWEEN FIXED AND MOVABLE TOP CORDS 6" MIN. LAP ON FIXED AND MOVABLE SECTIONS BEYOND METAL HINGE MATERIAL FASTENED W/ 100% PVA GLUE AND MIN 5-15 GA X 2-1/2" STAPLES EACH END

REQUIRED AT SHEAR WALL LOCATIONS ONLY
SHEAR WALL RATING NOT TO EXCEED 500 PLF

REVISED APPROVED
DEC-4 2007
Federal Manufactured Home Construction And Safety Standards

APPROVAL PENDING AC LETTER FOR WIND ZONE 2&3 ONLY.

FACTORY CONSTRUCTION SPECIFICATIONS:

(1) SHEATHING MUST BE FASTENED TO THE FIXED PORTIONS OF TRUSSES LOCATED OVER SHEAR WALLS USING THE FASTENING SPECS PROVIDED ABOVE FOR THE SITE INSTALLED SHEATHING

SUH-50D.1

HORTON HOMES
HINGE TRUSS SET-UP
SCAB BLOCK METHOD



Hinged Roof Set-up Procedure (Single Hinge Roof Truss System) (RUNNER and STRAP Method) ATTACHMENT B

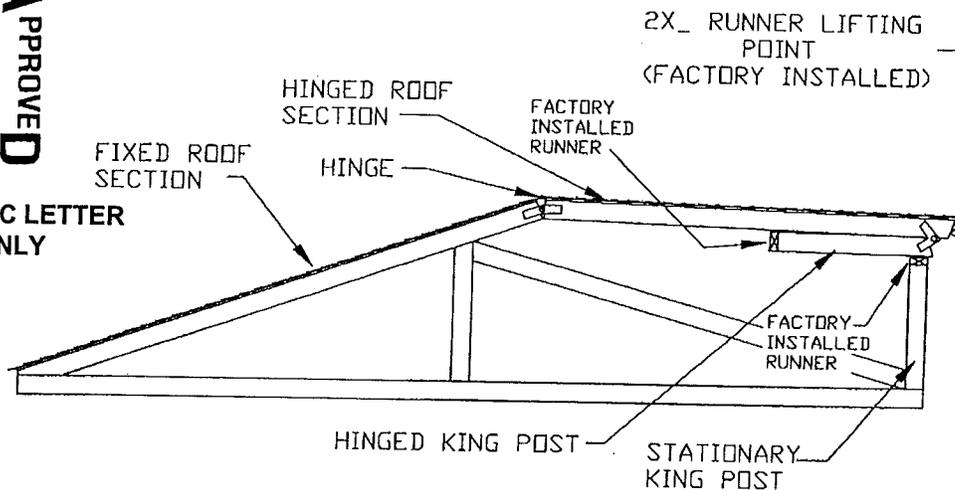
This set up procedure is for Horton Homes, Inc. and Dynasty Homes, Inc. The single hinged roof truss set ups. All figures and drawings referenced in this procedure are included with this manual. Refer to the Home Owner's Manual for the complete multi-section home set-up procedure.

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

CAUTION: Hinged rafter set-up should only be performed by qualified personnel.

1. Prior to raising the roof, position one half of the unit in its proper location according to the procedure outlined in the Home Owner's Manual. Be certain that the appropriate instructions are followed for the house's designated wind zone. Figure 1 below shows the different components of the roof truss system, as well as the appearance and position of the roof components prior to set up.

Figure 1. Roof in Transport Position



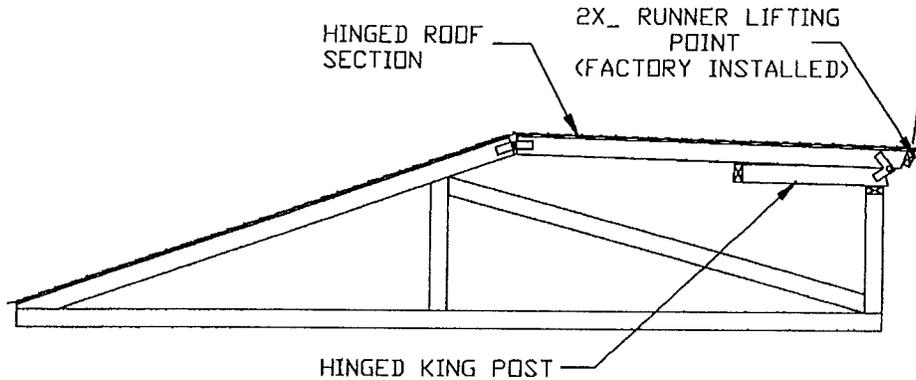
2. After setting the first half and removing all plastic, raise the hinged section of the roof using a crane, hydraulic jacks, or any equivalent lifting device. The lifting device should be securely positioned to lift the roof from the 2x top runner. (See Figure 2 drawing for location.) The number of lift points along the roof will depend on the length of the house. The entire roof on one half of the house must be lifted simultaneously to prevent permanent

APPROVED
HWC
APPROVED
 DEC -4 2007
 Federal Manufactured
 Home Construction
 And Safety Standards

APPROVAL PENDING AC LETTER
OR WIND ZONE 2&3 ONLY

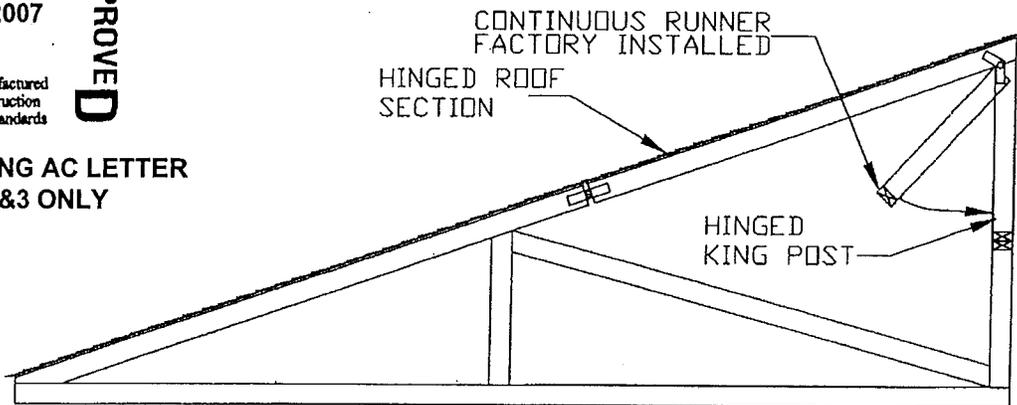
roof damage. The required capacity for your lifting device is approximately 55lbs per linear foot. (e.g. a 76' house will require 76'x55PLF = 4180lbs)

Figure 2. Raising Hinged Section



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

Figure 3. Hinged King Post Positioning

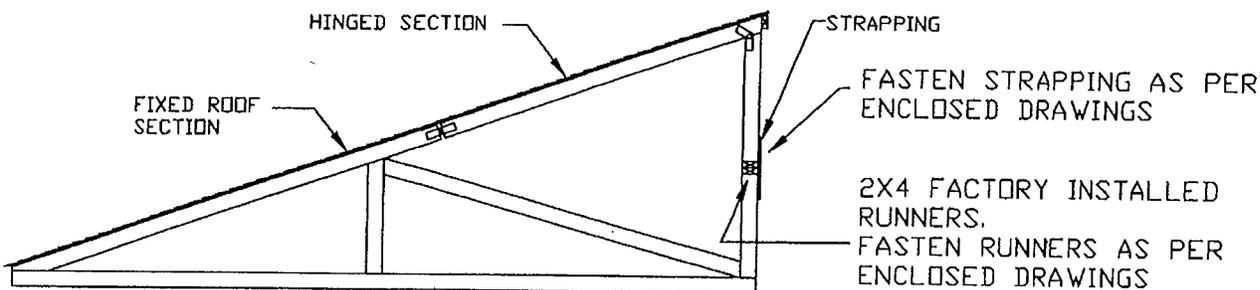


4. After aligning the runners, fasten the runners together as per enclosed drawing. Once runners have been fastened together, the lifting devices may be removed since the roof is capable of sustaining its own weight. Install strapping on kingpost as per enclosed drawings. (See Figure 4.)

APPROVED **HWG** **APPROVED**
 DEC -4 2007
 Federal Manufactured
 Home Construction
 And Safety Standards

APPROVAL PENDING AC LETTER
 FOR WIND ZONE 2&3 ONLY

Figure 4. Runner and Strap Installation



5. Now that the roof is secure, the trusses over the designated shearwalls must be blocked and sheathed with min. 3/8" rated structural sheathing. See the Home Owner's Manual for shearwall truss fastening and sheathing, and see the enclosed drawing.
6. Check along the hinge line carefully for wrinkles, tears, etc. in the shingle underlayment or shingles and repair according to the shingle manufacturer's specifications. If the shingle underlayment is severely buckled, it is acceptable to cut the underlayment and reposition it as long as the shingles completely cover the underlayment. As an option, metal flashing may be installed over hinged joint.
7. Install the required rows of shingles in the hinge area. These shingles have been provided by Horton Homes Inc. or Dynasty Homes, Inc. Shingles must be installed with a minimum of 6 fasteners per shingle.
8. This section of the home is now complete. Repeat steps 2 thru 8 for the second half of the home.
9. Once the second roof has been raised, continue to set up the two halves as shown in the Home Owner's Manual. The Figure 5 shows the completed assembly.

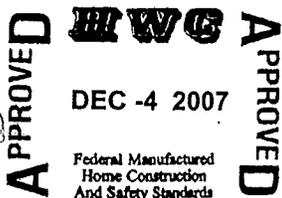


Figure 5. Completed Single Hinge Roof Assembly (Straight Kingpost)

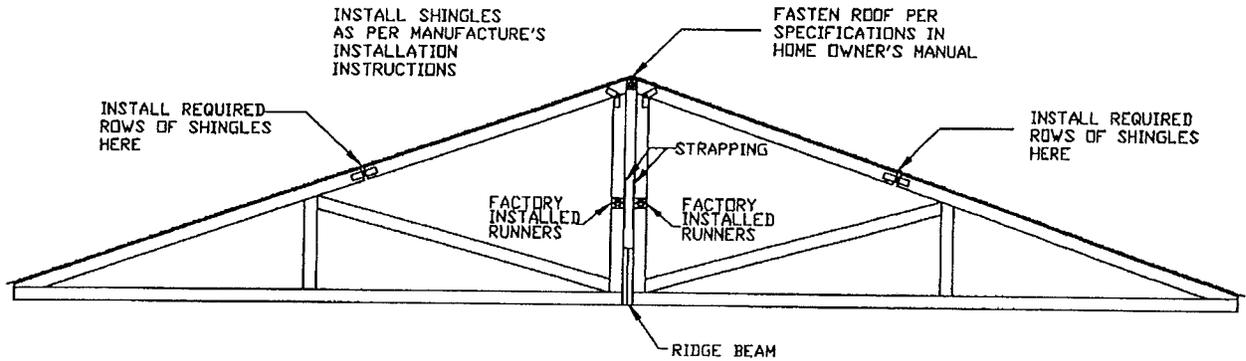
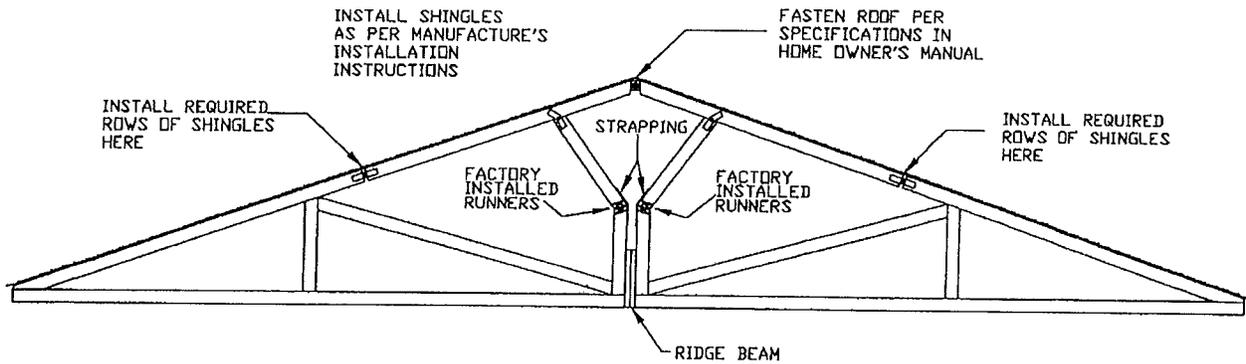


Figure 5. Completed Single Hinge Roof Assembly (Angled Kingpost)



APPROVED **HWC** **APPROVED**
 DEC -4 2007
 Federal Manufactured
 Home Construction
 And Safety Standards

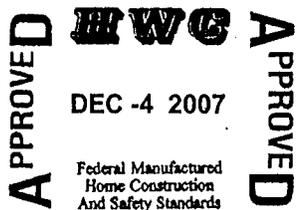
APPROVAL PENDING AC LETTER FOR WIND ZONE 2&3 ONLY

Horton Homes, Inc
Dynasty Homes, Inc.

ATTACHMENT B.

**SINGLE HINGE ROOF
CHECK LIST
RUNNER AND STRAP METHOD
ZONES 2 AND 3**

1. Moveable king post runner and fixed kingpost runners aligned
2. Runners fastened together with required nails and spacing as
Per drawing enclosed.
3. Install 1-1/2"x length x 26ga. Straps on each truss king post with
required fasteners as per enclosed drawing.
4. Fasten roof system ridge as per set up manual.
5. Shear wall truss hinge blocked as per drawing enclosed
6. Shear wall truss framed 16" o.c. min. and sheath as per enclosed
drawing. Note: fixed section sheathed in factory.
7. Shingles installed at seams min. (6) six fasteners per shingle
as per shingle manufacturer's specs for high wind.
8. Set up documented with photos.



APPROVAL PENDING AC LETTER
FOR WIND ZONE 2&3 ONLY

SUH-51D

Hinged Roof Set-up Procedure (Single Hinge Roof Truss System) (Splice Block Method) ATTACHMENT B

This set up procedure is for Horton Homes, Inc. and Dynasty Homes, Inc. The single hinged roof truss set ups. All figures and drawings referenced in this procedure are included with this manual. Refer to the Home Owner's Manual for the complete multi-section home set-up procedure.

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

CAUTION: Hinged rafter set-up should only be performed by qualified personnel.

1. Prior to raising the roof, position one half of the unit in its proper location according to the procedure outlined in the Home Owner's Manual. Be certain that the appropriate instructions are followed for the house's designated wind zone. Figure 1 below shows the different components of the roof truss system, as well as the appearance and position of the roof components prior to set up.

Figure 1. Roof in Transport Position

APPROVED

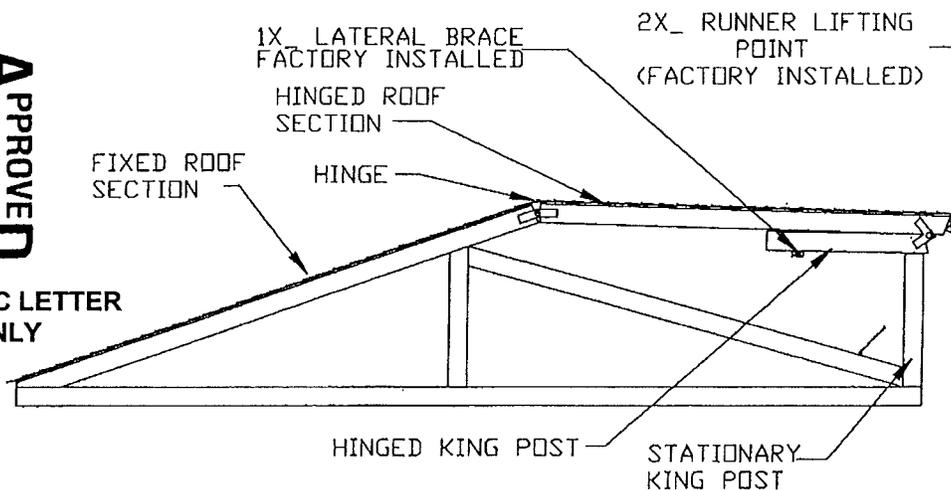
HWC

APPROVED

DEC -4 2007

Federal Manufactured
Home Construction
And Safety Standards

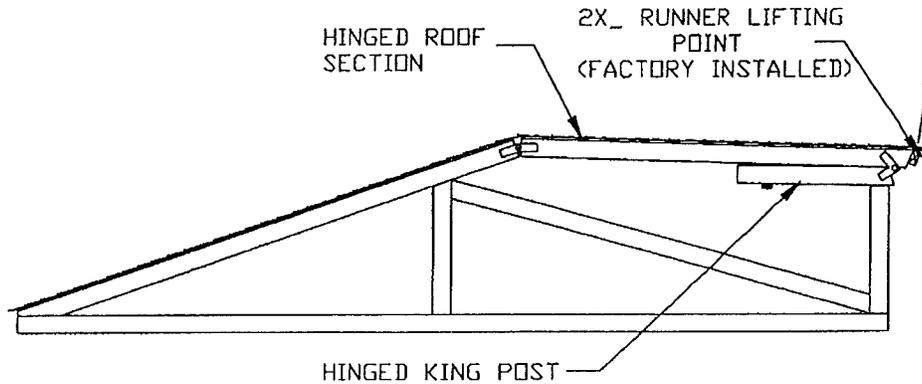
APPROVAL PENDING AC LETTER
OR WIND ZONE 2&3 ONLY



2. After setting the first half and removing all plastic, raise the hinged section of the roof using a crane, hydraulic jacks, or any equivalent lifting device. The lifting device should be securely positioned to lift the roof from the 2x top runner. (See Figure 2 drawing for location.) The number of lift points along the roof will depend on the length of the house. The entire roof on one half of the house must be lifted simultaneously to prevent permanent

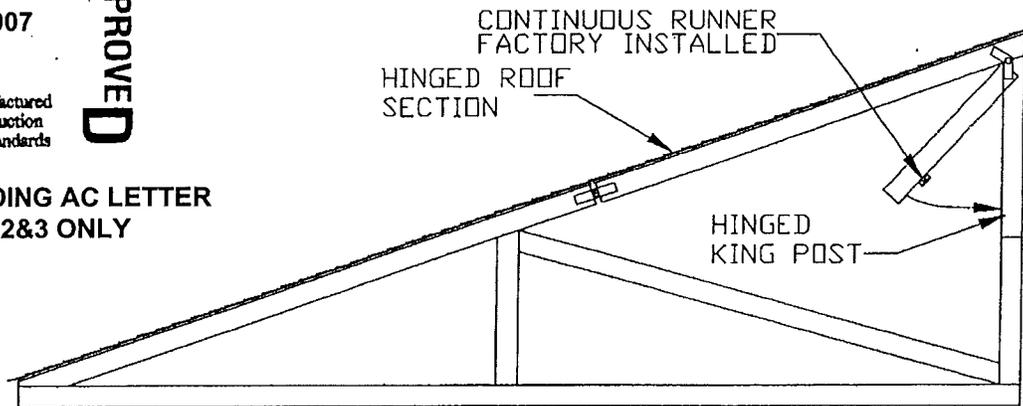
roof damage. The required capacity for your lifting device is approximately 55lbs per linear foot. (e.g. a 76' house will require 76'x55PLF = 4180lbs)

Figure 2. Raising Hinged Section



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

Figure 3. Hinged King Post Positioning

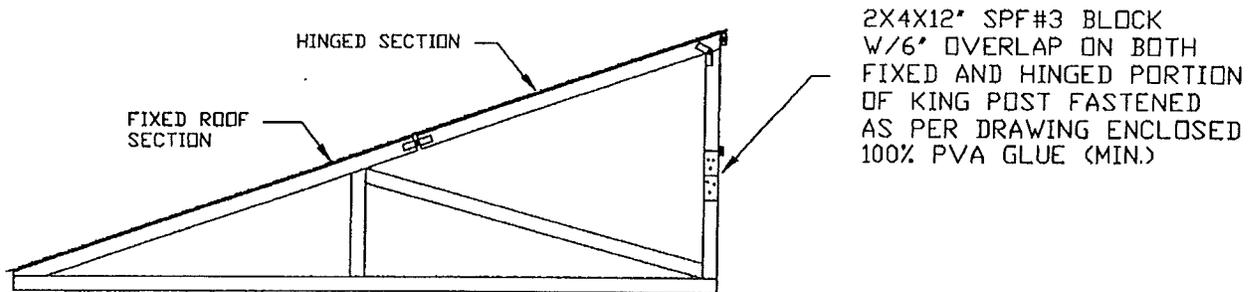


4. After aligning the two ends of the king post, install 2x4 scab blocks spanning the joint between the stationary and the hinged portion of the king post using a minimum of fasteners, as per drawing enclosed, on each side of the block with 100% coverage PVA glue. This block should be a minimum of 12" in length to provide a 6" minimum coverage on each side of the splice. (See Figure 4.)

APPROVED **HWC** **APPROVED**
 DEC -4 2007
 Federal Manufactured
 Home Construction
 And Safety Standards

**APPROVAL PENDING AC LETTER
 FOR WIND ZONE 2&3 ONLY**

Figure 4. Scab Block Installation



5. Once the splice blocks have been installed, the lifting devices may be removed since the roof is capable of sustaining its own weight.
6. Now that the roof is secure, the trusses over the designated shearwalls must be blocked and sheathed with min. 3/8" rated structural sheathing. See the Home Owner's Manual for shearwall truss fastening and sheathing, and see the enclosed drawing.
7. Check along the hinge line carefully for wrinkles, tears, etc. in the shingle underlayment or shingles and repair according to the shingle manufacturer's specifications. If the shingle underlayment is severely buckled, it is acceptable to cut the underlayment and reposition it as long as the shingles completely cover the underlayment. As an option, metal flashing may be installed over hinged joint.
8. Install the required rows of shingles in the hinge area. These shingles have been provided by Horton Homes Inc. or Dynasty Homes, Inc. Shingles must be installed with a minimum of 6 fasteners per shingle.
9. This section of the home is now complete. Repeat steps 2 thru 9 for the second half of the home.
10. Once the second roof has been raised, continue to set up the two halves as shown in the Home Owner's Manual. The Figure 5 shows the completed assembly.

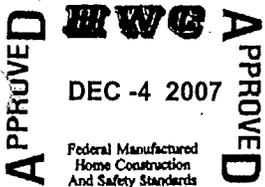


Figure 5. Completed Single Hinge Roof Assembly (Straight Kingpost)

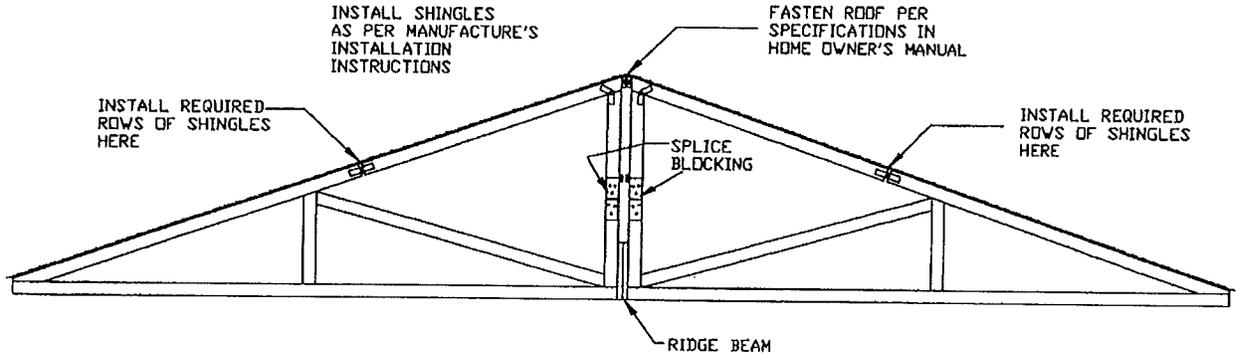
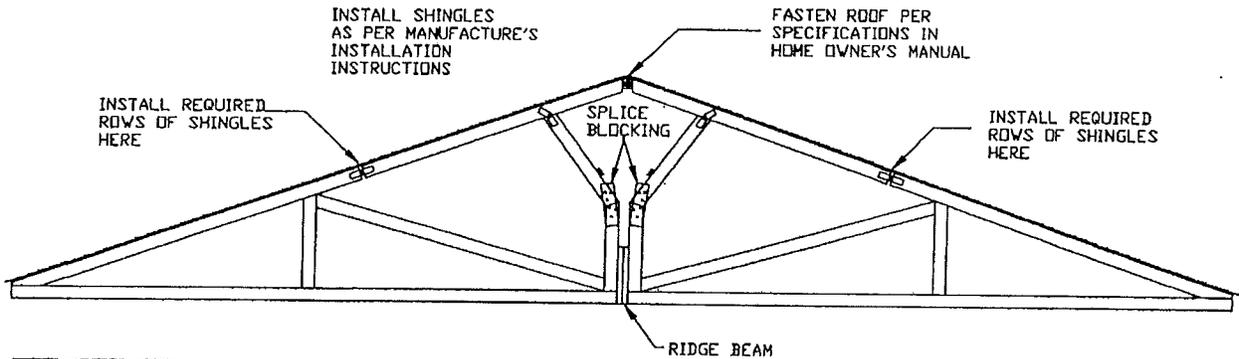


Figure 5. Completed Single Hinge Roof Assembly (Angled Kingpost)

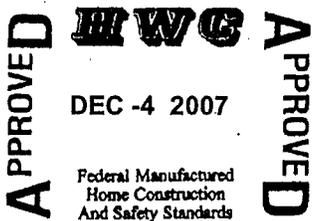


APPROVED **HWC** **APPROVED**
 DEC -4 2007
 Federal Manufactured
 Home Construction
 And Safety Standards

**APPROVAL PENDING AC LETTER
 FOR WIND ZONE 2&3 ONLY**

**SINGLE HINGE ROOF
CHECK LIST
SCAB BLOCK METHOD
ZONES 2 AND 3**

1. Moveable king post and fixed kingpost aligned
2. King post scab blocks proper size, type and grade.
3. Scab block min. 6" each side of seam.
4. Scab blocks glued and fastened as per enclosed drawing.
5. Fasten roof system ridge as per set up manual.
6. Shear wall truss hinge blocked as per drawing enclosed
7. Shear wall truss framed 16" o.c. min. and sheath as per enclosed drawing. Note: fixed section sheathed in factory.
8. Shingles installed at seams min. (6) six fasteners per shingle as per shingle manufacturer's specs for high wind.
9. Set up documented with photos.



APPROVAL PENDING AC LETTER
FOR WIND ZONE 2&3 ONLY

SUH-52D