

12/17/98

# Fleetwood Home Installation Manual

*A copy of this manual must remain with the home  
for reference by the occupant.*

Applies to all homes manufactured on or after July 13, 1994.

*Revised April, 1995*

**FLEETWOOD®**

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DEPT. OF ADMIN.  
BLDG. CODES & STANDARDS

**NOTE**  
**CONSUMER INFORMATION CARDS**

*Keep this manual with your manufactured home. Title VI of the Housing and Community Development Act of 1974 provides you with protection against certain construction and safety hazards in your manufactured home. To help assure your protection, the manufacturer of your manufactured home needs the information which these cards, when completed and mailed, will supply. If you bought your home from a retailer, please be sure that your retailer has completed and mailed a card for you. If you acquired your home from someone who is not a retailer, you should promptly fill out and send a card to the manufacturer. It is important that you keep this manual and give it to any person who buys the manufactured home from you.*

# FOREWORD

## TO THE HOMEOWNER:

Thank you for purchasing a Fleetwood manufactured home. This installation manual contains instructions that must be followed for the proper installation of your home. We strongly recommend you review the entire manual.

### WARNING

INSTALLATION OF YOUR MANUFACTURED HOME SHOULD BE PERFORMED BY PROFESSIONAL CONTRACTORS WHO HAVE BEEN TRAINED IN SETUP AND INSTALLATION SKILLS. LAYPERSONS UNFAMILIAR WITH THESE SKILLS WHO ATTEMPT INSTALLATION COULD CAUSE PERSONAL INJURY TO THEMSELVES AND OTHERS, AND/OR DAMAGE TO THE HOME. FAILURE TO FOLLOW THE INSTRUCTIONS IN THIS MANUAL MAY AFFECT YOUR WARRANTY COVERAGE.

Fleetwood manufactures and warrants this home to be in compliance with the Federal Manufactured Home Construction and Safety Standards in effect at the time of production. For warranty information see the Fleetwood Home Owner's Guide. To maintain an effective warranty, the home must be installed in accordance with the instructions in this manual.

When properly installed and prepared for the weather conditions likely to prevail at the site, the home is capable of providing satisfactory and comfortable service as a residence in the specific structural, wind and climate zones for which it is designed. The manufacturer is not responsible for the home failing to withstand structural, wind or climate conditions more rigorous than those for which it is designed, nor for damage caused to the home through failure to prepare it adequately for extreme temperatures or other climate conditions that may be encountered.

**The following are definitions of some of the terms you will see used throughout this manual.**

**SUPPORT SYSTEM** - A combination of footings, piers, caps and wedges placed beneath the home to provide support. See Section 3.

**FOOTING PADS** - Part of the support system located at or below ground level. Piers are placed on footing pads, which are made from concrete or treated lumber.

**PIERS** - Part of the support system installed on footing pads under the main beams or perimeter of the home. Piers are completed with cap blocks and wood wedges. Piers are made from concrete blocks, steel or concrete stands.

**SUPPORT POSTS** - Structurally designed posts at each end and at various locations down the mating line of a multi section home. Footing pads and piers are required at these locations.

**BOTTOM BOARD** - Fastened to the underside of the home is a special covering designed to protect against the entry of rodents and moisture as well as to isolate the floor cavity from outside air. This covering was inspected before the home left the manufacturing facility. It is important that any areas damaged or torn during transportation or installation be resealed.

**ANCHORING SYSTEM** - A combination of ground anchors and tiedown straps designed to resist wind forces. See Section 4.

**ANCHORS** - Part of the anchoring system installed in the ground around the perimeter of the home.

**TIEDOWN STRAP** - Part of the anchoring system consisting of steel straps wrapped around the main beams and connected to anchors.

**CROSSOVERS** - Multi section homes have utility connections that are located under the home where the two halves are joined. Crossover connections include heat ducting, electrical circuits, water pipes, drain plumbing and gas lines. (Not all homes have water, drain or gas crossovers.)

# FOREWORD

(Cont'd.)

## AREAS REQUIRING YOUR SPECIFIC ATTENTION:

Please carefully review the information provided on the following pages prior to the installation of your home.

### SITE PREPARATION - Page 9.

Provides specific information necessary to prepare the site where your home will be located. Please note the information regarding water drainage and ground barrier.

### FOOTING PADS - Page 15.

In areas where the ground is subject to freezing, footing pads must extend below the frost line established by local jurisdictions.

### INSTALLATION OF OPTIONAL FEATURES - Page 59.

Review this information prior to considering the installation of items such as carport, deck, skirting, telephone wiring or television cable.

### CLOTHES DRYER VENTING - Page 65.

Access for a dryer vent has been provided in the utility area or room. To aid in preventing condensation problems, the dryer vent duct **must terminate outside** the perimeter of the home.

### MAIN PANEL BOX ELECTRICAL CONNECTIONS - Page 69.

Please review this entire page carefully to insure that your electrical service is properly connected. **A 4-wire feeder system is mandatory.** You must have a ground wire connection from the service entrance to the ground bar in the panel box.

Your home is designed to be moved by a specially equipped truck/tractor. Your home may be damaged and your warranty voided if your home is moved, supported or lifted with equipment other than that specifically designed for this purpose.

The drawings and data contained in these instructions are intended to be representative of the product. Design and specifications are subject to change without prior notice.

Should you or the installer have any questions or desire further clarification, please contact your retailer. If the retailer is unable to provide the necessary information, contact the manufacturing facility.

# CONTENTS

RADCO

FEDERAL MANUFACTURED  
HOUSING CONSTRUCTION  
& SAFETY STANDARDS

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APPROVED

FOREWARD.....	i	1
INTRODUCTION .....	iv	2
SECTION 1 - DOCUMENTATION REVIEW .....	1	3
SECTION 2 - SITE PREPARATION .....	7	4
SECTION 3 - FOUNDATIONS .....	11	5
SECTION 4 - INSTALLATION PROCEDURES .....	39	6
SECTION 5 - INSTALLATION OF OPTIONAL FEATURES .....	57	
SECTION 6 - PREPARATION OF APPLIANCES .....	63	
SECTION 7 - UTILITY SERVICE CONNECTIONS AND TESTING .....	67	
SECTION 8 - FINAL INSPECTIONS .....	73	

# INTRODUCTION

IN THIS MANUAL STATEMENTS OF SPECIAL SIGNIFICANCE ARE WRITTEN IN A BOLD TEXT AND/OR ARE PRECEDED BY THE FOLLOWING WORDS:

- WARNING** - MEANS THAT THERE IS THE POSSIBILITY OF PERSONAL INJURY TO YOURSELF AND OTHERS.
- CAUTION** - MEANS THAT THERE IS THE POSSIBILITY OF PHYSICAL DAMAGE TO THE HOME OR ITS COMPONENTS.
- NOTE** - INDICATES TOPICS OF PARTICULAR INTEREST.

TAKE PARTICULAR NOTICE OF THESE ITEMS WHEN YOU ARE READING THIS MANUAL.

## WARNING

THIS MANUAL GIVES INSTRUCTIONS FOR THE SAFE INSTALLATION OF A MANUFACTURED HOME. UNIQUE CONDITIONS AT A SPECIFIC INSTALLATION SITE CAN CAUSE SPECIAL PROBLEMS AND REQUIRE PARTICULAR SAFETY PRECAUTIONS. THE INDIVIDUAL SUPERVISING THE INSTALLATION MUST BE EXPERIENCED IN HOME INSTALLATION PROCEDURES IN ORDER TO EVALUATE THE SAFETY IMPLICATIONS OF SUCH MATTERS AS: SOILS, SLOPE, MOISTURE CONDITIONS, INSTALLATION EQUIPMENT, SIZE AND WEIGHT OF THE HOME, ETC. IT IS ESSENTIAL TO PERFORM THE INSTALLATION CORRECTLY AND TO MAINTAIN SAFE WORKING CONDITIONS.

## WARNING

THE HOME WEIGHS SEVERAL TONS! ADEQUATE SUPPORT BLOCKING MUST BE USED TO SAFEGUARD PERSONNEL AND THE STRUCTURE DURING ALL INSTALLATION PROCEDURES. PERSONNEL SHOULD NOT BE PERMITTED TO WORK UNDER THE HOME WHERE INJURY MIGHT RESULT SHOULD THE HOME ACCIDENTALLY SLIP DURING THE INSTALLATION PROCESS.

Before beginning to install the home, check with local regulatory agencies for codes or regulations which may affect procedures in this manual and entries on the Compliance Certificate. The testing of the various utility systems and the connection of these systems to the on-site services must be accomplished by qualified service personnel. The laws of some jurisdictions may require that the service personnel possess a license.

This manual depicts the most widely used method of supporting manufactured homes. Other methods which provide equal support at the same locations may be acceptable provided they do not stress the structure or cause distortion to the structure during installation. Also, other products and/or material equal to or better than those indicated may be used.

The home is designed to be supported by individual piers and anchored with tiedown straps. These are collectively referred to as the support and anchoring systems.

# INTRODUCTION

(Cont'd.)

The support system is located under either the main beams or the main beams and the perimeter. Two main beams run the length of each section of the home. Consult the manufacturing facility before using a support system which does not directly support the main beams as this may result in damage to the home.

The support system must resist vertical loads from the weight of the home plus temporary extra roof loading (i.e. snow), as well as resisting side loads imposed by wind forces. Design data describing the roof and wind load resistance may be found on the Compliance Certificate.

Determine the appropriate support system for local site and wind exposure conditions.

Many of the words or terms used in this manual are those commonly used to describe the condition of the home or its components when they are properly installed and the home is ready for occupancy. Such words or terms include but are not limited to "LEVEL", "PLUMB", "FLUSH", "ALIGN", "STRAIGHT" and "SLOPE" and are used in the text for simplicity, but the use of such terms should not be taken to indicate that reasonable trade tolerances are unacceptable.

Should you have any questions or desire further clarification, contact the retailer or the manufacturing facility.

# SECTION 1

## DOCUMENTATION REVIEW

	PAGE
BEFORE YOU BEGIN .....	3
ZONE MAPS OF THE UNITED STATES .....	4
MATERIALS AND THEIR SPECIFICATIONS NOT PROVIDED BY FLEETWOOD .....	5

## BEFORE YOU BEGIN.....

There are several documents that must be reviewed prior to the installation of this home. They can be found stapled to the flap in the back of this manual.

### 1. COMPLIANCE CERTIFICATE (DATA PLATE)

The Compliance Certificate is an important document found either on a wall in the master bedroom closet or on a door under the kitchen sink. A copy is also included for you to reference the structural, roof load, thermal and wind designs of the home.

### 2. FLOOR PLAN

This document is the approved floor plan of the home. Included on this document is information regarding minimum pier capacities for mating line piers, pertinent electrical information and detailed structural requirements required by the Federal Manufactured Home Construction and Safety Standards.

### 3. UTILITY SCHEMATICS

These documents are the approved utility schematics which depict the configuration of the different utility systems in the home, water, drain and gas. The drain schematic will indicate any portions of the drain system that require site installation for final assembly. Any "shipped loose" parts of the system will be indicated with an asterisk ( \* ) indicating assembly is necessary.

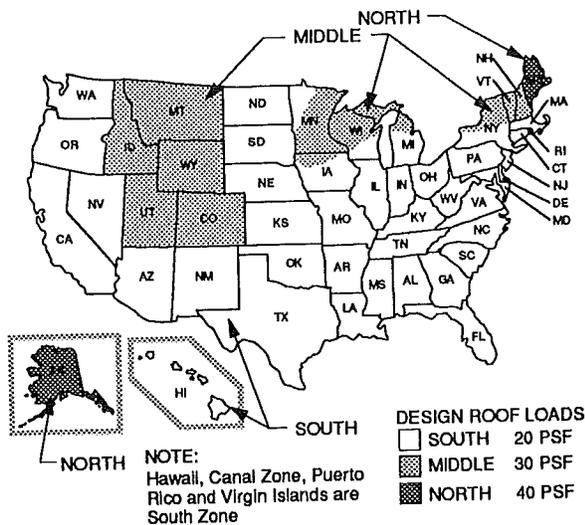
### 4. INSTALLATION MANUAL SUPPLEMENTS

Supplement pages may be included with this manual. These supplements outline special features included in the home which are not covered in the manual, or which differ from details in the manual.

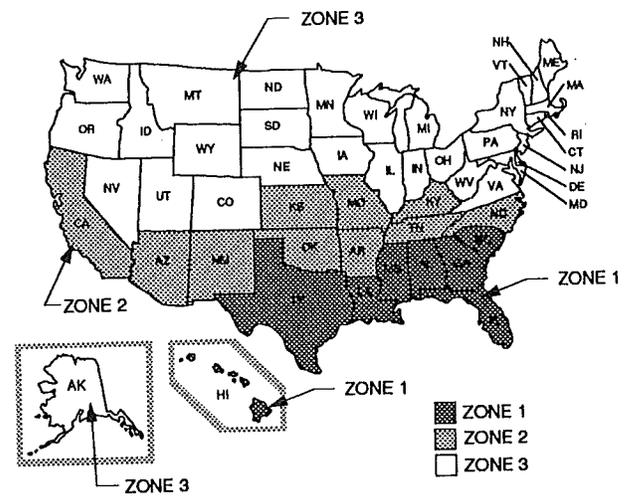
### 5. DESIGN ZONE MAPS

On page 4 you will find the Design Zone Maps for roof loads, heat and cooling and structural wind zones. Review the information on the Compliance Certificate and the zone maps to determine that the home site location is within the acceptable boundaries. The boundaries for structural Wind Zones II and III have been listed by state and county to further clarify Wind Zone boundaries.

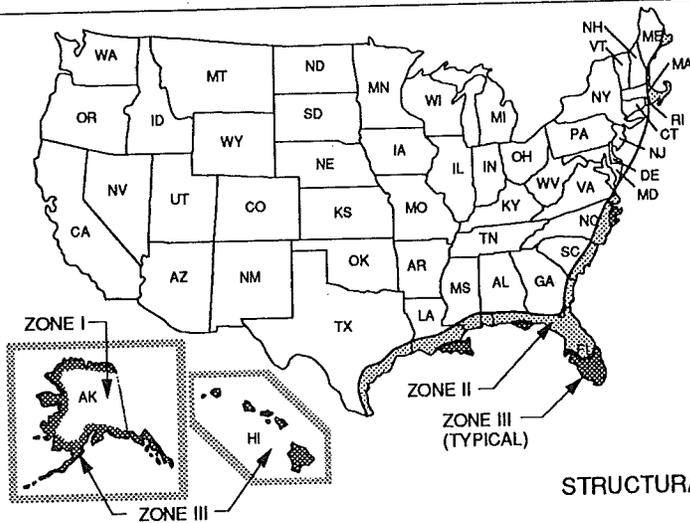
# ZONE MAPS OF THE UNITED STATES



**STRUCTURAL ROOF DESIGN MAP**



**HEATING & COOLING DESIGN MAP**  
(U<sub>o</sub> VALUE ZONES)



**STRUCTURAL WIND ZONE DESIGN MAP**

Wind Zone I consists of those areas of the United States and its territories that are not identified as being in Wind Zone II or III.

This home has not been designed for the higher wind pressure and anchoring provisions required for ocean/coastal areas and should not be located within 1500' of the coastline in Wind Zones II and III, unless the home and its anchoring and foundation system have been designed for the increased requirements specified for Exposure D in ANSI/ASCE 7-88.

**WIND ZONE II (100 MPH)**

The following local governments listed by State (counties / parishes, unless specified otherwise) are within Wind Zone II:

<b>Alabama</b> Baldwin	Mobile	<b>North Carolina</b> Beaufort Brunswick Camden Chowan Columbus Craven Currituck Jones	<b>New Hanover</b> Onslow Pamlico Pasquotank Pender Perquimans Tyrrell Washington
<b>Florida</b> All counties except those identified as being within Wind Zone III		<b>South Carolina</b> Beaufort Berkeley Charleston Colleton Dorchester	Georgetown Horry Jasper Williamsburg
<b>Georgia</b> Bryan Camden Chatham	Glynn Liberty McIntosh	<b>Texas</b> Arkansas Brazoria Calhoun Cameron Chambers Galveston Jefferson Kenedy	Kleberg Matagorda Nueces Orange Refugio San Patricio Willacy
<b>Louisiana</b> Acadia Allen Ascension Assumption Calcasieu Cameron East Baton Rouge East Feliciana Evangeline Iberia Iberville Jefferson Davis LaFayette	Livingston Pointe Coupee St. Helena St. James St. John the Baptist St. Landry St. Martin St. Tammany Tangipahoa Vermillion Washington West Baton Rouge West Feliciana	<b>Virginia - The cities of:</b> Chesapeake Norfolk Portsmouth	Princess Anne Virginia Beach
<b>Maine</b> Hancock	Washington		
<b>Massachusetts</b> Barnstable Bristol Dukes	Nantucket Plymouth		
<b>Mississippi</b> George Hancock Harrison	Jackson Pearl River Stone		

**WIND ZONE III (110 MPH)**

The following local governments listed by State (counties / parishes, unless specified otherwise) are within Wind Zone III:

<b>Florida</b> Broward Charlotte Collier Dade Franklin Gulf Hendry	Lee Martin Manatee Monroe Palm Beach Pinellas Sarasota
<b>Louisiana</b> Jefferson La Fourche Orleans Plaquemines	St. Bernard St. Charles St. Mary Terrebonne
<b>North Carolina</b> Carteret Hyde	Dare

The following states and territories are within Wind Zone III:

**State of Hawaii**

Alaska, coastal regions between the 90 mph isotch on ASCE 7-88 wind map and the coast

**U.S. Territories:**

- America Samoa
- Northern Mariana Islands
- Trust Territory of Pacific Islands
- Guam
- Puerto Rico
- U.S. Virgin Islands

# MATERIALS AND THEIR SPECIFICATIONS NOT PROVIDED BY FLEETWOOD

MATERIAL	SPECIFICATIONS
CONCRETE BLOCKS	Hollow load bearing concrete masonry blocks conforming to ASTM Designation C90, Grade N. Nominal 8" x 8" x 16". Maximum load 8,000 lbs. (Not considering footings).
COMMERCIAL METAL PIER	Available in various heights and base widths listed and stamped with maximum load capacity.
CONCRETE FOOTING PADS	Nominal 4" pre-cast concrete without reinforcement with a 28 day compressive strength at least 3,000 PSI.
CONCRETE CAP BLOCK	Nominal 2" or 4" x 8" x 16" pre-cast concrete without reinforcement.
WOOD FOOTING PADS	Nominal 2 x 12 x 24" minimum pressure treated lumber #2 grade any wood specie. A single wood pad with 3,000 PSF soil capacity must be minimum #2 Doug-Fir Larch or #2 Southern Pine with minimum 12" base metal pier or 8" x 8" x 16" concrete blocks.
WOOD CAP BLOCK	Nominal 1 x 8 x 16" lumber
OPTIONAL CONCRETE RUNNERS	Nominal 6" reinforced concrete.
TIEDOWN STRAPS AND GROUND ANCHORS	Min. 1 1/4" x 0.035" zinc coated (0.30 oz. per sq. ft.) steel strapping conforming to ASTM D3953, Type 1, Grade 1, Finish B with a minimum working load capacity of 3150 lbs and a minimum total load capacity of 4725 lbs. Slit or cut edges of zinc coated strapping do not need to be zinc coated.
a. Main beam diagonal straps.	
b. Longitudinal straps front and rear.	
c. Supplemental straps.	
d. Vertical straps.	
e. Ground anchors for all tiedown straps. May be fabricated from steel rod, cable or other similar material.	1). Ground anchors shall be capable of resisting a minimum total load capacity of 4725 lbs. and a working load capacity of 3150 lbs. minimum when installed in wind zones I, II, or III. 2). Anchors and anchoring equipment should be certified by a professional engineer, architect or a nationally recognized testing laboratory as to their resistance, based on the maximum angle of diagonal tie and/or vertical tie loading, in accordance with testing procedures in ASTM Standard Specification D3953-91, Standard Specification for Strapping, Flat Steel and Seals.





**SECTION 2**  
**SITE PREPARATION**

	PAGE
STRUCTURAL, WIND AND CLIMATIC ZONES .....	9
WATER DRAINAGE AND SITE GRADING .....	9
GROUND BARRIER .....	9
VEGETATION CONTROL AND UTILITY LOCATIONS .....	10
SOIL BEARING VALUES AND PROCEDURES .....	10



## SITE PREPARATION

### CAUTION

WHERE THE HOME IS TO BE LOCATED IS EXTREMELY IMPORTANT FOR THE PROPER INSTALLATION OF THE HOME. THE FOLLOWING ARE ITEMS THAT NEED TO BE TAKEN INTO CONSIDERATION PRIOR TO DETERMINING THE PROPER LOCATION.

### STRUCTURAL, WIND AND CLIMATIC ZONES

Refer to a copy of the Compliance Certificate for this home and zone maps on page 4 to determine that the home's location is within the specified zones and boundaries.

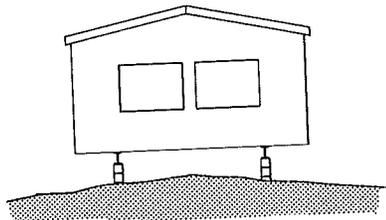
### WATER DRAINAGE AND SITE GRADING

It is necessary to control the flow of rain and irrigation water and keep it from running under the home. Locate the home a distance from natural streams and rivers. It is necessary that the home site be properly graded and sloped to prevent water and moisture collecting under the home.

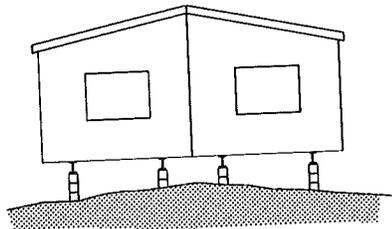
If the home is set in a pit, it is also necessary to provide water drainage away from the underside of the home. Controlling the water and moisture under the home will improve the stability of the footings and piers that support the home.

### CAUTION

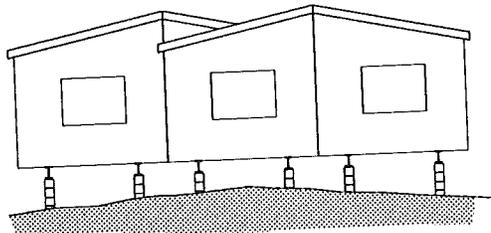
EXCESSIVE WATER IN THE SOIL UNDER THE HOME WILL CAUSE UNNECESSARY DETERIORATION TO THE HOME AND AFFECT THE COMFORT LEVEL IN THE HOME. CONTINUOUS STANDING WATER UNDER THE HOME CAN CAUSE CONDENSATION PROBLEMS AND AFFECT THE HOME'S WARRANTY.



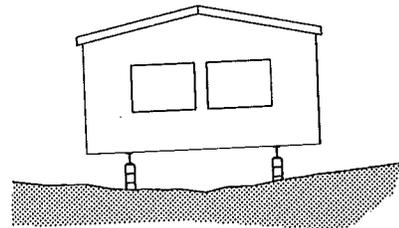
DO crown and grade site to slope away from the home.



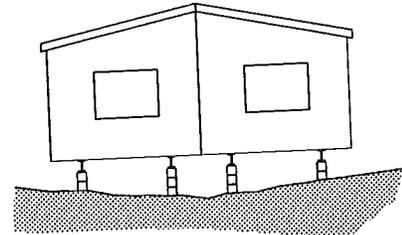
DO crown and grade site to slope away from the home.



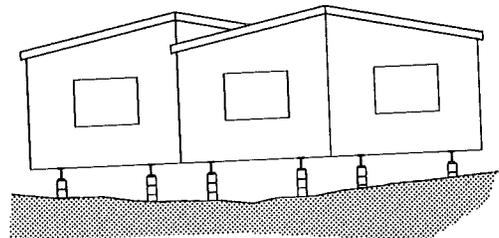
DO crown and grade site to slope away from the home.



DO NOT grade site or set the home so that water collects beneath the home.



DO NOT grade site or set the home so that water collects beneath the home.



DO NOT grade site or set the home so that water collects beneath the home.

### GROUND BARRIER

There is a strong tendency for ground moisture to be drawn into the home greatly complicating efforts to control humidity and condensation.

A ground moisture-vapor retarder of 6 mil. rated polyethylene plastic, vinyl or similar material laid on the ground surface under the home is recommended to assist in controlling the humidity in the home.

# SITE PREPARATION (cont'd.)

## VEGETATION CONTROL

Cut back low hanging tree branches, bushes and 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.

## 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.

## SOIL BEARING VALUES

Many local building jurisdictions have soil bearing values available in pounds per square foot (psf). It is important that this information be obtained in order to determine that the home footing sizes and piers are adequate to support the home. However, if (1) Soils investigation and analysis of the site, (2) Compliance with the local building code and (3) Competent opinion by a local registered professional engineer or building official are unavailable, use the procedure shown below to determine the soil bearing capacity.

If the procedure below is not used, all footing sizes and piers shall be determined by the 1000 pounds per square foot soil capacity columns as indicated in Section 3.

## PROCEDURE TO DETERMINE THE SOIL BEARING CAPACITY

The following method is suggested for determining the allowable soil bearing capacity to be used in the sizing of footings. Such a method is only an approximation, and the results should be properly interpreted.

1. Obtain a pocket penetrometer, such as model CL-700A by Soil Test. Contact Cal-Cert Co. P.O. Box 416 Clackamas, Oregon 97015 or call 1-800-356-4662.
2. Test an area adjacent to, or within 10 feet of, the perimeter of the home.
3. Dig down to undisturbed soil a minimum of 4 inches. 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 so that an inspector will be able to verify the results, should the inspector desire to do so.
7. Verify that test results are in agreement with the description of soil table.

GENERAL DESCRIPTION OF SOILS	
SOIL TYPE based on the unified classification system	ALLOWABLE PRESSURE (Pounds Per Square Foot) No allowance made for overburden pressure, embedment depth, water table height or settlement problems.
rock or hard pan	4,000 and up
Sandy Gravel or Gravel	2,000
Sand, Silty Sand, Clayey Sand, Silty Gravel, or Clayey Gravel	1,500
Clay, Sandy Clay, Silty Clay, or Clayey Silt	1,000
Uncommitted Fill	Special analysis is required.
Peat or Organic Clays	Special analysis is required.

## NOTE

DEPENDING ON THE SITE LOCATION YOU MAY WANT TO APPROXIMATELY LOCATE FOOTING PADS, PIER BLOCKS OR STANDS, ANCHORS AND TIEDOWN STRAPS THAT MIGHT BE DIFFICULT TO PLACE AFTER THE SECTION OR SECTIONS OF THE HOME ARE IN THEIR FINAL POSITION.

# SECTION 3

## FOUNDATIONS

	PAGE
FOOTING PADS AND PIERS .....	13
PIER LOCATION ELEVATIONS .....	14
FOUNDATION FOOTINGS WITH CONCRETE AND COMMERCIAL METAL PIERS .....	15
FOOTINGS AND FROST LINES .....	15
CONCRETE BLOCK PIERS .....	16
COMMERCIAL METAL PIERS .....	17
MINIMUM FOOTING REQUIREMENTS LABELED PERIMETER & G-2 STRAP PIERS .....	17
MAIN BEAM FOOTING CONFIGURATION AND SPACING PROCEDURE .....	18
FOOTING AND TIEDOWN STRAP SPACING	
MAIN BEAM - 10 WIDE .....	19
MAIN BEAM & PERIMETER - 10 WIDE .....	20
MAIN BEAM - 12 WIDE .....	21
MAIN BEAM & PERIMETER - 12 WIDE .....	22
MAIN BEAM - 13 WIDE .....	23
MAIN BEAM & PERIMETER - 13 WIDE .....	24
MAIN BEAM - 14 WIDE .....	25
MAIN BEAM & PERIMETER - 14 WIDE .....	26
MAIN BEAM - 16 WIDE .....	27
MAIN BEAM & PERIMETER - 16 WIDE .....	28
MAIN BEAM - 18 WIDE .....	29
MAIN BEAM & PERIMETER - 18 WIDE .....	30
MAIN BEAM FOOTING SPACING USING PRE-POURED (UNREINFORCED) CONCRETE FOOTINGS	
SINGLE DOUBLE OR TRIPLE SECTIONS 20 PSF ROOF.....	31
SINGLE DOUBLE OR TRIPLE SECTIONS 30 PSF ROOF.....	32
SINGLE DOUBLE OR TRIPLE SECTIONS 40 PSF ROOF.....	33
TRIPLE SECTION WITH TRANSVERSE ROOF FOOTING CONFIGURATIONS AT MAIN BEAM AND SUPPORT POSTS .....	34
MATING LINE FOOTING CONFIGURATIONS .....	35
MATING LINE PIERS .....	36
MATING LINE TIEDOWN STRAPS .....	36
PORCH PIERING .....	37
DECK PIERING .....	38



# FOUNDATION FOOTING PADS AND PIERS

## FOOTING PADS

Footings are required under each pier to distribute the home load to the ground. The size of the footing is determined by the allowable soil bearing pressure and load each pier has to carry. The details in this section provide the available configurations for concrete block and metal piers.

Footing sizes and materials other than those shown in this manual may be used as long as the area of the footing is appropriate for the pier load and allowable soil bearing value at the site.

Check with local building authorities for requirements for installation of the home due to ground conditions. Footing pads may be placed at grade level. In areas where the ground is subject to freezing, the footing pads must extend below the frost line established by local jurisdiction. See page 15 for frost line information.

## PIERS

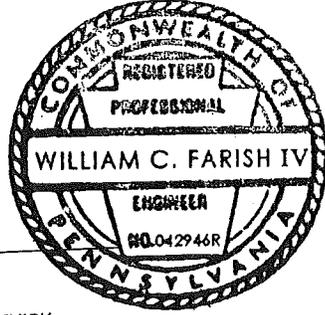
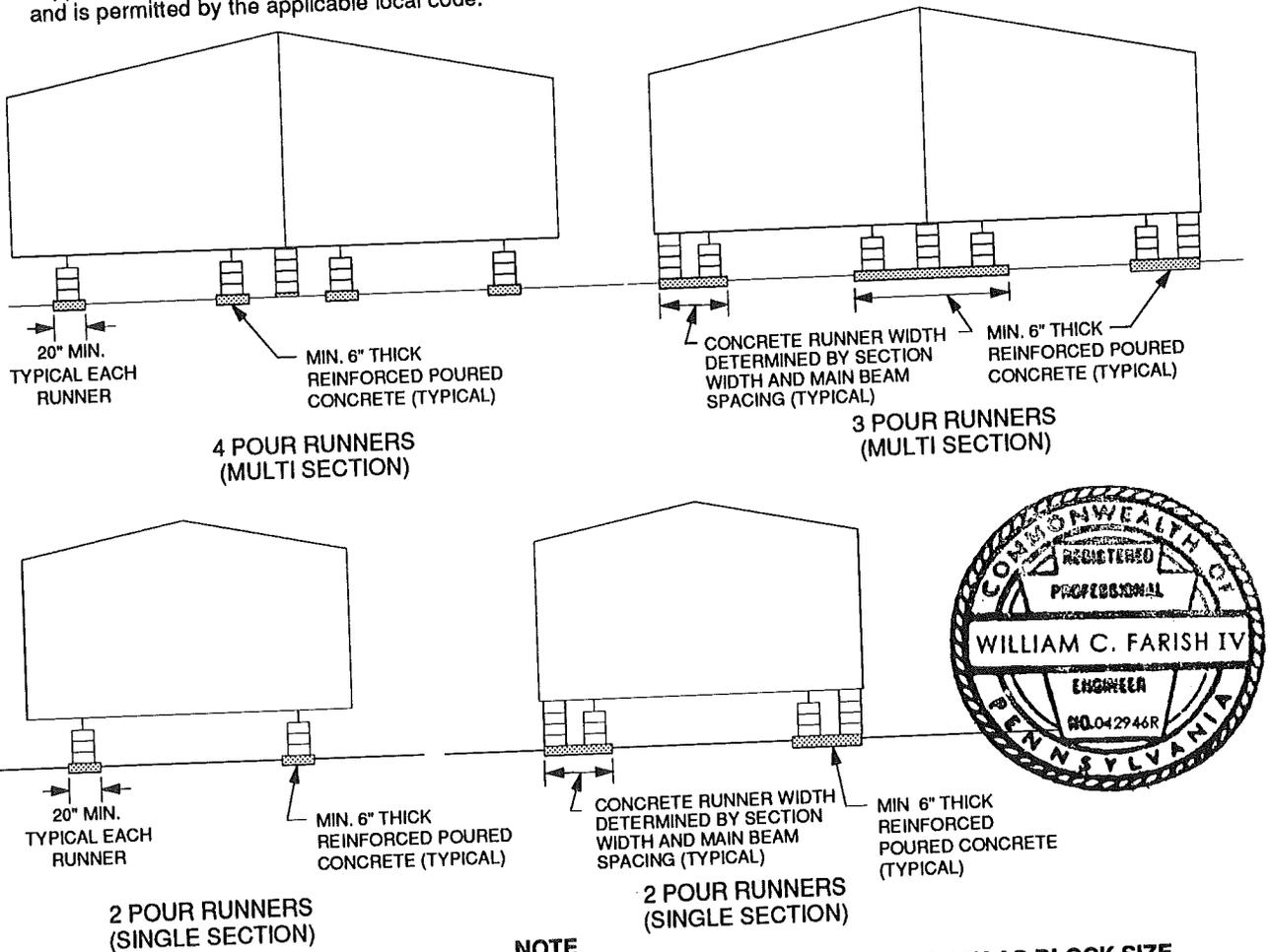
The piers used must be strong enough to transmit the vertical load, which includes the weight of the home, its furnishings, and temporary roof loading, to the foundation surface below.

Pier spacings other than those shown in this manual may also be used as long as spacing does not exceed the maximum pier spacing shown.

Pier designs and heights shown in this manual can be used on flat or sloping ground.

## OPTIONAL POURED CONCRETE RUNNERS

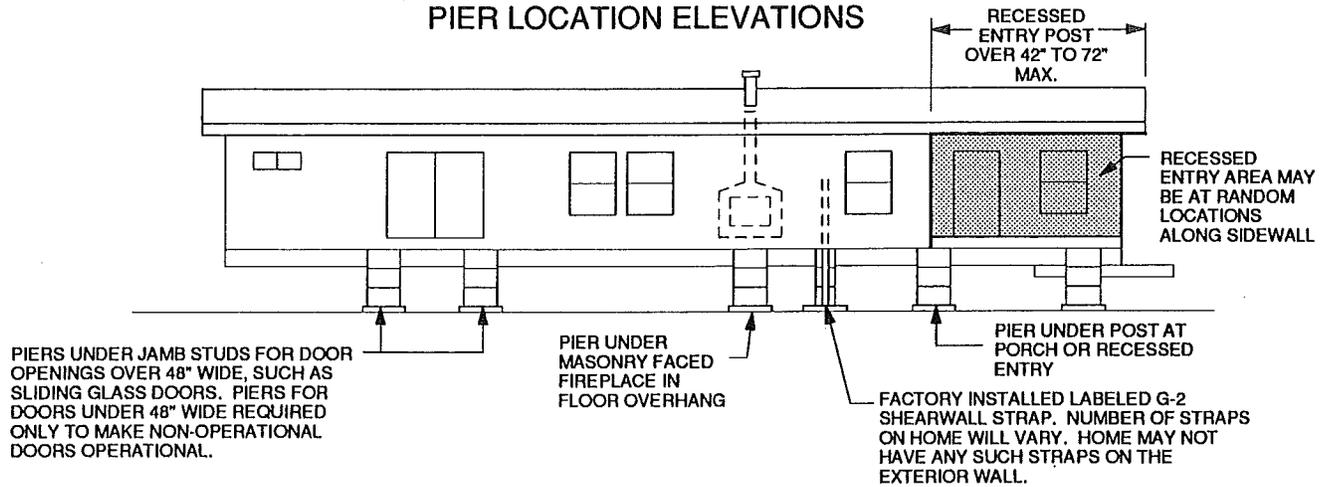
Concrete runners full length, or transverse of the home may be considered as an alternate pier support system to individual concrete or wood footings for single and multi wide homes. Common full length concrete runners are outlined below. When using transverse runners they should extend from sidewall to sidewall at the spacing shown in this section. Additional poured runners shall be provided at the mating line for piers at the ridge beam support post locations. Before these methods are used be sure such methods are adequate for the site location and is permitted by the applicable local code.



### NOTE

INSTALLATIONS PROPOSING DIFFERENT DETAILED SPECIFICATIONS SUCH AS BLOCK SIZE OR LOADS SHALL BE JUSTIFIED BY ENGINEERING DATA. DETAILS, PLANS AND/OR TEST DATA SHALL BE SUBMITTED TO THE LOCAL ENFORCEMENT AGENCY FOR APPROVAL.

## PIER LOCATION ELEVATIONS



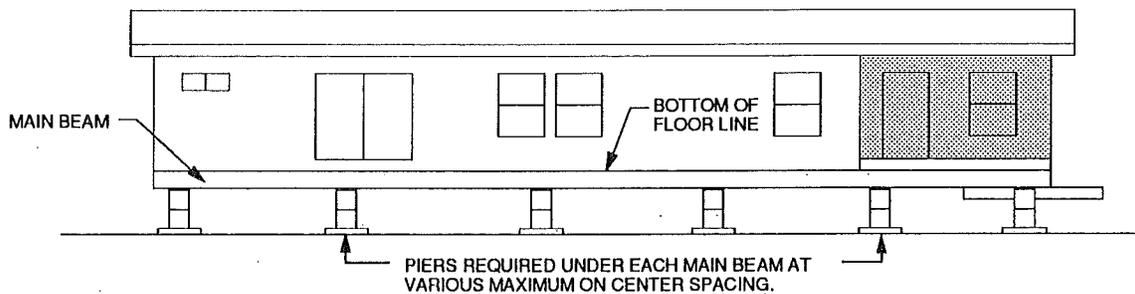
### NOTE

See page 17 for minimum footing requirements for labeled perimeter piers and labeled G-2 shearwall strap

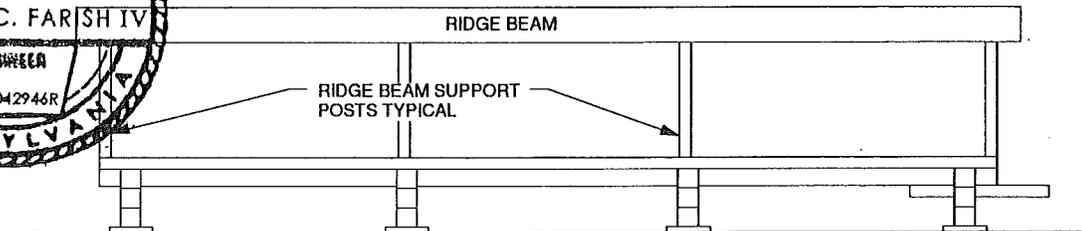
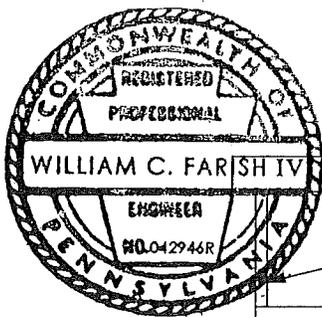
### NOTE

The above labeled perimeter piers are not required if full perimeter piers are part of the home support and the location of the perimeter piers are within 2 feet of the labeled locations.  
 Exception: A perimeter pier must be installed at a labeled G-2 strap location.

## LABELED PERIMETER PIERS



## MAIN BEAM PIERS

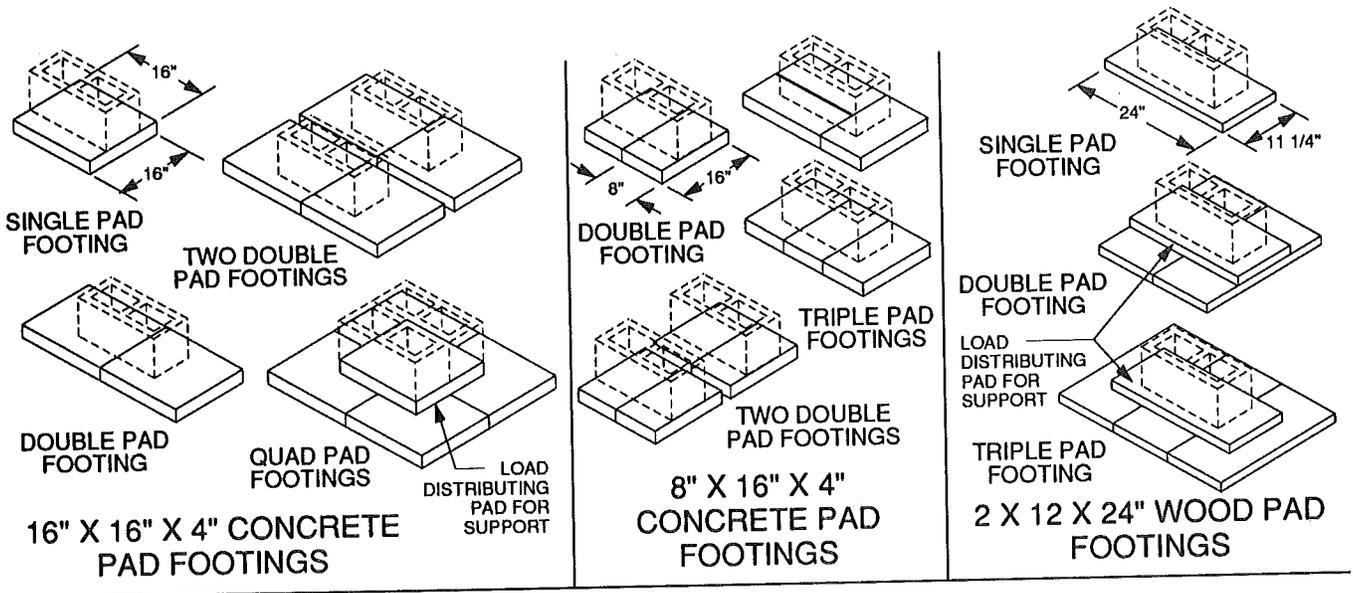


### NOTE

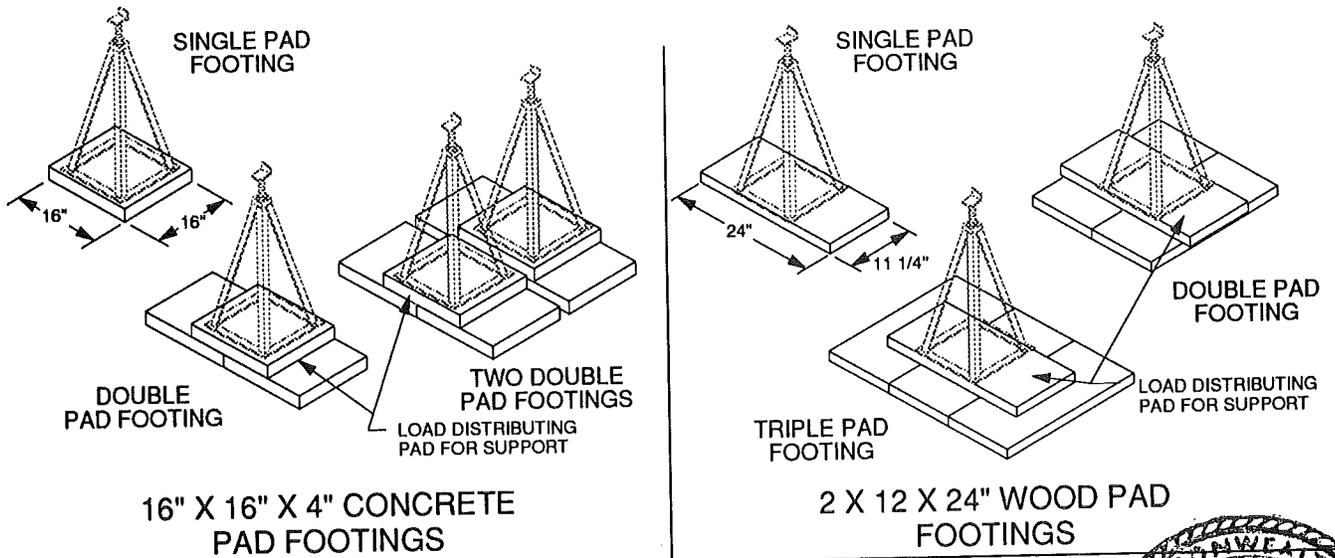
See floor plan for minimum pier loads required for each support post. Pier tag located at each support post location.

## MULTI WIDE SECTION MATING LINE RIDGE BEAM SUPPORT POST PIERS

## FOUNDATION FOOTINGS WITH CONCRETE BLOCK PIERS

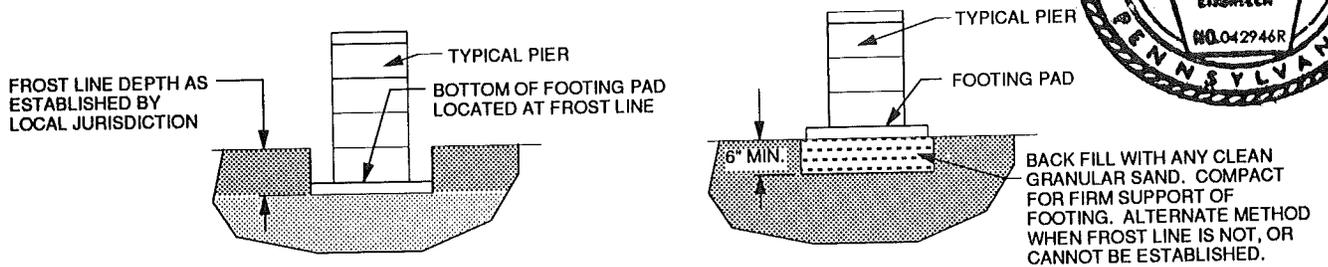


## FOUNDATION FOOTINGS WITH COMMERCIAL METAL PIERS

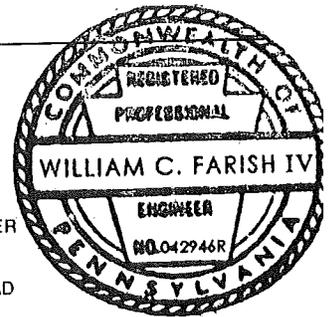


## FOOTINGS AND FROST LINES

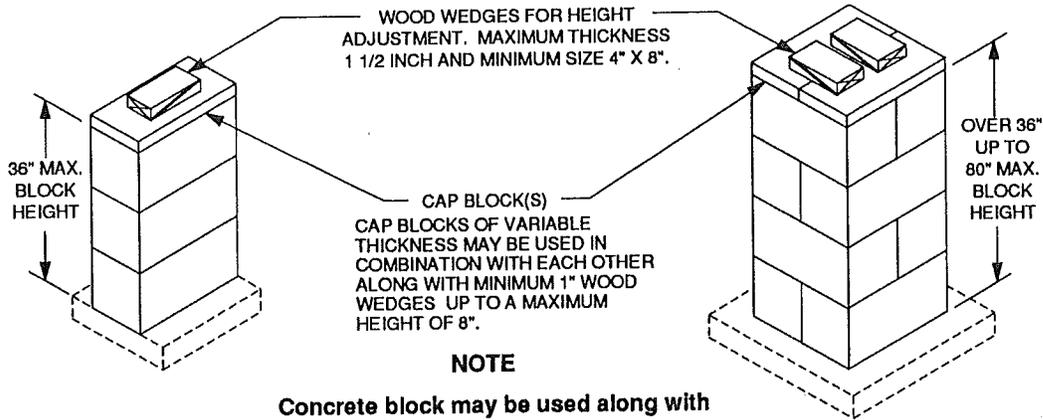
In areas where the ground is subject to freezing, frost heaving can lead to unleveling and even damage to the home. Follow these details in areas where the ground is subject to freezing.



Interior footings may be placed above the frost line when the home is provided with a perimeter foundation or skirting having insulation properties sufficient to prevent freezing of the soil under or adjacent to every load bearing component of the foundation and acceptable for this purpose to the local authority having jurisdiction.

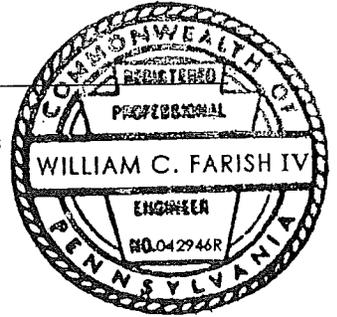


# CONCRETE BLOCK PIERS 8" X 16" HOLLOW CONCRETE MASONRY BLOCKS (NO MORTAR OR GROUT REQUIRED)

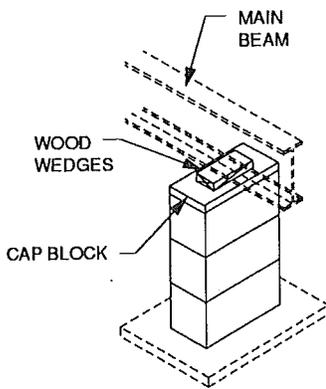


**SINGLE BLOCK PIER**  
8,000 LBS MAXIMUM CAPACITY  
PIER CAPACITY MUST BE THE SAME AS OR GREATER THAN THE FOOTING CAPACITIES ON PAGE 35.

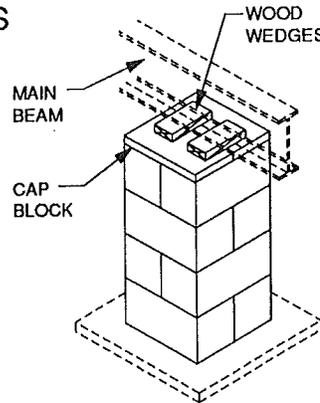
**DOUBLE BLOCK PIER**  
16,000 LBS MAXIMUM CAPACITY  
PIER CAPACITY MUST BE THE SAME AS OR GREATER THAN THE FOOTING CAPACITIES ON PAGE 35.



## MAIN BEAM PIERS

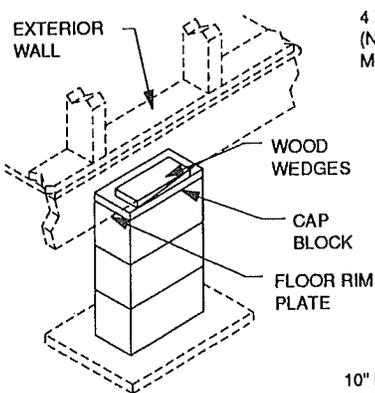


**SINGLE BLOCK PIER  
PERPENDICULAR TO MAIN BEAM**

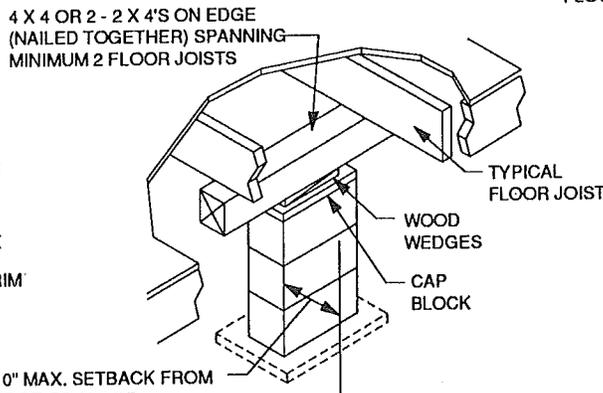


**DOUBLE BLOCK PIER**

## PERIMETER PIERS

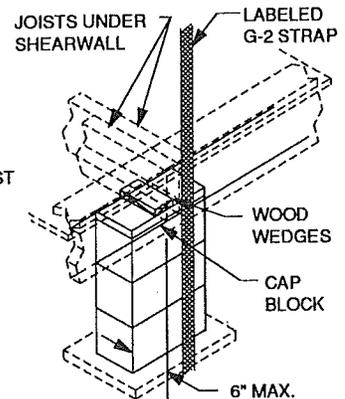


**BLOCKS PARALLEL WITH  
EDGE OF FLOOR**



**BLOCKS PARALLEL AND RECESSED  
BACK FROM EDGE OF FLOOR**

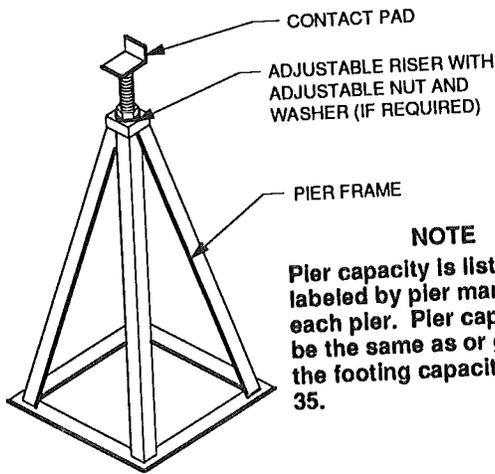
PIER MAY BE OFFSET UP TO 6" MAX. EACH SIDE OF STRAP TO MISS FRAME OBSTRUCTIONS AS LONG AS THE PIER STILL SUPPORTS THE FLOOR RIM PLATE.



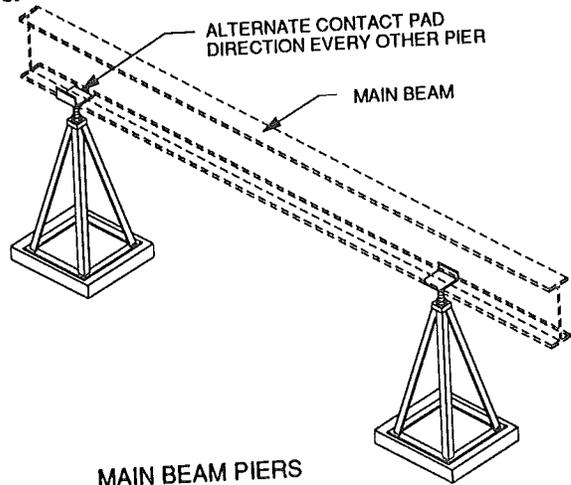
**AT LABELED G-2 STRAP LOCATION**

# COMMERCIAL METAL PIERS

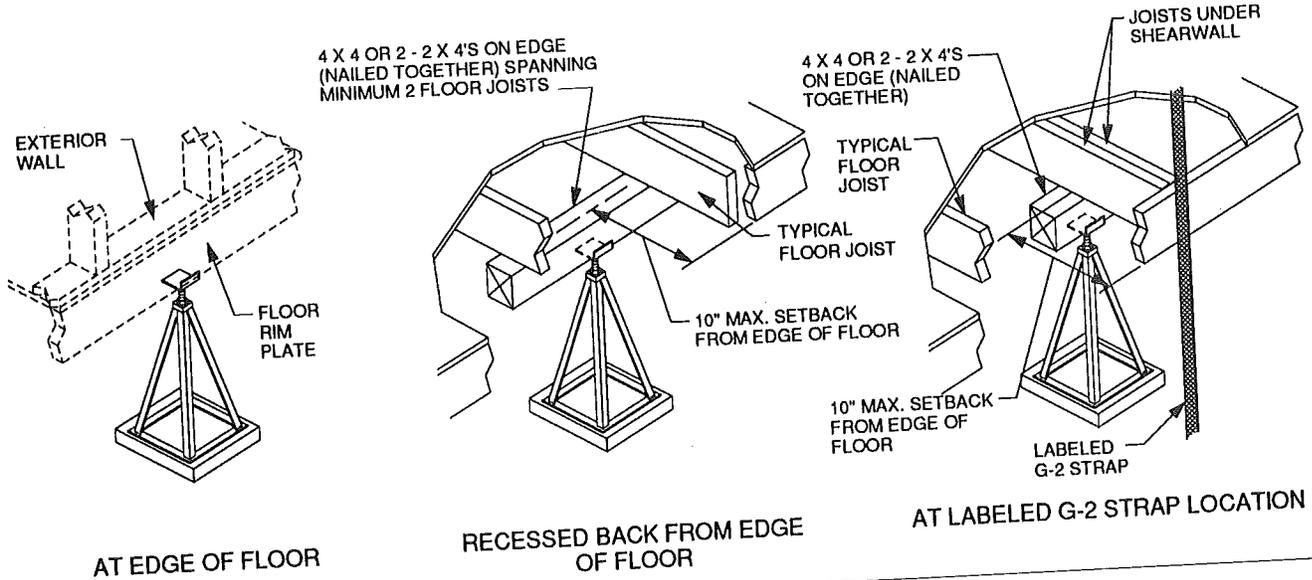
Commercial metal piers maybe used along with concrete piers.



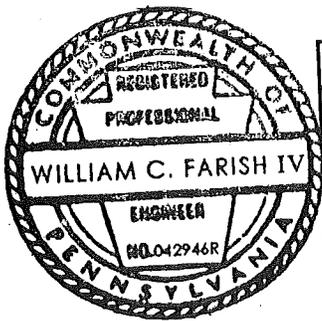
**NOTE**  
Pier capacity is listed and labeled by pier manufacturer on each pier. Pier capacity must be the same as or greater than the footing capacities on Page 35.



# PERIMETER PIERS



## MINIMUM FOOTING REQUIREMENTS FOR LABELED PERIMETER PIERS AND LABELED G-2 SHEARWALL STRAP PIERS



LABELED PERIMETER PIERS			
Soil Capacity (psf)	FOOTING CONFIGURATIONS		
	16" x 16" Concrete Pad	8" x 16" Concrete Pad	2 x 12 x 24" Wood Pad
1000	SINGLE	DOUBLE	SINGLE
1500	SINGLE	DOUBLE	SINGLE
2000 TO 4000	SINGLE	DOUBLE	SINGLE

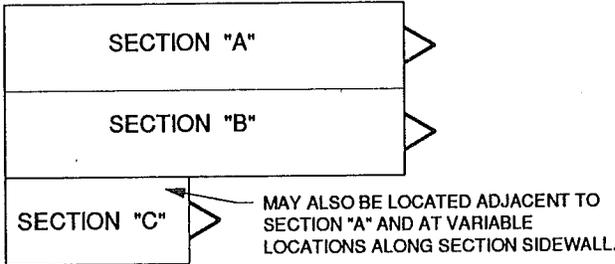
LABELED G-2 SHEARWALL STRAP			
Soil Capacity (psf)	FOOTING CONFIGURATIONS		
	16" x 16" Concrete Pad	8" x 16" Concrete Pad	2 x 12 x 24" Wood Pad
1000	DOUBLE	2 DBL PADS	DOUBLE
1500	DOUBLE	TRIPLE	DOUBLE
2000 TO 4000	SINGLE	DOUBLE	SINGLE

# MAIN BEAM FOOTING CONFIGURATION AND SPACING PROCEDURES

The footing configuration and spacing tables on the following pages determine the footing configuration and spacing by section width. Eave size is 12" maximum to 14 wide, and 6" maximum for 16 and 18 wide sections. The range in inches of various width homes is provided to assist in referencing the proper page.

## NOTE

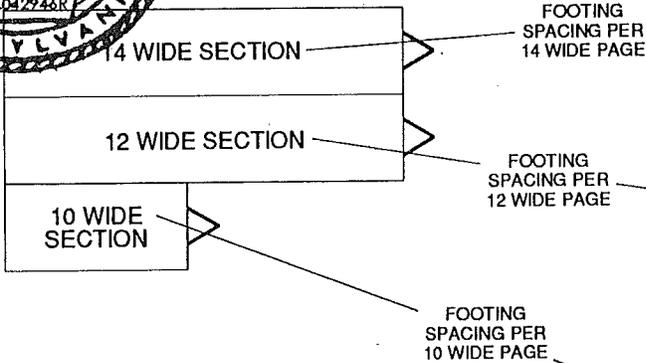
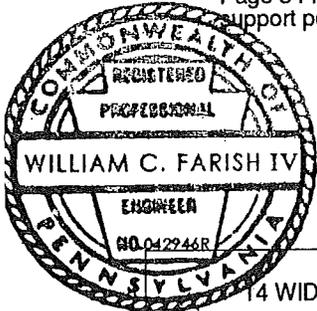
Homes requiring perimeter footings will have the copy of the floor plan stamped "PERIMETER PIERING REQUIRED".



- If you are installing a single section home go to the appropriate section width page.
- If you are installing a multi section home where both sections, or all sections, are the same width, go to the appropriate section width page.
- If you are installing a multi section home where one or more of the sections are different in width, follow the example below, then go to the appropriate section width pages.
- For third section with transverse roof design see Page 34 for footing and pier requirements at support posts and ends of main beam.

### EXAMPLE USING-

16" X 16" X 4" CONCRETE FOOTINGS  
 Double Pad Footing, 1000 psf soil capacity,  
 20 psf roof live load, supporting 10" main beam.



## SECTION WIDTHS

Range (in inches) Of Section Floor Widths\*

10 Wide	118"
12 Wide	132" to 143"
13 Wide	150" to 157"
14 Wide	158" to 168"
16 Wide	186" to 190"
18 Wide	204"

\* Measured across section at floor excluding exterior siding.

## PROCEDURE FOR FOOTING CONFIGURATION AND SPACING TABLES:

- Determine the soil bearing capacity.
- Determine the design roof live load of the home.
- Following that line across the table, and based on the main beam size determine the footing spacing and configuration.
- Footing placement to start at no more than one foot (1'-0" to edge of pier) from the ends of both main beams.
- The spacing for any individual footing may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Ftg.		
		Main Beam Size			Main Beam Size			Main Beam Size		
1000	20	3'	3'	3'	6'	6'	6'	8'	10'	12'
	30	2'-6"	2'-6"	2'-6"	5'	5'	5'	8'	10'	10'-6"
	40	2'	2'	2'	4'-6"	4'-6"	4'-6"	8'	9'-6"	9'-6"
	20	4'-6"	4'-6"	4'-6"	8'	9'	9'	8'	10'	12'
	30	4'-6"	4'-6"	4'-6"	8'	8'	8'	8'	10'	12'

Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Ftg.		
		Main Beam Size			Main Beam Size			Main Beam Size		
1000	20	3'-6"	3'-6"	3'-6"	7'	7'	7'	8'	10'	12'
	30	3'	3'	3'	6'	6'	6'	8'	10'	12'
	40	2'-6"	2'-6"	2'-6"	5'-6"	5'-6"	5'-6"	8'	10'	11'
1500	20	5'	5'	5'	8'	10'	10'	8'	10'	12'
	30	4'-6"	4'-3"	4'-6"	8'	8'	8'	8'	10'	12'

Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Ftg.		
		Main Beam Size			Main Beam Size			Main Beam Size		
1000	20	4'	4'	4'	8'	8'	8'	8'	10'	12'
	30	3'-6"	3'-6"	3'-6"	7'	7'	7'	8'	10'	12'
	40	3'	3'	3'	6'	6'	6'	8'	10'	12'
1500	20	6'	6'	6'	8'	10'	12'	8'	10'	12'
	30	5'	5'	5'	8'	10'	10'-6"	8'	10'	12'
					8'	9'-6"	9'-6"	8'	10'	12'

### CONCLUSION:

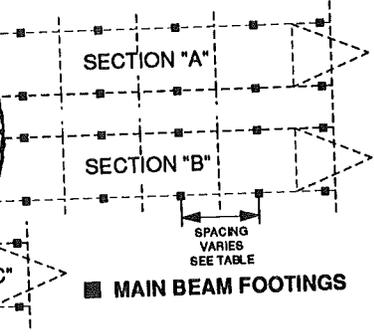
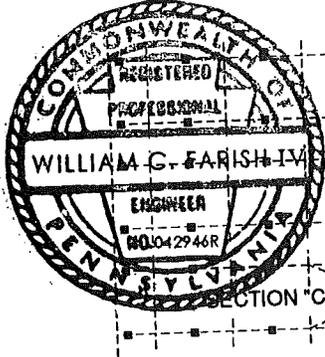
14 wide section main beam footing spacing would be 6'-0" o.c. max.  
 12 wide section main beam footing spacing would be 7'-0" o.c. max.  
 10 wide section main beam footing spacing would be 8'-0" o.c. max.

### ALTERNATE CONCLUSION:

Each sections footings may be spaced on the worst case spacing. Therefore the maximum footing spacing for all three sections can be at 6'-0" o.c.

# MAIN BEAM FOOTING CONFIGURATIONS AND SPACING

## 10 WIDE - SINGLE, DOUBLE, OR TRIPLE SECTIONS



Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Dbl. Pad Footing			Triple. Pad Footing			Two Dbl Pad Fng.		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	4'	4'	4'	6'	6'	6'	8'	8'	8'
	30	3'-6"	3'-6"	3'-6"	5'	5'	5'	7'	7'	7'
	40	3'	3'	3'	4'-6"	4'-6"	4'-6"	6'	6'	6'
1500	20	6'	6'	6'	8'	9'	9'	8'	10'	12'
	30	5'	5'	5'	8'	8'	8'	8'	10'	10'-6"
	40	4'-6"	4'-6"	4'-6"	7'	7'	7'	8'	9'-6"	9'-6"
2000	20	8'	8'	8'	8'	10'	12'	8'	10'	12'
	30	7'	7'	7'	8'	10'	10'-6"	8'	10'	12'
	40	6'	6'	6'	8'	9'-6"	9'-6"	8'	10'	12'
3000	20	8'	10'	12'	8'	10'	12'	8'	10'	12'
	30	8'	10'	10'-6"	8'	10'	12'	8'	10'	12'
	40	8'	9'-6"	9'-6"	8'	10'	12'	8'	10'	12'
4000	20	--	--	--	8'	10'	12'	8'	10'	12'
	30	--	--	--	8'	10'	12'	8'	10'	12'
	40	--	--	--	8'	10'	12'	8'	10'	12'

These tables determine the footing pad configuration and footing spacing along the main beams of the section(s). Refer to page 15 for footing pad configuration details.

Review the table that indicates the footing type you are going to use.

Refer to page 18 for the procedure on using the tables.

Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	4'	4'	4'	8'	8'-6"	8'-6"	8'	10'	12'
	30	3'-6"	3'-6"	3'-6"	7'-6"	7'-6"	7'-6"	8'	10'	11'
	40	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	10'	8'
1500	20	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'
	30	5'-6"	5'-6"	5'-6"	8'	10'	11'	8'	10'	12'
	40	5'	5'	5'	8'	10'	10'	8'	10'	12'
2000	20	8'	8'-6"	8'-6"	8'	10'	12'	8'	10'	12'
	30	7'-6"	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'
	40	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'
3000	20	8'	10'	12'	8'	10'	12'	8'	10'	12'
	30	8'	10'	11'	8'	10'	12'	8'	10'	12'
	40	8'	10'	10'	8'	10'	12'	8'	10'	12'
4000	20	--	--	--	8'	10'	12'	8'	10'	12'
	30	--	--	--	8'	10'	12'	8'	10'	12'
	40	--	--	--	8'	10'	12'	8'	10'	12'

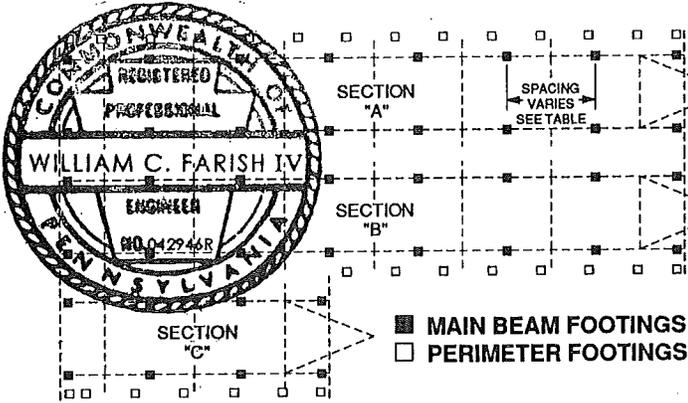
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Fng.		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	4'	4'	4'	8'	8'	8'	8'	10'	12'
	30	3'-6"	3'-6"	3'-6"	7'	7'	7'	8'	10'	12'
	40	3'	3'	3'	6'	6'	6'	8'	10'	12'
1500	20	6'	6'	6'	8'	10'	12'	8'	10'	12'
	30	5'	5'	5'	8'	10'	10'-6"	8'	10'	12'
	40	4'-6"	4'-6"	4'-6"	8'	9'-6"	9'-6"	8'	10'	12'
2000	20	8'	8'	8'	8'	10'	12'	8'	10'	12'
	30	7'	7'	7'	8'	10'	12'	8'	10'	12'
	40	6'	6'	6'	8'	10'	12'	8'	10'	12'
3000	20	8'	10'	12'	8'	10'	12'	8'	10'	12'
	30	8'	10'	10'-6"	8'	10'	12'	8'	10'	12'
	40	8'	9'-6"	9'-6"	8'	10'	12'	8'	10'	12'
4000	20	--	--	--	8'	10'	12'	8'	10'	12'
	30	--	--	--	8'	10'	12'	8'	10'	12'
	40	--	--	--	8'	10'	12'	8'	10'	12'

### TIEDOWN STRAP SPACING

- PROCEDURE: FOR ALL WIND ZONES**
- Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
  - Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
  - Following that line across to the appropriate wind zone determines the strap spacing.
  - The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
  - The spacing for any individual strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

Height from ground to bottom of main beam (Inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
8" to 18"	11'-0"	4'-9"	4'-0"	45°	47°
19" to 36"	9'-0"	4'-9"	4'-0"	45°	54°
37" to 48"	7'-0"	4'-9"	4'-0"	54°	60°
49" to 80"	5'-0"	3'-3"	2'-9"	60°	70°

# MAIN BEAM WITH PERIMETER FOOTING CONFIGURATIONS AND SPACING 10 WIDE - SINGLE, DOUBLE, OR TRIPLE SECTIONS



These tables determine the footing pad spacing and footing configuration along the main beams and perimeter of the section(s).

Refer to page 15 for footing pad configuration details.

Review the tables that indicate the footing type you are going to use for main beams and perimeter piers.

Refer to page 18 for the procedure on using the tables below.

Main beam footing spacing tables acceptable for roof live load 40 psf maximum.

## PERIMETER FOOTING CONFIGURATION AND SPACING

### PROCEDURE :

1. Determine the design roof live load of the home.
2. Determine the soil bearing capacity.
3. Following that line across the table determines type of footing configuration and spacing.
4. Footing placement to start at no more than one foot (1'-0" to edge of pier) from each corner of the home.
5. The spacing for any footing may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

PERIMETER FOOTING CONFIGURATION AND SPACING					
Roof Live Load Max. (psf)	Soil Capacity (psf)	FOOTING CONFIGURATIONS			Footing Spacing (feet)
		16" x 16" Concrete Pad	8" x 16" Concrete Pad	2 x 12 x 24" Wood Pad	
20	1000	SINGLE	DOUBLE	SINGLE	6'-0"
	1500	DOUBLE	TRIPLE	DOUBLE	8'-0"
30	1000	SINGLE	DOUBLE	SINGLE	
	1500	DOUBLE	TRIPLE	DOUBLE	
40	1000	SINGLE	DOUBLE	SINGLE	8'-0"
	1500	DOUBLE	TRIPLE	DOUBLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	8'-0"
	2000 to 4000	DOUBLE	N/A	DOUBLE	
	1500	DOUBLE	TRIPLE	DOUBLE	8'-0"
	2000 to 4000	SINGLE	DOUBLE	SINGLE	

8" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Dbl. Pad Footing			Triple Pad Footing			Two Dbl Pad Ftg.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	7'-6"	7'-6"	7'-6"	8'	10'	11'-6"	8'	10'	12'
1500	8'	10'	11'-6"	8'	10'	12'	8'	10'	12'
2000	8'	10'	12'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

16" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Ftg.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	7'-6"	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'
1500	8'	10'	11'-6"	8'	10'	12'	8'	10'	12'
2000	8'	10'	12'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

2 X 12 X 24" WOOD FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	8'	8'	8'	8'	10'	12'	8'	10'	12'
1500	8'	10'	12'	8'	10'	12'	8'	10'	12'
2000	8'	10'	12'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

### PROCEDURE:

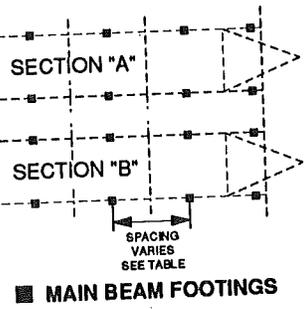
## TIEDOWN STRAP SPACING

1. Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
2. Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
3. Following that line across to the appropriate wind zone determines the strap spacing.
4. The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
5. The spacing for any strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

MAXIMUM TIEDOWN STRAP SPACING					
Height from ground to bottom of main beam (Inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
8" to 18"	11'-0"	4'-9"	4'-0"	45°	47°
19" to 36"	9'-0"	4'-9"	4'-0"	45°	54°
37" to 48"	7'-0"	4'-9"	4'-0"	54°	60°
49" to 80"	5'-0"	3'-3"	2'-9"	60°	70°

# MAIN BEAM FOOTING CONFIGURATIONS AND SPACING

## 12 WIDE - SINGLE, DOUBLE, OR TRIPLE SECTIONS



8" X 16" X 4" CONCRETE FOOTINGS											
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)									
		Dbl. Pad Footing			Triple Pad Footing			Two Dbl Pad Ftng.			
		Main Beam Size			Main Beam Size			Main Beam Size			
		8"	10"	12"	8"	10"	12"	8"	10"	12"	
1000	20	3'-6"	3'-6"	3'-6"	5'	5'	5'	7'	7'	7'	
	30	3'	3'	3'	4'-6"	4'-6"	4'-6"	6'	6'	6'	
	40	2'-6"	2'-6"	2'-6"	4'	4'	4'	5'-6"	5'-6"	5'-6"	
1500	20	5'	5'	5'	7'-6"	7'-6"	7'-6"	8'	10'	10'	
	30	4'-6"	4'-6"	4'-6"	6'	6'	6'	8'	9'	9'	
	40	4'	4'	4'	4'	4'	4'	8'	8'	8'	
2000	20	7'	7'	7'	8'	10'	10'	8'	10'	12'	
	30	6'	6'	6'	8'	9'	9'	8'	10'	12'	
	40	5'-6"	5'-6"	5'-6"	8'	8'	8'	8'	10'	11'	
3000	20	8'	10'	10'	8'	10'	12'	8'	10'	12'	
	30	8'	9'	9'	8'	10'	12'	8'	10'	12'	
	40	8'	8'	8'	8'	10'	12'	8'	10'	12'	
4000	20	--	--	--	8'	10'	12'	8'	10'	12'	
	30	--	--	--	8'	10'	12'	8'	10'	12'	
	40	--	--	--	8'	10'	12'	8'	10'	12'	

These tables determine the footing pad configuration and footing spacing along the main beams of the section(s). Refer to page 15 for footing pad configuration details. Review the table that indicates the footing type you are going to use. Refer to page 18 for the procedure on using the tables.

2 X 12 X 24" WOOD FOOTINGS											
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)									
		Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing			
		Main Beam Size			Main Beam Size			Main Beam Size			
		8"	10"	12"	8"	10"	12"	8"	10"	12"	
1000	20	3'-6"	3'-6"	3'-6"	7'	7'	7'	8'	10'	11'	
	30	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	9'-6"	9'-6"	
	40	2'-6"	2'-6"	2'-6"	5'-6"	5'-6"	5'-6"	8'	8'-6"	8'-6"	
1500	20	5'-6"	5'-6"	5'-6"	8'	10'	11'	8'	10'	12'	
	30	4'-6"	4'-6"	4'-6"	8'	9'-6"	9'-6"	8'	10'	12'	
	40	4'	4'	4'	8'	8'-6"	8'-6"	8'	10'	12'	
2000	20	7'	7'	7'	8'	10'	12'	8'	10'	12'	
	30	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'	
	40	5'-6"	5'-6"	5'-6"	8'	10'	11'-6"	8'	10'	12'	
3000	20	8'	10'	11'	8'	10'	12'	8'	10'	12'	
	30	8'	9'-6"	9'-6"	8'	10'	12'	8'	10'	12'	
	40	8'	8'-6"	8'-6"	8'	10'	12'	8'	10'	12'	
4000	20	--	--	--	8'	10'	12'	8'	10'	12'	
	30	--	--	--	8'	10'	12'	8'	10'	12'	
	40	--	--	--	8'	10'	12'	8'	10'	12'	

16" X 16" X 4" CONCRETE FOOTINGS											
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)									
		Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Ftng.			
		Main Beam Size			Main Beam Size			Main Beam Size			
		8"	10"	12"	8"	10"	12"	8"	10"	12"	
1000	20	3'-6"	3'-6"	3'-6"	7'	7'	7'	8'	10'	12'	
	30	3'	3'	3'	6'	6'	6'	8'	10'	12'	
	40	2'-6"	2'-6"	2'-6"	5'-6"	5'-6"	5'-6"	8'	10'	11'	
1500	20	5'	5'	5'	8'	10'	10'	8'	10'	12'	
	30	4'-6"	4'-6"	4'-6"	8'	9'	9'	8'	10'	12'	
	40	4'	4'	4'	8'	8'	8'	8'	10'	12'	
2000	20	7'	7'	7'	8'	10'	12'	8'	10'	12'	
	30	6'	6'	6'	8'	10'	12'	8'	10'	12'	
	40	5'-6"	5'-6"	5'-6"	8'	10'	11'	8'	10'	12'	
3000	20	8'	10'	10'	8'	10'	12'	8'	10'	12'	
	30	8'	9'	9'	8'	10'	12'	8'	10'	12'	
	40	8'	8'	8'	8'	10'	12'	8'	10'	12'	
4000	20	--	--	--	8'	10'	12'	8'	10'	12'	
	30	--	--	--	8'	10'	12'	8'	10'	12'	
	40	--	--	--	8'	10'	12'	8'	10'	12'	

### TIEDOWN STRAP SPACING

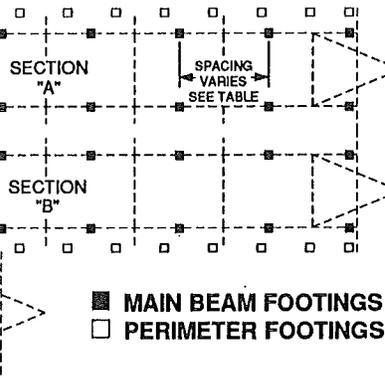
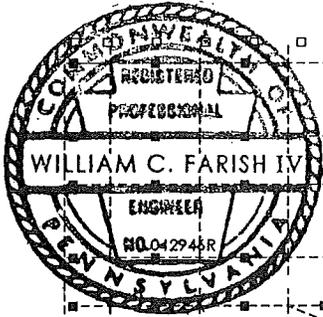
**PROCEDURE: FOR ALL WIND ZONES**

- Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
- Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
- Following that line across to the appropriate wind zone determines the strap spacing.
- The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
- The spacing for any individual strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

Height from ground to bottom of main beam (Inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
	8" to 18"	12'-0"	5'-6"	4'-6"	44°
19" to 36"	9'-0"	5'-6"	4'-6"	40°	53°
37" to 48"	8'-0"	5'-6"	4'-6"	49°	55°
49" to 80"	5'-6"	4'-0"	3'-3"	56°	66°



# MAIN BEAM WITH PERIMETER FOOTING CONFIGURATIONS AND SPACING 12 WIDE - SINGLE, DOUBLE, OR TRIPLE SECTIONS



These tables determine the footing pad spacing and footing configuration along the main beams and perimeter of the section(s).

Refer to page 15 for footing pad configuration details.

Review the tables that indicate the footing type you are going to use for main beams and perimeter piers.

Refer to page 18 for the procedure on using the tables below.

Main beam footing spacing tables acceptable for roof live load 40 psf maximum.

## MAIN BEAM FOOTING CONFIGURATION AND SPACING

### PERIMETER FOOTING CONFIGURATION AND SPACING

#### PROCEDURE :

1. Determine the design roof live load of the home.
2. Determine the soil bearing capacity.
3. Following that line across the table determines type of footing configuration and spacing.
4. Footing placement to start at no more than one foot (1'-0" to edge of pier) from each corner of the home.
5. The spacing for any footing may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

PERIMETER FOOTING CONFIGURATION AND SPACING					
Roof Live Load Max. (psf)	Soil Capacity (psf)	FOOTING CONFIGURATIONS			Footing Spacing (feet)
		16" x 16" Concrete Pad	8" x 16" Concrete Pad	2 x 12 x 24" Wood Pad	
20	1000	SINGLE	DOUBLE	SINGLE	6'-0"
	1500	DOUBLE	TRIPLE	DOUBLE	8'-0"
	2000 to 4000	SINGLE	DOUBLE	SINGLE	
30	1000	DOUBLE	TRIPLE	DOUBLE	8'-0"
	1500	SINGLE	DOUBLE	SINGLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	
40	1000	DOUBLE	N/A	DOUBLE	8'-0"
	1500	DOUBLE	TRIPLE	DOUBLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	

8" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Dbl. Pad Footing			Triple Pad Footing			Two Dbl Pad Fng.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	6'-6"	6'-6"	6'-6"	8'	9'-6"	9'-6"	8'	10'	12'
1500	8'	9'-6"	9'-6"	8'	10'	10'	8'	10'	12'
2000	8'	10'	12'	8'	10'	10'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

16" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Fng.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'
1500	8'	9'-6"	9'-6"	8'	10'	12'	8'	10'	12'
2000	8'	10'	12'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

2 X 12 X 24" WOOD FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'
1500	8'	10'	10'	8'	10'	12'	8'	10'	12'
2000	8'	10'	12'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

#### PROCEDURE:

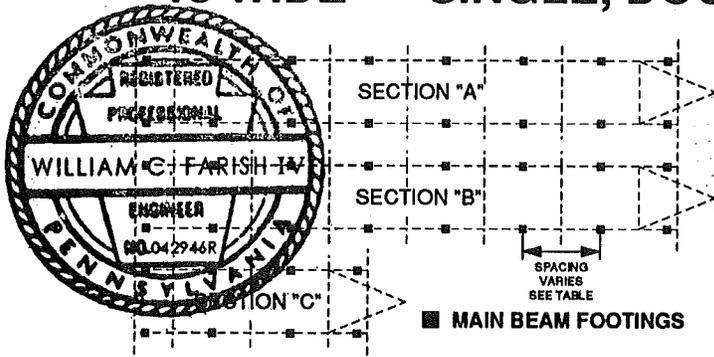
### TIEDOWN STRAP SPACING

1. Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
2. Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
3. Following that line across to the appropriate wind zone determines the strap spacing.
4. The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
5. The spacing for any strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

MAXIMUM TIEDOWN STRAP SPACING					
Height from ground to bottom of main beam (Inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
8" to 18"	12'-0"	5'-6"	4'-6"	44°	47°
19" to 36"	9'-0"	5'-6"	4'-6"	40°	53°
37" to 48"	8'-0"	5'-6"	4'-6"	49°	55°
49" to 80"	5'-6"	4'-0"	3'-3"	56°	66°

## MAIN BEAM FOOTING CONFIGURATIONS AND SPACING

# 13 WIDE - SINGLE, DOUBLE, OR TRIPLE SECTIONS



These tables determine the footing pad configuration and footing spacing along the main beams of the section(s).

Refer to page 15 for footing pad configuration details.

Review the table that indicates the footing type you are going to use.

Refer to page 18 for the procedure on using the tables.

8" X 16" X 4" CONCRETE FOOTINGS										
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Dbl. Pad Footing			Triple. Pad Footing			Two Dbl Pad Ftg.		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'	3'	3'	4'-6"	4'-6"	4'-6"	6'-6"	6'-6"	6'-6"
	30	2'-6"	2'-6"	2'-6"	4'	4'	4'	5'-6"	5'-6"	5'-6"
	40	2'-6"	2'-6"	2'-6"	3'-6"	3'-6"	3'-6"	5'	5'	5'
1500	20	4'-6"	4'-6"	4'-6"	7'	7'	7'	8'	9'-6"	9'-6"
	30	4'	4'	4'	6'	6'	6'	8'	8'-6"	8'-6"
	40	3'-6"	3'-6"	3'-6"	5'-6"	5'-6"	5'-6"	7'-6"	7'-6"	7'-6"
2000	20	6'-6"	6'-6"	6'-6"	8'	9'-6"	9'-6"	8'	10'	12'
	30	5'-6"	5'-6"	5'-6"	8'	8'-6"	8'-6"	8'	10'	11'
	40	5'	5'	5'	7'-6"	7'-6"	7'-6"	8'	10'	10'
3000	20	8'	9'-6"	9'-6"	8'	10'	12'	8'	10'	12'
	30	8'	8'-6"	8'-6"	8'	10'	12'	8'	10'	12'
	40	7'-6"	7'-6"	7'-6"	8'	10'	11'-6"	8'	10'	12'
4000	20	--	--	--	8'	10'	12'	8'	10'	12'
	30	--	--	--	8'	10'	12'	8'	10'	12'
	40	--	--	--	8'	10'	12'	8'	10'	12'



2 X 12 X 24" WOOD FOOTINGS												
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)										
		Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing				
		Main Beam Size			Main Beam Size			Main Beam Size				
		8"	10"	12"	8"	10"	12"	8"	10"	12"	8"	10"
1000	20	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	10'	10'		
	30	3'	3'	3'	6'	6'	6'	8'	9'	9'		
	40	2'-6"	2'-6"	2'-6"	5'	5'	5'	8'	8'	8'		
1500	20	5'	5'	5'	8'	10'	10'	8'	10'	12'		
	30	4'-6"	4'-6"	4'-6"	8'	9'	9'	8'	10'	12'		
	40	4'	4'	4'	8'	8'	8'	8'	10'	12'		
2000	20	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'		
	30	6'	6'	6'	8'	10'	12'	8'	10'	12'		
	40	5'	5'	5'	8'	10'	10'-6"	8'	10'	12'		
3000	20	8'	10'	10'	8'	10'	12'	8'	10'	12'		
	30	8'	9'	9'	8'	10'	12'	8'	10'	12'		
	40	8'	8'	8'	8'	10'	12'	8'	10'	12'		
4000	20	--	--	--	8'	10'	12'	8'	10'	12'		
	30	--	--	--	8'	10'	12'	8'	10'	12'		
	40	--	--	--	8'	10'	12'	8'	10'	12'		

16" X 16" X 4" CONCRETE FOOTINGS													
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)											
		Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Ftg.					
		Main Beam Size			Main Beam Size			Main Beam Size					
		8"	10"	12"	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	10'	12'			
	30	2'-6"	2'-6"	2'-6"	6'	6'	6'	8'	10'	11'			
	40	2'-6"	2'-6"	2'-6"	5'	5'	5'	8'	10'	10'			
1500	20	4'-6"	4'-6"	4'-6"	8'	9'-6"	9'-6"	8'	10'	12'			
	30	4'	4'	4'	8'	8'-6"	8'-6"	8'	10'	12'			
	40	3'-6"	3'-6"	3'-6"	7'-6"	7'-6"	7'-6"	8'	10'	12'			
2000	20	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'			
	30	5'-6"	5'-6"	5'-6"	8'	10'	11'	8'	10'	12'			
	40	5'	5'	5'	8'	10'	10'	8'	10'	12'			
3000	20	8'	9'-6"	9'-6"	8'	10'	12'	8'	10'	12'			
	30	8'	8'-6"	8'-6"	8'	10'	12'	8'	10'	12'			
	40	7'-6"	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'			
4000	20	--	--	--	8'	10'	12'	8'	10'	12'			
	30	--	--	--	8'	10'	12'	8'	10'	12'			
	40	--	--	--	8'	10'	12'	8'	10'	12'			

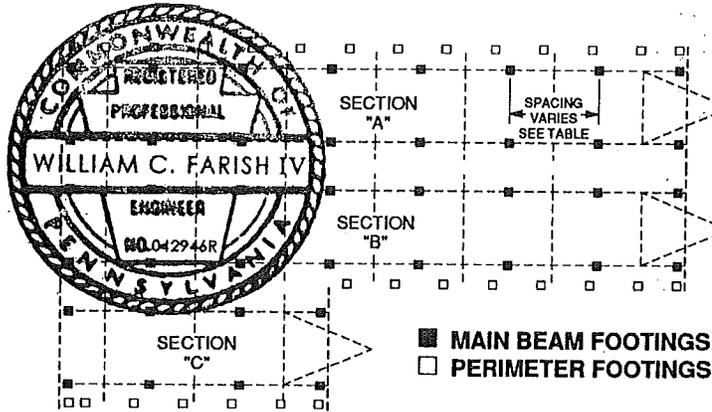
## TIEDOWN STRAP SPACING

### PROCEDURE: FOR ALL WIND ZONES

- Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
- Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
- Following that line across to the appropriate wind zone determines the strap spacing.
- The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
- The spacing for any individual strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

MAXIMUM TIEDOWN STRAP SPACING					
Height from ground to bottom of main beam (inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
	8" to 18"	12'-0"	5'-6"	4'-6"	44°
19" to 36"	9'-0"	5'-6"	4'-6"	40°	53°
37" to 48"	8'-0"	5'-6"	4'-6"	49°	55°
49" to 80"	5'-6"	4'-0"	3'-3"	56°	66°

# MAIN BEAM WITH PERIMETER FOOTING CONFIGURATIONS AND SPACING 13 WIDE - SINGLE, DOUBLE, OR TRIPLE SECTIONS



These tables determine the footing pad spacing and footing configuration along the main beams and perimeter of the section(s).

Refer to page 15 for footing pad configuration details.

Review the tables that indicate the footing type you are going to use for main beams and perimeter piers.

Refer to page 18 for the procedure on using the tables below.

Main beam footing spacing tables acceptable for roof live load 40 psf maximum.

## PERIMETER FOOTING CONFIGURATION AND SPACING

### PROCEDURE :

1. Determine the design roof live load of the home.
2. Determine the soil bearing capacity.
3. Following that line across the table determines type of footing configuration and spacing.
4. Footing placement to start at no more than one foot (1'-0" to edge of pier) from each corner of the home.
5. The spacing for any footing may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

PERIMETER FOOTING CONFIGURATION AND SPACING					
Roof Live Load Max. (psf)	Soil Capacity (psf)	FOOTING CONFIGURATIONS			Footing Spacing (feet)
		16" x 16" Concrete Pad	8" x 16" Concrete Pad	2 x 12 x 24" Wood Pad	
20	1000	SINGLE	DOUBLE	SINGLE	6'-0"
	1500	DOUBLE	TRIPLE	DOUBLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	
30	1000	DOUBLE	TRIPLE	DOUBLE	8'-0"
	1500	SINGLE	DOUBLE	SINGLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	
40	1000	DOUBLE	N/A	DOUBLE	8'-0"
	1500	DOUBLE	TRIPLE	DOUBLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	

## MAIN BEAM FOOTING CONFIGURATION AND SPACING

8" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Dbl. Pad Footing			Triple Pad Footing			Two Dbl Pad Fng.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	6'	6'	6'	8'	9'	9'	8'	10'	12'
1500	8'	9'	9'	8'	10'	12'	8'	10'	12'
2000	8'	10'	12'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

16" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Fng.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	6'	6'	6'	8'	10'	12'	8'	10'	12'
1500	8'	9'	9'	8'	10'	12'	8'	10'	12'
2000	8'	10'	12'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

2 X 12 X 24" WOOD FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	6'	6'	6'	8'	10'	12'	8'	10'	12'
1500	8'	9'-6"	9'-6"	8'	10'	12'	8'	10'	12'
2000	8'	10'	12'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

### PROCEDURE:

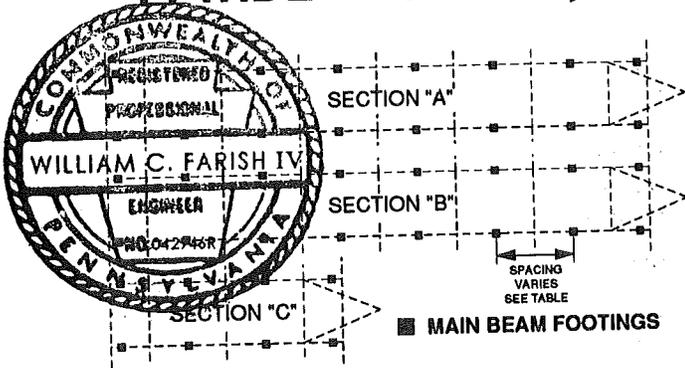
## TIEDOWN STRAP SPACING

1. Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
2. Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
3. Following that line across to the appropriate wind zone determines the strap spacing.
4. The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
5. The spacing for any strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

MAXIMUM TIEDOWN STRAP SPACING					
Height from ground to bottom of main beam (Inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
8" to 18"	12'-0"	5'-6"	4'-6"	44°	47°
19" to 36"	9'-0"	5'-6"	4'-6"	40°	53°
37" to 48"	8'-0"	5'-6"	4'-6"	49°	55°
49" to 80"	5'-6"	4'-0"	3'-3"	56°	66°

## MAIN BEAM FOOTING CONFIGURATIONS AND SPACING

# 14 WIDE - SINGLE, DOUBLE, OR TRIPLE SECTIONS



8" X 16" X 4" CONCRETE FOOTINGS										
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Dbl. Pad Footing			Triple. Pad Footing			2 DBL Pad Fng.		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'	3'	3'	4'-6"	4'-6"	4'-6"	6'	6'	6'
	30	2'-6"	2'-6"	2'-6"	4'	4'	4'	5'	5'	5'
	40	2'	2'	2'	3'-6"	3'-6"	3'-6"	4'-6"	4'-6"	4'-6"
1500	20	4'-6"	4'-6"	4'-6"	6'-6"	6'-6"	6'-6"	8'	9'	9'
	30	4'	4'	4'	6'	6'	6'	8'	8'	8'
	40	3'-6"	3'-6"	3'-6"	5'	5'	5'	7'	7'	7'
2000	20	6'	6'	6'	8'	9'	9'	8'	10'	12'
	30	5'	5'	5'	8'	8'	8'	8'	10'	10'-6"
	40	4'-6"	4'-6"	4'-6"	7'	7'	7'	8'	9'-6"	9'-6"
3000	20	8'	9'	9'	8'	10'	12'	8'	10'	12'
	30	8'	8'	8'	8'	10'	12'	8'	10'	12'
	40	7'	7'	7'	8'	10'	10'-6"	8'	10'	12'
4000	20	--	--	--	8'	10'	12'	8'	10'	12'
	30	--	--	--	8'	10'	12'	8'	10'	12'
	40	--	--	--	8'	10'	12'	8'	10'	12'

These tables determine the footing pad configuration and footing spacing along the main beams of the section(s). Refer to page 15 for footing pad configuration details. Review the table that indicates the footing type you are going to use. Refer to page 18 for the procedure on using the tables.

2 X 12 X 24" WOOD FOOTINGS										
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	9'-6"	9'-6"
	30	2'-6"	2'-6"	2'-6"	5'-6"	5'-6"	5'-6"	8'	8'-6"	8'-6"
	40	2'-6"	2'-6"	2'-6"	5'	5'	5'	7'-6"	7'-6"	7'-6"
1500	20	4'-6"	4'-6"	4'-6"	8'	9'-6"	9'-6"	8'	10'	12'
	30	4'	4'	4'	8'	8'-6"	8'-6"	8'	10'	12'
	40	3'-6"	3'-6"	3'-6"	7'-6"	7'-6"	7'-6"	8'	10'	11'
2000	20	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'
	30	5'-6"	5'-6"	5'-6"	8'	10'	11'	8'	10'	12'
	40	5'	5'	5'	8'	10'	10'	8'	10'	12'
3000	20	8'	9'-6"	9'-6"	8'	10'	12'	8'	10'	12'
	30	8'	8'-6"	8'-6"	8'	10'	12'	8'	10'	12'
	40	7'-6"	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'
4000	20	--	--	--	8'	10'	12'	8'	10'	12'
	30	--	--	--	8'	10'	12'	8'	10'	12'
	40	--	--	--	8'	10'	12'	8'	10'	12'

16" X 16" X 4" CONCRETE FOOTINGS										
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Fng.		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'	3'	3'	6'	6'	6'	8'	10'	12'
	30	2'-6"	2'-6"	2'-6"	5'	5'	5'	8'	10'	10'-6"
	40	2'	2'	2'	4'-6"	4'-6"	4'-6"	8'	9'-6"	9'-6"
1500	20	4'-6"	4'-6"	4'-6"	8'	9'	9'	8'	10'	12'
	30	4'	4'	4'	8'	8'	8'	8'	10'	12'
	40	3'-6"	3'-6"	3'-6"	7'	7'	7'	8'	10'	12'
2000	20	6'	6'	6'	8'	10'	12'	8'	10'	12'
	30	5'	5'	5'	8'	10'	10'-6"	8'	10'	12'
	40	4'-6"	4'-6"	4'-6"	8'	9'-6"	9'-6"	8'	10'	12'
3000	20	8'	9'	9'	8'	10'	12'	8'	10'	12'
	30	8'	8'	8'	8'	10'	12'	8'	10'	12'
	40	7'	7'	7'	8'	10'	12'	8'	10'	12'
4000	20	--	--	--	8'	10'	12'	8'	10'	12'
	30	--	--	--	8'	10'	12'	8'	10'	12'
	40	--	--	--	8'	10'	12'	8'	10'	12'

## TIEDOWN STRAP SPACING

### PROCEDURE: FOR ALL WIND ZONES

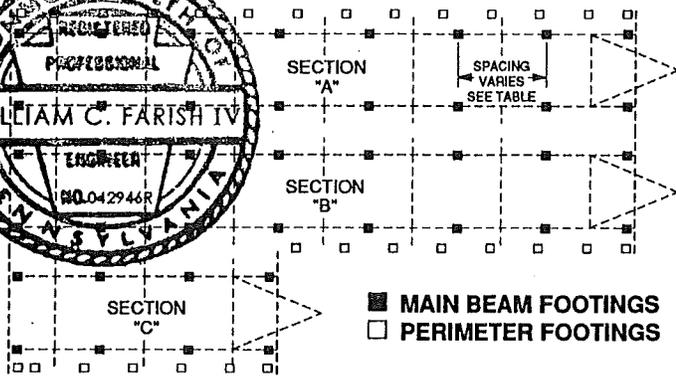
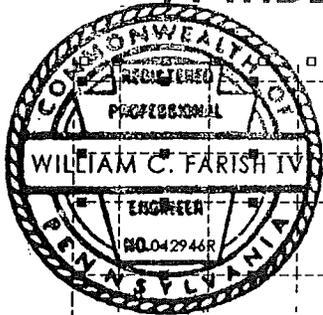
- Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
- Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
- Following that line across to the appropriate wind zone determines the strap spacing.
- The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
- The spacing for any individual strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

Height from ground to bottom of main beam (Inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
	8" to 18"	14'-0"	6'-6"	5'-6"	32°
19" to 36"	10'-6"	6'-6"	5'-6"	34°	44°
37" to 48"	9'-0"	6'-6"	5'-6"	44°	47°
49" to 80"	6'-6"	5'-0"	4'-0"	47°	59°



# MAIN BEAM WITH PERIMETER FOOTING CONFIGURATIONS AND SPACING

## 14 WIDE - SINGLE, DOUBLE, OR TRIPLE SECTIONS



These tables determine the footing pad spacing and footing configuration along the main beams and perimeter of the section(s).

Refer to page 15 for footing pad configuration details.

Review the tables that indicate the footing type you are going to use for main beams and perimeter piers.

Refer to page 18 for the procedure on using the tables below.

Main beam footing spacing tables acceptable for roof live load 40 psf maximum.

### PERIMETER FOOTING CONFIGURATION AND SPACING

#### PROCEDURE :

1. Determine the design roof live load of the home.
2. Determine the soil bearing capacity.
3. Following that line across the table determines type of footing configuration and spacing.
4. Footing placement to start at no more than one foot (1'-0" to edge of pier) from each corner of the home.
5. The spacing for any footing may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

PERIMETER FOOTING CONFIGURATION AND SPACING					
Roof Live Load Max. (psf)	Soil Capacity (psf)	FOOTING CONFIGURATIONS			Footing Spacing (feet)
		16" x 16" Concrete Pad	8" x 16" Concrete Pad	2 x 12 x 24" Wood Pad	
20	1000	SINGLE	DOUBLE	SINGLE	6'-0"
	1500	DOUBLE	TRIPLE	DOUBLE	8'-0"
	2000 to 4000	SINGLE	DOUBLE	SINGLE	
30	1000	DOUBLE	TRIPLE	DOUBLE	8'-0"
	1500	SINGLE	DOUBLE	SINGLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	
40	1000	DOUBLE	N/A	DOUBLE	8'-0"
	1500	DOUBLE	TRIPLE	DOUBLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	

### MAIN BEAM FOOTING CONFIGURATION AND SPACING

8" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Dbl. Pad Footing			Triple Pad Footing			Two Dbl Pad Ftng.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	5'-6"	5'-6"	5'-6"	8'	8'-6"	8'-6"	8'	10'	11'
1500	8'	8'-6"	8'-6"	8'	10'	12'	8'	10'	12'
2000	8'	10'	11'	8'	8'	10'	12'	8'	10'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

16" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Ftng.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	5'-6"	5'-6"	5'-6"	8'	10'	11'	8'	10'	12'
1500	8'	8'-6"	8'-6"	8'	10'	12'	8'	10'	12'
2000	8'	10'	11'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

2 X 12 X 24" WOOD FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	6'	6'	6'	8'	10'	12'	8'	10'	12'
1500	8'	9'	9'	8'	10'	12'	8'	10'	12'
2000	8'	10'	12'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

#### PROCEDURE:

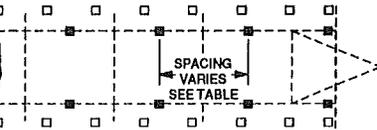
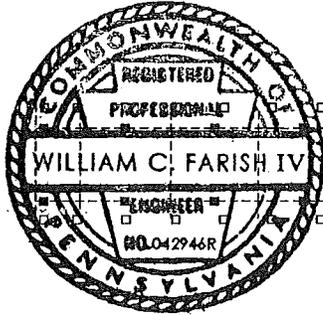
### TIEDOWN STRAP SPACING

1. Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
2. Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
3. Following that line across to the appropriate wind zone determines the strap spacing.
4. The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
5. The spacing for any strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

MAXIMUM TIEDOWN STRAP SPACING					
Height from ground to bottom of main beam (Inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
8" to 18"	14'-0"	6'-6"	5'-6"	32°	34°
19" to 36"	10'-6"	6'-6"	5'-6"	34°	44°
37" to 48"	9'-0"	6'-6"	5'-6"	44°	47°
49" to 80"	6'-6"	5'-0"	4'-0"	47°	59°

# MAIN BEAM WITH PERIMETER FOOTING CONFIGURATIONS AND SPACING

## 16 WIDE - SINGLE SECTION



■ MAIN BEAM FOOTINGS  
□ PERIMETER FOOTINGS

These tables determine the footing pad spacing and footing configuration along the main beams and perimeter of the section.

Refer to page 15 for footing pad configuration details.

Review the tables that indicate the footing type you are going to use for main beams and perimeter piers.

Refer to page 18 for the procedure on using the tables below.

Main beam footing spacing tables acceptable for roof live load 40 psf maximum.

### PERIMETER FOOTING CONFIGURATION AND SPACING

#### PROCEDURE :

1. Determine the design roof live load of the home.
2. Determine the soil bearing capacity.
3. Following that line across the table determines type of footing configuration and spacing.
4. Footing placement to start at no more than one foot (1'-0" to edge of pier) from each corner of the home.
5. The spacing for any footing may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

PERIMETER FOOTING CONFIGURATION AND SPACING					
Roof Live Load Max. (psf)	Soil Capacity (psf)	FOOTING CONFIGURATIONS			Footing Spacing (feet)
		16" x 16" Concrete Pad	8" x 16" Concrete Pad	2 x 12 x 24" Wood Pad	
20	1000	SINGLE	DOUBLE	SINGLE	6'-0"
	1500	DOUBLE	TRIPLE	DOUBLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	
30	1000	DOUBLE	TRIPLE	DOUBLE	8'-0"
	1500	SINGLE	DOUBLE	SINGLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	
40	1000	DOUBLE	N/A	DOUBLE	8'-0"
	1500	DOUBLE	TRIPLE	DOUBLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	

### MAIN BEAM FOOTING CONFIGURATION AND SPACING

8" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Dbl. Pad Footing			Triple Pad Footing			Two Dbl Pad Fng.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	5'	5'	5'	7'-6"	7'-6"	7'-6"	8'	10'	10'
1500	7'-6"	7'-6"	7'-6"	8'	10'	11'	8'	10'	12'
2000	8'	10'	10'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

16" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Fng.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	5'	5'	5'	8'	10'	10'	8'	10'	12'
1500	7'-6"	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'
2000	8'	10'	10'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

2 X 12 X 24" WOOD FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	5'	5'	5'	8'	10'	10'-6"	8'	10'	12'
1500	7'-6"	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'
2000	8'	10'	10'-6"	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

#### PROCEDURE:

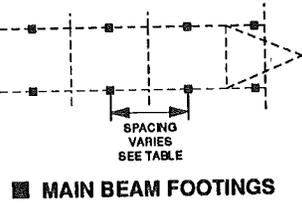
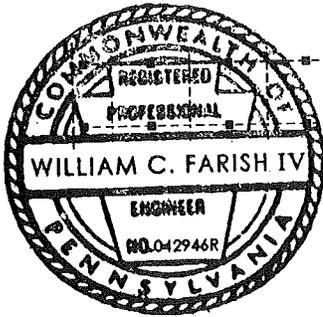
### TIEDOWN STRAP SPACING

1. Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
2. Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
3. Following that line across to the appropriate wind zone determines the strap spacing.
4. The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
5. The spacing for any strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

MAXIMUM TIEDOWN STRAP SPACING					
Height from ground to bottom of main beam (Inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
8" to 18"	13'-0"	6'-0"	5'-0"	40°	42°
19" to 36"	10'-6"	6'-0"	5'-0"	42°	47°
37" to 48"	9'-6"	6'-0"	5'-0"	47°	50°
49" to 80"	7'-0"	5'-9"	4'-9"	50°	59°

# MAIN BEAM FOOTING CONFIGURATIONS AND SPACING

## 18 WIDE - SINGLE SECTION



<b>8" X 16" X 4" CONCRETE FOOTINGS</b>										
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Dbl. Pad Footing			Triple. Pad Footing			Two Dbl Pad Ftng.		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	2'-6"	2'-6"	2'-6"	3'-6"	3'-6"	3'-6"	5'	5'	5'
	30	2'	2'	2'	3'	3'	3'	4'-6"	4'-6"	4'-6"
	40	2'	2'	2'	3'	3'	3'	4'	4'	4'
1500	20	3'-6"	3'-6"	3'-6"	5'-6"	5'-6"	5'-6"	7'-6"	7'-6"	7'-6"
	30	3'	3'	3'	5'	5'	5'	6'-6"	6'-6"	6'-6"
	40	3'	3'	3'	4'-6"	4'-6"	4'-6"	6'	6'	6'
2000	20	5'	5'	5'	7'-6"	7'-6"	7'-6"	8'	10'	10'
	30	4'-6"	4'-6"	4'-6"	6'-6"	6'-6"	6'-6"	8'	9'	9'
	40	4'	4'	4'	6'	6'	6'	8'	8'	8'
3000	20	7'-6"	7'-6"	7'-6"	8'	10'	11'-6"	8'	10'	12'
	30	6'-6"	6'-6"	6'-6"	8'	10'	10'	8'	10'	12'
	40	6'	6'	6'	8'	9'	9'	8'	10'	12'
4000	20	--	--	--	8'	10'	12'	8'	10'	12'
	30	--	--	--	8'	10'	12'	8'	10'	12'
	40	--	--	--	8'	10'	12'	8'	10'	12'

These tables determine the footing pad configuration and footing spacing along the main beams of the section. Refer to page 15 for footing pad configuration details.

Review the table that indicates the footing type you are going to use.

Refer to page 18 for the procedure on using the tables.



<b>2 X 12 X 24" WOOD FOOTINGS</b>													
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)											
		Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing					
		Main Beam Size			Main Beam Size			Main Beam Size					
		8"	10"	12"	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	2'-6"	2'-6"	2'-6"	5'	5'	5'	8'	8'	8'	8'	7'	7'
	30	2'	2'	2'	4'-6"	4'-6"	4'-6"	7'	7'	6'	6'	6'	6'
	40	2'	2'	2'	4'	4'	4'	6'	6'	6'	6'	6'	6'
1500	20	4'	4'	4'	8'	8'	8'	8'	10'	12'	12'	10'-6"	12'
	30	3'-6"	3'-6"	3'-6"	7'	7'	7'	8'	10'	10'	10'-6"	10'-6"	12'
	40	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	9'-6"	9'-6"	9'-6"	9'-6"	12'
2000	20	5'	5'	5'	8'	10'	10'-6"	8'	10'	12'	12'	10'	12'
	30	4'-6"	4'-6"	4'-6"	8'	9'-6"	9'-6"	8'	10'	12'	12'	10'	12'
	40	4'	4'	4'	8'	8'-6"	8'-6"	8'	10'	12'	12'	10'	12'
3000	20	8'	8'	8'	8'	10'	12'	8'	10'	12'	12'	10'	12'
	30	7'	7'	7'	8'	10'	12'	8'	10'	12'	12'	10'	12'
	40	6'	6'	6'	8'	10'	12'	8'	10'	12'	12'	10'	12'
4000	20	--	--	--	8'	10'	12'	8'	10'	12'	12'	10'	12'
	30	--	--	--	8'	10'	12'	8'	10'	12'	12'	10'	12'
	40	--	--	--	8'	10'	12'	8'	10'	12'	12'	10'	12'

<b>16" X 16" X 4" CONCRETE FOOTINGS</b>													
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)											
		Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Ftng.					
		Main Beam Size			Main Beam Size			Main Beam Size					
		8"	10"	12"	8"	10"	12"	8"	10"	10"	10"	12"	
1000	20	2'-6"	2'-6"	2'-6"	5'	5'	5'	8'	10'	10'	8'	10'	10'
	30	2'	2'	2'	4'-6"	4'-6"	4'-6"	8'	9'	9'	8'	10'	9'
	40	2'	2'	2'	4'	4'	4'	8'	8'	8'	8'	10'	8'
1500	20	3'-6"	3'-6"	3'-6"	7'-6"	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'
	30	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	10'	10'	8'	10'	12'
	40	3'	3'	3'	6'	6'	6'	8'	9'-6"	9'-6"	8'	10'	12'
2000	20	5'	5'	5'	8'	10'	10'	8'	10'	12'	8'	10'	12'
	30	4'-6"	4'-6"	4'-6"	8'	9'	9'	8'	10'	12'	8'	10'	12'
	40	4'	4'	4'	8'	8'	8'	8'	10'	12'	8'	10'	12'
3000	20	7'-6"	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'	8'	10'	12'
	30	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'	8'	10'	12'
	40	6'	6'	6'	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	20	--	--	--	8'	10'	12'	8'	10'	12'	8'	10'	12'
	30	--	--	--	8'	10'	12'	8'	10'	12'	8'	10'	12'
	40	--	--	--	8'	10'	12'	8'	10'	12'	8'	10'	12'

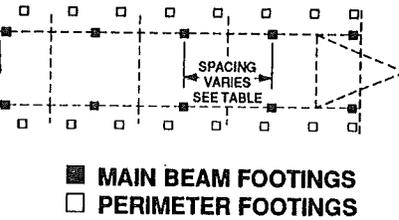
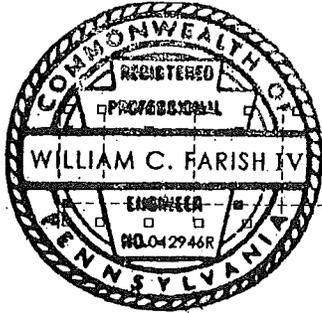
### TIEDOWN STRAP SPACING

#### PROCEDURE: FOR ALL WIND ZONES

- Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
- Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
- Following that line across to the appropriate wind zone determines the strap spacing.
- The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
- The spacing for any individual strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

Height from ground to bottom of main beam (Inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
	8" to 18"	13'-0"	6'-0"	5'-0"	39°
19" to 36"	9'-6"	6'-0"	5'-0"	41°	50°
37" to 48"	8'-6"	6'-0"	5'-0"	46°	52°
49" to 80"	6'-6"	5'-3"	4'-3"	46°	58°

# MAIN BEAM WITH PERIMETER FOOTING CONFIGURATIONS AND SPACING 18 WIDE - SINGLE SECTION



These tables determine the footing pad spacing and footing configuration along the main beams and perimeter of the section.

Refer to page 15 for footing pad configuration details.

Review the tables that indicate the footing type you are going to use for main beams and perimeter piers.

Refer to page 18 for the procedure on using the tables below.

Main beam footing spacing tables acceptable for roof live load 40 psf maximum.

## PERIMETER FOOTING CONFIGURATION AND SPACING

### PROCEDURE :

1. Determine the design roof live load of the home.
2. Determine the soil bearing capacity.
3. Following that line across the table determines type of footing configuration and spacing.
4. Footing placement to start at no more than one foot (1'-0" to edge of pier) from each corner of the home.
5. The spacing for any footing may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

PERIMETER FOOTING CONFIGURATION AND SPACING					
Roof Live Load Max. (psf)	Soil Capacity (psf)	FOOTING CONFIGURATIONS			Footing Spacing (feet)
		16" x 16" Concrete Pad	8" x 16" Concrete Pad	2 x 12 x 24" Wood Pad	
20	1000	SINGLE	DOUBLE	SINGLE	6'-0"
	1000	DOUBLE	TRIPLE	DOUBLE	
	1500	SINGLE	DOUBLE	SINGLE	
30	2000 to 4000	SINGLE	DOUBLE	SINGLE	8'-0"
	1000	DOUBLE	TRIPLE	DOUBLE	
	1500	SINGLE	DOUBLE	SINGLE	
40	2000 to 4000	SINGLE	DOUBLE	SINGLE	8'-0"
	1000	DOUBLE	N/A	DOUBLE	
	1500	DOUBLE	TRIPLE	DOUBLE	

## MAIN BEAM FOOTING CONFIGURATION AND SPACING

8" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Dbl. Pad Footing			Triple Pad Footing			Two Dbl Pad Fng.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	4'-6"	4'-6"	4'-6"	6'-6"	6'-6"	6'-6"	8'	9'	9'
1500	6'-6"	6'-6"	6'-6"	8'	10'	10'	8'	10'	12'
2000	8'	9'	9'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

16" X 16" X 4" CONCRETE FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Two Dbl Pad Fng.		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	4'-6"	4'-6"	4'-6"	8'	9'	9'	8'	10'	12'
1500	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'
2000	8'	9'	9'	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

2 X 12 X 24" WOOD FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	4'-6"	4'-6"	4'-6"	8'	9'-6"	9'-6"	8'	10'	12'
1500	7'	7'	7'	8'	10'	12'	8'	10'	12'
2000	8'	9'-6"	9'-6"	8'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	--	--	--	8'	10'	12'	8'	10'	12'

### PROCEDURE:

### TIEDOWN STRAP SPACING

1. Over the length of the home, find the furthest distance the bottom of the main beam is from the ground.
2. Measure that distance and locate that height in the table. Do not measure at limited localized depressions under the home.
3. Following that line across to the appropriate wind zone determines the strap spacing.
4. The initial strap location from front or rear of home may be no more than two feet (2'-0") maximum.
5. The spacing for any strap may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.

MAXIMUM TIEDOWN STRAP SPACING					
Height from ground to bottom of main beam (Inches)	WIND ZONE			Diagonal Strap Angle	
	I	II	III	Min.	Max.
8" to 18"	13'-0"	6'-0"	5'-0"	39°	46°
19" to 36"	9'-6"	6'-0"	5'-0"	41°	50°
37" to 48"	8'-6"	6'-0"	5'-0"	46°	52°
49" to 80"	6'-6"	5'-3"	4'-3"	46°	58°

# MAIN BEAM FOOTING SPACING USING PRE-POURED (UNREINFORCED) CONCRETE FOOTINGS SINGLE, DOUBLE, OR TRIPLE SECTIONS - 20 PSF ROOF

These tables determine the footing spacing along the main beams of the section(s).

## 12/13 WIDE

PRE-POURED UNREINFORCED 20" X 20" X 6" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	4'-6"	4'-6"	4'-6"
1500	7'-0"	7'-0"	7'-0"
2000	8'-0"	9'-6"	9'-6"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 24" X 24" X 6" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	7'-0"	7'-0"	7'-0"
1500	8'-0"	10'-0"	10'-6"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 28" X 28" X 8" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	9'-6"	9'-6"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 32" X 32" X 8" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	12'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 36" X 36" X 8" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	12'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

## 14 WIDE

PRE-POURED UNREINFORCED 20" X 20" X 6" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	4'-6"	4'-6"	4'-6"
1500	6'-6"	6'-6"	6'-6"
2000	8'-0"	9'-0"	9'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 24" X 24" X 6" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	6'-6"	6'-6"	6'-6"
1500	8'-0"	10'-0"	10'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 28" X 28" X 8" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	9'-0"	9'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 32" X 32" X 8" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	10'-6"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 36" X 36" X 8" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	12'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

## 16/18 WIDE

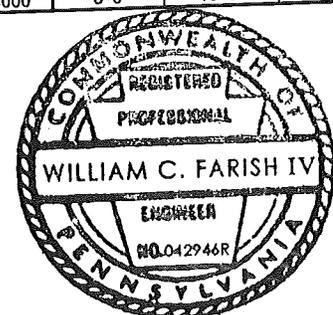
PRE-POURED UNREINFORCED 20" X 20" X 6" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	4'-0"	4'-0"	4'-0"
1500	5'-6"	5'-6"	5'-6"
2000	7'-6"	7'-6"	7'-6"
3000	8'-0"	10'-0"	11'-0"
4000	8'-0"	10'-0"	11'-0"

PRE-POURED UNREINFORCED 24" X 24" X 6" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	5'-6"	5'-6"	5'-6"
1500	8'-0"	8'-0"	8'-0"
2000	8'-0"	10'-0"	11'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 28" X 28" X 8" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	7'-6"	7'-6"	7'-6"
1500	8'-0"	10'-0"	11'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 32" X 32" X 8" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	9'-6"	9'-6"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 36" X 36" X 8" CONCRETE FOOTING			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	12'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"



3

**MAIN BEAM FOOTING SPACING USING PRE-POURED  
(UNREINFORCED) CONCRETE FOOTINGS**

**SINGLE, DOUBLE, OR TRIPLE SECTIONS - 30 PSF ROOF**

These tables determine the footing spacing along the main beams of the section(s).

**12/13 WIDE**

**14 WIDE**

**16/18 WIDE**

<b>PRE-POURED UNREINFORCED 20" X 20" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	4'-0"	4'-0"	4'-0"
1500	6'-0"	6'-0"	6'-0"
2000	8'-0"	8'-6"	8'-6"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 20" X 20" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	4'-0"	4'-0"	4'-0"
1500	6'-0"	6'-0"	6'-0"
2000	8'-0"	8'-0"	8'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 20" X 20" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	3'-0"	3'-0"	3'-0"
1500	5'-0"	5'-0"	5'-0"
2000	6'-6"	6'-6"	6'-6"
3000	8'-0"	10'-0"	10'-0"
4000	8'-0"	10'-0"	10'-6"

<b>PRE-POURED UNREINFORCED 24" X 24" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	6'-0"	6'-0"	6'-0"
1500	8'-0"	9'-0"	9'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 24" X 24" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	5'-6"	5'-6"	5'-6"
1500	8'-0"	8'-6"	8'-6"
2000	8'-0"	10'-0"	11'-6"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 24" X 24" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	4'-6"	4'-6"	4'-6"
1500	7'-0"	7'-0"	7'-0"
2000	8'-0"	9'-6"	9'-6"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 28" X 28" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	8'-0"	8'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 28" X 28" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	7'-6"	7'-6"	7'-6"
1500	8'-0"	10'-0"	11'-6"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 28" X 28" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	6'-6"	6'-6"	6'-6"
1500	8'-0"	10'-0"	10'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 32" X 32" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	10'-6"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

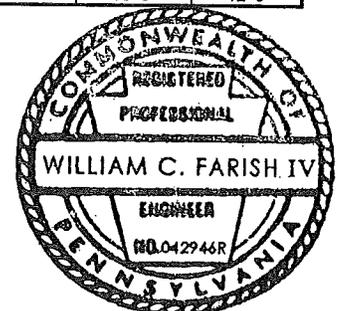
<b>PRE-POURED UNREINFORCED 32" X 32" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	10'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 32" X 32" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	8'-6"	8'-6"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 36" X 36" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	12'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 36" X 36" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	12'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 36" X 36" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	11'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"



**MAIN BEAM FOOTING SPACING USING PRE-POURED  
(UNREINFORCED) CONCRETE FOOTINGS**

**SINGLE, DOUBLE, OR TRIPLE SECTIONS - 40 PSF ROOF**

These tables determine the footing spacing along the main beams of the section(s).

**12/13 WIDE**

**14 WIDE**

**16/18 WIDE**

<b>PRE-POURED UNREINFORCED 20" X 20" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	3'-6"	3'-6"	3'-6"
1500	5'-6"	5'-6"	5'-6"
2000	7'-6"	7'-6"	7'-6"
3000	8'-0"	10'-0"	11'-0"
4000	8'-0"	10'-0"	11'-6"

<b>PRE-POURED UNREINFORCED 20" X 20" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	3'-0"	3'-0"	3'-0"
1500	5'-0"	5'-0"	5'-0"
2000	6'-6"	6'-6"	6'-6"
3000	8'-0"	10'-0"	10'-6"
4000	8'-0"	10'-0"	11'-0"

<b>PRE-POURED UNREINFORCED 20" X 20" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	3'-0"	3'-0"	3'-0"
1500	4'-6"	4'-6"	4'-6"
2000	6'-0"	6'-0"	6'-0"
3000	8'-0"	9'-0"	9'-0"
4000	8'-0"	9'-0"	9'-0"

<b>PRE-POURED UNREINFORCED 24" X 24" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	5'-6"	5'-6"	5'-6"
1500	8'-0"	8'-0"	8'-0"
2000	8'-0"	10'-0"	11'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 24" X 24" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	5'-0"	5'-0"	5'-0"
1500	7'-6"	7'-6"	7'-6"
2000	8'-0"	10'-0"	10'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 24" X 24" X 6" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	4'-0"	4'-0"	4'-0"
1500	6'-6"	6'-6"	6'-6"
2000	8'-0"	8'-6"	8'-6"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 28" X 28" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	7'-6"	7'-6"	7'-6"
1500	8'-0"	10'-0"	11'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 28" X 28" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	7'-0"	7'-0"	7'-0"
1500	8'-0"	10'-0"	10'-6"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 28" X 28" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	6'-0"	6'-0"	6'-0"
1500	8'-0"	9'-0"	9'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 32" X 32" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	9'-6"	9'-6"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 32" X 32" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	9'-0"	9'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 32" X 32" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	7'-6"	7'-6"	7'-6"
1500	8'-0"	10'-0"	11'-6"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

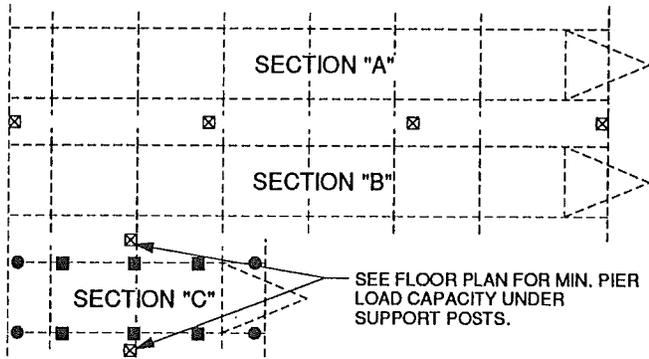
<b>PRE-POURED UNREINFORCED 36" X 36" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	12'-0"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

<b>PRE-POURED UNREINFORCED 36" X 36" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	11'-6"
1500	8'-0"	10'-0"	12'-0"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

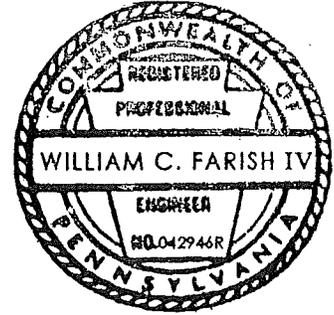
<b>PRE-POURED UNREINFORCED 36" X 36" X 8" CONCRETE FOOTING</b>			
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	9'-6"
1500	8'-0"	10'-0"	11'-6"
2000	8'-0"	10'-0"	11'-6"
3000	8'-0"	10'-0"	11'-6"
4000	8'-0"	10'-0"	11'-6"

**3**

## TRIPLE SECTION WITH TRANSVERSE ROOF FOOTING CONFIGURATIONS AT MAIN BEAM AND SUPPORT POSTS



- SUPPORT POST LOCATIONS
- MAIN BEAM FOOTINGS
- FOOTING AT EACH END OF MAIN BEAMS



### PROCEDURE

- Main beam footing configurations and piers can be the same type, configuration and spacing as determined for the main beams for the main sections of the home.
- For footing configurations under the piers at each end of the main beams see the tables below. Use the same soil capacity column as used for the main unit beam footings.

- Review the first column in the table on the floor plan entitled 'Minimum Pier Loads (lbs.)', for the minimum loads for the support posts.

Using the same soil capacity column chosen for the main unit beam footings, select a footing and footing configuration that meets or exceeds the minimum loads from the table on the floor plan for each support post. See page 15 for footing configuration selection.

### MINIMUM FOOTING CONFIGURATIONS UNDER PIERS AT EACH END OF MAIN BEAMS

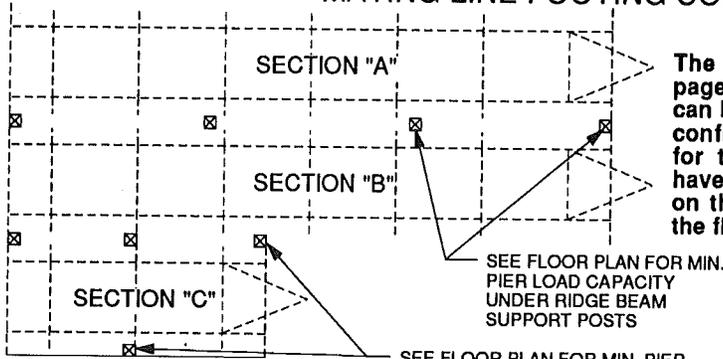
#### 12 WIDE TRIPLE SECTION

16" x 16" x 4" Concrete Footings					8" x 16" x 4" Concrete Footings					2 x 12 x 24" Wood Footings				
Soil Capacity (psf)	Section Length Max. (ft.)	Roof Live Load Max. (psf)			Soil Capacity (psf)	Section Length Max. (ft.)	Roof Live Load Max. (psf)			Soil Capacity (psf)	Section Length Max. (ft.)	Roof Live Load Max. (psf)		
		20	30	40			20	30	40			20	30	40
1000	36	Quad	Quad	Quad	1000	30	2 Triple	2 Triple	2 Triple	1000	22	Double	Triple	Triple
1500	30	Double	Double	Double	1500	36	2 Triple	2 Triple	N/A	36	36	Triple	Triple	Triple
	36	Double	Double	Quad		22	Triple	2 Double	2 Double	1500	36	Double	Double	Double
2000	36	Double	Double	Double	1500	30	2 Double	2 Double	2 Double	2000	22	Single	Double	Double
	36	Double	Double	Double		36	2 Double	2 Double	2 Triple		36	36	Double	Double
3000	30	Single	Single	Single	2000	30	Triple	Triple	Triple	3000	36	Single	Single	Single
	36	Single	Single	Double		36	Triple	Triple	2 Double		36	36	Single	Single
4000	36	Double	Double	Double	2000	36	Double	Double	Double	4000	36	Double	Double	Double
	36	Double	Double	Double		30	Double	Double	Double		36	36	Double	Double
4000	36	Double	Double	Double	3000	36	Double	Double	Triple	4000	36	Double	Double	Double
	36	Double	Double	Double		36	Double	Double	Double		36	36	Double	Double

#### 13 OR 14 WIDE TRIPLE SECTION

16" x 16" x 4" Concrete Footings					8" x 16" x 4" Concrete Footings					2 x 12 x 24" Wood Footings				
Soil Capacity (psf)	Section Length Max. (ft.)	Roof Live Load Max. (psf)			Soil Capacity (psf)	Section Length Max. (ft.)	Roof Live Load Max. (psf)			Soil Capacity (psf)	Section Length Max. (ft.)	Roof Live Load Max. (psf)		
		20	30	40			20	30	40			20	30	40
1000	36	Quad	Quad	Quad	1000	26	2 Triple	2 Triple	N/A	1000	26	Triple	Triple	Triple
1500	26	Double	Double	Quad	1500	36	2 Triple	N/A	N/A	36	36	Triple	Triple	N/A
	36	Double	Quad	Quad		26	2 Double	2 Double	2 Triple	1500	26	Double	Double	Double
2000	36	Double	Double	Double	1500	36	2 Double	2 Triple	2 Triple	2000	36	Double	Double	Triple
	36	Double	Double	Double		26	Triple	Triple	2 Double		36	36	Double	Double
3000	26	Single	Single	Double	2000	36	Triple	2 Double	2 Double	3000	26	Single	Single	Single
	36	Single	Double	Double		36	Triple	2 Double	2 Double		36	36	Single	Single
4000	36	Double	Double	Double	3000	26	Double	Double	Triple	4000	36	Single	Single	Double
	36	Double	Double	Double		36	Double	Triple	Triple		36	36	Double	Double
4000	36	Double	Double	Double	4000	36	Double	Double	Double	4000	36	Double	Double	Double
	36	Double	Double	Double		36	Double	Double	Double		36	36	Double	Double

# MULTI WIDE SECTIONS RIDGE BEAM SUPPORT POST MATING LINE FOOTING CONFIGURATIONS



☒ **SUPPORT POST LOCATIONS**

**NOTE**  
The footing capacity table on this page indicate the maximum load that can be placed on the various footing configurations. The minimum loads for the ridge beam support posts have been established for each post on the model floor plan attached to the flap in the back of this manual.

MIN. PIER LOADS (LBS)	A	B
3700	1	A B
5500	2	A B
6100	3	A B
7300	4	A B
4300	5	A B

EXAMPLE OF MINIMUM SUPPORT POST LOADS FOUND ON FLOOR PLAN

### PROCEDURE

- The location of the ridge beam support posts are designated by yellow labels along the mating line of the floor, and on the floor plan by a square symbol containing a number, for example [1]. Post [0] or [1] is always the first support post at the front or tow bar end of the section.
- Review the first column in the table on the floor plan entitled 'Minimum Pier Loads (lbs.)', for the minimum loads for each pair of support posts.
- Using the same soil capacity column chosen for the main beam piers, select a footing and footing configuration that meets or exceeds the minimum loads from the table on the floor plan for each mating line pier.
- The type of pier and footing selected under the support posts, are to meet or exceed the minimum loads established for each mating line pier.

### NOTE

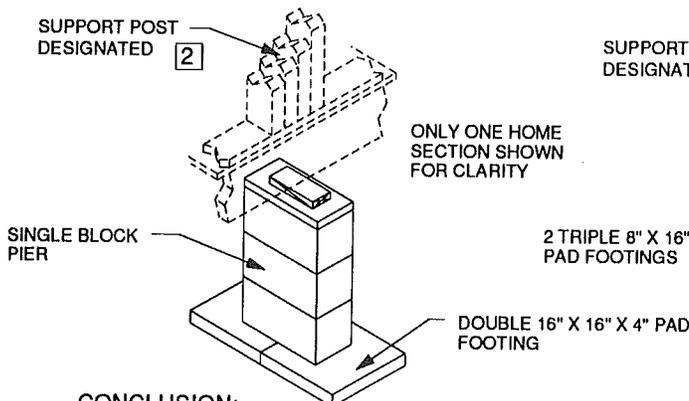
- For third section with transverse roof design see Page 34 for main beam and support post plying requirements.

### NOTE

Due to the various loads required by each pair of support posts, footing configurations will most likely be different from post to post. See Example 1 and Example 2 below.

### EXAMPLE 1

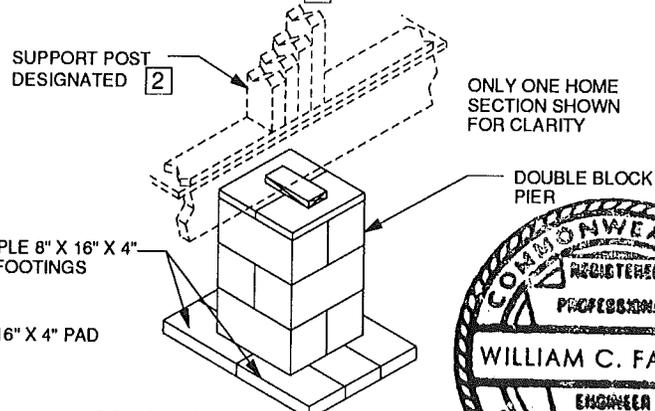
Post [2] has a minimum pier load of 3,200 lbs. Using 1000 lbs. soil capacity and 16" x 16" x 4" concrete pads, a double 16" x 16" x 4" footing is required under a single block pier at post location [2].



**CONCLUSION:**  
This footing configuration can carry a maximum of 3500 lbs.

### EXAMPLE 2

Post [2] has a minimum pier load of 6,100 lbs. Using 1500 lbs. soil capacity and 8" x 16" x 4" concrete pads, two(2) triple pad footings are required with double block pier at post location [2].



**CONCLUSION:**  
This footing configuration can carry a maximum of 8000 lbs.

8" x 16" x 4" CONCRETE PAD				
Soil Capacity (PSF)	DOUBLE PAD	TRIPLE PAD	2 DOUBLE PADS	2 TRIPLE PADS
1000	1,700	2,600	3,400	5,200
1500	2,600	4,000	5,200	8,000
2000	3,500	5,300	7,200	10,600
3000	5,200	8,000	10,400	16,000
4000	--	10,600	14,400	21,200

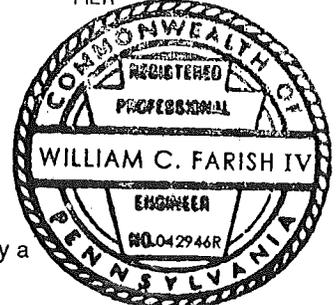
  

16" x 16" x 4" CONCRETE PAD				
Soil Capacity (PSF)	SINGLE PAD	DOUBLE PAD	2 DOUBLE PADS	QUAD PADS
1000	1,700	3,500	7,000	7,000
1500	2,600	5,300	10,600	10,600
2000	3,500	7,000	14,200	14,200
3000	5,200	10,600	21,200	21,200
4000	--	14,000	28,400	28,400

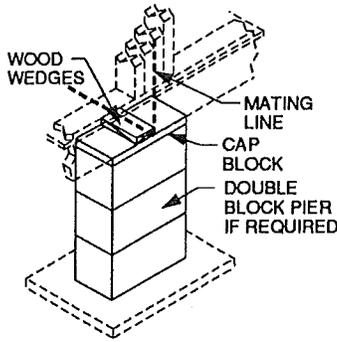
  

2 x 12 x 24" WOOD			
Soil Capacity (PSF)	SINGLE PAD	DOUBLE PADS	TRIPLE PADS
1000	2,000	4,000	6,000
1500	3,000	6,000	9,000
2000	4,000	8,000	12,000
3000	6,000	12,000	18,000
4000	--	16,000	24,000

3

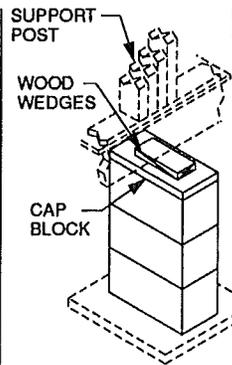


## MATING LINE SUPPORT POST PIERS USING CONCRETE BLOCK

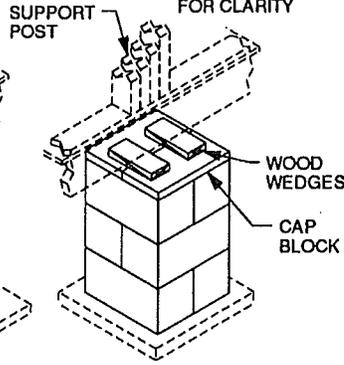


Pier may be set back a maximum of 12" from end of home.

PIER AT END WALL

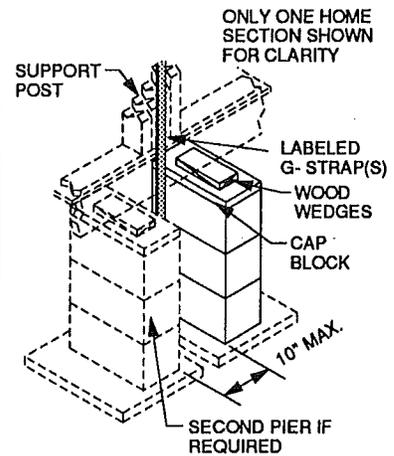


SINGLE BLOCK



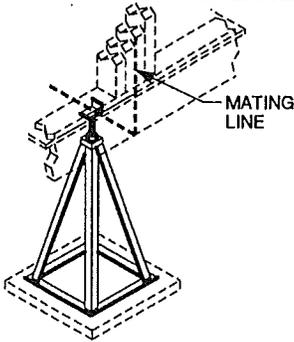
DOUBLE BLOCK

PIER(S) AT SUPPORT POSTS (WITHOUT LABELED G-STRAP)



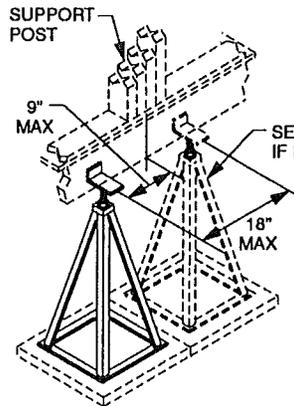
PIER(S) AT SUPPORT POSTS (WITH LABELED G-STRAP)

## MATING LINE SUPPORT POST PIERS USING COMMERCIAL METAL PIERS

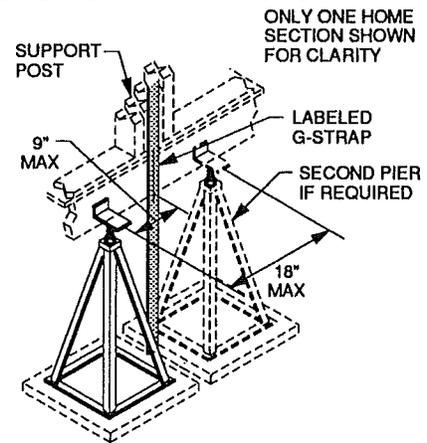


Pier may be set back a maximum of 12" from end of home.

PIER AT END WALL

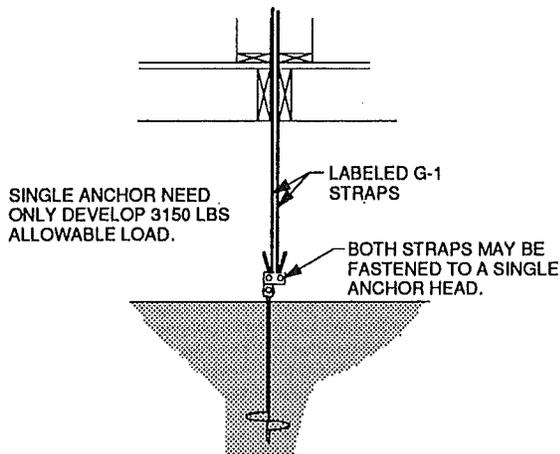


PIER(S) AT SUPPORT POSTS (WITHOUT LABELED G-STRAP)

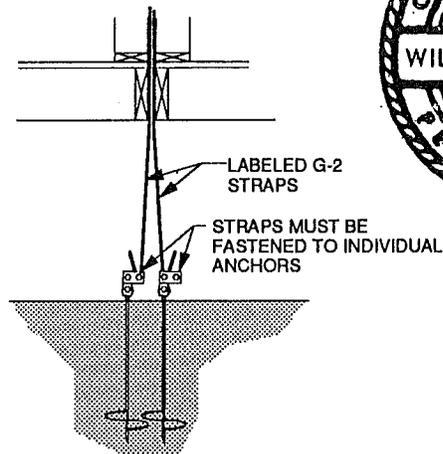


PIER(S) AT SUPPORT POSTS (WITH LABELED G-STRAP)

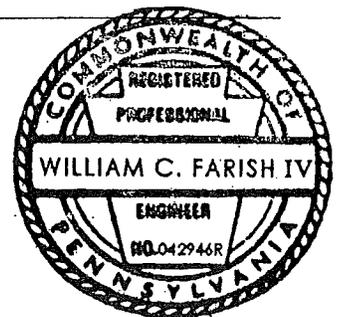
## TIEDOWN OF LABELED G-STRAPS AT SUPPORT POST LOCATIONS

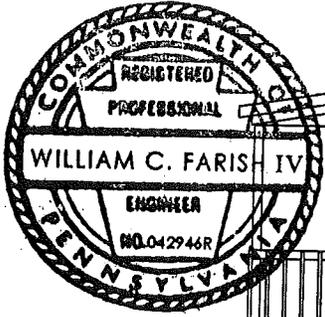


LABELED G-1 STRAPS

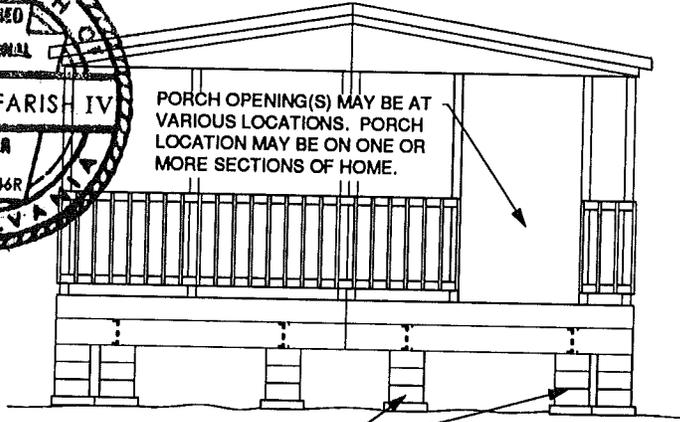


LABELED G-2 STRAPS



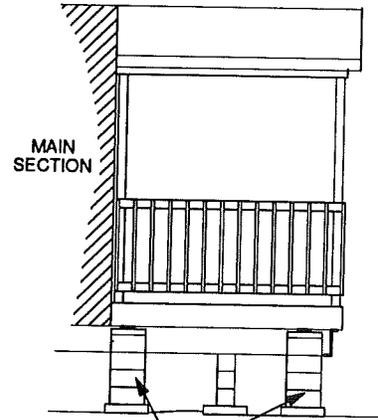


## PORCHES



FOOTINGS AND PIERS UNDER THE MAIN BEAMS OF THE PORCH SHALL BE THE SAME TYPE, CONFIGURATION AND SPACING AS DETERMINED FOR THE MAIN BEAMS OF THE MAIN SECTION(S) OF THE HOME.

FRONT VIEW



PERIMETER FOOTING AND PIER SHALL BE LOCATED AT EACH PORCH POST LOCATION. SEE PROCEDURE TO DETERMINE FOOTING CONFIGURATION.

SIDE VIEW

### CAUTION

Area under porch should not be graded or enclosed by a foundation or skirting that prevents water from draining away from the home. Foundation or skirting shall follow the exterior wall of the main section(s).

### NOTE:

When a section of a multi section home is only a porch, main beam and perimeter footings and piers are determined as outlined on this page. Porch posts supported by front or rear full width metal frame crossmember do not require piers.

- Length of porch can be subtracted from length of main section when determining longitudinal tiedown strap requirements.
- See page 48 to see if longitudinal strap requirements apply.
- Porch may be part of single section home.

### PERIMETER FOOTINGS UNDER PORCH POSTS

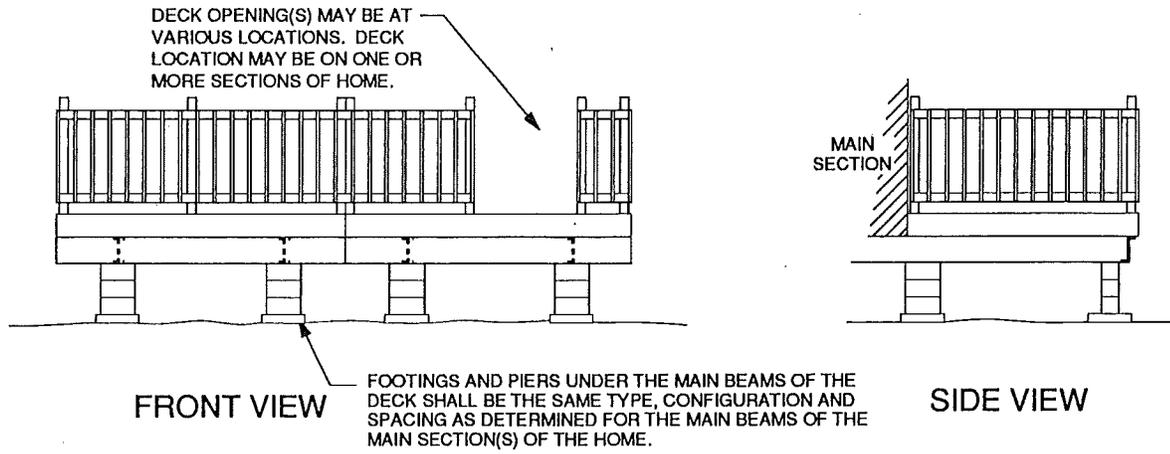
#### PROCEDURE:

- Determine the design roof live load of the home.
- Determine the soil bearing capacity.
- Determine the spacing of the porch posts.
- Following that line across the table determines type of footing configuration.

PERIMETER FOOTING CONFIGURATION BASED ON PORCH POST SPACING - MAX. 14 WIDE SECTION					
Roof Live Load Max. (psf)	Soil Capacity (psf)	Porch Post Spacing (feet)	FOOTING CONFIGURATIONS		
			16" x 16" Concrete Pad	8" x 16" Concrete Pad	2 x 12 x 24" Wood Pad
20, 30 & 40	1000	UP TO 4'-0"	SINGLE	DOUBLE	SINGLE
	1500		SINGLE	DOUBLE	SINGLE
	2000 to 4000		SINGLE	DOUBLE	SINGLE
20	1000	OVER 4'-0" TO 6'-0" MAX	SINGLE	DOUBLE	SINGLE
	1500		SINGLE	DOUBLE	SINGLE
	2000 to 4000		SINGLE	DOUBLE	SINGLE
30	1000		DOUBLE	TRIPLE	SINGLE
	1500		SINGLE	DOUBLE	SINGLE
	2000 to 4000		SINGLE	DOUBLE	SINGLE
40	1000	DOUBLE	TRIPLE	DOUBLE	
	1500	SINGLE	DOUBLE	SINGLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	

PERIMETER FOOTING CONFIGURATION BASED ON PORCH POST SPACING - MAX. 14 WIDE SECTION (cont'd.)					
Roof Live Load Max. (psf)	Soil Capacity (psf)	Porch Post Spacing (feet)	FOOTING CONFIGURATIONS		
			16" x 16" Concrete Pad	8" x 16" Concrete Pad	2 x 12 x 24" Wood Pad
20	1000	OVER 6'-0" TO 8'-0" MAX	DOUBLE	TRIPLE	DOUBLE
	1500		SINGLE	DOUBLE	SINGLE
	2000 to 4000		SINGLE	DOUBLE	SINGLE
30	1000		DOUBLE	TRIPLE	DOUBLE
	1500		SINGLE	DOUBLE	SINGLE
	2000 to 4000		SINGLE	DOUBLE	SINGLE
40	1000	DOUBLE	N/A	DOUBLE	
	1500	DOUBLE	TRIPLE	DOUBLE	
	2000 to 4000	SINGLE	DOUBLE	SINGLE	

## DECKS



### NOTE:

Deck area should not be enclosed by a foundation or skirting that prevents water from draining away from the home. Foundation or skirting shall follow the exterior wall of the main section(s).

1. Length of deck can be subtracted from length of main section when determining longitudinal tiedown strap requirements.
2. See page 48 to see if longitudinal strap requirements apply.
3. Deck may be part of single section home.

# SECTION 4

## INSTALLATION PROCEDURES

	PAGE
POSITIONING AND LEVELING SINGLE OR FIRST SECTION .....	41
USING A WATER LEVEL .....	42
INTERIOR LEVELING .....	42
POSITIONING AND LEVELING SECOND SECTION .....	43
FLOOR CONNECTIONS .....	44
INTERIOR SUPPORT POST FASTENING .....	44
SHINGLE ROOF CONNECTION .....	45
END WALL CONNECTION .....	45
GROUND ANCHORS .....	46
TIEDOWN STRAPS .....	47
SUPPLEMENTAL TIEDOWN STRAPS .....	48
LONGITUDINAL TIEDOWN STRAPS .....	48
MAIN BEAM TIEDOWN STRAP INSTALLATION .....	49
HOT AND COLD PLUMBING CROSSOVER CONNECTIONS .....	50
DRAIN PIPE CROSSOVER CONNECTION .....	50
GAS CROSSOVER CONNECTION .....	50
HEAT DUCT CROSSOVER CONNECTION .....	51
ELECTRICAL CROSSOVER CONNECTION .....	52
CONTINUOUS ELECTRICAL GROUND CONNECTION .....	52
INSTALLATION OF SITE INSTALLED DRAIN WASTE SYSTEM .....	53
DRAIN PIPING SUPPORTS .....	54
BOTTOM BOARD REPAIR .....	55
UNFINISHED GYPSUM BOARD .....	55
MULTI WIDE EXTERIOR CLOSE UP .....	55
MULTI WIDE INTERIOR CLOSE UP .....	55



## POSITIONING AND LEVELING OF THE SECTION(S)

WITH THE SITE PREPARATION COMPLETE, FOOTING AND PIER TYPES SELECTED YOU CAN NOW START THE INITIAL INSTALLATION OF THE HOME.

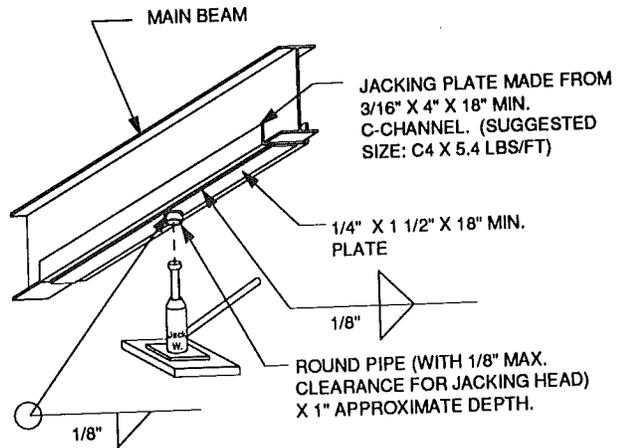
### WARNING

THE HOME'S STRUCTURE WEIGHS SEVERAL TONS! ADEQUATE SUPPORT BLOCKING MUST BE USED TO SAFEGUARD PERSONNEL AND THE STRUCTURE DURING ALL INSTALLATION PROCEDURES. PERSONNEL SHOULD NOT BE PERMITTED TO WORK UNDER THE HOME WHERE THEY MIGHT BE INJURED IF THE HOME ACCIDENTALLY SLIPS DURING THE INSTALLATION PROCESS.

DURING LEVELING CARE MUST BE TAKEN TO AVOID DISTORTING THE HOME. EXCESSIVE AND/OR NONUNIFORM JACKING DURING THE LEVELING PROCESS WILL CAUSE THE HOME TO BE RACKED AND TWISTED. THIS MAY RESULT IN DAMAGE TO THE HOME.

### WARNING

USE JACKING PLATES WHEN JACKING THE FRAME MAIN BEAM TO AID IN PREVENTING THE HOME FROM SLIPPING OFF THE JACK. THIS PROCEDURE WILL ALSO AVOID DAMAGE TO THE BEAM AND VOIDING OF THE WARRANTY. OTHER EQUIVALENT MEANS MAY BE USED TO PREVENT THE HOME FROM SLIPPING OFF THE JACK AND TO ADEQUATELY DISTRIBUTE THE CONCENTRATED LOAD OF THE JACK HEAD TO THE FRAME MEMBERS. SEE DETAIL FOR RECOMMENDED JACKING PLATE ASSEMBLY.



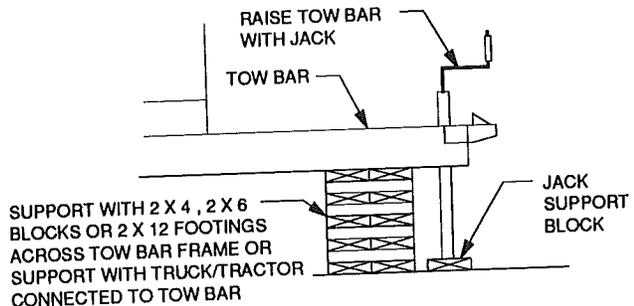
**MAIN BEAM JACKING PLATE ASSEMBLY**  
THIS ASSEMBLY IS NOT PROVIDED BY HOME MANUFACTURER

On multi section homes remove all the plastic covering and all shipping braces from the open side of the first section. (You may elect at this time to remove all the plastic covering and braces from the other section or sections.)

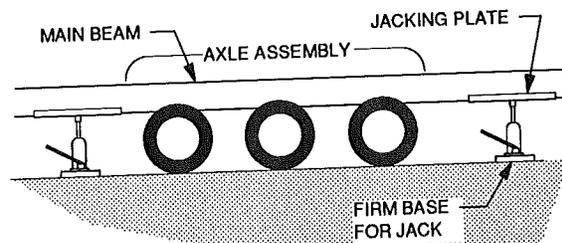
MOVE THE SINGLE SECTION OR THE FIRST SECTION OF THE HOME INTO ITS DESIRED FINAL POSITION.

## LEVELING

Using the tow bar jack, raise the tow bar to a height slightly higher than the intended height of the footings and piers. Block under the tow bar with 2 x 4's, 2 x 6's or 2 x 12 footings or attach tow bar to truck/tractor to prevent the section from falling if the jack fails. (Raise higher with hydraulic jack if additional height is required.)



Place minimum 12 ton rated hydraulic jacks in front of and behind the axle assembly under both main beams. Make sure these jacks have jacking plates under the bottom main beam flanges and have a firm base under the jacks before raising the remainder of the section slightly higher than the intended height of the footings and piers. Operate all jacks simultaneously to prevent excessive stress on the main beams.



### NOTE

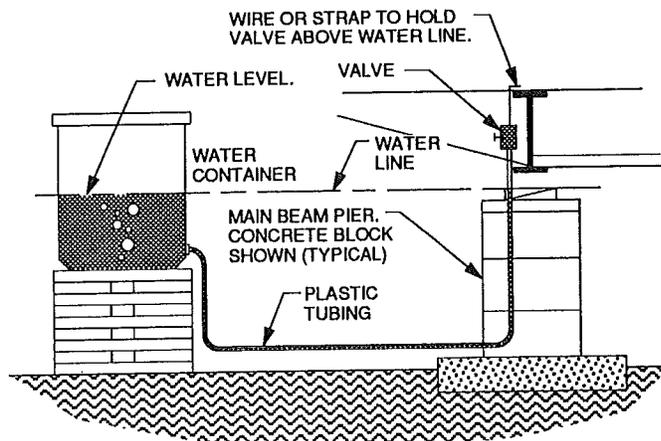
In order to level the section, it is recommended that a water level method be used to ensure all pier supports are at the same height before lowering the section to its final supported position.

SEE THE FOLLOWING PAGE FOR THE PROCEDURE ON USING A WATER LEVEL.

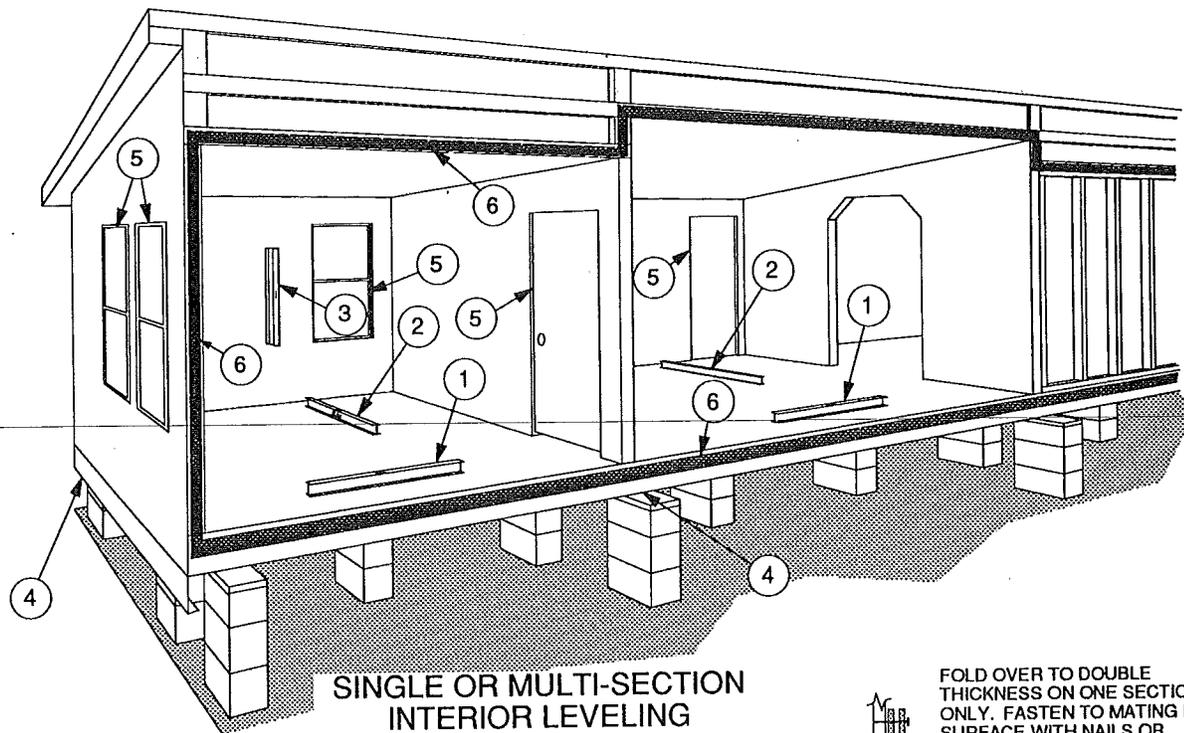
## POSITIONING AND LEVELING OF THE SECTION(S) (cont'd.)

### PROCEDURE ON USING A WATER LEVEL

1. Position water container adjacent to the section that permits length of plastic tubing and valve to reach all pier locations.
2. Lay out plastic tubing, away from traffic areas, checking to make sure it is not compressed or kinked. Make sure installation materials are not placed on tubing.
3. Fill container with colored water.
4. Hold the valve below the level of the water container, open the valve to bleed out any air. Close valve.
5. Locate the tubing adjacent to a pier that is set to the desired final height of the home. Position the valve above the pier and open the valve. Move the water container up or down to where the water level in the tubing is at the desired final height of the pier. Maintain the water container at that position.
6. Move tubing to the next pier. Locate the valve above the pier and open the valve. Set the pier height to the level of the water in the tubing. Close the valve. Repeat this step until all piers are at the same level.
7. Lower section onto piers.



WATER LEVEL APPLICATION

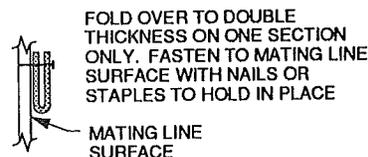


SINGLE OR MULTI-SECTION  
INTERIOR LEVELING

#### PROCEDURE:

Using a minimum 4 foot long spirit level, check 'each' room for level and plumb as shown.

- ① Check level of floor from front to rear direction.
- ② Check level of floor across the section width.
- ③ Check plumb of sidewall.
- ④ Raise section and adjust pier wedges in all areas not level or plumb.
- ⑤ After leveling is complete check all windows, interior and exterior doors to make sure they operate freely without binding.



SILL SEALER INSTALLATION

- ⑥ On multi-sections install strips of carpet pad or sill sealer (provided) around the ceiling (at the ceiling panel location), endwalls and floor mating line. Fasten pad or sill sealer with staples or nails to hold in place. See detail on Page 45 for alternate methods for end walls.

#### CAUTION

**SPECIAL CARE MUST BE TAKEN TO ENSURE THAT THIS MATING LINE JOINT IS TIGHT TO RESIST AIR INFILTRATION AND MINIMIZE CONDENSATION**

## POSITIONING AND LEVELING OF THE SECTIONS (cont'd.)

CONTINUE AS FOLLOWS FOR POSITIONING AND LEVELING THE NEXT SECTION FOR A MULTI-WIDE HOME

### NOTE

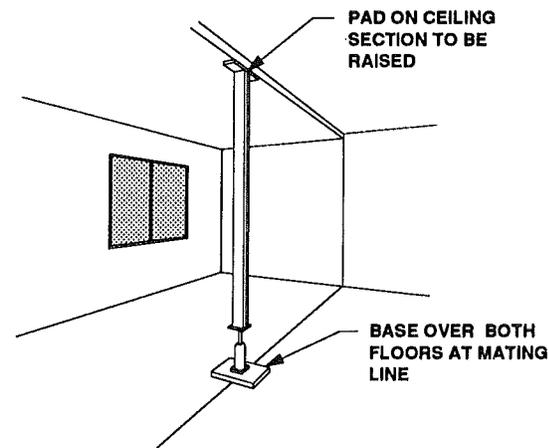
**BEFORE MOVING THE SECOND SECTION INTO POSITION, IT MAY BE HELPFUL TO LEVEL THE GROUND WHERE THE INSIDE WHEELS (NEXT TO THE MATING LINE) WILL REST TO HELP IN SLIDING THE SECTIONS TOGETHER. WHEN COMPLETE MOVE THE SECOND SECTION ALONG SIDE THE FIRST SECTION.**

### PROCEDURE

1. Draw the two sections together using winches (come-alongs), rollers or skid boards.
2. With the two sections together, but with no fasteners installed, check the alignment of the end walls, interior walls, ceiling and floor.  
If splice locations are in the ceiling panels, they are one good indication of roof position. The splices should run straight from one section to the other when the sections are correctly positioned.
3. Position the second section to bring the floor seams flush, keeping the roof slightly apart and the end walls aligned at the floor. At this time, place piers only under the inside main beam. Fasten the floor together with lag screws per the details on page 44.
4. Close the gap in the ceiling by raising the outside main beam using three hydraulic jacks, one placed behind the axles, one in front of the axles and the third approximately half way between the front of the axles and front tow bar. Additional jacks may be required along the sidewall to aid in closing up the ceiling gap.
5. Complete the piercing under the outside main beam. Fasten the roofs together per the details on page 45.

### NOTE

**IT IS IMPORTANT TO HAVE THE CEILING PANELS FROM EACH SECTION FLUSH AT THE MATING LINE BEFORE THE ROOF IS TOTALLY FASTENED. IF THEY ARE NOT FLUSH ONE PERSON SHOULD WORK INSIDE TO RAISE THE LOW SIDE, AS REQUIRED, BY JACKING UNDER A WOOD POST OR SECTION OF STEEL PIPE WITH A WOOD OR METAL PAD AT THE TOP. PLACE THE BASE OF THE JACK ACROSS THE FLOOR MATING LINE TO DISTRIBUTE THE LOADS TO BOTH SECTIONS. JACK AGAINST THE CEILING ONLY IN AREAS TO BE COVERED LATER WITH TRIM MOLDING. SEE DETAIL.**



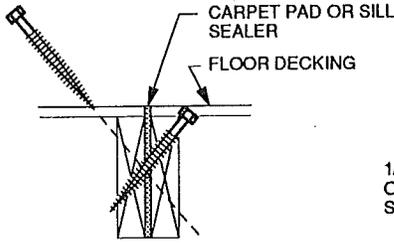
### NOTE

**IF ANY END WALLS ARE OUT OF ALIGNMENT DURING THE POSITIONING AND LEVELING, REVIEW THE FOLLOWING PROCEDURES.**

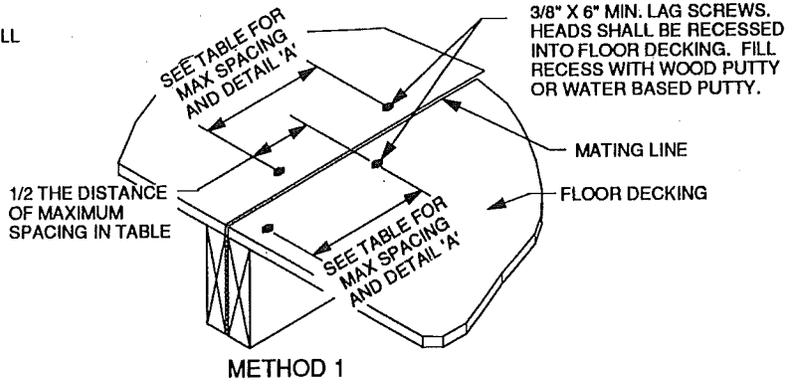
- A. IF THE ROOF MUST BE MOVED FORWARD...** With the main beams evenly supported, carefully raise the outside rear corner and lower the outside front corner. The roof should move forward until the end walls become even at the top. When the walls and ceiling joints are even, raise the outside main beam evenly at the front and rear to close the ceiling gap. Fasten the roofs together. Return section to level position.
- B. IF THE ROOF MUST BE MOVED BACKWARD...** With the main beams evenly supported, carefully raise the outside front corner and lower the outside rear corner. The roof should move back until the end walls become even at the top. When the walls and ceiling joints are even, raise the outside main beam evenly at the front and rear to close the ceiling gap. Fasten the roofs together. Return section to level position.

IF THE HOME IS COMPRISED OF MORE THAN TWO SECTIONS, REPEAT THE PROCEDURE OUTLINED ON THIS PAGE.

# FLOOR CONNECTIONS

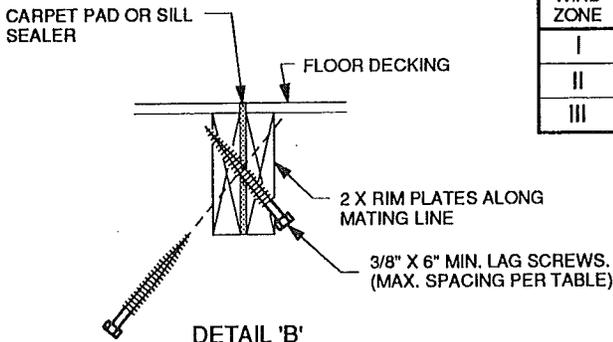


DETAIL 'A'



METHOD 1

LAG SCREW MAXIMUM SPACING	
WIND ZONE	MAXIMUM O.C. SPACING
I	36"
II	20"
III	16"

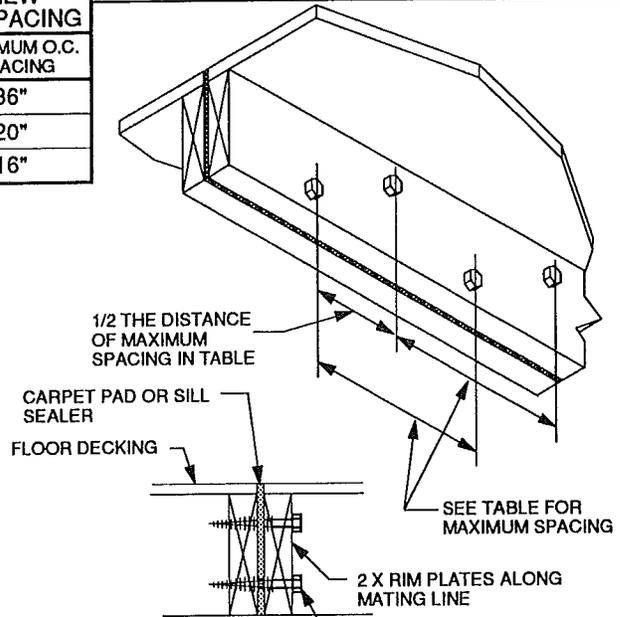


DETAIL 'B'

Note:

1. Bottom board not shown for clarity.
2. Holes in bottom board created by lag screws must be patched with a vinyl tape designed for repairing tears or holes.

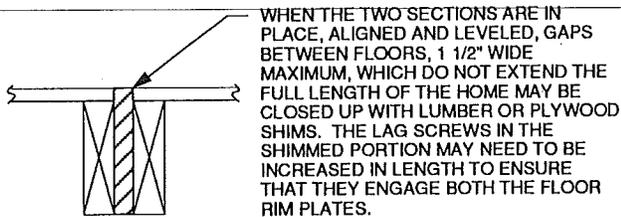
METHOD 2



Note:

1. Bottom board not shown for clarity.
2. Holes in bottom board created by lag screws must be patched with a vinyl tape designed for repairing tears or holes.

METHOD 3

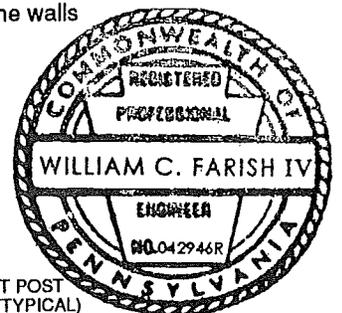
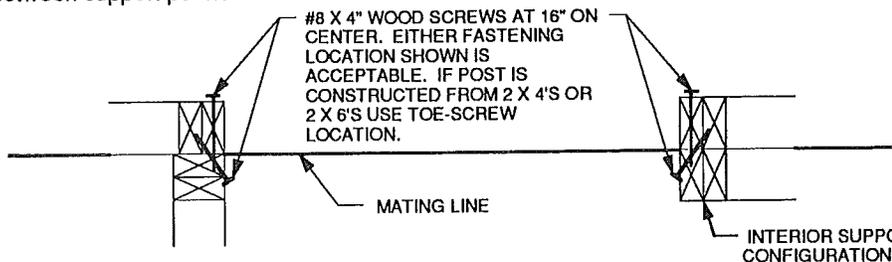


MATING LINE GAP FILLER

## INTERIOR SUPPORT POST FASTENING

If the home requires a tape and texture finish application, the interior ridge beam support posts are required to be fastened together as indicated.

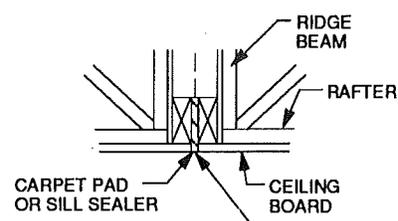
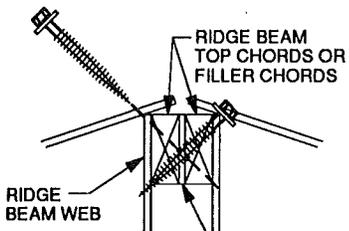
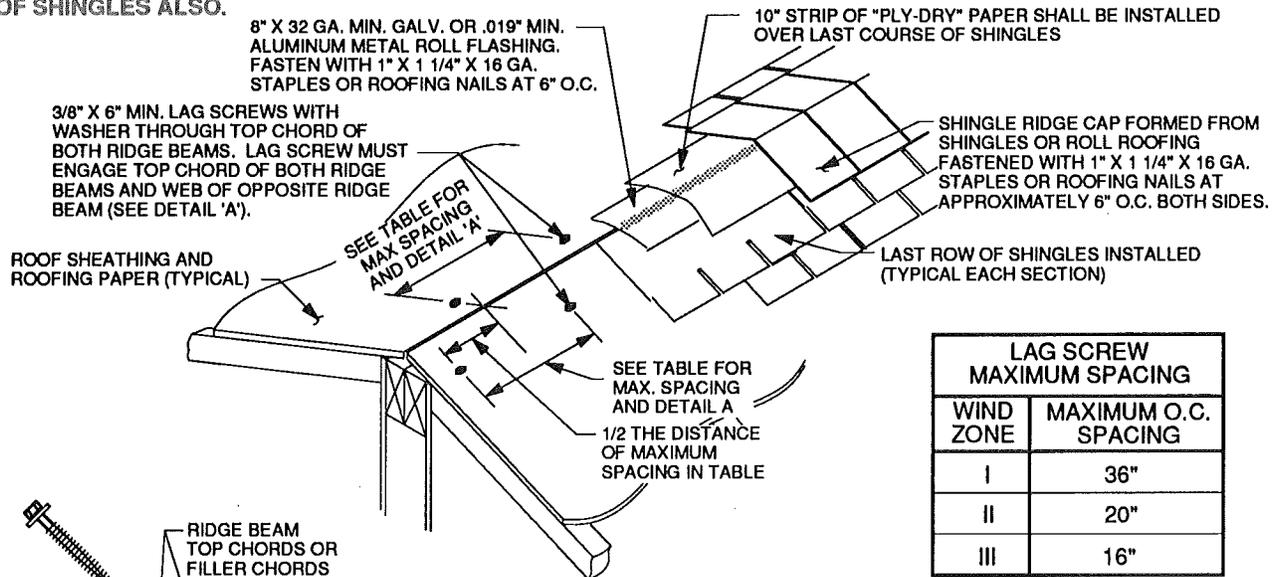
If the home does not require a tape and texture finish application, the manufacturer still recommends to fasten together the interior ridge beam support posts to assist in closing off gaps between mating line walls or gaps between support posts.



# SHINGLE ROOF CONNECTION

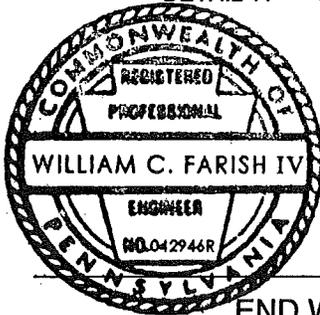
## CAUTION

A PROTECTIVE COVERING MATERIAL (PLYWOOD, POLYETHYLENE, OR SIMILAR MATERIAL) MAY HAVE BEEN INSTALLED ON TOP OF THE SHINGLE ROOF AT THE FRONT OF THE HOME AND ALONG FORWARD FACES OF ANY DORMER. THIS MATERIAL WAS INSTALLED TO PREVENT SHINGLES FROM BLOWING OFF DURING TRANSIT. HOLES RESULTING FROM ANY FASTENERS USED TO SECURE THIS MATERIAL TO THE ROOF SHALL BE SEALED WITH A SILICONE OR ASPHALT BASED SEALANT. IT IS RECOMMENDED THAT THE TOP LAYER OF SHINGLES BE LIFTED AND THE SEALANT APPLIED TO THE HOLES IN THE SECOND LAYER OF SHINGLES ALSO.

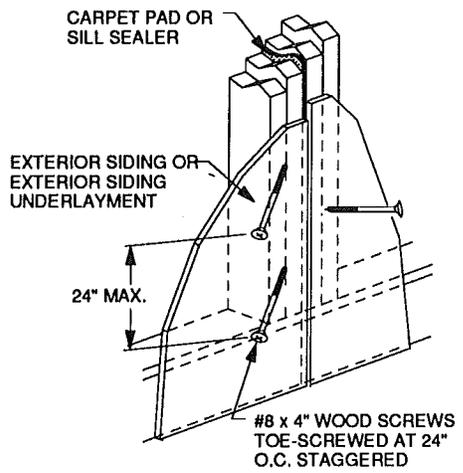


WHEN THE TWO SECTIONS ARE IN PLACE, ALIGNED AND LEVELED, GAPS BETWEEN RIDGE BEAMS, 1 1/2" WIDE MAXIMUM, WHICH DO NOT EXTEND THE FULL LENGTH OF THE HOME MAY BE CLOSED UP WITH LUMBER OR PLYWOOD SHIMS. THE LAG SCREWS IN THE SHIMMED PORTION MAY NEED TO BE INCREASED IN LENGTH BY THE THICKNESS OF THE SHIM TO ENSURE THAT THEY ENGAGE BOTH TOP CHORDS OF THE RIDGE BEAMS OR FILLER CHORDS.

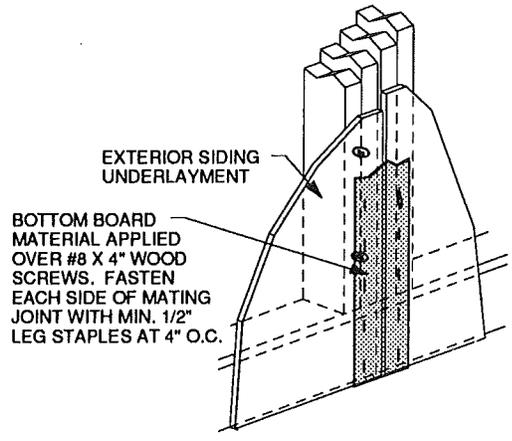
WHEN THE TWO SECTIONS ARE IN PLACE, ALIGNED AND LEVELED, GAPS BETWEEN RIDGE BEAMS, 1 1/2" WIDE MAXIMUM, WHICH DO NOT EXTEND THE FULL LENGTH OF THE HOME MAY BE CLOSED UP WITH LUMBER OR PLYWOOD SHIMS AND FASTENED TO HOLD IN PLACE.



## END WALL CONNECTION



## END WALL SEALING METHOD IN LIEU OF CARPET PAD OR SILL SEALER



# GROUND ANCHORS

The support system must also resist the lifting, sliding and overturning force resulting from side winds. A method used is to install ground anchors and tiedown straps in addition to the piers.

Because of local sheltered conditions authorities may permit installation of the home without tiedowns. However, tiedowns as described are the minimum necessary if the home is to withstand its design wind load without dislocation. On multi section homes, sections must be fastened together and level before tiedown straps are installed.

## WARNING

**BEFORE INSTALLING A SUPPORT SYSTEM WITHOUT TIEDOWNS, BE SURE THAT SUCH A METHOD IS ADEQUATE FOR THE AREA AND IS PERMITTED BY THE APPLICABLE LOCAL JURISDICTION.**

**BEFORE GROUND ANCHOR INSTALLATION, DETERMINE THAT THE ANCHOR LOCATIONS AROUND THE HOME WILL NOT BE CLOSE TO ANY UNDERGROUND ELECTRICAL CABLES, WATER LINES OR SEWER PIPING. FAILURE TO DETERMINE THE LOCATION OF UNDERGROUND ELECTRICAL CABLES MAY RESULT IN SERIOUS PERSONAL INJURY AND EVEN DEATH.**

## NOTE

The type of ground anchors shown are typical. Other types of anchors may be used provided the manufacturer's installation instructions meet the specifications as outlined on page 5.

### GROUND ANCHOR INSTALLATION

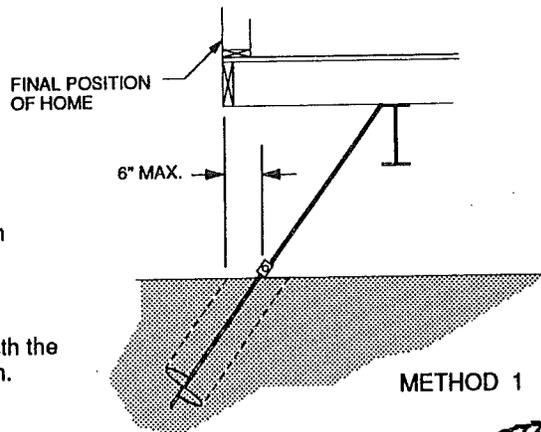
- Should be installed below the frost line.
- Should be at least 12 inches above the water table.
- Should be installed to their full depth.
- Stabilizer plates should be installed to provide added resistance to overturning or sliding forces. See Method 3.
- Refer to the manufacturer's instructions for the type soil in which the anchor is to be installed.

### METHOD 1

The anchor and anchor head location should be in line with the diagonal strap that will be installed around the main beam.

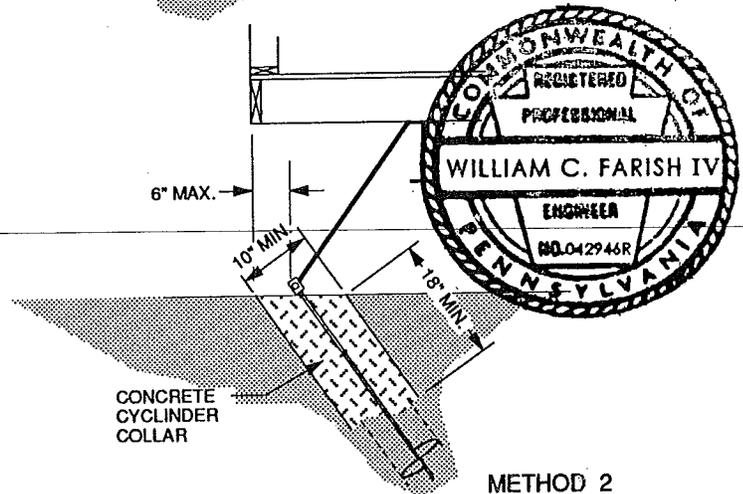
This location may require anchors to be installed at the site location prior to moving the home section(s) into its final position.

If this method is not appropriate, methods 2 and 3 are acceptable alternates after the section(s) is in position, level and fastened together.



### METHOD 2

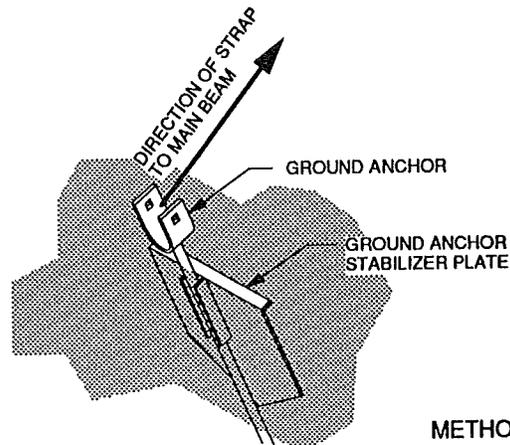
Anchor may be at a vertical or angle position. Pour a concrete cylinder collar around the anchor shaft approx. 10" in diameter and a minimum of 18" deep.



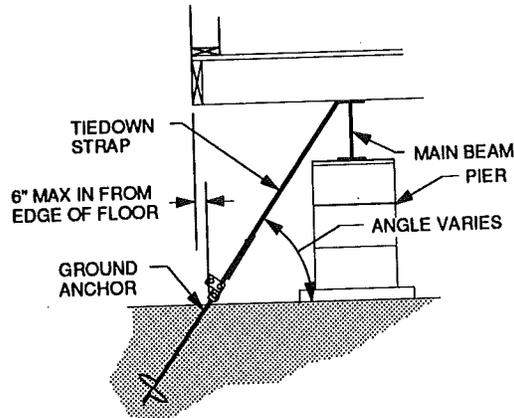
### METHOD 3

Anchor may be at a vertical or angle position.

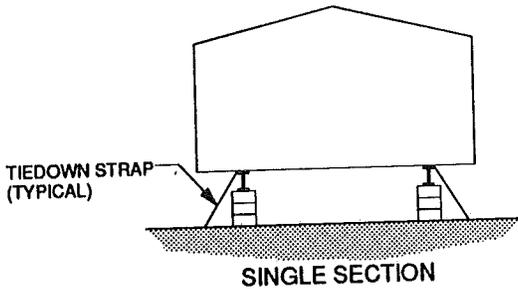
- Drive anchor into ground approx 18".
- Place stabilizer plate between anchor and metal frame of home. Locate the stabilizer channel over the anchor bar as a guide.
- Drive stabilizer into the ground, using oversize hammer, until top of stabilizer is ground level or below.
- Continue to drive anchor until anchor head is in full contact with the top of the stabilizer plate.



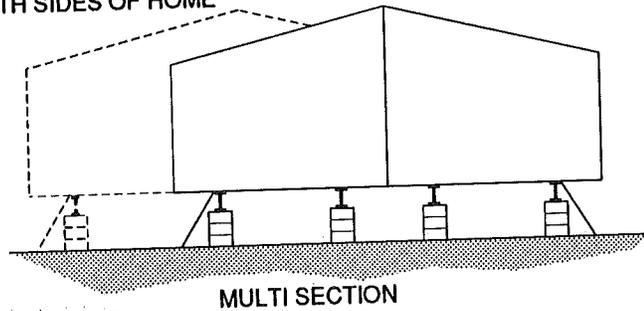
# TIEDOWN STRAPS



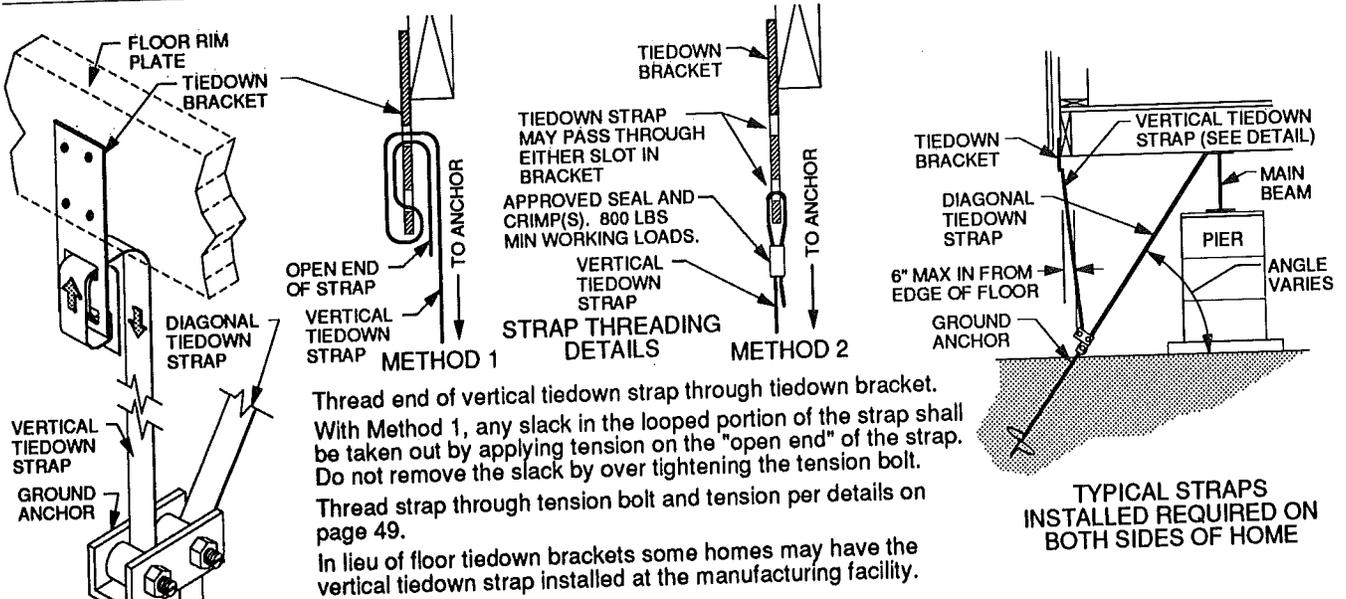
TYPICAL STRAP INSTALLED  
REQUIRED ON BOTH SIDES OF HOME



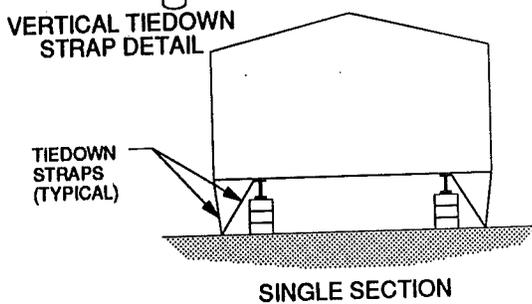
## WIND ZONE I



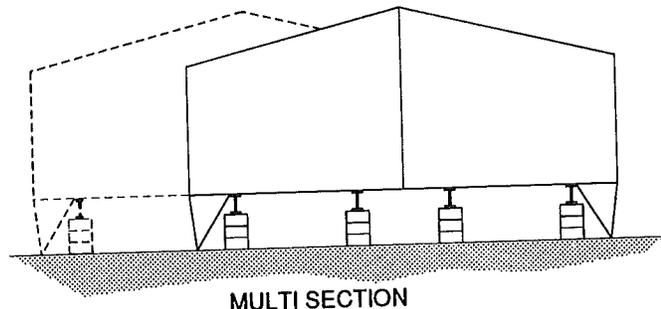
4



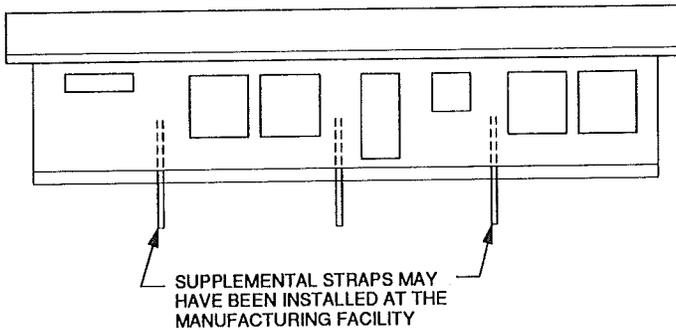
TYPICAL STRAPS  
INSTALLED REQUIRED ON  
BOTH SIDES OF HOME



## WIND ZONES II AND III



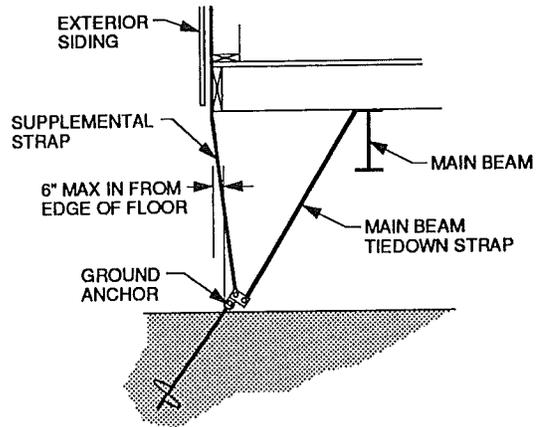
## SUPPLEMENTAL TIEDOWN STRAPS LOCATED ALONG EXTERIOR SIDEWALL (IF PROVIDED) WIND ZONE I ONLY



Supplemental straps may be fastened to same ground anchor as the main beam tiedown straps if anchor is approved by the manufacturer for such installation.

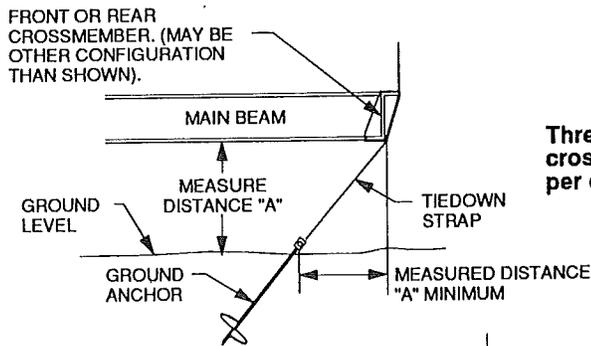
### CAUTION

**SUPPLEMENTAL TIEDOWN STRAPS ARE NOT A REPLACEMENT FOR DIAGONAL MAIN BEAM TIEDOWN STRAPS. THE DIAGONAL TIEDOWN STRAPS ARE THE MINIMUM ANCHORING SYSTEM FOR THE HOME TO MEET WIND ZONE I REQUIREMENTS.**



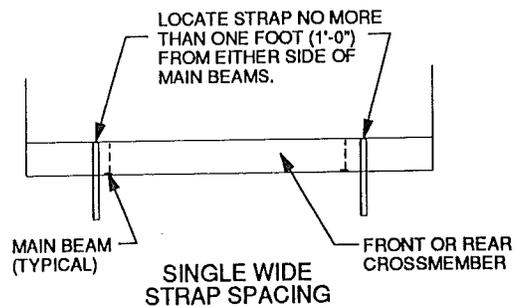
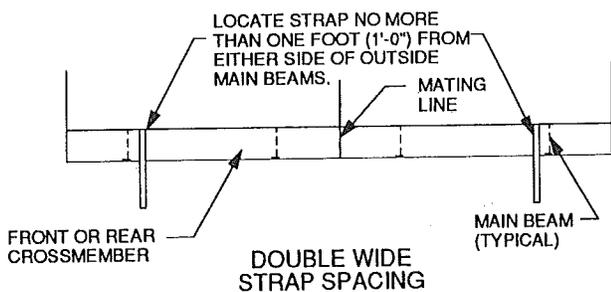
## LONGITUDINAL TIEDOWN STRAPS AT FRONT AND REAR OF THE HOME

ALL SECTION WIDTHS			
WIND ZONE	SECTION LENGTH	TIEDOWNS AT FRONT	TIEDOWNS AT REAR
I	N/A	NONE	NONE
II	LESS THAN 36'	2	2
	36' AND OVER	NONE	NONE
III	LESS THAN 46'	2	2
	46' AND OVER	NONE	NONE



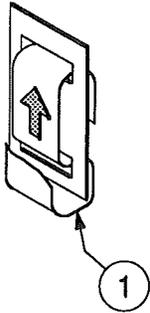
### NOTE

**Thread strap through buckle, around front and rear crossmember and tension strap to anchor head per details on page 49.**

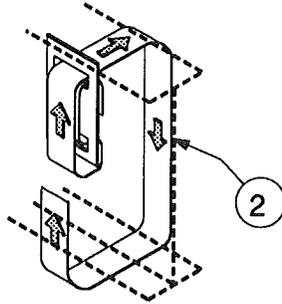


# TYPICAL MAIN BEAM TIEDOWN STRAP INSTALLATION INSTRUCTIONS

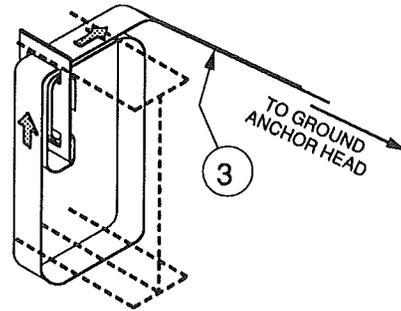
OTHER METHODS CONNECTING STRAP TO MAIN BEAM MAY BE USED



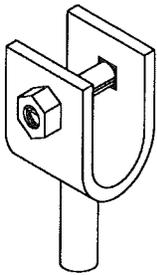
1 Thread sufficient length of tiedown strap through buckle as shown.



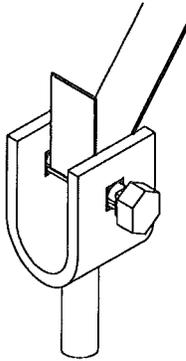
2 Thread long end of strap through the buckle then between frame and floor. Wrap strap around main beam and through the buckle a second time.



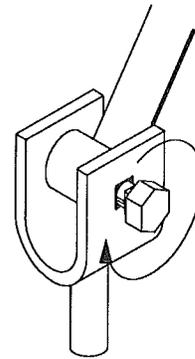
3 Take long end of strap to anchor head.



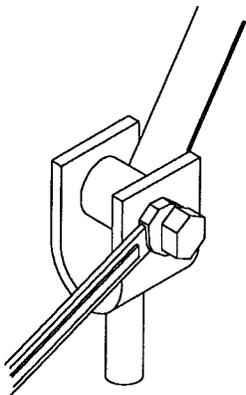
4 Insert the tension bolt into the anchor head and loosely attach the hex nut.



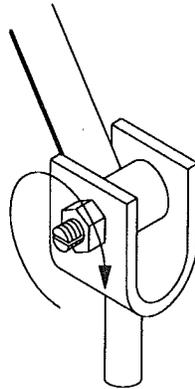
5 Place the strap through the slotted shank of the tension bolt and bend up to 90°.



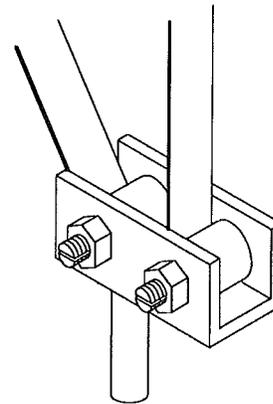
6 With the use of a 15/16" socket or open end wrench, rotate in a clockwise manner wrapping the strap around the tension bolt.



7 Once tensioned to the point that counter-clockwise resistance appears, a 5/8" open end wrench should be used to hold the square neck while repositioning the 15/16" tensioning wrench which will enable continued and final tensioning. Repeat as required.



8 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 it's final position.



If approved by the manufacturer, double head anchors may be used for both diagonal and vertical tiedown strap tensioning. It is recommended that the diagonal tiedown strap be tensioned first. Follow Steps 4 through 8 to install straps to anchor head.

### CAUTION

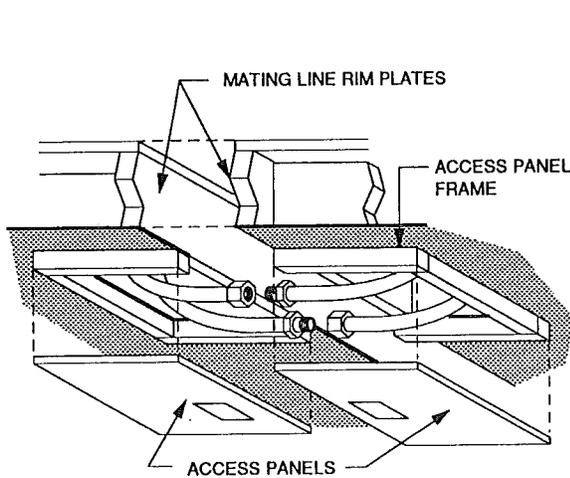
DO NOT TENSION TIEDOWN STRAPS ON ONE SIDE OF HOME ONLY. IF TENSIONING IS NOT PERFORMED EQUALLY ON ALTERNATE SIDES, THE HOME MAY BE PULLED OFF ITS SUPPORTS.

4

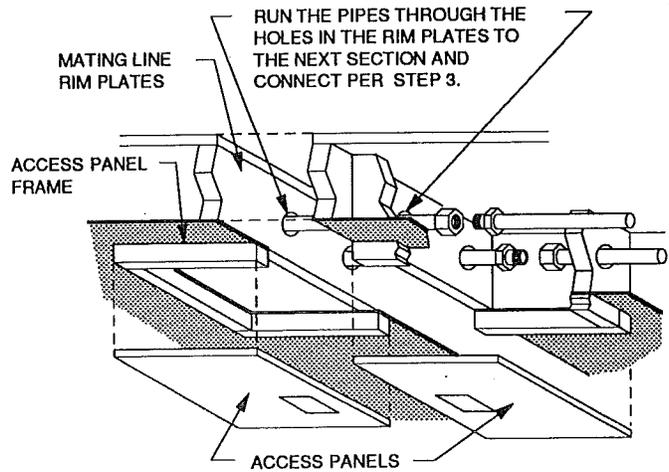
## HOT AND COLD PLUMBING CROSSOVER CONNECTIONS

### PROCEDURE:

1. Each access panel is labeled 'REMOVE ACCESS FOR PLUMBING'.
2. Remove access panels from each section.
3. Connect the hot and cold water pipes using the connectors installed on the ends of the pipe. The connector fittings are designed to be used without any lubricants or sealants.
4. Reposition the insulation around the pipes and replace the access panels.

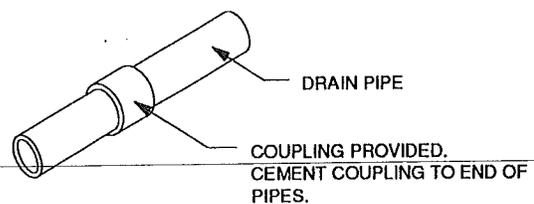
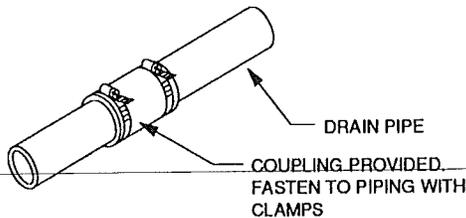


CONNECTION UNDER MATING LINE RIM PLATES



CONNECTION THROUGH MATING LINE RIM PLATES

## DRAIN PIPE CROSSOVER CONNECTIONS



See site installed drain piping information on page 53.

## GAS CROSSOVER CONNECTION

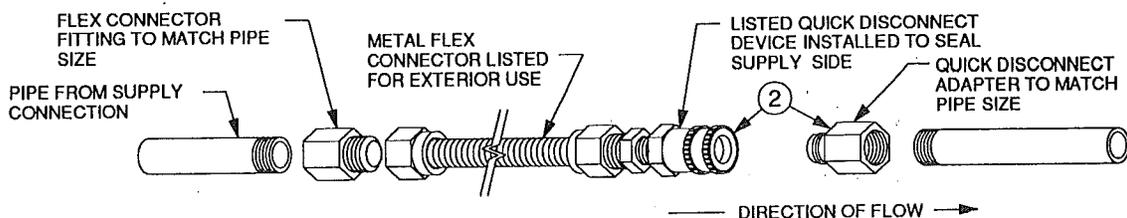
If the home has a gas crossover it is located below the floor structure on the mating line side of the home. The quick disconnect device has been pre-assembled.

### PROCEDURE:

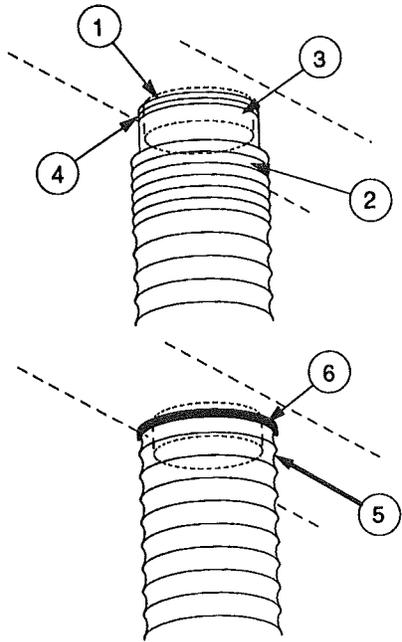
- ① Remove any dust caps in place.
- ② Pull back on quick disconnect device, snap over quick disconnect adapter and release to complete crossover connection. The quick disconnect fitting is designed to be used without any lubricants or sealants.

### NOTE

**DO NOT USE TOOLS TO CONNECT OR DISCONNECT THE QUICK DISCONNECT DEVICE**



## HEAT DUCT CROSSOVER CONNECTION

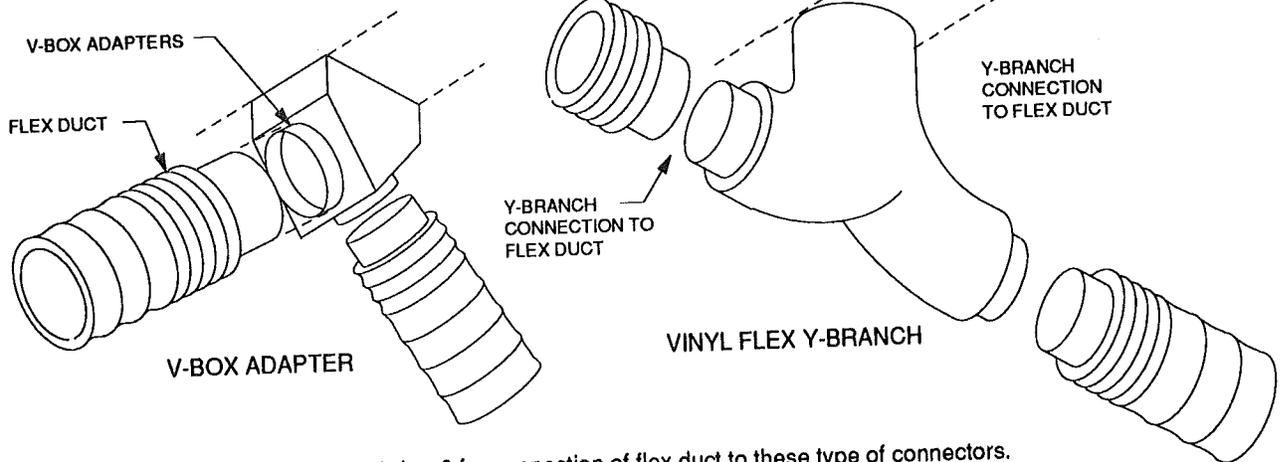


### PROCEDURE:

- ① Locate duct collars that extend below the bottom board material on each section. Remove shipping close-up material from collars.
- ② Pull vinyl covering back from duct and slide exposed end over duct collar and up against bottom board material.
- ③ Fasten duct to collar with 3 sheetmetal screws approximately equally spaced around the collar.
- ④ Add metal or plastic tie strap around duct and secure tightly. If metal strap is used secure with sheetmetal screw.
- ⑤ After duct is fastened to collar pull vinyl covering up over connections and flush up to the bottomboard material.
- ⑥ Wrap the top of the vinyl cover around the collar at least 2 times with duct tape.
- ⑦ Repeat steps 1 thru 6 at collar on other section or sections of home. Some homes may require the connection of a metal V-box adapter or vinyl flex Y-branch at the collar under the furnace.

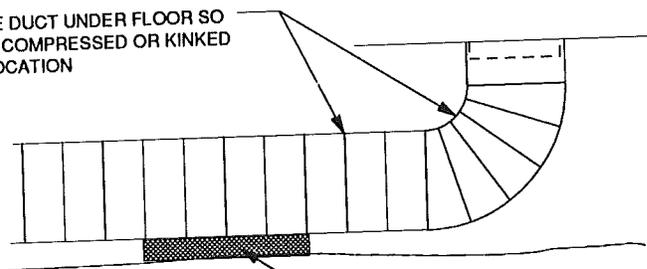
### NOTE

Crossover ducts to be insulated with material having a minimum R-4 value.



Follow steps 1 thru 6 for connection of flex duct to these type of connectors.

ARRANGE DUCT UNDER FLOOR SO IT IS NOT COMPRESSED OR KINKED IN ANY LOCATION

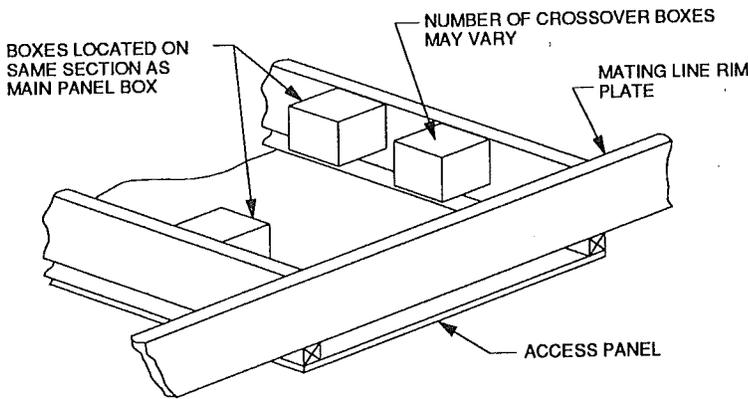


### CAUTION

DO NOT PERMIT DUCT TO REST ON THE GROUND. SUPPORT OFF THE GROUND WITH TREATED WOOD, CONCRETE BLOCK MATERIAL OR OTHER ALTERNATE MATERIALS

DUCT SUPPORTED OFF THE GROUND

# ELECTRICAL CROSSOVER CONNECTION

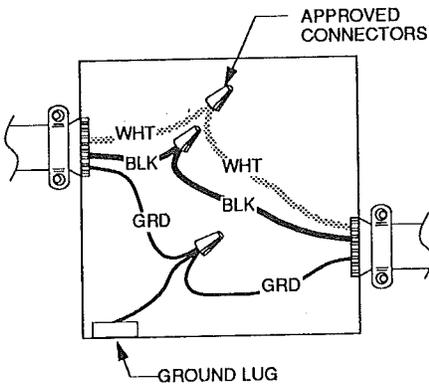


**NOTE**

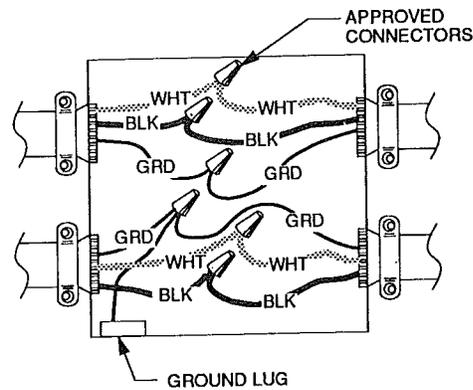
**SOME HOMES MAY HAVE MORE THAN ONE CROSSOVER. CHECK ALONG MATING LINE FOR OTHER LABELED ACCESS PANELS.**

**PROCEDURE:**

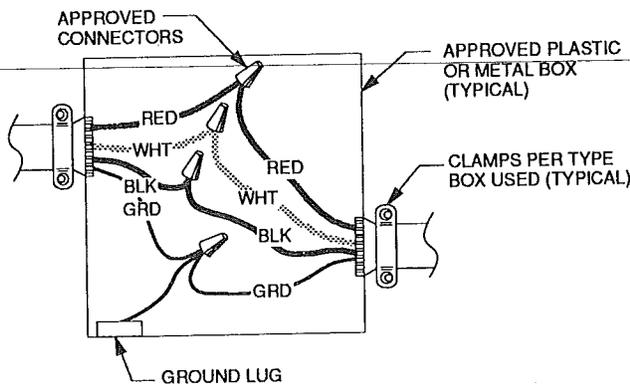
1. Each access panel is labeled: "REMOVE ACCESS FOR ELECTRICAL"
2. Remove access panels exposing boxes on one section and coiled wire from opposite section.
3. Remove blank covers from boxes exposing wiring with approved connectors attached.
4. Wiring on both sections have identifiable markings for correct connections of circuits.
5. Remove the wire connectors from the wiring in the boxes and connect the same identified circuits together. (Use knock outs and approved clamps to enter boxes and secure wires). Secure wiring entering the boxes within 8" of the box with Romex staple.
6. When all connections have been made replace the blank covers on all boxes, reposition floor insulation and replace the access panels.



**SINGLE 15 OR 20 AMP CIRCUIT  
14-2 OR 12-2 WITH GROUND**



**DOUBLE 15 OR 20 AMP CIRCUITS  
14-2 OR 12-2 WITH GROUND**



**240V APPLIANCE CIRCUIT**

WIRE CODE	
BLK	= Black
WHT	= White
RED	= Red
GRD	= Ground

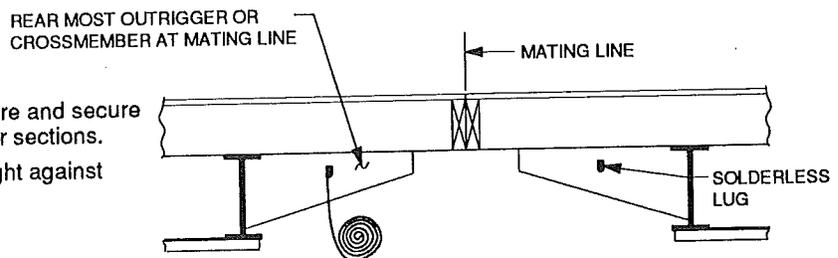
**CAUTION**

**VERIFY THAT ALL CROSSOVER CIRCUITS PROTECTED BY A GFCI DEVICE (GROUND FAULT INTERRUPTER) ARE CONNECTED TO THE PROPER CIRCUIT CONTINUATION BY IDENTIFYING THE CORRECTLY MARKED CIRCUIT WIRES.**

## CONTINUOUS ELECTRICAL GROUND CONNECTION

**PROCEDURE:**

1. Uncoil and take loose end of ground wire and secure to solderless lug on adjoining section or sections.
2. Make sure screw in solderless lug is tight against ground wire.
3. Locate against structure for protection
4. Repeat procedure for triple section homes.



# INSTALLATION INSTRUCTIONS FOR SITE INSTALLED DRAIN WASTE SYSTEMS

Portions of the drain waste system which are below the floor may not have been installed at the manufacturing facility due to the possibility of damage to the system during transit. All materials required to complete the system have been furnished by the manufacturing facility and are shipped as loose items in the home.

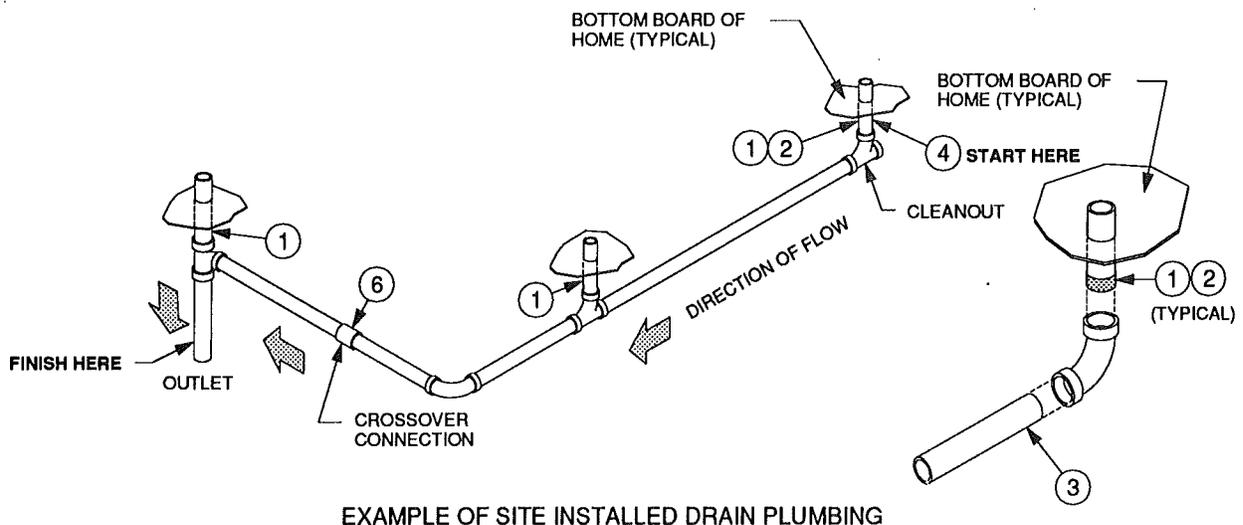
The following instructions are provided for use in completing the installation of the drain waste system in the correct manner. Please review the information below before starting work to familiarize yourself with proper sequence of installation.

## BEFORE YOU BEGIN

1. Locate the drain waste plumbing schematic, which is a drawing page attached to the flap in the back of this manual, and review the layout. All drain piping and fittings marked with an asterisk (\*) on the schematic drawing are to be installed.
2. Check all loose plumbing parts supplied by laying them out on the ground under the home in their correct relationship according to the drain waste schematic. All piping and fittings should be used where indicated to insure the correct flow of waste in the assembled drain system.

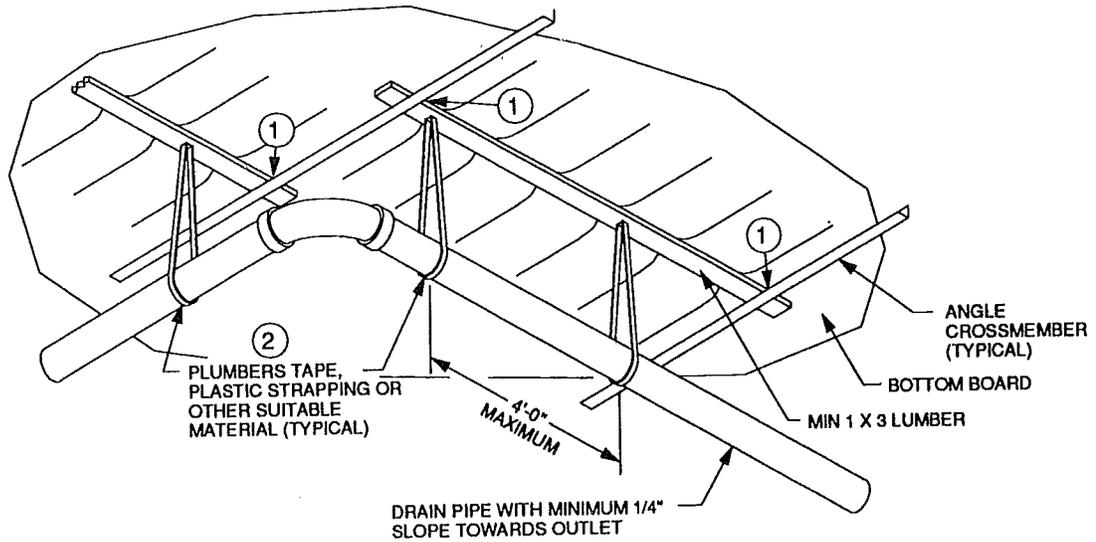
## PROCEDURE:

- ① Remove shipping covers from all exposed piping or fittings that extend below the bottomboard.
- ② Inspect piping and fittings making sure they are clean and free of burrs.
- ③ All pipe and fitting connections shall be per the cement manufacturer's instructions which is provided.
- ④ Start the drain assembly at the most remote exposed piping dropout from the outlet and work towards the outlet location.
- ⑤ It is recommended that temporary blocking or support be used for the assembled drain piping as you proceed to achieve a slope towards the outlet of at least 1/4 inch per foot.
- ⑥ If a crossover connection is required use one of the methods shown on page 50.
- ⑦ When all connections have been completed relocate the temporary slope blocking to no more than 4 feet apart for permanent drain piping support. See method recommended for supporting drain piping on page 54.



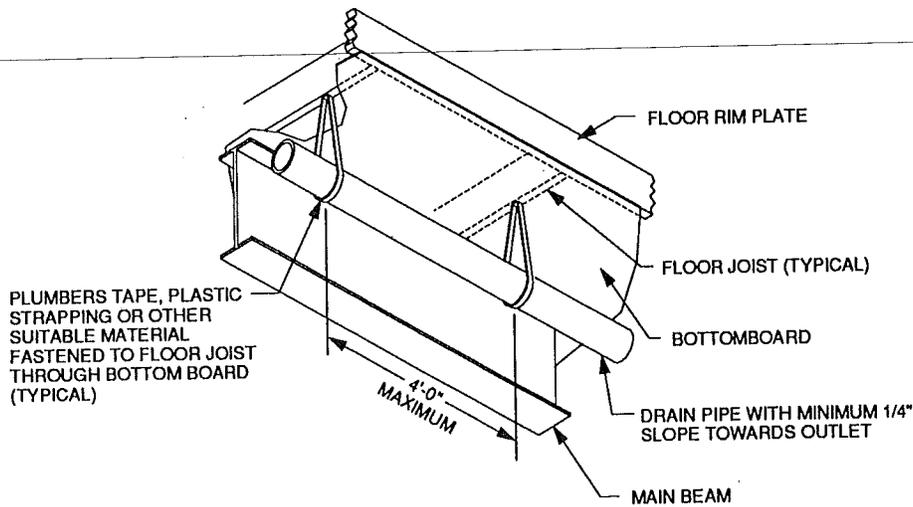
EXAMPLE OF SITE INSTALLED DRAIN PLUMBING

## DRAIN PIPING SUPPORTS



### DRAIN PIPING SUPPORTS INSIDE OF MAIN BEAM

- ① Add minimum 1 x 3 lumber between frame angle crossmembers directly above drain piping by pushing up on the bottomboard and resting the lumber on the top or inside of the angle leg as shown.
- ② Wrap support strapping around piping and 1 x framing material. Fasten strapping to wide face of 1 x material with screws.
- ③ Other methods to provide support may be used to maintain minimum pipe slope requirements.
- ④ Lumber material to be protected from moisture.



### DRAIN PIPING SUPPORTS OUTSIDE OF MAIN BEAM

#### CAUTION

ELECTRICAL WIRING MAY BE SECURED TO WIDE FACE OF FLOOR JOISTS THAT ARE OUTSIDE OF THE MAIN BEAM. MAKE SURE SCREWS FASTENING STRAPPING PENETRATE BOTTOM EDGE OF JOISTS TO ELIMINATE POSSIBLE ELECTRICAL SHORTS.

### **BOTTOMBOARD REPAIR**

Fastened to the underside of the floor of the home is a special covering designed to protect against rodents and moisture as well as to isolate the floor cavity from outside air. This covering was inspected before the home left the manufacturing facility. It is important that any areas damaged or torn during transportation or installation be resealed.

Entry of outside air into the home's floor cavity is one of the most frequent causes of water piping freeze-up. The bottom covering of the home should be closely inspected to determine that there has not been any loosening of its attachment or tears. Openings around the perimeter of the floor covering, around pipes or pipehangers, splits or tears should be sealed with tape. Check also to ensure that plumbing p-traps are well insulated and covered. It is important that this inspection be made and any necessary repairs completed whether skirting is to be installed around the perimeter of the home or not.

For bottom covering repair use vinyl tape especially designed to repair tears or holes. Pull torn edges together then cover, as necessary, with tape or apply a patch of the same material taped all four sides.

### **UNFINISHED GYPSUM BOARD**

Homes shipped with unfinished gypsum board walls and/or ceilings shall be finished on site. The interior finishes shall have the following maximum flamespread ratings measured in accordance with ASTM E 84-91a:

Ceilings: .....	75
Walls:	
General .....	200
Adjacent to cooking range .....	50
Adjacent to or enclosing a furnace or water heater .....	25

### **MULTI WIDE SECTIONS EXTERIOR CLOSE UP**

The exterior siding on the front and rear end walls and exposed mating line walls may have been shipped loose by the manufacturing facility with the home. The insulation and vapor retarder have been installed at the manufacturing facility. Exterior siding shall be installed in accordance with the manufacturer's installation instructions. When the rear wall exterior siding is site installed, the H.U.D. tag has been relocated on the sidewall at the manufacturing facility.

#### **CAUTION**

**THE POLYETHYLENE SHEATHING COVERING EXTERIOR WALLS MUST BE COMPLETELY REMOVED PRIOR TO INSTALLING THE SIDING. FAILURE TO DO SO CAN CAUSE CONDENSATION TO BUILD UP IN THE WALLS AND DAMAGE THE HOME.**

If the exterior siding is installed on the front and rear walls, make sure the close up strips of exterior siding material are fastened securely and both edges of the strips are sealed with a waterproof sealant.

### **MULTI WIDE SECTIONS INTERIOR CLOSE UP**

Remove all shipping blocking, strapping or bracing from appliances, windows, and doors. Install all loose items packaged or attached for shipping. Review any supplemental pages stapled to the flap in the back of manual. These pages outline special features that are not included in the manual.

All interior wall paneling omitted at the manufacturing facility and shipped loose to facilitate interior close up shall be installed with a 1/4" bead of PVA adhesive on all framing members and fastened with min. 1" long staples or nails at 6" on center along all panel edges and at 12" on center on field framing members.

For tape and texture homes, interior wall paneling shall be fastened to wall framing members with drywall screws or nails.

Additional molding has been provided to finish the close up at ceilings, mating line walls, front and rear end walls and in some cases molding around passageway doors. Moldings and trim work requiring special attention has been detailed by the manufacturing facility and is provided in this manual. All moldings and trim work should be installed with fine gauge wire staples or pin nails. Attention should be made to any mitered corners and seam work to assure a tight fit.



# SECTION 5

## INSTALLATION OF OPTIONAL FEATURES

	PAGE
INTERIOR AND EXTERIOR LIGHTS .....	59
CEILING FANS .....	59
TELEPHONE WIRE .....	59
AWNINGS, DECKS, PATIO COVERS OR CAR PORTS.....	60
SKIRTING .....	60
HEAT TAPE .....	61
WINDOWS AND DOORS .....	61
AXLES .....	61



# INSTALLATION OF OPTIONAL FEATURES

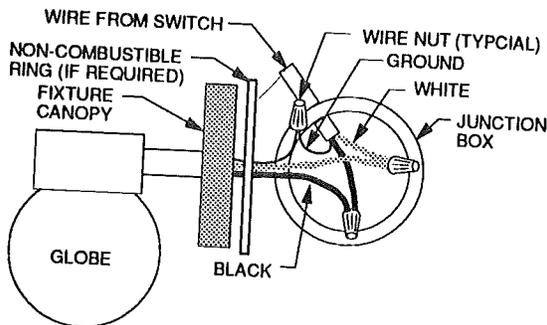
## ELECTRICAL ITEMS

For protection from damage in transit some electrical fixtures may have been shipped loose for installation on site. These items may include exterior lights, chandeliers, ceiling fans and other similar fixtures. Follow the procedure for light fixture installation along with the manufacturer's instructions. Similar fixtures not shown shall be installed by the manufacturer's installation instructions.

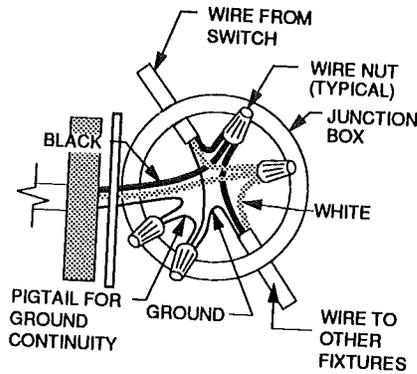
## INTERIOR OR EXTERIOR LIGHT FIXTURE

### PROCEDURE:

1. Remove blank cover from junction box.
2. Make the wiring connections with the wire nuts provided, black to black wire, white to white wire and ground to ground wire.
3. Push connected wires into junction box. Add non combustible ring between fixture canopy and junction box. (See CAUTION).
4. Secure canopy to junction box. Install light bulb and attach globe or shade if necessary.
5. Apply sealant around top and sides of canopy on exterior light installations.
6. Follow wiring diagram for multiple light connections.



CONNECTION FOR SINGLE LIGHT FIXTURE (EXTERIOR LIGHT SHOWN)



CONNECTION FOR MULTIPLE LIGHT FIXTURES

### CAUTION

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

## CEILING FAN

Due to the various types of ceiling fans available for on site installation, fans shipped loose with the home contain their specific manufacturer's installation instructions. These must be used to ensure proper installation and operation. A metal electrical box with cover plate and wiring has been provided for fan installation.

### CAUTION

BEFORE ATTEMPTING TO INSTALL THE CEILING FAN MAKE SURE THE POWER TO THE FAN WIRING IS OFF.

## TELEPHONE WIRE

Some homes have telephone wire installed at the manufacturing facility. If the home is a single wide, the wiring is accessible at one of the rear corners. If the home is a multi-wide, the wiring is accessible at the rear mating line. A label indicating TELEPHONE WIRE is located on the rear of the home indicating wire location. The connection of this wiring to the telephone system is to be done by qualified service personnel only.

### WARNING

IF THE HOMEOWNER REQUESTS THE INSTALLATION OF TELEPHONE WIRING AND/OR TELEVISION CABLE, EXTREME CARE MUST BE TAKEN. THE WALLS AND FLOOR OF THE HOME CONTAIN ELECTRICAL WIRING, PLUMBING AND DUCT MATERIALS. AVOID THESE ITEMS WHEN DRILLING THROUGH AND PLACING WIRE OR CABLES IN THESE CAVITIES. ONLY QUALIFIED SERVICE PERSONNEL SHOULD BE PERMITTED TO DO SUCH WORK. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS PERSONAL INJURY AND EVEN DEATH.

## INSTALLATION OF OPTIONAL FEATURES (cont'd.)

### **AWNINGS, DECKS, PATIO COVERS OR CARPORTS**

If accessories, such as awnings, decks, patio covers or carports, are to be attached to the home, observe the following procedures.

1. Use the proper awning support railing provided with the awning or railing available through your awning retailer. Choose a structure which is of a freestanding design, having columns to support the additional weight.
2. Follow the recommendations of the manufacturer and applicable building codes when installing any accessories.
3. Always use fasteners of the proper size to attach mating parts snugly, but without straining the home or damaging the home structure. Only make necessary attachments to the upper wall or roof. Be sure there is solid material behind the exterior siding where connections are to be located.
4. Use a sealant on all seams or openings resulting from accessories installed. The best way is to place weather sealing tape or sealing compound under railing joints or fasteners, during assembly, and then seal the seams.

### **CAUTION**

**REMEMBER THAT ACCESSORIES WHICH ARE IMPROPERLY INSTALLED MAY DAMAGE THE NEW HOME OR MAR ITS APPEARANCE AND COULD AFFECT THE WARRANTY COVERAGE.**

### **SKIRTING**

Skirting is a highly recommended accessory that will assist the home in withstanding below freezing temperatures. Its installation helps to prevent cold air infiltrating below the home where the heat ducts and the majority of the plumbing is located. Its addition should be considered necessary to prevent plumbing from freezing if the home is likely to be exposed to temperatures below 25°f (-5°c) for any prolonged period, or to temperatures below approximately 10°f (-12°c) even briefly. The addition of a wind chill factor to the above temperatures make skirting even more vital. For planning purposes, consider that each increase of 10 mph in wind velocity may be equivalent to a drop in air temperature of approximately 20°f (10°c), or 2°f(1°c) for each mph of wind increase. (The information on the home's Compliance Certificate is calculated assuming a 15 mph wind factor).

The use of so-called insulated skirting is probably not required under most conditions. The greatest value of any skirting is as a barrier to air movement, and non insulating skirting accomplishes this purpose as well as the insulated type. Insulated skirting may be considered if prolonged temperatures in the -20° to -30°f (-30° to -35°c) range are to be withstood, and then in conjunction with the introduction of auxiliary heating under the home. Consult with the retailer for further information on the desirability of installing these accessories and whether such installations are compatible with local codes.

When skirting is attached to the lower sidewall or trim of the home's perimeter, it is important to make the installation so that moist air from under the home is not forced up into the wall cavities.

When the exterior siding is hardboard or cladwood, the skirt trim must be sealed to the siding trim to keep water from getting between the skirt trim and the siding.

### **CAUTION**

**CARE SHOULD ALWAYS BE TAKEN TO ENSURE THAT ADEQUATE VENTILATION IS PROVIDED WHEN SKIRTING OR PERIMETER FOUNDATIONS ARE INSTALLED. FAILURE TO PROVIDE ADEQUATE VENTILATION MAY ALLOW MOISTURE TO BUILD UP UNDER THE HOME, AND TRANSFER THAT MOISTURE VIA DIFFUSION OR AIR MOVEMENT INTO THE HOME ITSELF. THIS MOISTURE CAN RESULT IN HIGH HUMIDITY IN THE HOME, AND ALSO IN THE FORMATION OF CONDENSATION, FROST OR ICE ON COLD SURFACES.**

**HOMES WITH OPEN SLATTED DECKING AT RECESSED ENTRIES, OPEN PORCHES OR OPEN DECKS MUST HAVE SKIRTING OR FOUNDATION BEHIND THESE AREAS SO THAT WATER IS NOT PERMITTED TO DRAIN IN THE AREA UNDER THE HOME.**

**THE AREA UNDER THE HOME MUST BE VENTILATED TO MINIMIZE THE ACCUMULATION OF MOISTURE. THIS VENTILATION SHALL BE PROVIDED BY OPENINGS WITH A NET AREA OF AT LEAST ONE SQUARE FOOT FOR EACH 150 SQUARE FEET OF AREA UNDER THE HOME. THE REQUIRED LOCATION OF OPENINGS SHOULD BE APPROXIMATELY EQUALLY DISTRIBUTED ALONG THE LENGTH OF THE HOME ON OPPOSITE SIDES WITH OPENINGS LOCATED CLOSE TO THE CORNERS TO PROVIDE CROSS VENTILATION.**

## INSTALLATION OF OPTIONAL FEATURES (cont'd.)

### HEAT TAPE

Heat tape is a linear electric heating element listed for use with manufactured homes and certified by UL, CSA or FMRC designed to be installed where fresh water supply inlet pipes are subjected to prolonged exposure to below-freezing temperatures. An electrical outlet is located adjacent to the water supply inlet for heat tape connection.

### CAUTION

**HEAT TAPE MUST ALWAYS BE INSTALLED IN STRICT ACCORDANCE WITH THE TAPE MANUFACTURER'S INSTALLATION INSTRUCTIONS IN ORDER TO ACHIEVE THE HIGHEST POSSIBLE SAFE HEATING EFFICIENCY.**

### WINDOWS AND DOORS

For protection from damage in transit windows and/or exterior doors may be shipped loose for installation on site. Windows or exterior doors to be installed in accordance with the manufacturer's installation instructions.

### AXLES

It may be necessary to remove an axle or axles to connect the air distribution duct from an exterior heat and cooling appliance to the designated duct collar under the floor.



# SECTION 6

## PREPARATION OF APPLIANCES

	PAGE
DRYER VENT INSTALLATION .....	65
AIR CONDITIONING INSTALLATION .....	65
FURNACE .....	66
HEATING OIL SYSTEM .....	66
FIREPLACE, GAS OR OIL APPLIANCE FLUES .....	66
RANGE AND/OR COOK TOP OVEN .....	66
RANGE VENT DUCT INSTALLATION .....	66
WATER HEATER .....	66
KITCHEN SINK .....	66
BATH TUB .....	66
SHOWER STALL .....	66

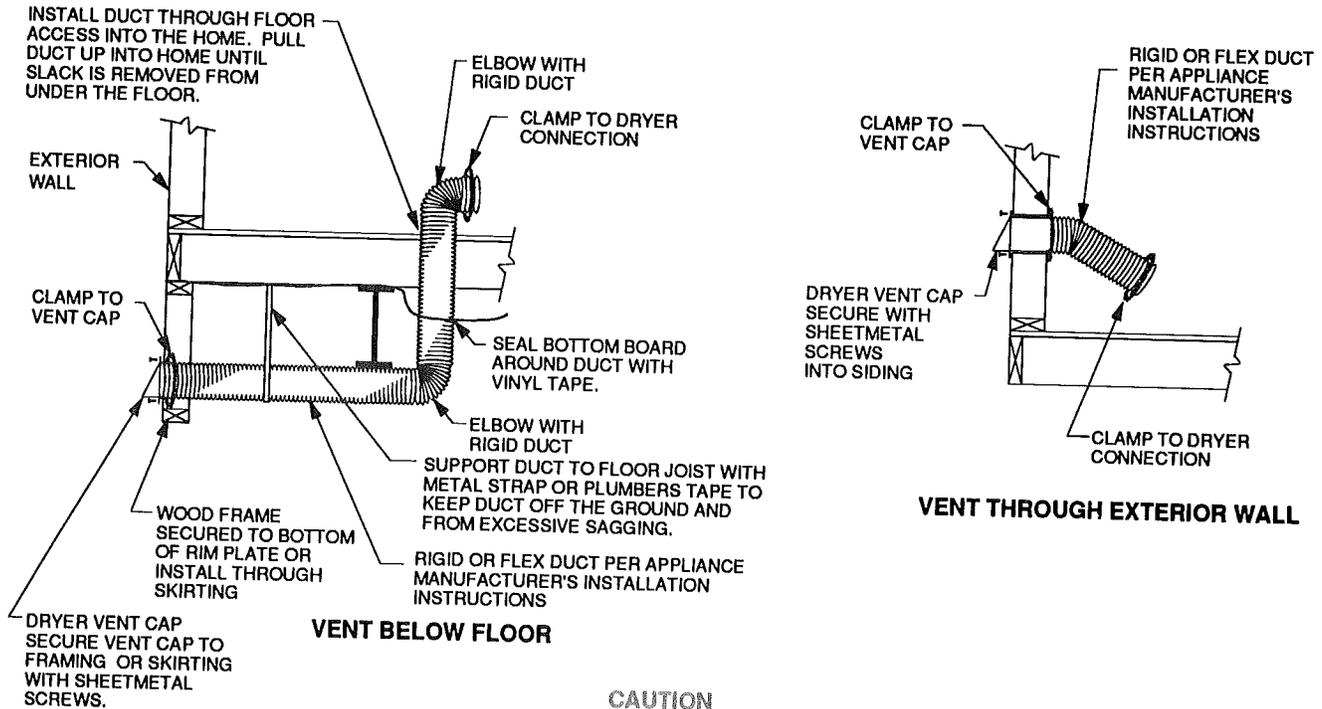


## PREPARATION OF APPLIANCES

Some homes may have various fixtures and appliances shipped loose, provided by others or built without certain fixtures or appliances. Review and follow the instructions if any apply to the home being installed.

### DRYER VENT INSTALLATION

If provisions for the installation of a dryer are in the home a dryer vent roughed-in opening has been provided in the utility area or room with access through the floor or exterior wall. If requested by the homeowner to install, remove the material closing off the roughed-in opening and follow these details along with the dryer manufacturer's installation instructions.



**CAUTION**  
 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.

### AIR CONDITIONING INSTALLATION

Air conditioning may be installed on homes that are designated "suitable for air conditioning" on the home Compliance Certificate. Information to assist in calculating the size air conditioner needed is included on the certificate.

The air conditioning evaporator may be installed either inside the furnace cabinet on homes with furnaces listed for the modification, or exterior to the home and ducted into the home air supply duct system. In either case, a heat/cooling thermostat must be installed to control both heat and cooling with a single device.

When a cooling or heat pump coil and/or air conditioning blower are installed on a furnace, they shall be listed for installation on the specific model of furnace already in the home.

When the air conditioning evaporator is installed exterior to the home, return air grill(s) must be installed in the floor in a central area of the home that receives the return air from the separate rooms and ducted back to the evaporator.

**CAUTION**  
 DO NOT CUT ANY FLOOR FRAMING WHEN INSTALLING RETURN AIR GRILL(S).

Supply air duct connections from the exterior evaporator to the home air supply duct system must be made at a central location on each duct in each section of the home. Federal regulations require that automatic damper(s) be installed to prevent the discharge air from the exterior air conditioning evaporator from passing back through the furnace, and that automatic damper(s) be installed to prevent the discharge air from the furnace from passing backwards through the exterior air conditioning evaporator duct(s).

Install required electrical connections in accordance with the air conditioner manufacturer's installation instructions and local codes.

## PREPARATION OF APPLIANCES (cont'd.)

### FURNACE

This home may have been built without a furnace. The remote heat/cooling appliance and the thermostat to be supplied and installed per the manufacturer's installation instructions. The manufacturing facility has installed the thermostat wiring or provided a raceway for the thermostat wiring at the location for the thermostat.

#### CAUTION

FLEETWOOD ENTERPRISES INC. AND ITS SUBSIDIARIES WILL NOT BE HELD RESPONSIBLE FOR THE EFFICIENCY OF THE SYSTEM CONNECTED TO THE IN-FLOOR DUCT SYSTEM, NOR ANY DAMAGE INCURRED TO THE HOME BY THIS INSTALLATION.

### HEATING OIL SYSTEM

Homes equipped with oil burning furnaces must have their oil supply tank and piping installed on site. These items are not provided by the manufacturer.

Review the oil furnace manufacturer's installation instructions for proper piping sizes and installation procedures.

#### CAUTION

ALL OIL STORAGE TANK AND PIPING INSTALLATIONS MUST MEET ALL APPLICABLE LOCAL CODES AND REGULATIONS AND SHOULD BE MADE ONLY BY EXPERIENCED QUALIFIED SERVICE PERSONNEL.

### FIREPLACE, GAS OR OIL APPLIANCE FLUES

If any accessory gas or oil appliance flue assembly has been partially installed at the manufacturing facility, the assembly and installation must be completed in accordance with the manufacturer's installation instructions provided with the appliance.

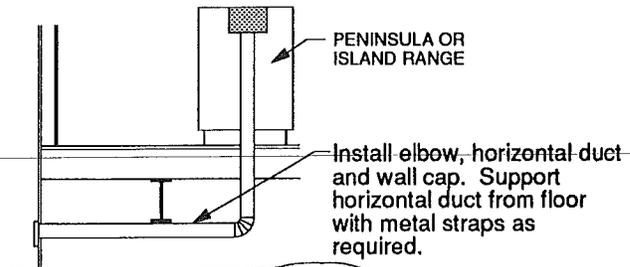
### RANGE AND/OR COOK TOP OVEN

If a range and/or cook top and oven is not supplied by the manufacturing facility, the following should be observed:

- a). Install the appliance to provide the required clearances per Federal Standards which may be more restrictive than appliance manufacturer's normal installation instructions.
- b). Do not install an appliance which requires a heavier connected energy capacity than the home's system provides (see capacity label on appliance).
- c). Follow appliance manufacturer's installation instructions except as outlined in a) above.

### RANGE VENT DUCT INSTALLATION

This home may be equipped with a ducted "no hood" ventilation system for the kitchen range. The duct is below the floor and must terminate outside the perimeter of the home. Install the duct and surface wall cap, which are provided, in accordance with the range manufacturer's installation instructions.



### WATER HEATER

1. This home may have been built with the water heater shipped loose or supplied by others for site installation in a remote location, such as a site built utility room.
2. Receptacle for heat tape is located underneath the home adjacent to the water supply inlet.
3. Water heater shall be installed per the manufacturer's installation instructions and/or local codes. A listed water heater shall be installed.

### KITCHEN SINK

This home may have been built without a kitchen sink, which will be installed on site. The water and drain plumbing connections and sink are to be installed and completed in accordance with the kitchen sink manufacturer's installation instructions and/or local codes. A listed kitchen sink shall be installed.

### BATH TUB

This home may have been built without a finished bath tub, which will be installed on site. The water and drain plumbing connections are to be installed and completed in accordance with the bath tub manufacturer's installation instructions and/or local codes. A listed bath tub shall be installed.

### SHOWER STALL

This home may have been built without a finished shower stall, which will be installed on site. The compartment walls, shower pan, shower door and plumbing are to be installed and completed in accordance with the shower stall manufacturer's installation instructions and/or local codes. A listed shower stall shall be installed.

**SECTION 7**  
**UTILITY SERVICE CONNECTIONS AND TESTING**

	PAGE
ELECTRICAL FEEDER CONNECTION .....	69
GROUNDING CONDUCTOR INSTALLATION .....	69
WATER SYSTEM CONNECTION .....	70
UTILITY SERVICE TEST PROCEDURES .....	70
GAS SYSTEM TEST .....	70
WATER SYSTEM TEST .....	70
ELECTRICAL SYSTEM TEST .....	71
DRAIN SYSTEM TEST .....	71



# UTILITY SERVICE CONNECTIONS ELECTRICAL FEEDER CONNECTION MAIN PANEL BOX

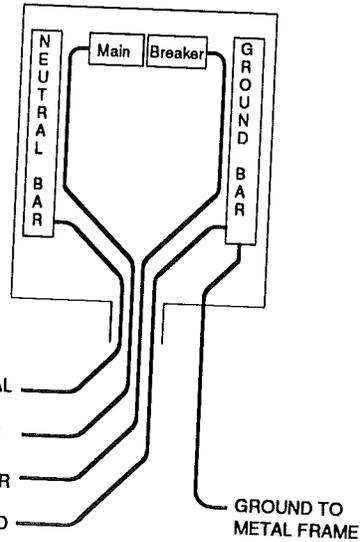
## WARNING

This panel box is wired with the grounding system insulated from the neutral system. The grounding bus in this panel shall be connected through a properly sized green-colored insulated conductor to the service-entrance equipment (meter base) located on or adjacent to the home. Do not use a 3 wire feeder system that does not connect to the ground bar. It is illegal and unsafe.

Use a 4 wire feeder system to connect this panel to the service entrance equipment (meter base).

SEE TABLE BELOW FOR WIRE SIZES

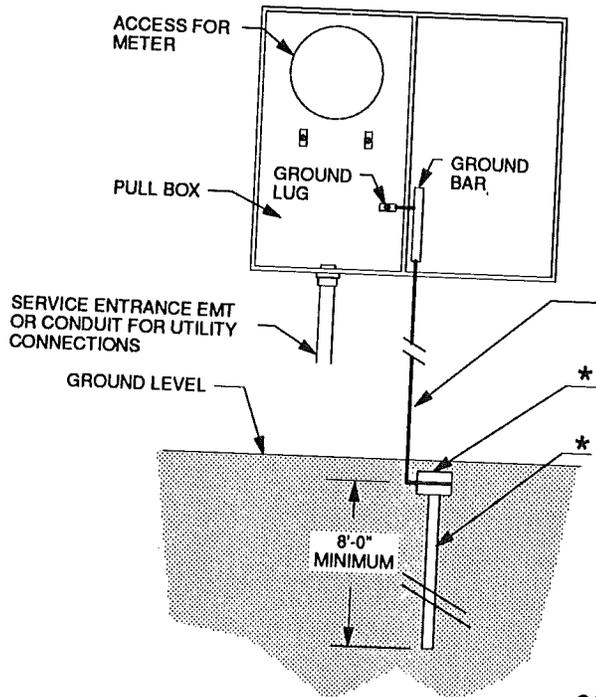
TO SERVICE ENTRANCE (METER BASE)



All conductors with outer sheathing labeled THHN nylon jacket or equivalent unless otherwise noted.

MAIN BREAKER SIZE IN PANEL BOX (AMPS)	MIN. SIZE RACEWAY		FEEDER CONDUCTORS						MAX. CALCULATED NEUTRAL FEEDER LOAD (AMPS)
	CONDUIT DIAMETER (IN.)		COPPER CONDUCTOR / SIZES			ALUMINUM CONDUCTOR / SIZES			
	WITH COPPER CONDUCTORS	WITH ALUMINUM CONDUCTORS	RED & BLACK (POWER)	WHITE (NEUTRAL)	GREEN (GROUNDING)	RED & BLACK (POWER)	WHITE (NEUTRAL)	GREEN (GROUNDING)	
	30	1	1	#10	#10	#8	#10	#10	
50	1	1	#6	#6	#8	#6	#6	#8	50
100	1 1/4	1 1/2	#2 OR #3	#2 OR #3	#8	#1	#1	#6	100
125	1 1/2	2	#1 OR #1/0	#2	#6	#2/0	#1/0	#4	115
150	1 1/2	2	#1/0 OR #2/0	#2	#6	#3/0	#1/0	#4	115
200	2	2	#3/0	#2	#6	#250 MCM	#1/0	#4	115

## GROUNDING CONDUCTOR INSTALLATION



### NOTE

IF THE HOME HAS A METER BASE INSTALLED AT THE MANUFACTURING FACILITY, A GROUND WIRE AND GROUND ELECTRODE MUST BE INSTALLED. REVIEW THIS DETAIL FOR PROPER INSTALLATION INFORMATION.

#6 MIN BARE COPPER GROUNDING WIRE PROVIDED BY MANUFACTURER. IF MANUFACTURER PROVIDES A MINIMUM 1/2 INCH EMT OR CONDUIT RACEWAY THE #6 MINIMUM BARE COPPER WIRE IS PROVIDED BY THE RETAILER FOR INSTALLATION.

\* CLAMP SUITABLE FOR DIRECT BURIAL. LOCATE FLUSH WITH OR BELOW GROUND LEVEL

\* 5/8" DIAMETER x 8'-0" LONG IRON ELECTRODE.

ELECTRODE SHALL BE DRIVEN TO A DEPTH OF NOT LESS THAN 8 FEET SO THAT AT LEAST 8 FEET OF THE ELECTRODE IS IN CONTACT WITH THE SOIL.

WHEN ROCK BOTTOM IS ENCOUNTERED, THE ELECTRODE CAN BE DRIVEN NOT TO EXCEED 45 DEGREES FROM VERTICAL OR BURIED IN A TRENCH THAT IS AT LEAST 2 1/2 FEET DEEP.

\* NOT PROVIDED BY HOME MANUFACTURER

7

## **WATER SYSTEM CONNECTION**

The hot and cold water system is designed for a maximum inlet water pressure of 80 pounds per square inch (psi). If the local water supply pressure to which the home is being connected exceeds 80 pounds per square inch (psi), a pressure reducing valve must be installed to limit the supply pressure.

A master cold water shutoff full flow valve shall be installed in the water supply line adjacent to the home.

## **UTILITY SERVICE TEST PROCEDURES**

### **SYSTEMS TEST**

All utility systems are given a quality assurance test at the manufacturing facility. To ensure that no damage occurred in transit and that the final connections are proper, specific on site tests of the utility service connections should be made after installation of the home.

#### **CAUTION**

**ALL UTILITY CONNECTIONS MUST BE MADE BY QUALIFIED SERVICE PERSONNEL WHO ARE FAMILIAR WITH LOCAL REGULATIONS.**

## **GAS SYSTEM TEST PROCEDURES**

The gas piping supply system is designed for a pressure not exceeding 14 inch water column (1/2 psi) and not less than 7 inch water column (1/4 psi).

#### **WARNING**

**GAS APPLIANCES IN THIS HOME ARE EQUIPPED FOR NATURAL GAS. IF THE GAS SUPPLY IS LIQUIFIED PETROLEUM GAS (LPG), IT IS NECESSARY THAT THE APPLIANCE BE CONVERTED TO LPG IN ACCORDANCE WITH INSTRUCTIONS PROVIDED BY THE MANUFACTURER OF EACH APPLIANCE.**

#### **APPLIANCE ORIFICES:**

**SPECIAL ORIFICES AND REGULATORS ARE REQUIRED FOR EACH TYPE OF GAS AT ALTITUDES ABOVE 3000 FEET. SEE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ANY MODIFICATIONS PER THE GAS TYPE USED BY THE APPLIANCE.**

**DO NOT LIGHT APPLIANCE PILOT LIGHT(S) UNTIL EACH APPLIANCE HAS BEEN CHECKED MAKING SURE ROOF JACK (VENT) IF APPLICABLE HAS BEEN INSTALLED, AND ALL GAS UTILITY CONNECTIONS HAVE BEEN MADE AND TESTED.**

1. To check the gas system for leaks, first close all appliance controls and all appliance pilot light valves (see appliance instructions included in the home or posted on the appliance).
2. Open the gas shutoff valve on the supply line to each appliance.
3. Attach an ounce gauge on the main gas inlet to the home.
4. Carefully pressurize the system to not more than 8 ounces of pressure.

#### **CAUTION**

**DO NOT PRESSURIZE THE GAS LINE IN EXCESS OF 8 OUNCES MAXIMUM TO AVOID POSSIBLE DAMAGE TO GAS VALVES AND REGULATORS.**

5. Apply an ammonia-free soapy water or bubble solution to the joints at both ends of the appliance connector. If bubbles are formed, tighten connector until bubbles cease to form.

#### **CAUTION**

**DO NOT BUBBLE CHECK COPPER OR BRASS FITTINGS WITH SOLUTIONS CONTAINING AMMONIA.**

After completion of test, connect home gas inlet to gas supply line using a listed gas connector of the capacity indicated on the label by the gas inlet. Check the inlet connection for leaks per step 5 above.

## **WATER SYSTEM TEST PROCEDURES**

The water system test is made after any water crossovers are connected by attaching an air pump, valve and gauge to the home water inlet and pressurizing the water lines to 100 pounds per square inch (psi). Verify that the pressure remains for a period of 15 minutes without loss.

#### **WARNING**

**IT IS NOT SAFE TO FILL THE WATER HEATER TANK WITH HIGH PRESSURE AIR ONLY. DISCONNECT WATER HEATER FROM WATER SYSTEM BY CONNECTING THE HOT AND COLD WATER LINES TOGETHER, OR FILL WATER HEATER TANK WITH WATER BEFORE PRESSURIZING THE WATER LINES WITH AIR. THIS PROCEDURE WILL PROTECT THE APPLIANCE FROM DAMAGE AND PROTECT THOSE INVOLVED IN THE TEST FROM POSSIBLE INJURY.**

## ELECTRICAL SYSTEM TEST PROCEDURES

1. Perform the following test after installation and electrical connections to the home are complete. The grounding continuity test is to be performed before turning on electrical power to the home and the polarity and operation tests are to be performed after the electrical power is turned on.
2. Perform the following procedure checks for grounding continuity, polarity, and operation of the electrical system.
  - A. Before turning "ON" the main circuit breaker, proceed as follows:
    - (1) Connect one clip of a flashlight continuity tester to a convenient ground and touch the other clip to each light fixture canopy. The continuity light should come on if each fixture is properly grounded.
    - (2) Using the continuity tester, check every direct-connected appliance or fan. The tester must be hooked to a convenient ground and to the metal frame of the appliance.
    - (3) Using the continuity tester, check the continuity between the chassis frame and
      - a. Metal gas piping.
      - b. Metal water piping.
      - c. Metal raceway below main electrical panel box.
      - d. Between one riser of heat duct and convenient ground.
    - (4) Any loss of grounding continuity found in (1), (2), or (3) above will require investigation and correction.

### NOTE

CONTINUITY TO GROUND IS NOT REQUIRED ON METAL INLET OF PLASTIC PIPED WATER SYSTEM. WHEN PLUMBING FIXTURES SUCH AS METALLIC SINKS, TUBS, FAUCETS AND SHOWER RISERS ARE CONNECTED ONLY TO PLASTIC WATER PIPING AND PLASTIC DRAIN PIPING, CONTINUITY TO GROUND IS NOT REQUIRED.

- B. Turn "ON" the main circuit breaker and each individual circuit breaker.

### CAUTION

**A LABEL HAS BEEN PLACED ON OR OVER THE ELECTRICAL WATER HEATER BREAKER IN THE MAIN PANEL BOX. MAKE SURE THE WATER HEATER TANK IS FILLED WITH WATER BEFORE TURNING THE BREAKER TO THE "ON" POSITION. FAILURE TO DO SO WILL CAUSE THE WATER HEATING ELEMENT TO OVERHEAT AND FAIL. THIS ITEM IS NOT COVERED BY THE HOME WARRANTY.**

Proceed as follows:

- (1) Plug an AC receptacle wiring tester into each receptacle in the home to check for reversed polarity, open grounds and shorts.
- (2) Any reverse polarity, open grounds or shorts found will require investigation and repair.
- (3) Install light bulbs and fluorescent tubes if not already installed. Make sure each light fixture is operable by turning the appropriate switch to "ON" position.
- (4) Shut off all light switches in the home and perform test on smoke detector(s) in accordance with the manufacturer's instructions.
- (5) Repair or replace any defective items.

## DRAIN SYSTEM TEST PROCEDURES

The completed drain waste system should be subjected to a flood level test as follows:

1. The home shall be in a level position, all fixtures shall be connected, and the plug or cap installed at the outlet. The entire system shall be filled with water to the rim of the water closet (toilet). (Tub and shower drains shall be plugged.)
2. After all trapped air has been released, the test shall be maintained for not less than 15 minutes without evidence of leaks. If any leaks are found, repair them and re-test. If no leaks are noted after 15 minutes, unplug the system at the outlet and drain the water from the system.
3. The waste piping above the level of the water closet (toilet) shall then be tested and show no indication of leakage when the high fixtures are filled with water and emptied to obtain the maximum possible flow in the drain piping.



**SECTION 8**  
**FINAL INSPECTION**

	PAGE
FINAL INSPECTION CHECKLIST .....	75

**WINDOW PROTECTION**

PROTECTION OF WINDOWS AND SLIDING GLASS DOORS - WIND ZONES II AND III .....	76
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# FINAL INSPECTION CHECKLIST

After the home installation is complete, check the following to assure areas or items have not been overlooked.

1. **BOTTOMBOARD**  
Inspect for any torn areas, especially around bottomboard penetrations. Patch torn areas with vinyl tape.
2. **FOOTING AND PIERS**  
Check that footing pads are of the correct size and piers are located at proper spacings. Check that blocks and wedges are tight.
3. **ANCHORS AND STRAPS**  
Check anchor spacing and make sure all tiedown straps are tensioned.
4. **CROSSOVER CONNECTIONS**  
Make sure the electrical, water plumbing, drain plumbing, gas piping connections are complete. Check connection of duct crossover to duct collars.
5. **APPLIANCE ROOF FLUES AND FIREPLACE CHIMNEY**  
Check to see that all roof flue penetration flashings are properly installed and sealed.
6. **SHINGLE ROOF**  
Inspect shingles to insure they are correctly fastened to roof sheathing. Check roof cap for proper installation. Make sure none are loose and that all holes in shingles are sealed.
7. **EXTERIOR SIDING AND TRIM**  
Check that there are no gaps, voids or missing fasteners. Make sure seams are sealed.
8. **WATER AND DRAIN SYSTEMS**  
If water to the home is available check all faucets for operation and check each fixture P-trap for any leaks.
9. **WINDOWS, DOORS AND DRAWERS**  
Make sure all windows, interior and exterior doors and cabinet drawers operate correctly.
10. **INTERIOR DETAILS**  
Inspect all interior finish details, such as molding, paneling and carpet.
11. **ENTRY ACCESS**  
Temporary access installed at entry door.
12. **CLEAN UP**  
Make sure the interior and exterior of the home has been cleaned from installation materials and debris.

## PROTECTION OF WINDOWS AND SLIDING GLASS DOORS

This home has not been equipped with storm shutters or other protective coverings for windows and exterior door openings. For homes designed to be located in Wind Zones II and III, which have not been provided with shutters or equivalent covering devices, it is strongly recommended that the home be made ready to be equipped with these devices in accordance with the methods recommended below.

### WIND ZONE II ONLY

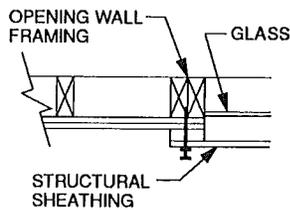
For wind storm protection, all exterior windows and sliding glass doors should be protected as shown in these details.

Protected areas are to be covered with structural sheathing. The thickness and span ratings are shown in the table. The structural sheathing shall be labeled "APA Rated Sheathing Exterior" or equivalent. The sheathing shall be placed over the opening with the face grain running horizontal (i.e., the long side of the panel shall be level with the ground).

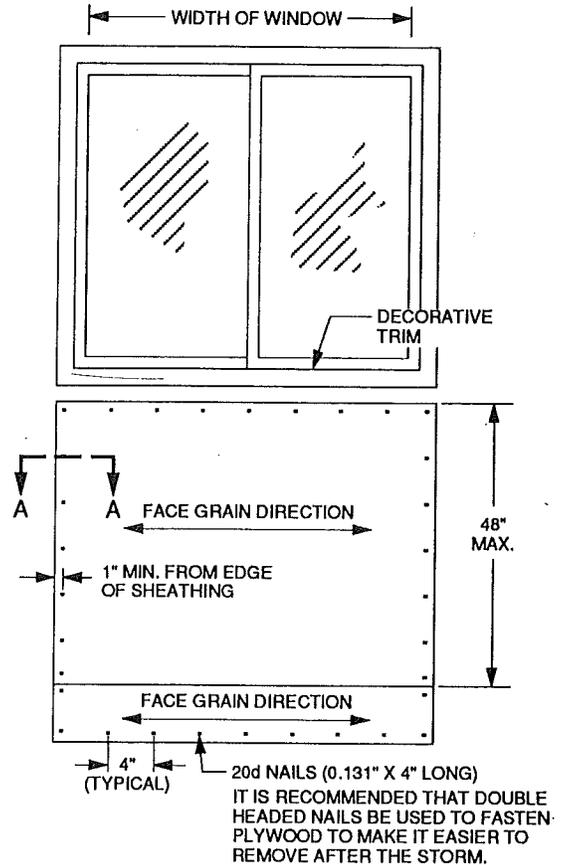
Where any portion of any window or sliding glass door is within 3 feet from a corner of the home, the opening should be covered with two layers of sheathing, each of which meets the requirements from the table. The first layer is fastened as shown, and the second layer shall be fastened using a minimum 40d nails (0.131" diam. x 5" long) at 3" on center spacing.

After the storm, remove and store the sheathing for possible reuse. Caulk any exposed nail holes in the home siding to prevent moisture and water penetrating into the exterior wall.

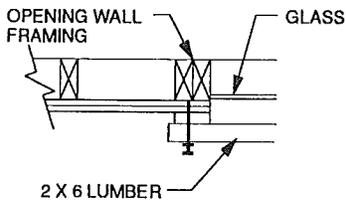
STRUCTURAL SHEATHING TO PROTECT WINDOWS IN WIND ZONE II		
WIDTH OF WINDOW	SHEATHING REQUIREMENTS	
	THICKNESS	SPAN RATING
UP TO 36"	15/32" MIN.	32/16
37" TO 46"	23/32" MIN.	48/24
47" TO 72"	1 1/8" MIN.	48" O.C.



SECTION A-A



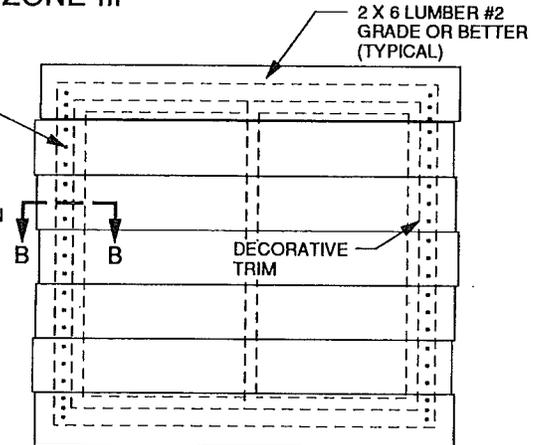
### WIND ZONE II AND WIND ZONE III



SECTION B-B

1 - #8 X 4" LONG WOOD SCREW INTO THE END OF EACH 2 X 6 OR  
3 - 20d NAILS (0.131" X 4" LONG) INTO THE END OF EACH 2 X 6.

IT IS RECOMMENDED THAT DOUBLE HEADED NAILS BE USED TO FASTEN LUMBER TO MAKE IT EASIER TO REMOVE AFTER THE STORM.



SOLID FRAMING OVER GLAZING

After the storm, remove and store the lumber for possible reuse. Caulk any exposed nail holes in the home siding to prevent moisture and water penetrating into the exterior wall.

