FLEETWOOD®
HOMES

Installation Manual

1/7/02

FILE COPY

WIND ZONE I

SINGLE SECTION

Applies to all homes manufactured on or after December 15, 1999

A COPY OF THIS MANUAL MUST REMAIN WITH THE HOME FOR REFERENCE BY OCCUPANT

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REGULATIONS & STDS. DIV.

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 by 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.

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The division of topics shown above conforms to NCSBCS/ANSI A225.1 - 94

RADCO FEDERAL MANUFACTURED HOUSING CONSTRUCTION & SAFETY STANDARDS
OCT 12 1999
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APPROVED

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.

This home is specifically designed to withstand certain structural, wind, and climate zones. When properly installed and prepared for the prevailing weather conditions at the chosen site, the home will provide a satisfactory and comfortable residence. The home manufacturer is not responsible for the integrity of the home in conditions more rigorous than those for which it is designed. Nor is the home manufacturer responsible for damage caused by failure to adequately prepare the home for extreme temperatures or other climate conditions that may be encountered.

ITEMS REQUIRING YOUR SPECIFIC ATTENTION:

Carefully review the information provided on the following pages prior to installing 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 - Pages 13 & 14.
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 43.
Review this information prior to the installation of items such as carport, deck, skirting, telephone wiring or television cable.

CLOTHES DRYER VENTING - Page 47.
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 49.
Carefully review this entire page to insure that the electrical service is properly connected.

WARNING: **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.

FOREWORD
(Cont'd.)

This home is designed to be moved by a specially-equipped truck/tractor. The home may be damaged and the warranty voided if the 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 home manufacturing facility.

CHAPTER 1 INTRODUCTION

AS YOU ARE READING THIS MANUAL, TAKE PARTICULAR NOTICE OF ITEMS THAT ARE WRITTEN IN A **BOLD TEXT,** OR SECTIONS THAT 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.

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

THIS 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. Only qualified service personnel should be allowed to test the various utility systems and the connection of these systems to the on-site services. 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.

1

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. Consult the Compliance Certificate for design data describing the roof and wind load resistance

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

On certain pages of this manual, you will see the seal of a professional engineer. Federal guidelines only require the seal from one state to be displayed, but the details herein apply to all of the United States.

Should you have any questions or desire further clarification, please contact the retailer or the home manufacturing facility. (See Chapter 2)

BEFORE YOU BEGIN.....

Carefully review the documents behind the flap in the back of this manual prior to installation of this home.

1. **COMPLIANCE CERTIFICATE:** The Compliance Certificate can be found either on a wall in the master bedroom closet or on a door under the kitchen sink. A copy of the Certificate is included in this manual so you can reference the structural, roof load, thermal, and wind designs.

2. **FLOOR PLAN:** This document is the approved floor plan of the home and includes 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 and show 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. Field assembly is necessary for any "shipped loose" system parts that are indicated by an asterisk (*).

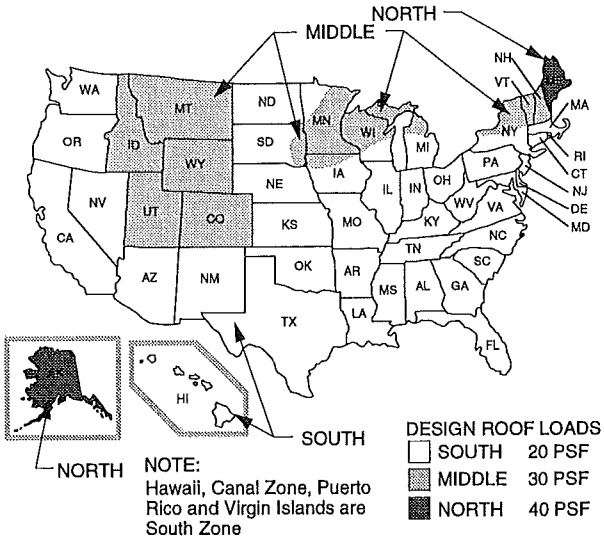
4. **INSTALLATION MANUAL SUPPLEMENTS:** Supplemental pages may be included with this manual outlining special features in the home that are not covered in the manual or that differ from details in the manual.

5. **DESIGN ZONE MAPS:** The Design Zone Maps for roof loads, heat and cooling, and structural wind zones are shown on page 4 of the manual. Review these maps and the information on the Compliance Certificate to determine if 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 boundries.

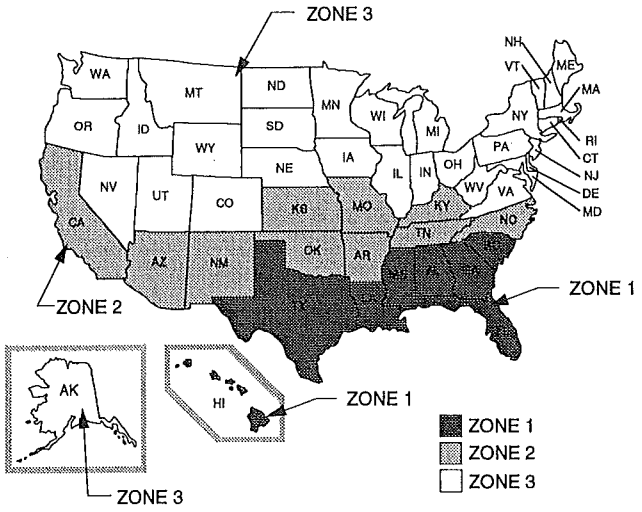
6. **WIND ZONES:** Wind zone listings are also found on page 4 of the manual.

7. **ROOF LOAD**
   The roof load for which a home is labeled is a minimum. For example: A home labeled for 40 psf L.L. may be installed at any roof load not exceeding 40 psf.

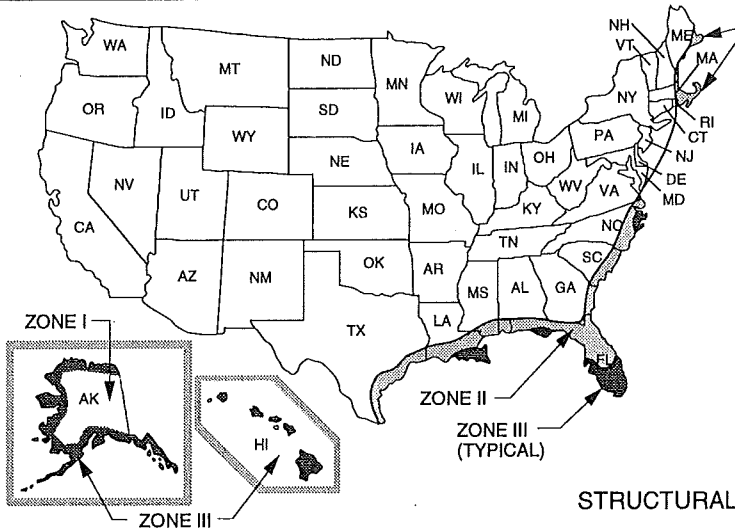
ZONE MAPS OF THE UNITED STATES



STRUCTURAL ROOF DESIGN MAP



HEATING & COOLING DESIGN MAP
(U_o VALUE ZONES)



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.

(Wind Zone I has no equivalent MPH rating)

STRUCTURAL WIND ZONE DESIGN MAP

WIND ZONE II (100 MPH)

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

Alabama
Baldwin, Mobile

Florida
All counties except those identified as being within Wind Zone III

Georgia
Bryan, Camden, Chatham, Glynn, Liberty, McIntosh

Louisiana
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

Maine
Hancock, Washington

Massachusetts
Barnstable, Bristol, Dukes, Nantucket, Plymouth

Mississippi
George, Hancock, Harrison, Jackson, Pearl River, Stone

North Carolina
Beaufort, Brunswick, Camden, Chowan, Columbus, Craven, Currituck, Jones, New Hanover, Onslow, Pamlico, Pasquotank, Pender, Perquimans, Tyrrell, Washington

South Carolina
Beaufort, Berkeley, Charleston, Colleton, Dorchester, Georgetown, Horry, Jasper, Williamsburg

Texas
Arkansas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kenedy, Kleberg, Matagorda, Nueces, Orange, Refugio, San Patricio, Willacy

Virginia - The cities of:
Chesapeake, Norfolk, Portsmouth, Princess Anne, Virginia Beach

WIND ZONE III (110 MPH)

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

Florida
Broward, Charlotte, Collier, Dade, Franklin, Gulf, Hendry, Lee, Martin, Manatee, Monroe, Palm Beach, Pinellas, Sarasota

Louisiana
Jefferson, La Fourche, Orleans, Plaquemines, St. Bernard, St Charles, St. Mary, Terrebonne

North Carolina
Carteret, Hyde, Dare

The following states and territories are within Wind Zone III:

State of Hawaii

Alaska, coastal regions between the 90 mph isotach 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.
PLYWOOD FOOTING PADS	2 pieces nominal 3/4" plywood (APA Rated Sheathing, Exposure 1, PS 1) pressure treated for soil contact in accordance with AWPB-FDN or AWPA C-9.
WOOD FOOTING PADS	Nominal 2 x 12 x 24" minimum pressure treated lumber #2 grade any wood specie. (AWPA C2 treatment or equivalent) A single wood pad with 3,000 or higher 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.
CONCRETE CAP BLOCK	Nominal 2", 3", or 4" x 8" x 16" pre-cast concrete without reinforcement.
WOOD CAP BLOCK	Nominal 2 x 8 x 16" lumber. (May be untreated)
WOOD WEDGES	3 1/2" min. width x 8" min. length x 1 1/2" max. thickness (may be untreated)
OPTIONAL CONCRETE RUNNERS	Nominal 6" reinforced concrete.
TIEDOWN STRAPS AND GROUND ANCHORS a. Main beam diagonal straps. b. Supplemental straps.	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.
c. Ground anchors for all tiedown straps. May be fabricated from steel rod, cable or other similar material.	1). When installed in Wind Zone I, ground anchors should be capable of resisting a minimum total load capacity of 4725 lbs. and a working load capacity of 3150 lbs. minimum. 2). The resistance capability of anchors and anchoring equipment should be certified by a professional engineer, architect or a nationally recognized testing laboratory. This is 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.

1

CHAPTER 2 DEFINITIONS

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

ANCHORING SYSTEM - A combination of ground anchors and tiedown straps designed to resist wind forces. See Chapter 5.

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. Any areas damaged or torn during transportation or installation must be resealed.

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 SYSTEM - A combination of footings, piers, caps and wedges placed beneath the home to provide support. See Chapter 4.

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

If you have any questions concerning definitions, terminology or other related installation issues, please contact the Field Operations Supervisor at the Fleetwood manufacturing center where your home was produced, or at the manufacturing center nearest you.

2

Arizona	Glendale	800-557-0021
California	Riverside	800-999-9265
	Woodland	800-666-1210
Florida	Auburndale	800-765-7576
Georgia	Alma	800-720-3359
	Broxton	800-922-4780
	Douglas (05)	800-825-3258
	Douglas (07)	800-997-0007
	Fitzgerald	800-252-8258
	Pearson	800-762-3423
Idaho	Nampa	800-334-8958
Indiana	Garrett	800-222-2827
Kentucky	Benton	877-202-6703
Mississippi	Lexington	800-881-3381
North Carolina	Lumberton	800-280-0046
	Mooresville	800-572-4072
	Pembroke	800-627-0031
	Roxboro	800-444-7969
Oregon	Woodburn	800-458-6488
Pennsylvania	Elizabethtown	800-366-8223
Tennessee	Gallatin/Lafayette	800-763-0218
	Westmoreland	800-645-8854
Texas	Belton	888-933-7957
	Waco (12)	800-333-3002
	Waco (84)	800-257-2449
	Wichita Falls	800-666-6092
Virginia	Rocky Mount	800-888-6811
Washington	Woodland	800-200-7835

CHAPTER 3 SITE PREPARATION

CAUTION

CAUTION: WHERE YOU LOCATE YOUR HOME IS EXTREMELY IMPORTANT. CAREFULLY REVIEW THE FOLLOWING ITEMS BEFORE CHOOSING A LOCATION.

STRUCTURAL, WIND AND CLIMATIC ZONES

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

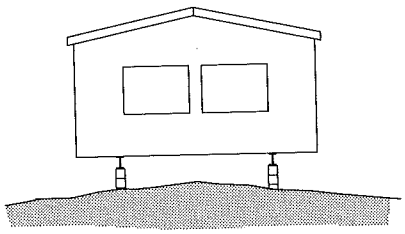
WATER DRAINAGE AND SITE GRADING

Make sure the home site is properly graded and sloped to prevent water and moisture from collecting under the home. Rain and irrigation water must not be allowed to flow under the home. If the home is set in a pit, provide water drainage away from the underside of the home. Locate the home an adequate distance from streams and rivers.

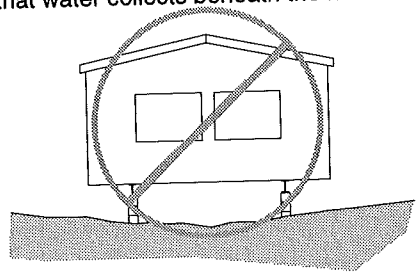
Controlling the water and moisture under your home will greatly improve the stability of the footings and piers that support the home.

CAUTION: CONTINUOUS STANDING WATER UNDER THE HOME CAN RESULT IN CONDENSATION PROBLEMS AND AFFECT THE HOMEIS WARRANTY. EXCESSIVE WATER IN THE SOIL UNDER THE HOME WILL ALSO AFFECT THE COMFORT LEVEL IN YOUR HOME AND CAUSE DETERIORATION.

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

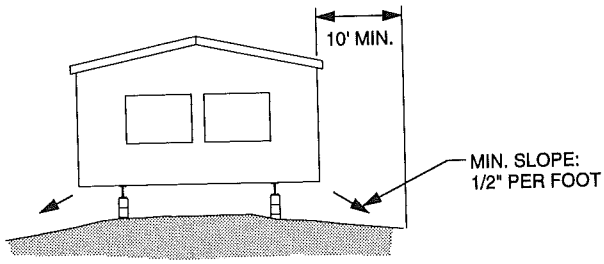


DO NOT grade site or set the home so that water collects beneath the home.



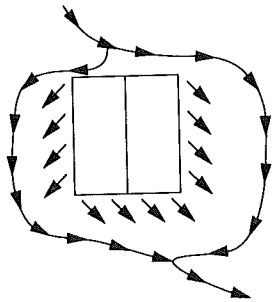
GROUND MOISTURE BARRIER

Ground moisture-vapor retarder is not required for this home and should not be used to correct poor drainage from under the home. Retarder, if used, should only be used in addition to proper grading and drainage described above.



For a minimum of 10 feet around all sides of the home, be sure the ground slopes a minimum of 1/2" per foot. The area under the home (as defined by the exterior walls) is not required to be sloped.

ELEVATION



Natural drainage should be diverted around the home.

PLAN VIEW

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). To ensure the home footing sizes and piers are adequate to support the home, you must obtain the following information: (1) soils investigation and analysis of the site, (2) compliance with the local building code, or (3) competent opinion by a local registered professional engineer or building official. If none of this information is available, 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 Chapter 4.

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. May be obtained by contacting Manufactured Housing Resources, PO Box 9 Nassau, DE 19969, 1-302-645-5552.
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 in the event an inspector desires to verify the results.

CAUTION

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

CAUTION

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

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 SECTIONS OF THE HOME ARE IN THEIR FINAL POSITION.

CHAPTER 4 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 (including plywood or plastic) 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. Plywood pads must be two pieces each 3/4" min. thickness and used in similar configurations to 2 x 12 x 24" wood pads. (i.e., 2 pieces of 3/4" x 12 x 24 equals one piece of 2 x 12 x 24). ABS Plastic pads of equivalent bearing area are acceptable substitutions when used according to the pad manufacturer's instructions.

Check with local building authorities for home installation requirements due to ground conditions. In areas where the ground is subject to freezing, the footing pads must extend below the frost line established by local jurisdiction. See pages 13 and 14 for frost line information.

PIERS

The piers used must be strong enough to transmit the vertical load (including 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.

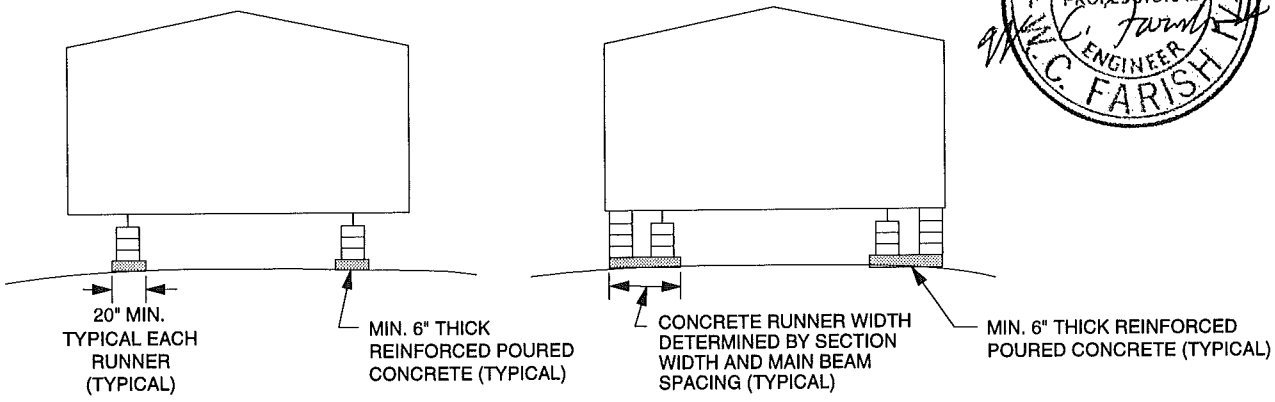
Pier designs and heights shown in this manual can be used on flat or sloping ground.

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. Common full-length concrete runners are shown below. When using transverse runners, they should extend from sidewall to sidewall at the spacing shown in the diagram. Provide additional poured runners at the mating line for piers at the ridge beam support post locations.

Before these methods are used, be sure they are adequate for the site location and permitted by the applicable local code. The size and spacing of reinforcing bar must be designed by others. To determine pier spacing for concrete runner use the pages for "Pre-Poured Concrete Footings" elsewhere in this manual. Example: for 20" wide concrete runners, use pier spacing for 20" x 20" footings.

GEORGIA REGISTERED No. 11481 PROFESSIONAL ENGINEER W. C. FARISH

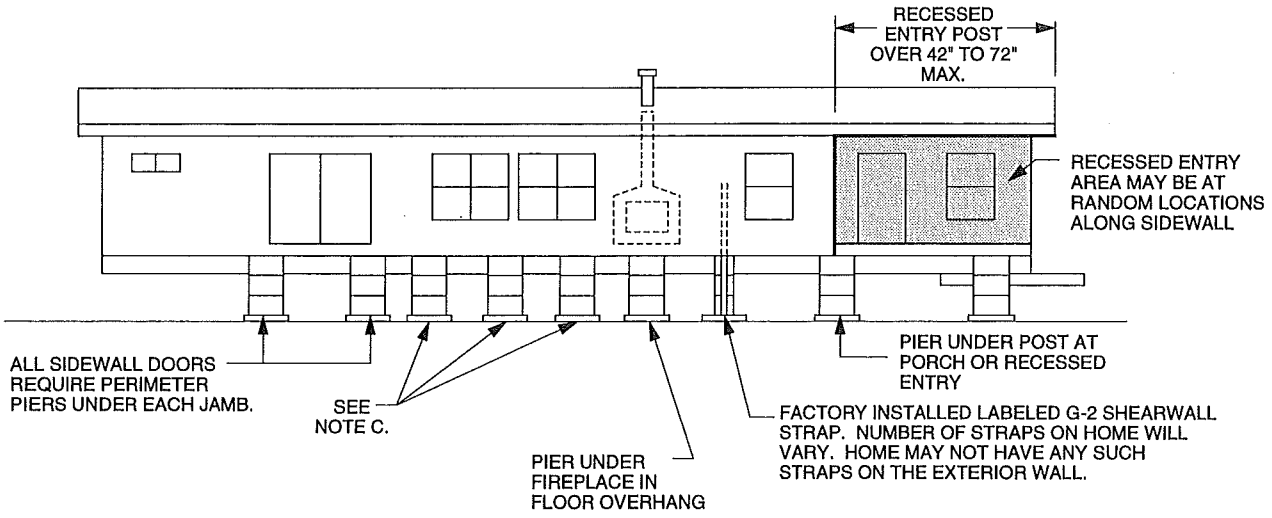


2 POUR RUNNERS

2 POUR RUNNERS

NOTE: INSTALLATIONS PROPOSING DIFFERENT DETAILED SPECIFICATIONS (SUCH AS BLOCK SIZE OR LOADS) SHOULD BE JUSTIFIED BY ENGINEERING DATA. DETAILS, PLANS, AND/OR TEST DATA MUST BE SUBMITTED TO THE LOCAL ENFORCEMENT AGENCY FOR APPROVAL. ALTERNATE FOUNDATION DESIGNS WHICH ARE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER OR ARCHITECT MAY BE USED INSTEAD OF DETAILS SHOWN HEREIN WHEN APPROVED BY LOCAL AGENCIES.

PIER LOCATION ELEVATIONS



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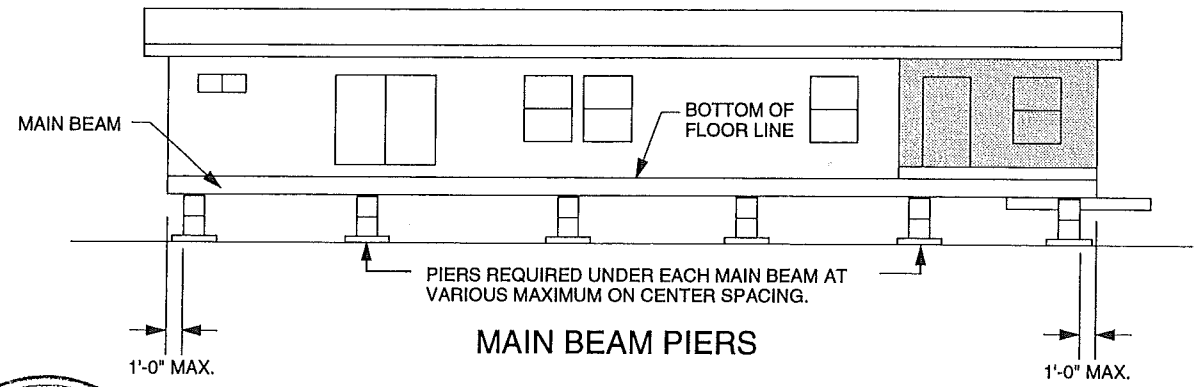
NOTES:

A) See pages 15 and 16 for minimum footing requirements for labeled perimeter piers and labeled G-2 shearwall strap

B) The perimeter piers shown above are not required if full perimeter piering is part of the home support and the location of the perimeter piers are within 1 foot of the indicated locations. Exception: A perimeter pier must be installed at a labeled G-2 strap location. Perimeter piering charts may also be used for permanent foundations.

C) Windows in sidewalls of 30" or more in width and used in combination of three or more must have perimeter piers under each jamb and center stud. As an alternate, a 4 x 4 beam may be used with perimeter piers whose span does not exceeding 8'-0".

PERIMETER PIERS

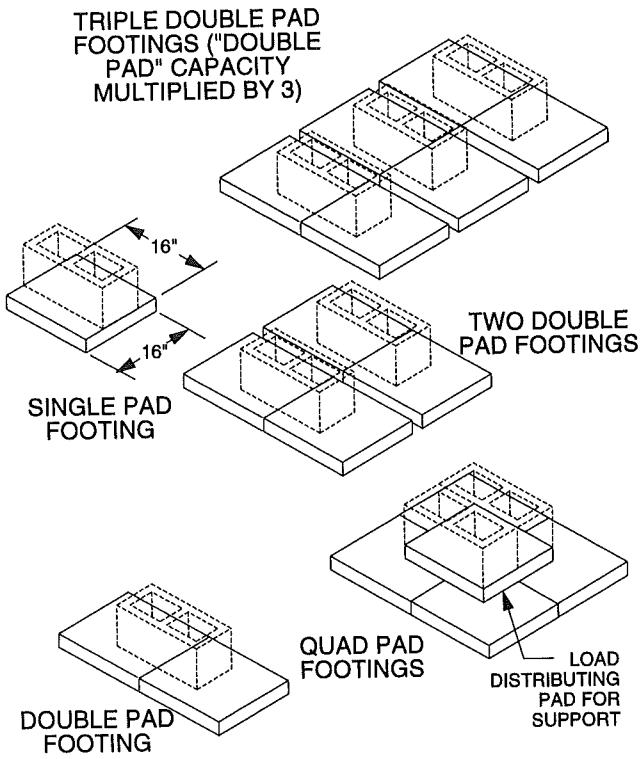


MAIN BEAM PIERS

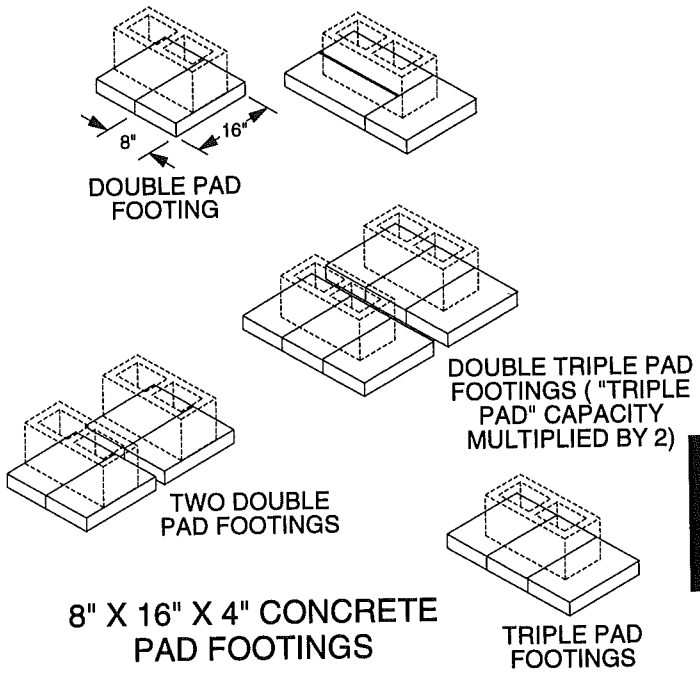
GEORGIA REGISTERED No. 11481 PROFESSIONAL ENGINEER W. C. FARISH

FOUNDATION FOOTINGS WITH CONCRETE BLOCK PIERS

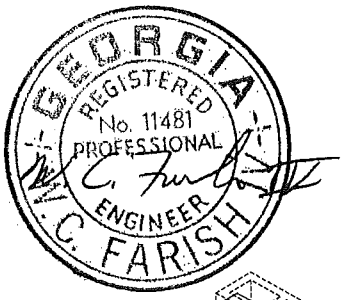
Double concrete block piers may be used on any pad that covers at least 16" x 16".

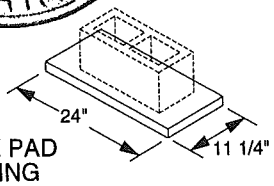


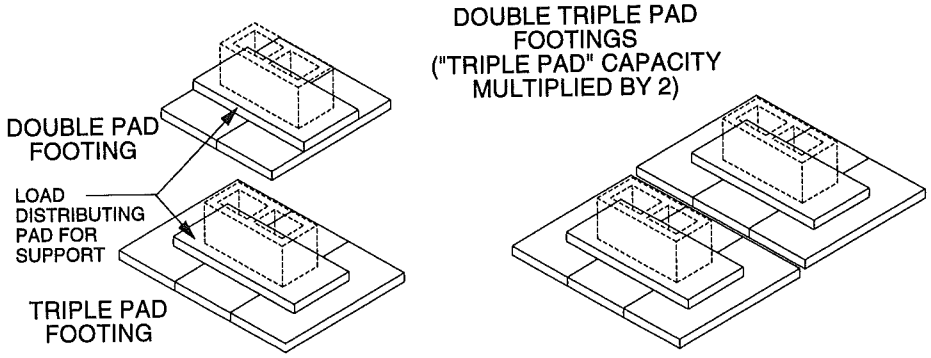
16" X 16" X 4" CONCRETE PAD FOOTINGS



8" X 16" X 4" CONCRETE PAD FOOTINGS



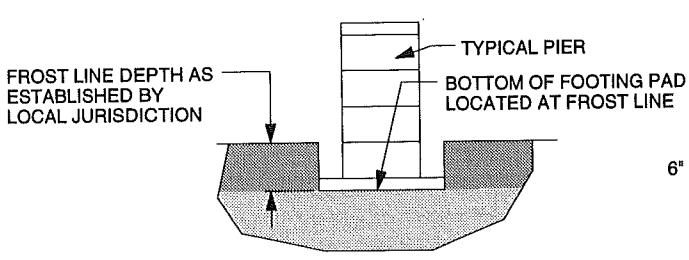


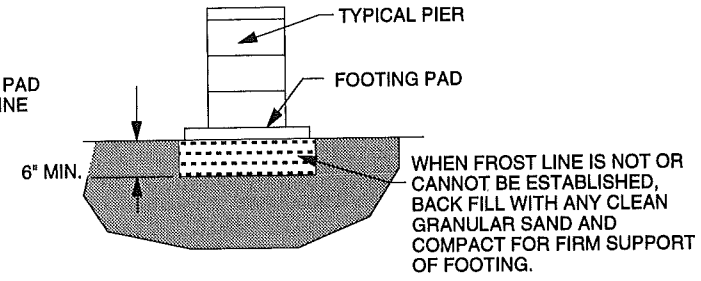


2 X 12 X 24" WOOD PAD FOOTINGS

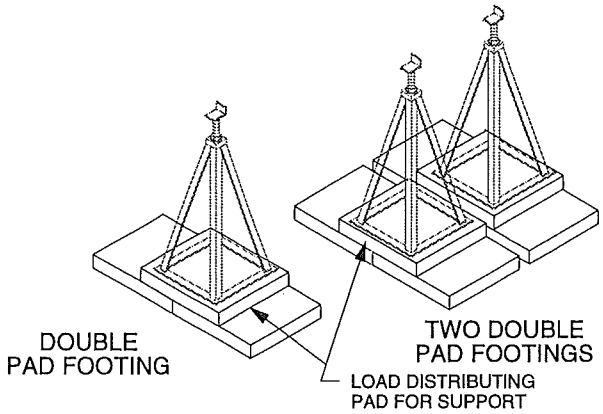
FOOTINGS AND FROST LINES

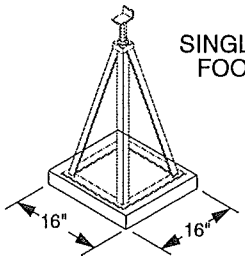
In areas where the ground is subject to freezing, frost heaving can lead to unleveling and potential damage to the home. Follow these details in areas where the ground is subject to freezing.





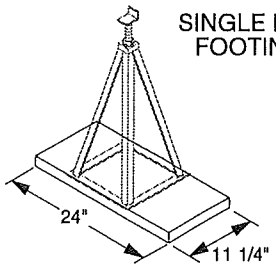
FOUNDATION FOOTINGS WITH COMMERCIAL METAL PIERS

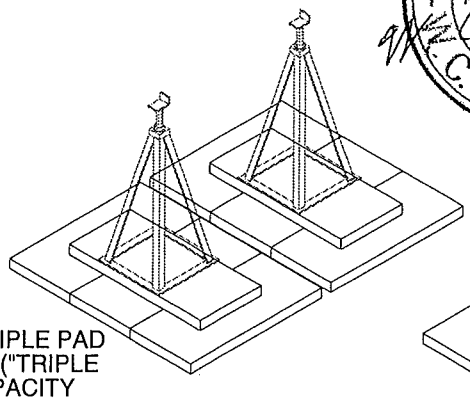


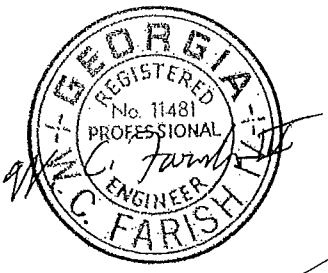


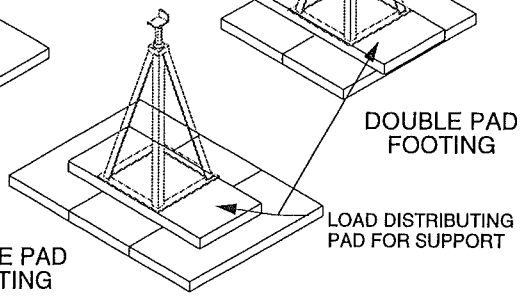
16" X 16" X 4" CONCRETE PAD FOOTINGS

4





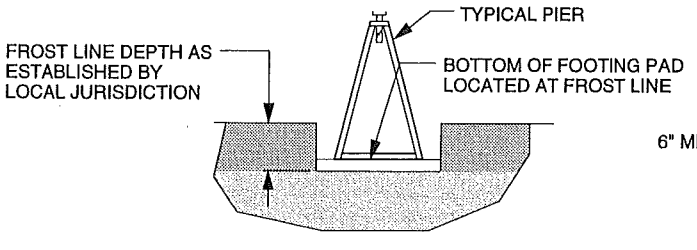


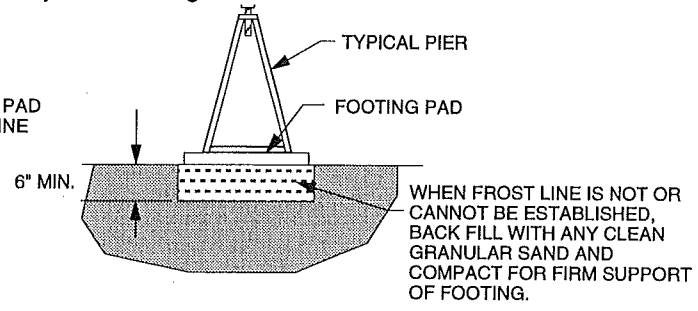


2 X 12 X 24" WOOD PAD FOOTINGS

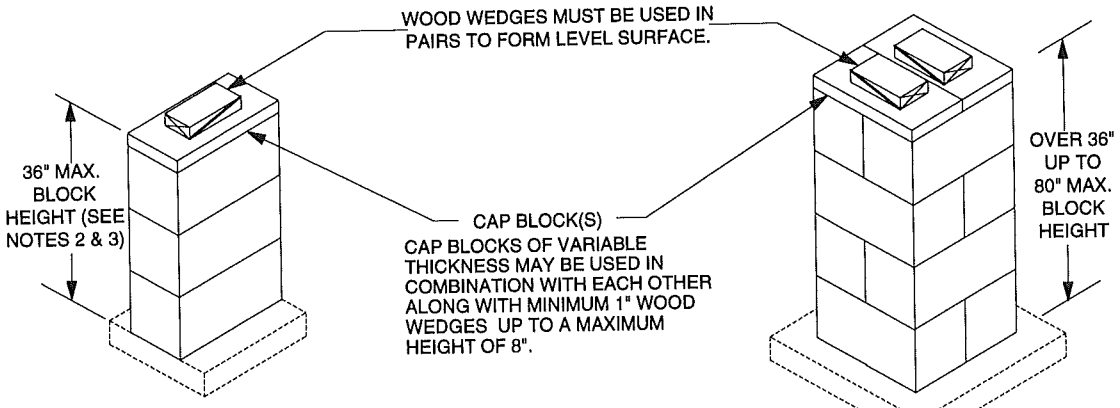
FOOTINGS AND FROST LINES

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





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



SINGLE BLOCK PIER
8,000 LBS MAXIMUM CAPACITY

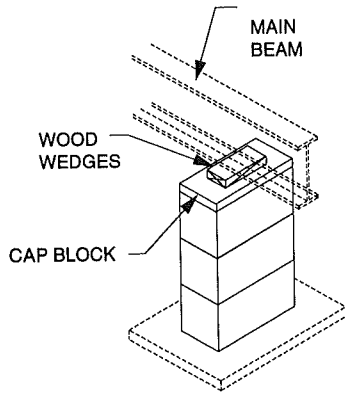
DOUBLE BLOCK PIER
16,000 LBS MAXIMUM CAPACITY

NOTES:

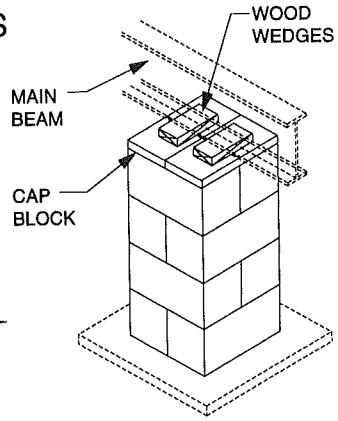
1. PIER CAPACITY MUST BE THE SAME AS OR GREATER THAN THE FOOTING CAPACITIES ON PAGE 17.
2. MIN. PIER HEIGHT IS 8" FROM GROUND TO BOTTOM OF MAIN BEAM.
3. SINGLE STACK BLOCKS MAY BE 48" MAX. HEIGHT WHEN USED FOR PERIMETER PIERS.
4. CONCRETE BLOCK MAY BE USED IN COMBINATION WITH COMMERCIAL METAL PIERS.

4

MAIN BEAM PIERS



SINGLE BLOCK PIER
PERPENDICULAR TO MAIN BEAM

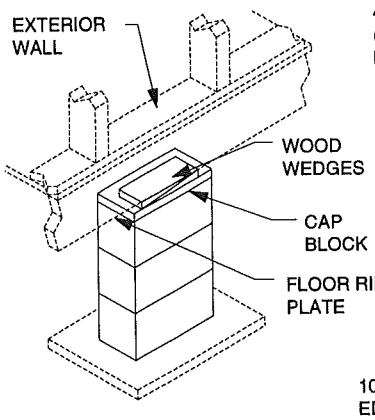


DOUBLE BLOCK PIER

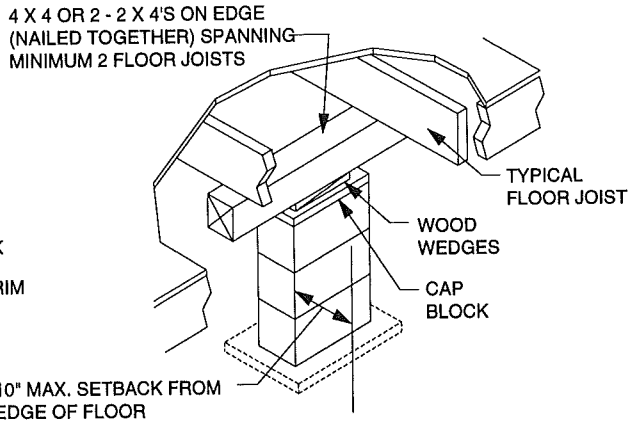
PERIMETER PIERS

NOTES:

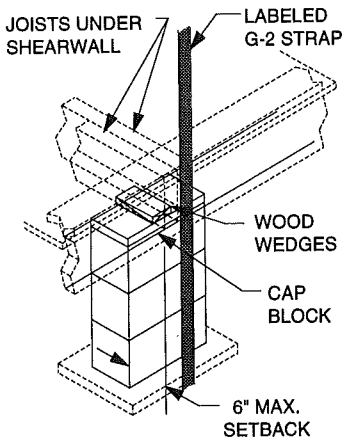
1. PIER MAY BE OFFSET UP TO 6" MAX. EACH SIDE OF STRAP TO MISS FRAME OBSTRUCTIONS AS LONG AS THE PIER STILL SUPPORTS THE FLOOR RIM PLATE.
2. NO STABILIZER PLATE IS REQUIRED FOR GROUND ANCHOR AT LABELED G-STRAP ALONG PERIMETER.



BLOCKS PARALLEL WITH EDGE OF FLOOR



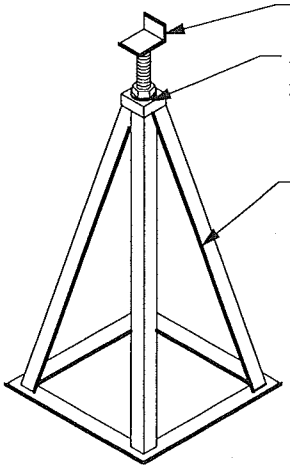
BLOCKS PARALLEL AND RECESSED BACK FROM EDGE OF FLOOR



AT LABELED G-2 STRAP LOCATION
(SEE NOTE 1)

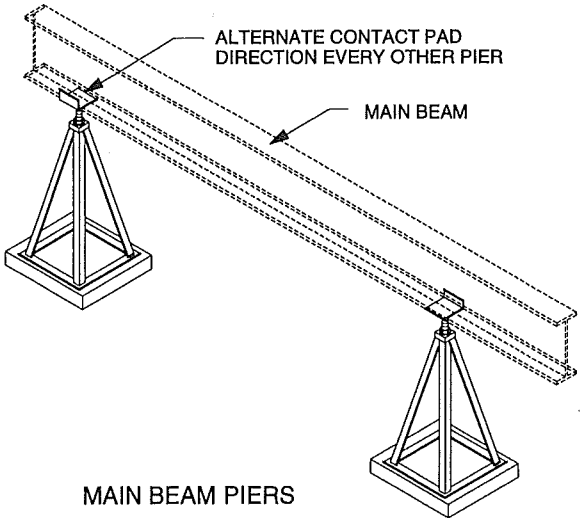
COMMERCIAL METAL PIERS

Commercial metal piers may be used along with concrete piers.



NOTE

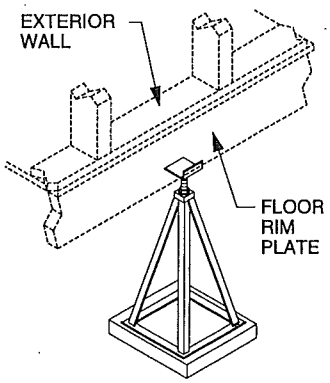
Pier capacity is listed and labeled by pier manufacturer on each pier. Pier capacity must be the same as or greater than the footing capacities on page 17.



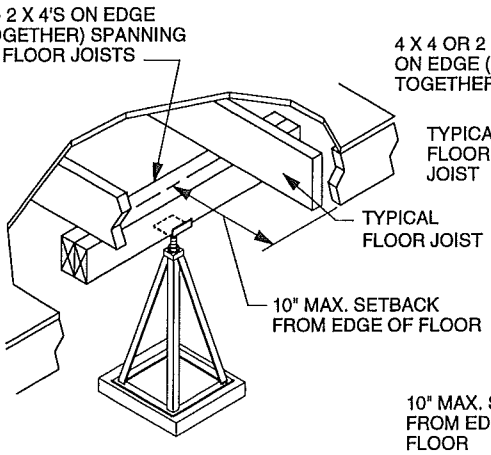
MAIN BEAM PIERS

PERIMETER PIERS

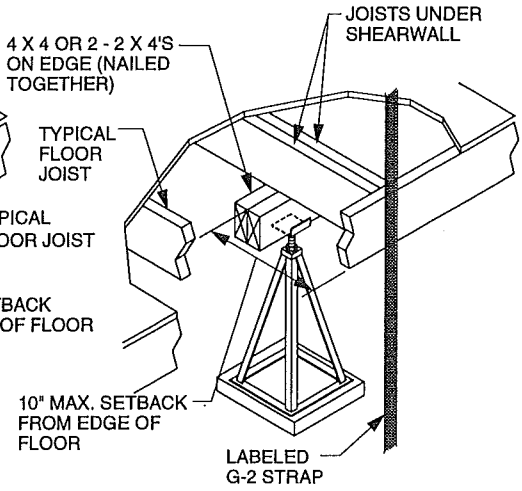
4



AT EDGE OF FLOOR



RECESSED BACK FROM EDGE OF FLOOR

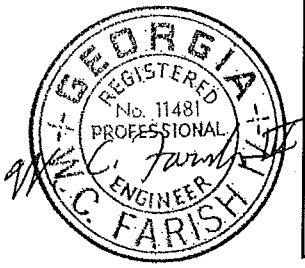


AT LABELED G-2 STRAP LOCATION (SEE NOTE 1)

NOTES:

1. 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.
2. NO STABILIZER PLATE IS REQUIRED FOR GROUND ANCHOR AT LABELED G-STRAP ALONG PERIMETER.

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 for 12 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.

SECTION WIDTHS

Range (in inches) Of Section Floor Widths*

12 Wide	132" to 143"
13 Wide	150" to 157"
14 Wide	158" to 168"
15 Wide	178" to 180"
16 Wide	186" to 190"
18 Wide	204"

* Measured across section at floor excluding exterior siding.

PROCEDURE FOR FOOTING CONFIGURATION AND SPACING TABLES:

1. **See approved floor plan to see if perimeter piering is required.**
2. **Determine the soil bearing capacity.**
3. **Determine the design roof live load of the home.**
4. **Following that line across the table, and based on the main beam size, determine the footing spacing and configuration.**
5. **Footing placement to start at no more than one foot (1'-0" to edge of pier) from the ends of both main beams.**
6. **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.**
7. **Perimeter piering details may be used as an alternative for any model at the installer's discretion.**

NOTE: THE FOOTING CAPACITY TABLE ON THIS PAGE INDICATES THE MAXIMUM LOAD THAT CAN BE PLACED ON THE VARIOUS FOOTING CONFIGURATIONS.

FOOTING CAPACITIES MAX.

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	3,500	5,200
1500	2,600	4,000	5,300	8,000
2000	3,500	5,300	7,100	10,600
3000	5,200	8,000	10,600	16,000
4000	5,200	10,600	14,200	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	7,100	14,200	14,200
3000	5,200	10,600	21,200	21,200
4000	5,200	14,200	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	6,000	16,000	24,000	

EXAMPLE USING-

16" X 16" X 4" CONCRETE FOOTINGS,

Double Pad Footing, 1000 psf soil capacity,

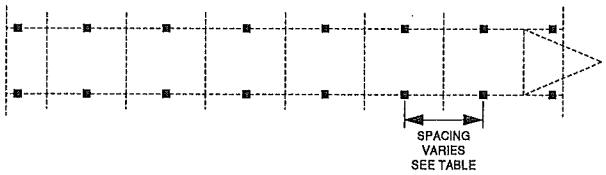
20 psf roof live load, supporting 10" main beam.

14 WIDE SECTION → FOOTING SPACING PER 14 WIDE PAGE

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'	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"
		4'-6"	4'-6"	4'-6"	8'	9'	9'	8'	10'	12'

MAIN BEAM FOOTING CONFIGURATIONS AND SPACING

12 WIDE - SINGLE SECTION



■ MAIN BEAM FOOTINGS

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

Refer to pages 13 and 14 for footing pad configuration details.

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

Refer to page 17 for the procedure on using the tables.

4

8" X 16" X 4" CONCRETE FOOTINGS

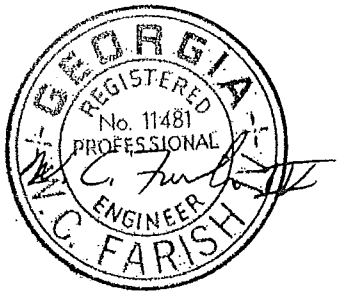
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Dbl. Pad Footing			Triple. Pad Footing			Two Dbl Pad Ftng.		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'-6"	3'-6"	3'-6"	5'	5'	5'	7'	7'	7'
	30	3'	3'	3'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

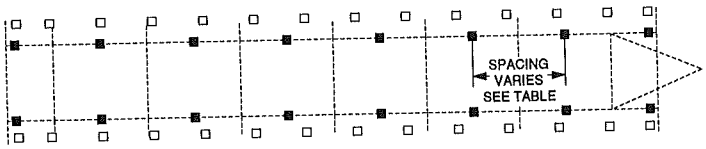
16" X 16" X 4" CONCRETE FOOTINGS

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'	8'	10'	12'
	30	8'	10'	12'	8'	10'	12'	8'	10'	12'
	40	8'	10'	10'-6"	8'	10'	12'	8'	10'	12'



MAIN BEAM WITH PERIMETER FOOTING CONFIGURATIONS AND SPACING

12 WIDE - SINGLE SECTIONS



■ **MAIN BEAM FOOTINGS**
□ **PERIMETER FOOTINGS**

PERIMETER FOOTING CONFIGURATION AND SPACING

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"
20	1000	DOUBLE	TRIPLE	DOUBLE	8'-0"
	1500	SINGLE	DOUBLE	SINGLE	
	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	

PROCEDURE :

1. **Determine the design roof live load of the home.**
2. **Determine the soil bearing capacity.**
3. **Follow that line across the table to determine the 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.**

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

Refer to pages 13 and 14 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 17 for the procedure on using the tables below.

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

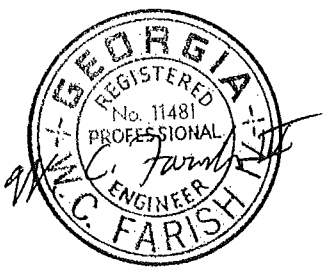
MAIN BEAM FOOTING CONFIGURATION AND SPACING

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	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'	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	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'	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'	8'	10'	12'

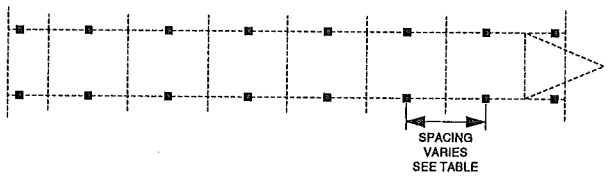
5. **The spacing for any footing may exceed the spacing shown up to 10% as long as the average spacing does not exceed the spacing shown.**



4

MAIN BEAM FOOTING CONFIGURATIONS AND SPACING

13 WIDE - SINGLE SECTION



■ MAIN BEAM FOOTINGS

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

Refer to pages 13 and 14 for footing pad configuration details.

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

Refer to page 17 for the procedure on using the tables.

4

8" X 16" X 4" CONCRETE FOOTINGS

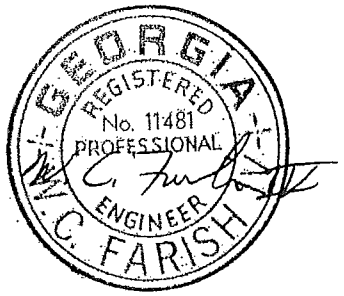
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Dbl. Pad Footing			Triple. Pad Footing			Two Dbl Pad Ftng.		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'	3'	3'	4'-6"	4'-6"	4'-6"	6'-6"	6'-6"	6'-6"
	30	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'-0"	8'	10'	12'	8'	10'	12'
	30	8'	10'	11'-0"	8'	10'	12'	8'	10'	12'
	40	8'	10'	10'-0"	8'	10'	12'	8'	10'	12'

2 X 12 X 24" WOOD FOOTINGS

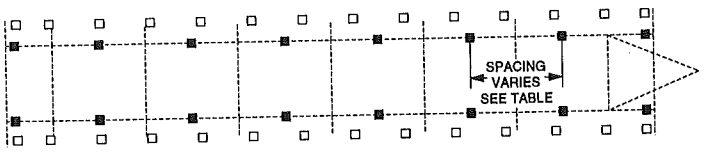
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	10'	10'
	30	3'	3'	3'	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'	8'	10'	12'
	30	8'	10'	12'	8'	10'	12'	8'	10'	12'
	40	8'	10'	10'-6"	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'	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'	8'	10'	12'
	30	8'	10'	11'-0"	8'	10'	12'	8'	10'	12'
	40	8'	10'	10'-0"	8'	10'	12'	8'	10'	12'



13 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 pages 13 and 14 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 17 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

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"
20	1000	DOUBLE	TRIPLE	DOUBLE	8'-0"
	1500	SINGLE	DOUBLE	SINGLE	
	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	

PROCEDURE :

1. **Determine the design roof live load of the home.**
2. **Determine the soil bearing capacity.**
3. **Follow that line across the table to determine the 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.**

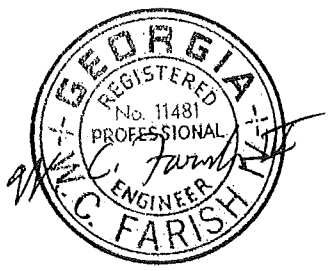
MAIN BEAM FOOTING CONFIGURATION AND SPACING

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	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'	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	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'	8'	10'	12'

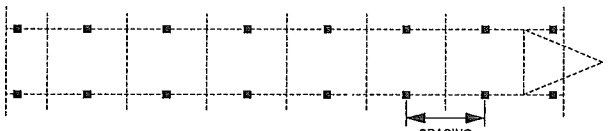
2 X 12 X 24" WOOD FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	6'	6'	6'	8'	10'	12'	8'	10'	12'
1500	8'	9'-6"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

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.**



MAIN BEAM FOOTING CONFIGURATIONS AND SPACING

14 WIDE - SINGLE SECTION



■ MAIN BEAM FOOTINGS

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

Refer to pages 13 and 14 for footing pad configuration details.

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

Refer to page 17 for the procedure on using the tables.

4

8" X 16" X 4" CONCRETE FOOTINGS

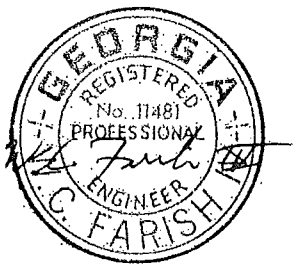
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Dbl. Pad Footing			Triple. Pad Footing			2 DBL Pad Ftng.		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'	3'	3'	4'-6"	4'-6"	4'-6"	6'	6'	6'
	30	2'-6"	2'-6"	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'	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'

2 X 12 X 24" WOOD FOOTINGS

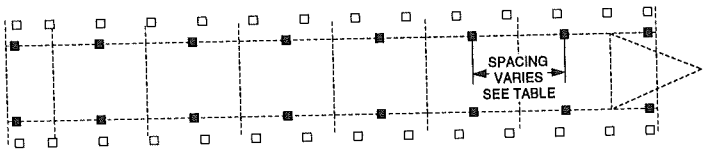
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	9'-6"	9'-6"
	30	2'-6"	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'	8'	10'	12'
	30	8'	10'	11'-0"	8'	10'	12'	8'	10'	12'
	40	8'	10'	10'-0"	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'	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'	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'



14 WIDE - SINGLE SECTION



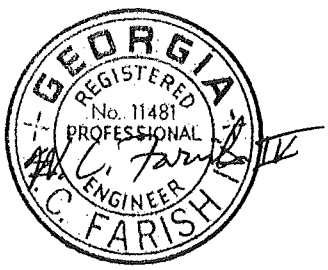
■ **MAIN BEAM FOOTINGS**
□ **PERIMETER FOOTINGS**

PERIMETER FOOTING CONFIGURATION AND SPACING

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"
20	1000	DOUBLE	TRIPLE	DOUBLE	8'-0"
	1500	SINGLE	DOUBLE	SINGLE	
	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	

PROCEDURE :

1. **Determine the design roof live load of the home.**
2. **Determine the soil bearing capacity.**
3. **Follow that line across the table to determine the 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.**



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

Refer to pages 13 and 14 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 17 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

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'	10'	12'	8'	10'	12'
3000	8'	10'	12'	8'	10'	12'	8'	10'	12'
4000	8'	10'	12'	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'	8'	10'	12'

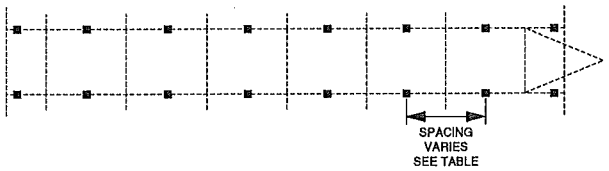
2 X 12 X 24" WOOD FOOTINGS									
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	6	6'	6'	8'	10'	12'	8'	10'	12'
1500	8'	9'	9'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

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.**

4

MAIN BEAM FOOTING CONFIGURATIONS AND SPACING

16 WIDE - SINGLE SECTION



■ MAIN BEAM FOOTINGS

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

Refer to pages 13 and 14 for footing pad configuration details.

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

Refer to page 17 for the procedure on using the tables.

4

8" X 16" X 4" CONCRETE FOOTINGS

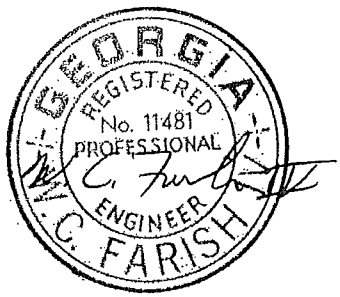
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Dbl. Pad Footing			Triple. Pad Footing			Two Dbl Pad Ftng.		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	2'-6"	2'-6"	2'-6"	4'	4'	4'	5'-6"	5'-6"	5'-6"
	30	2'-6"	2'-6"	2'-6"	3'-6"	3'-6"	3'-6"	5'	5'	5'
	40	2'	2'	2'	3'	3'	3'	4'-6"	4'-6"	4'-6"
1500	20	4'	4'	4'	6'	6'	6'	8'	8'	8'
	30	3'-6"	3'-6"	3'-6"	5'-6"	5'-6"	5'-6"	7'	7'	7'
	40	3'	3'	3'	5'	5'	5'	6'-6"	6'-6"	6'-6"
2000	20	5'-6"	5'-6"	5'-6"	8'	8'	8'	8'	10'	11'
	30	5'	5'	5'	7'	7'	7'	8'	9'-6"	9'-6"
	40	4'-6"	4'-6"	4'-6"	6'-6"	6'-6"	6'-6"	8'	8'-6"	8'-6"
3000	20	8'	8'	8'	8'	10'	12'	8'	10'	12'
	30	7'	7'	7'	8'	10'	11'	8'	10'	12'
	40	6'-6"	6'-6"	6'-6"	8'	10'	10'	8'	10'	12'
4000	20	8'	10'-0"	10'-6"	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'

2 X 12 X 24" WOOD FOOTINGS

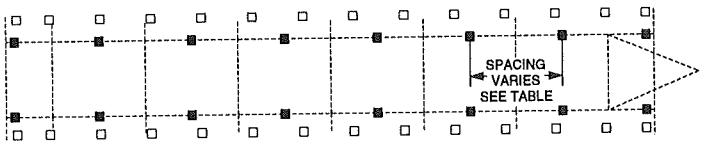
Soil Capacity (psf)	Roof Live Load (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
		Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
		Main Beam Size			Main Beam Size			Main Beam Size		
		8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	20	3'	3'	3'	5'-6"	5'-6"	5'-6"	8'	8'-6"	8'-6"
	30	2'-6"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



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 pages 13 and 14 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 17 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

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"
20	1000	DOUBLE	TRIPLE	DOUBLE	8'-0"
	1500	SINGLE	DOUBLE	SINGLE	
	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	

PROCEDURE :

1. **Determine the design roof live load of the home.**
2. **Determine the soil bearing capacity.**
3. **Follow that line across the table to determine the 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.**

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'	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'	8'	10'	12'

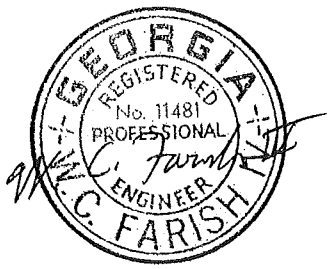
16" X 16" X 4" CONCRETE FOOTINGS

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'	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'	8'	10'	12'

2 X 12 X 24" WOOD FOOTINGS

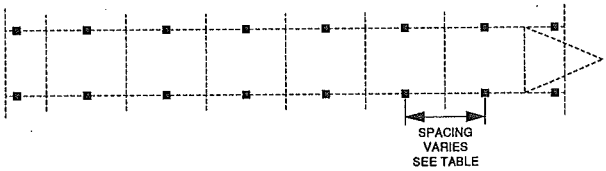
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)								
	Sgl. Pad Footing			Dbl. Pad Footing			Triple Pad Footing		
	Main Beam Size			Main Beam Size			Main Beam Size		
	8"	10"	12"	8"	10"	12"	8"	10"	12"
1000	5'	5'	5'	8'	10'	10'-6"	8'	10'	12'
1500	7'-6"	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'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

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.**



MAIN BEAM FOOTING CONFIGURATIONS AND SPACING

18 WIDE - SINGLE SECTION



■ MAIN BEAM FOOTINGS

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

Refer to pages 13 and 14 for footing pad configuration details.

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

Refer to page 17 for the procedure on using the tables.

4

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	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'	10'	8'	10'	12'	8'	10'	12'
	30	8'	8'-6"	8'-6"	8'	10'	12'	8'	10'	12'
	40	8'	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'

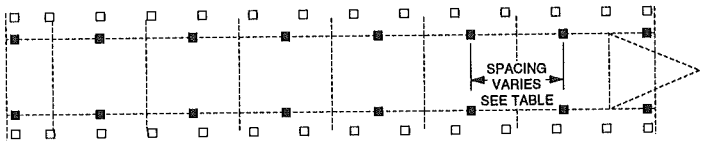
2 X 12 X 24" WOOD FOOTINGS

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"
1000	20	2'-6"	2'-6"	2'-6"	5'	5'	5'	8'	8'	8'
	30	2'	2'	2'	4'-6"	4'-6"	4'-6"	7'	7'	7'
	40	2'	2'	2'	4'	4'	4'	6'	6'	6'
1500	20	4'	4'	4'	8'	8'	8'	8'	10'	12'
	30	3'-6"	3'-6"	3'-6"	7'	7'	7'	8'	10'	10'-6"
	40	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	9'-6"	9'-6"
2000	20	5'	5'	5'	8'	10'	10'-6"	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'
3000	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'
4000	20	8'	10'	10'-6"	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'

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	2'-6"	2'-6"	2'-6"	5'	5'	5'	8'	10'	10'
	30	2'	2'	2'	4'-6"	4'-6"	4'-6"	8'	9'	9'
	40	2'	2'	2'	4'	4'	4'	8'	8'	8'
1500	20	3'-6"	3'-6"	3'-6"	7'-6"	7'-6"	7'-6"	8'	10'	12'
	30	3'	3'	3'	6'-6"	6'-6"	6'-6"	8'	10'	12'
	40	3'	3'	3'	6'	6'	6'	8'	10'	12'
2000	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'
3000	20	7'-6"	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'
	30	6'-6"	6'-6"	6'-6"	8'	10'	12'	8'	10'	12'
	40	6'	6'	6'	8'	10'	12'	8'	10'	12'
4000	20	8'	10'	10'	8'	10'	12'	8'	10'	12'
	30	8'	8'-6"	8'-6"	8'	10'	12'	8'	10'	12'
	40	8'	7'-6"	7'-6"	8'	10'	12'	8'	10'	12'

18 WIDE - SINGLE SECTION



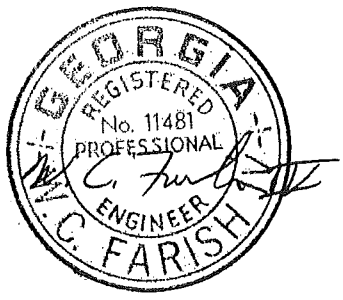
■ **MAIN BEAM FOOTINGS**
□ **PERIMETER FOOTINGS**

PERIMETER FOOTING CONFIGURATION AND SPACING

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"
20	1000	DOUBLE	TRIPLE	DOUBLE	8'-0"
	1500	SINGLE	DOUBLE	SINGLE	
	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	

PROCEDURE :

1. **Determine the design roof live load of the home.**
2. **Determine the soil bearing capacity.**
3. **Follow that line across the table to determine the 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.**



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

Refer to pages 13 and 14 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 17 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

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	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'	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	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'	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'	8'	10'	12'

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

SINGLE SECTION - 20 PSF ROOF

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

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"

15/16/18 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"

Equivalent round pad sizes:

- **for 24" round pad, use 20" x 20" charts**
- **for 28" round pad, use 24" x 24" charts**
- **for 32" round pad, use 28" x 28" charts**
- **for 36" round pad, use 32" x 32" charts**

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

SINGLE SECTION - 30 PSF ROOF

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

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'-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"

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'-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"

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"	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"

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"

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'-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"

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'-6"	8'-6"
2000	8'-0"	10'-0"	11'-6"
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'-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 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'-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"

15/16/18 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	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"

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	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 28" X 28" X 8" 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 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"	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"

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"	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"

Equivalent round pad sizes:

for 24" round pad, use 20" x 20" charts
for 28" round pad, use 24" x 24" charts
for 32" round pad, use 28" x 28" charts
for 36" round pad, use 32" x 32" charts

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

SINGLE SECTION - 40 PSF ROOF

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

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	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"

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"

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	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"

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'-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"

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'-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 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'-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 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"	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"

15/16/18 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	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"

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	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"

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	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"

PRE-POURED UNREINFORCED 32" X 32" X 8" CONCRETE FOOTING

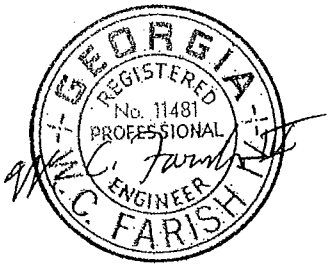
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	7'-6"	7'-6"	7'-6"
1500	8'-0"	10'-0"	11'-6"
2000	8'-0"	10'-0"	12'-0"
3000	8'-0"	10'-0"	12'-0"
4000	8'-0"	10'-0"	12'-0"

PRE-POURED UNREINFORCED 36" X 36" X 8" CONCRETE FOOTING

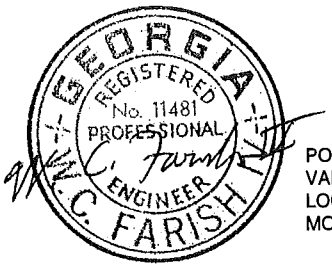
Soil Capacity (psf)	MAXIMUM MAIN BEAM FOOTING SPACING (In Feet)		
	Main Beam Size		
	8"	10"	12"
1000	8'-0"	10'-0"	9'-6"
1500	8'-0"	10'-0"	11'-6"
2000	8'-0"	10'-0"	11'-6"
3000	8'-0"	10'-0"	11'-6"
4000	8'-0"	10'-0"	11'-6"

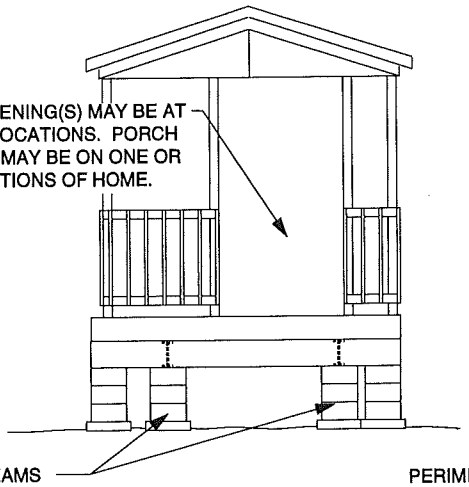
Equivalent round pad sizes:

for 24" round pad, use 20" x 20" charts
for 28" round pad, use 24" x 24" charts
for 32" round pad, use 28" x 28" charts
for 36" round pad, use 32" x 32" charts

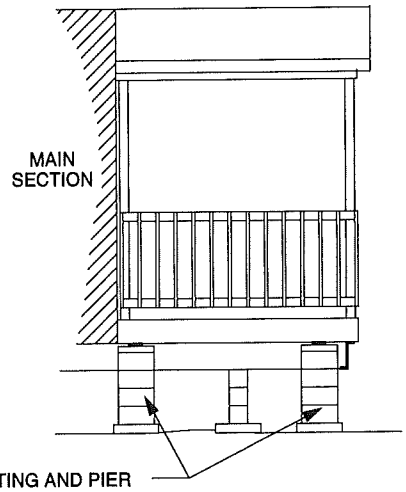


PORCHES





FRONT VIEW



SIDE VIEW

CAUTION: AREA UNDER PORCH SHOULD NOT BE GRADED OR ENCLOSED BY A FOUNDATION THAT PREVENTS WATER FROM DRAINING AWAY FROM THE HOME. FOUNDATION OR SKIRTING SHALL FOLLOW THE EXTERIOR WALL OF THE MAIN SECTION.

4

1. Length of porch can be subtracted from length of main section when determining longitudinal tiedown strap requirements.

PERIMETER FOOTINGS UNDER PORCH POSTS

PROCEDURE:

1. **Determine the design roof live load of the home.**
2. **Determine the soil bearing capacity.**
3. **Determine the spacing of the porch posts.**
4. **Follow that line across the table to determine the type of footing configuration.**

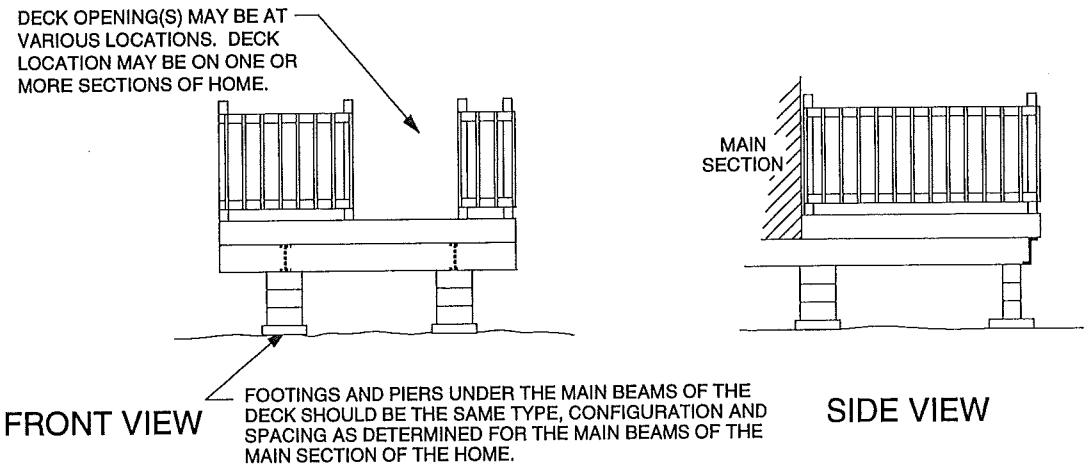
PERIMETER FOOTING CONFIGURATION BASED ON PORCH POST SPACING - MAX. 14 WIDE SECTION

Roof Live Load Max. (psf)	Soil Capacity (psf)	Porch Post Spacing (feet)	FOOTING CONFIGURATIONS		
			16" x 16" x 4" Concrete Pad	8" x 16" x 4" 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" x 4" Concrete Pad	8" x 16" x 4" 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



CAUTION: DECK AREA SHOULD NOT BE ENCLOSED BY A FOUNDATION OR SKIRTING THAT PREVENTS WATER FROM DRAINING AWAY FROM THE HOME. (SEE #2 BELOW). FOUNDATION OR SKIRTING SHOULD FOLLOW THE EXTERIOR WALL OF THE MAIN SECTION.

4

1. Length of deck can be subtracted from length of main section when determining longitudinal tiedown strap requirements.
2. Decorative skirting or underpinning may be used around the deck area as long as holes or gaps are provided to allow sufficient drainage of rain runoff from under the deck. Ground under porch should be graded to prevent water runoff under rest of home.

CHAPTER 5 INSTALLATION PROCEDURE

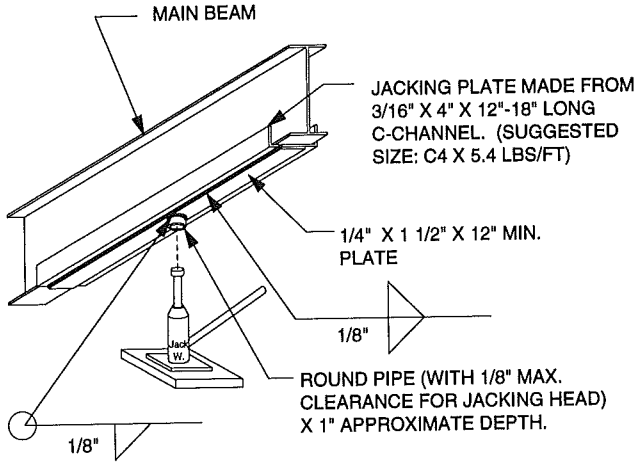
POSITIONING AND LEVELING OF THE SECTION(S)

WHEN SITE PREPARTATION IS COMPLETE AND YOU HAVE SELECTED FOOTING AND PIER TYPES, YOU MAY NOW BEGIN 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, TAKE CARE TO AVOID STRESSING THE HOME. EXCESSIVE AND/OR NON-UNIFORM JACKING DURING THE LEVELING PROCESS WILL CAUSE THE HOME TO BE RACKED AND TWISTED AND MAY RESULT IN DAMAGE TO THE HOME.

WARNING: TO PREVENT THE HOME FROM SLIPPING OFF THE JACK, USE JACKING PLATES OR OTHER EQUIVALENT MEANS WHEN JACKING THE FRAME MAIN BEAM. BE SURE TO ADEQUATELY DISTRIBUTE THE CONCENTRAED LOAD OF THE JACK HEAD TO THE FRAME MEMBERS. THIS WILL AVOID DAMAGE TO THE BEAM AND PRESERVE THE WARRANTY. SEE DETAIL FOR RECOMMENDED JACKING PLATE ASSEMBLY.



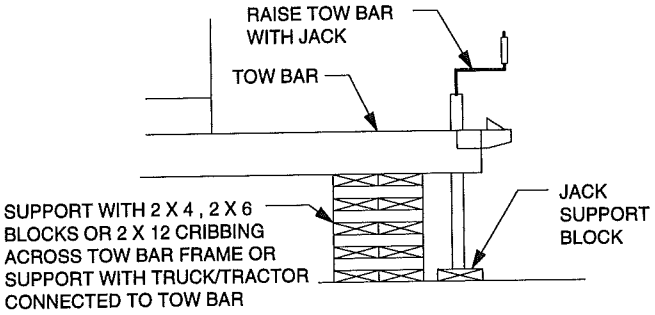
MAIN BEAM JACKING PLATE ASSEMBLY

THIS ASSEMBLY IS NOT PROVIDED BY HOME MANUFACTURER

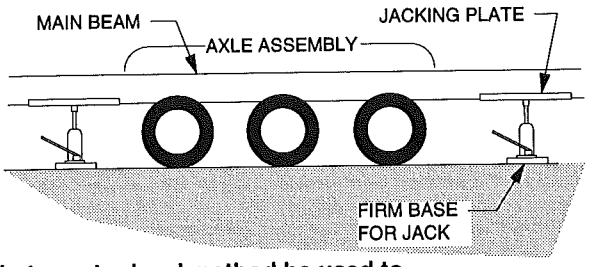
5

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 cribbing 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

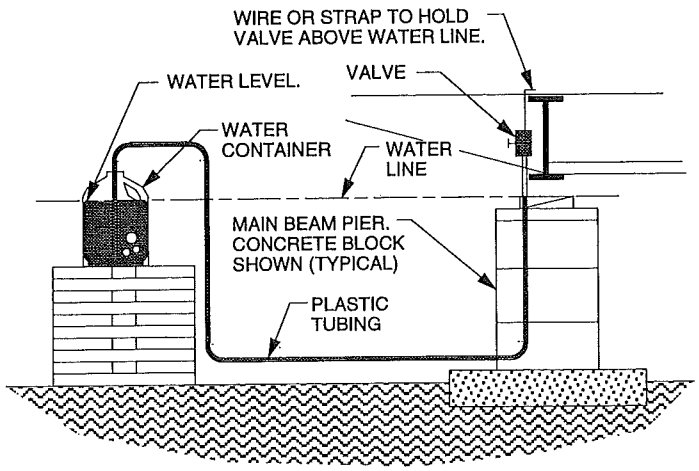
In order to level the section, it is recommended that a water level method be used to ensure all pier supports are at the same height before lowering the section to its final supported position.

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

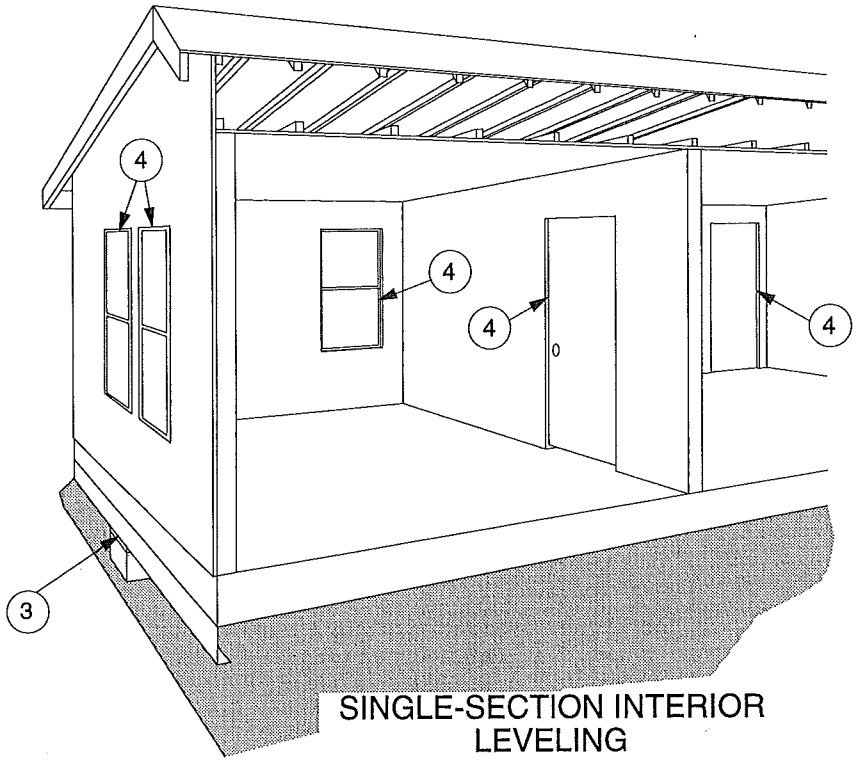
POSITIONING AND LEVELING OF THE SECTION (cont'd.)

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. Close valve.
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-SECTION INTERIOR LEVELING

PROCEDURE:

1 Check level of floor from front to rear direction. (With water level)

2 Check level of floor across the section width.

(3) Raise section and adjust pier wedges in all areas not level or plumb.

(4) After leveling is complete check all windows, interior and exterior doors to make sure they operate freely without binding.

GROUND ANCHORS

Ground anchors and tiedown straps, in addition to the piers, are installed to resist lifting, sliding and overturning forces resulting from high winds.
On multi-section homes, sections must be fastened together and level before tiedown straps are installed.

WARNING: A SUPPORT SYSTEM MUST BE INSTALLED WITH TIEDOWNS TO MEET FEDERAL INSTALLATION GUIDELINES.

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 UTILITIES, ESPECIALLY ELECTRICAL CABLES, MAY RESULT IN SERIOUS PERSONAL INJURY OR 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 .

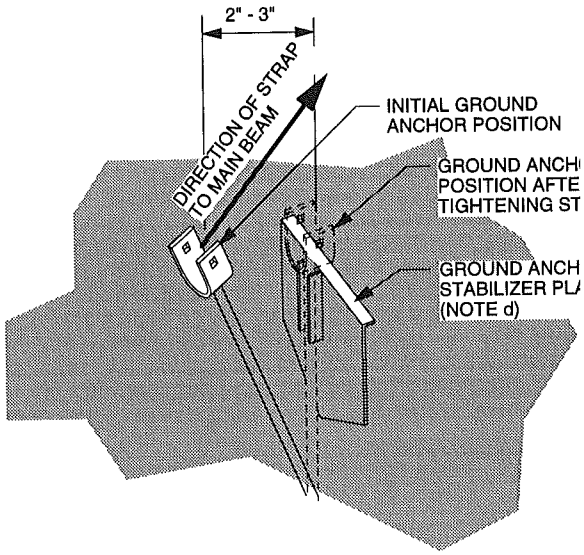
GROUND ANCHOR INSTALLATION

a) Install end of anchors below the frost line.
b) Install end of anchors 12 inches above the water table.
c) Install anchors to their full depth.
d) Install stabilizer plates to provide added resistance to anchor head movement. (The use of stabilizer plates, while optional, is strongly recommended when anchor straps are loaded in any direction other than vertically. Consult anchor manufacturer's installation instructions for additional guidance.)
e) Install ground anchors according to the manufacturer's instructions.

Vector Dynamics Systems by Tie-Down Engineeri
The Vector Dynamics Systems of stabilizing the home against wind loads has been approved by Fleetwood for use in all wind zones to either repla or reduce the number of ground anchors. See separate Fleetwood installation instructions for usi this system.

1. Install anchor at a slight back-angle away from home to a depth of approximately 18 inches.
2. Postion stabilizer plate vertically approximately 2" to 3" from anchor shaft. (See note d)
3. Drive stabilizer plate into the ground until it is at or slightly below ground level. (See note d)
4. Continue to screw anchor into ground until head is level with top of stabilizer plate.
5. After anchor strap is installed in anchor head, tighten strap until head has moved flush with the stabilizer plate.

GROUND ANCHOR MAY BE INSTALLED VERTICALLY WITHOUT STABILIZER PLATE AT LABELED G-STRAPS ALONG MATING WALL OR SIDEWALL.



TIEDOWN STRAP SPACING

MAXIMUM TIEDOWN STRAP SPACING			
SINGLE-SECTION		WZ I	
Nominal Floor Width (ft.)	Height from ground to bottom of main beam (inches)	Near Beam Method	Second Beam Method
12	8" to 18" 19" to 80"	12'-0" N/A	-- 11'-8"
13	8" to 18" 19" to 24" 25" to 80"	12'-0" 9'-0" N/A	-- -- 11'-8"
14	8" to 18" 19" to 36" 37" to 80"	14'-0" 10'-6" N/A	-- -- 11'-8"
16	8" to 18" 19" to 36" 37" to 48" 49" to 80"	13'-0" 10'-8" 9'-6" N/A	-- -- -- 11'-8"
18	8" to 18" 19" to 32" 33" to 80"	13'-0" 9'-6" N/A	-- -- 11'-8"

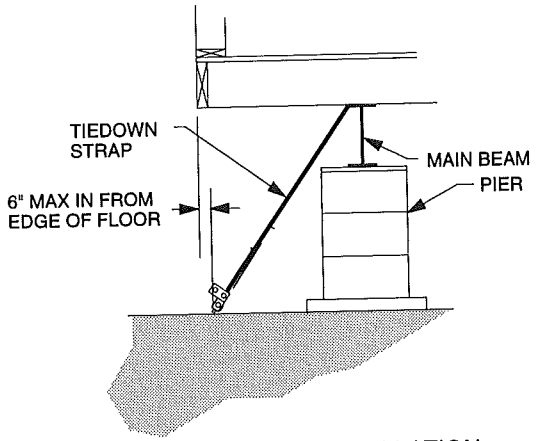
By following the methods in the charts above the strap angle for the near beam method will not exceed 55 degrees from the horizontal.

5

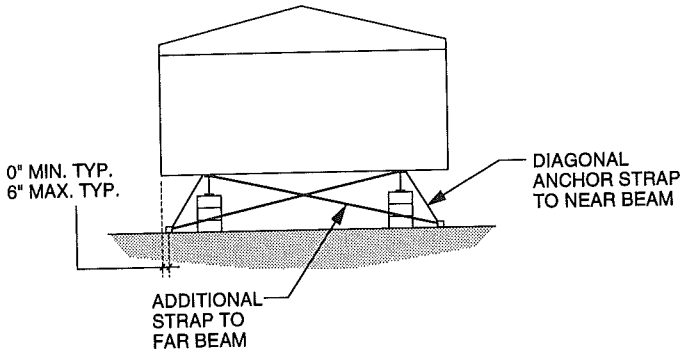
PROCEDURE:

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. Follow that line across to the appropriate wind zone to determine 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.
6. Approximately half of the length of the home may be at one anchor spacing and the other half may be at a different anchor spacing, based on the highest ground to main beam distance in each portion.
7. Heights are measured from ground to *bottom* of main beam but anchor strap must connect to the *top* of main beam.
8. The strap spacings shown apply to homes with maximum 90 in. high sidewalls and maximum 4:12 roof slopes. See supplemental information if these values are exceeded.

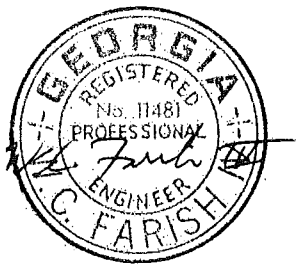
TIEDOWN STRAPS

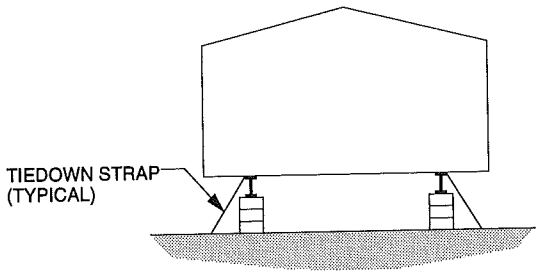


TYPICAL STRAP INSTALLATION
REQUIRED ON BOTH SIDES OF HOME



SECOND BEAM METHOD





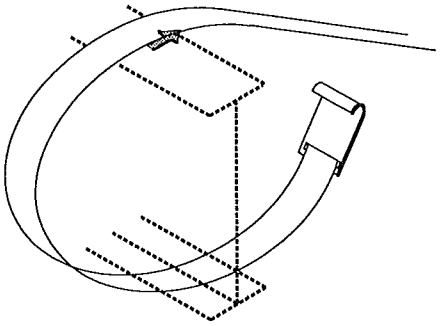
NEAR BEAM METHOD

LONGITUDINAL ANCHORS ARE NOT REQUIRED ON ANY WZI HOME.

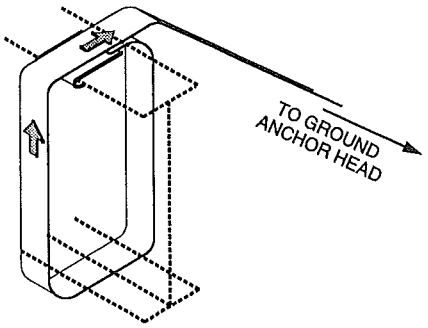
5

TYPICAL MAIN BEAM TIEDOWN STRAP INSTALLATION INSTRUCTIONS

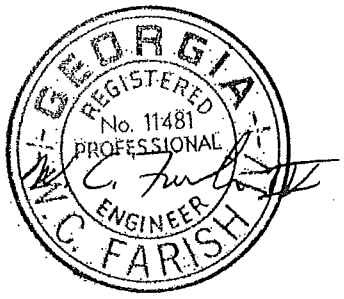
OTHER METHODS CONNECTING STRAP TO TOP OF MAIN BEAM MAY BE USED



(1) Wrap Strap Around Main Beam



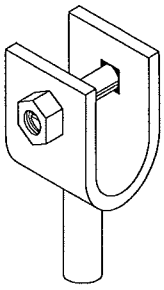
(2) Connect hook to top of main beam and connect other end of strap to anchor head.



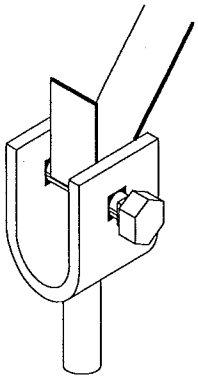
NOTE:

Regardless of supplier's recommendations, the strap must be connected to the top of the main beam to prevent damage to the structure.

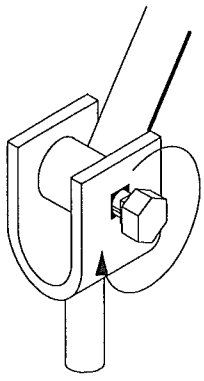
5



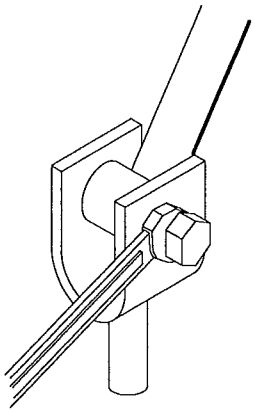
(3) Insert the tension bolt into the anchor head and loosely attach the hex nut.



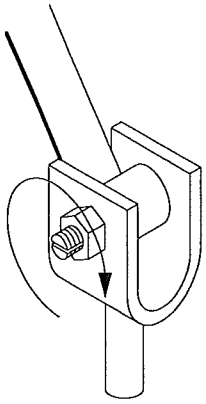
(4) Place the strap through the slotted shank of the tension bolt and bend up to 90°.



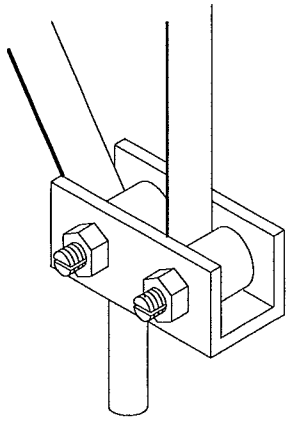
(5) With the use of a 15/16" socket or open end wrench, rotate in a clockwise manner wrapping the strap around the tension bolt.



(6) 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.



(7) 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.

INSTALLATION INSTRUCTIONS FOR SITE INSTALLED DRAIN WASTE SYSTEMS

Due to possible damage during transit, portions of the drain waste system that are below the floor may not have been installed at the home manufacturing facility. All materials required to complete the system have been shipped as loose items in the home.

To ensure the drain waste system is installed correctly, please read the following instructions before starting work to familiarize yourself with the proper sequence of steps.

BEFORE YOU BEGIN

1. Locate the drain waste plumbing schematic attached to the flap at the back of this manual and carefully review the layout. All drain piping and fittings marked with an asterisk (*) on the schematic drawing are to be installed.

2. Lay out all loose plumbing parts on the ground under the home in correct relationship to the drain waste schematic drawing. To insure the correct flow of waste in the assembled drain system, use all piping and fittings exactly as indicated.

PROCEDURE:

(1) Remove shipping covers from all exposed piping or fittings that extend below the bottomboard.

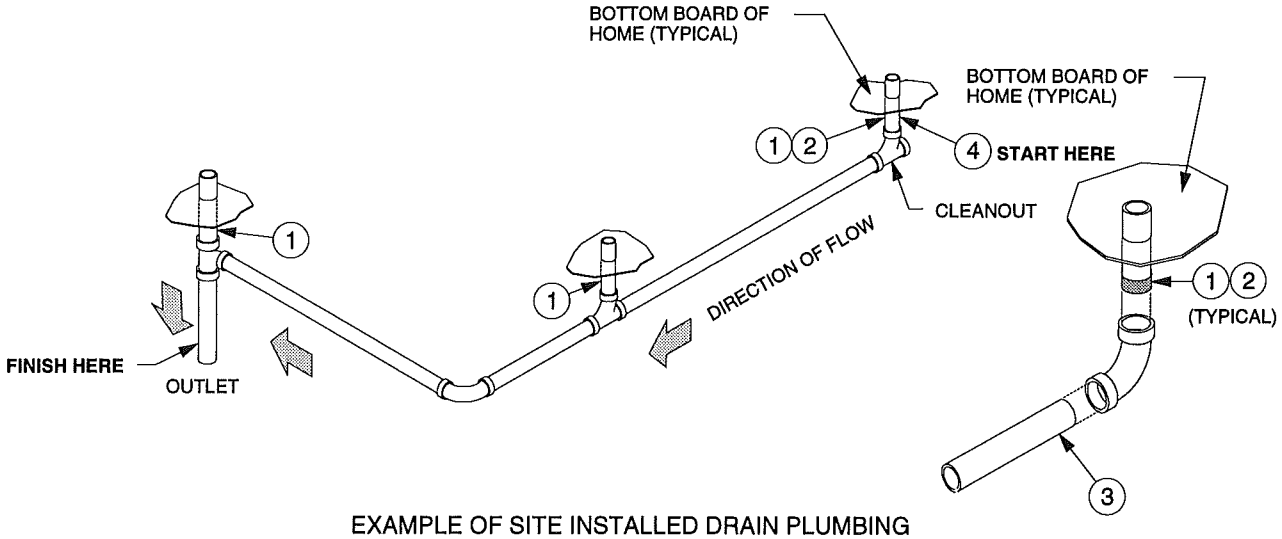
(2) Inspect piping and fittings to be sure they are clean and free of burrs.

(3) Be sure to connect all pipe and fittings according to the cement manufacturer's instructions that are provided.

(4) Start the drain assembly at the most remote exposed piping dropout from the outlet and work towards the outlet location.

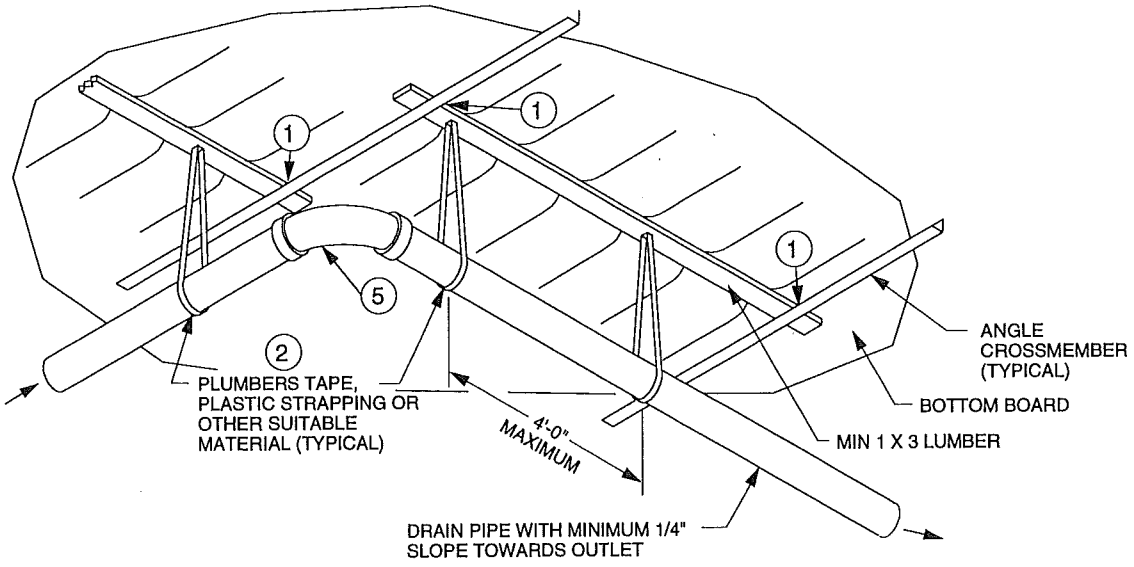
5 Use temporary blocking or support for the assembled drain piping to achieve a slope towards the outlet of at least 1/4 inch per foot.

6 When all connections have been completed, relocate the temporary slope blocking to no more than 4 feet apart for permanent drain piping support. (See diagram on page 39 for recommended method of support).



EXAMPLE OF SITE INSTALLED DRAIN PLUMBING

DRAIN PIPING SUPPORTS



DRAIN PIPING SUPPORTS **INSIDE** OF MAIN BEAM

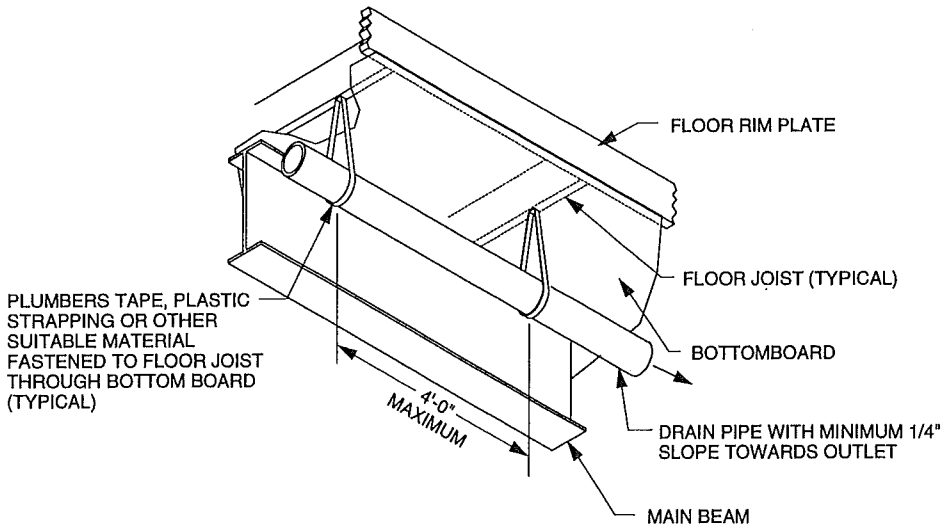
(1) Add minimum 1 x 3 lumber between frame angle crossmembers directly above drain piping by pushing up on the bottomboard and resting the lumber on the top or inside of the angle leg as shown.

(2) Wrap support strapping around piping and fasten strapping to wide face of framing material with screws.

3 Other methods to provide support may be used to maintain minimum pipe slope requirements. There is no maximum drain slope.

4 Protect lumber material from moisture.

(5) For drain configuration shown above, the fitting must be LTTY only.



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. Entry of outside air into the home's floor cavity is one of the most frequent causes of water piping freeze-up.

Be sure to closely inspect this bottom covering for any loosening or for areas that might have been damaged or torn during transportation or installation. Reseal with tape any splits or tears and any openings around the perimeter of the floor covering or around pipes or pipehangers. Check also to be sure that plumbing p-traps are well insulated and covered. Necessary repairs should be completed whether skirting is to be installed around the perimeter of the home or not.

Use vinyl tape specially designed to repair tears or holes to repair bottom covering. Pull torn edges together and cover with tape, or apply a patch of the same material and tape 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

5

CHAPTER 6 INSTALLATION OF OPTIONAL FEATURES

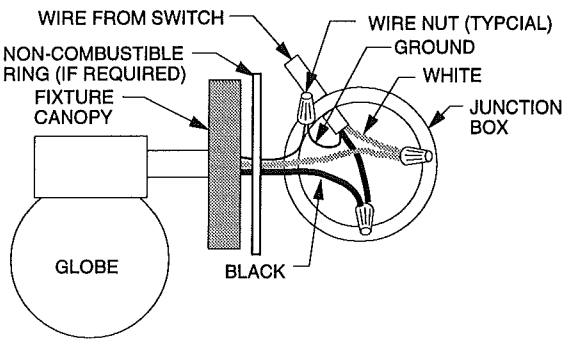
ELECTRICAL ITEMS

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. Refer to the manufacturer's instructions for similar fixtures not shown.

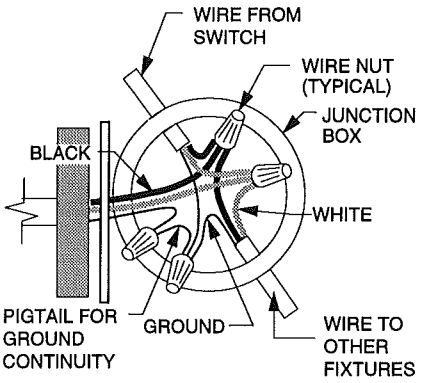
INTERIOR OR EXTERIOR LIGHT FIXTURE

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.

6

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. Follow these instructions 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 accessable at one of the rear corners. If the home is a multi-wide, the wiring is accessable 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: ONLY QUALIFIED SERVICE PERSONNEL SHOULD BE PERMITTED TO INSTALL TELEPHONE WIRING AND/OR TELEVISION CABLE. EXTREME CARE MUST BE TAKEN. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS PERSONAL INJURY AND EVEN DEATH.

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.

INSTALLATION OF OPTIONAL FEATURES
(cont'd.)

AWNINGS, DECKS, PATIO COVERS OR CARPORTS

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

1. Use the proper awning support railing provided with the awning or railing available through your awning retailer. Choose a freestanding design structure that has columns to support the additional weight. The awning or cover must not add additional gravity or wind load to the manufactured home.
2. Follow the recommendations of the manufacturer and applicable building codes when installing any accessories.
3. Always use the proper size fasteners to ensure mating parts are attached snugly. Make sure there is no strain to the home or damage to the home structure. Attachments should be made only to the upper wall or roof and there must be solid material behind the exterior siding to securely hold the connections. The only connections to the home should be for appearance or water drainage and must not transmit any loads to the home.
4. Use a sealant on all seams or openings that result from installing accessories. 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. If the home is likely to be exposed to temperatures below 25°F (-5°C) for any prolonged period, or to temperatures below appoximately 10°F (-12°C) even briefly, the addition of skirting may prevent the plumbing from freezing. Skirting is even more vital when the wind chill factor is added to the above temperatures. For planning purposes, consider that each increase of 10 mph in wind velocity may be equivalant 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 to serve as a barrier to air movement. Non-insulating skirting accomplishes this purpose as well as the insulated type. If the home must withstand temperatures in the -20° to -30°f (-30° to -35°c) range, insulated skirting may be considered 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, be sure to install the skirting 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

THE AREA UNDER THE HOME MUST BE ADEQUATELY VENTILATED TO MINIMIZE THE ACCUMULATION OF MOISTURE. FAILURE TO PROVIDE ADEQUATE VENTILATION WHEN INSTALLING SKIRTING OR PERIMETER FOUNDATIONS 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 THE HIGH HUMIDITY IN THE HOME AND ALSO IN THE FORMATION OF CONDENSATION, FROST OR ICE ON COLD SURFACES.

PROVIDE VENTILATION THROUGH OPENINGS UNDER THE HOME THAT HAVE A NET AREA OF AT LEAST ONE SQUARE FOOT FOR EACH 150 SQUARE FEET. DISTRIBUTE THE OPENING LOCATIONS EQUALLY ALONG THE LENGTH OF THE HOME ON OPPOSITE SIDES, WITH OPENINGS LOCATED CLOSE TO THE CORNERS TO PROVIDE CROSS VENTILATION.

HOMES WITH OPEN SLATTED DECKING AT RECESSED ENTRIES, OPEN PORCHES OR OPEN DECKS MUST HAVE SKIRTING OR FOUNDATION BEHIND THESE AREAS TO PREVENT WATER FROM DRAINING BACK UNDER THE HOME.

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. It is 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: ALWAYS INSTALL HEAT TAPE IN STRICT ACCORDANCE WITH THE TAPE MANUFACTURER'S INSTALLATION INSTRUCTIONS 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. Install windows and exterior doors to the manufacturer's installation instructions.

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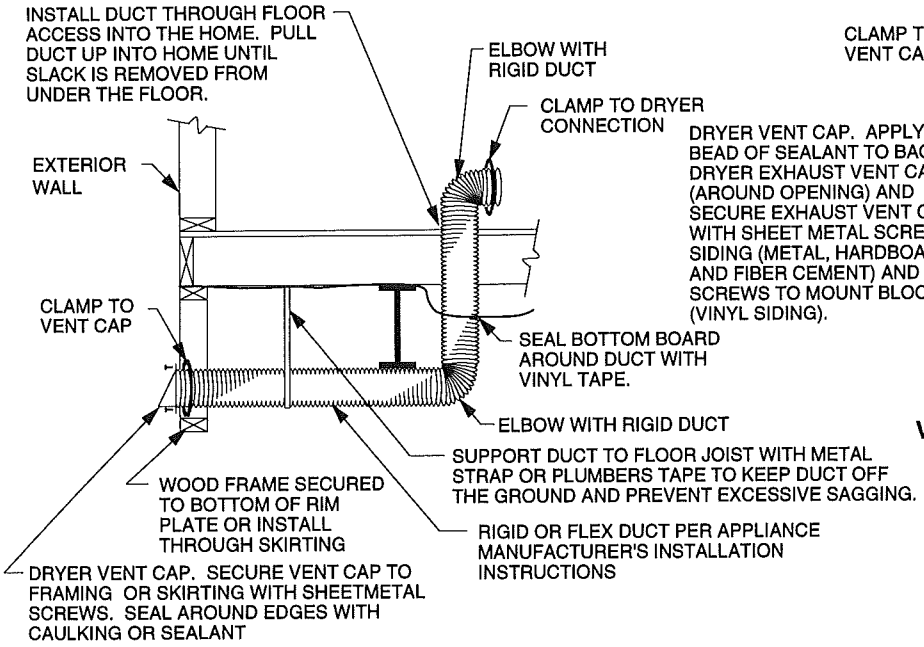
CHAPTER 7 PREPARATION OF APPLIANCES

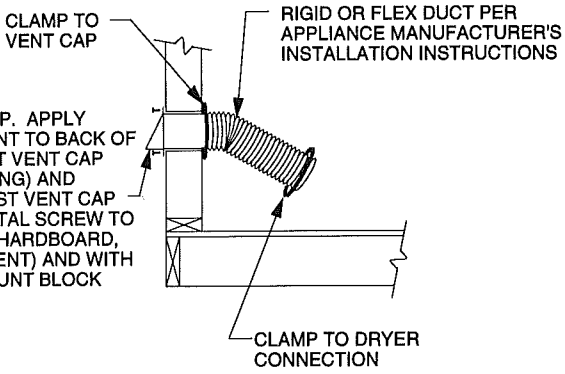
Some homes may have various fixtures and appliances shipped loose, provided by others or built without certain fixtures or appliances. Review and follow the instructions if any apply to the home being installed.

DRYER VENT INSTALLATION

If provisions are in the home for dryer installation, a dryer vent roughed-in opening has been provided in the utility area/room with access through the floor or exterior wall. To install, remove the material closing off the roughed-in opening and follow these directions given below along with the dryer manufacturer's installation instructions.



VENT BELOW FLOOR



VENT THROUGH EXTERIOR WALL

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 of air conditioner needed is included on the certificate.

CAUTION: OVERSIZED AIR CONDITIONING EQUIPMENT CAN LEAD TO POOR OVERALL PERFORMANCE OF THE HOME'S COOLING SYSTEM. OVERSIZED EQUIPMENT CYCLES ON AND OFF FREQUENTLY, WHICH SHORTENS EQUIPMENT LIFE, LOWERING EFFICIENCY, AND INCREASES POWER BILLS. OVERSIZED EQUIPMENT CAN ALSO CAUSE MOISTURE PROBLEMS WITHIN THE HOME. BE SURE TO CONSULT COOLING EQUIPMENT SIZING CHARTS DESIGNED SPECIFICALLY FOR MANUFACTURED HOUSING IN YOUR LOCALITY (SUCH AS THOSE PUBLISHED BY THE NATIONAL MANUFACTURED HOUSING ALLIANCE.)

On homes with furnaces listed for modification, the air conditioning evaporator may either be installed inside the furnace cabinet, 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 must 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, install return air grill(s) in the floor in a central area of the home so that return air is received 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 according to the air conditioner's manufacturer's installation instructions and local codes.

PREPARATION OF APPLIANCES
(cont'd.)

FURNACE

This home may have been built without a furnace. Install the remote heat/cooling appliance and the supplied thermostat according to the manufacturer's installation instructions. The home 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 according to 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 home manufacturing facility, please note the following:

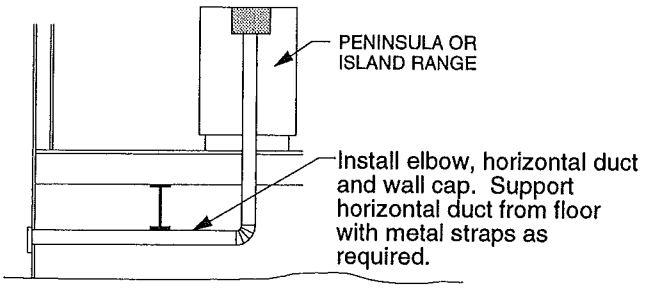
a). Install the appliance to provide the required clearances per Federal Standards, which may be more restrictive than appliance manufacturer's normal installation instructions.

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, according to 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 installation on-site in a remote location, such as a utility room.
2. Receptacle for heat tape is located underneath the home adjacent to the water supply inlet.
3. Water heater must be listed and installed according to the manufacturer's installation instructions and/or local codes.
4. If the home is installed over basement, be sure the discharge pipe from the water heater temperature and pressure relief valve is piped to the outside or to a sump to prevent accidental burns and/or damage to structure in the event of a discharge.

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 according to the kitchen sink manufacturer's installation instructions and/or local codes. Install only a listed kitchen sink.

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 according to the bath tub manufacturer's installation instructions and/or local codes. Install only a listed bath tub.

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 according to the shower stall manufacturer's installation instructions and/or local codes. Install only a listed shower stall.

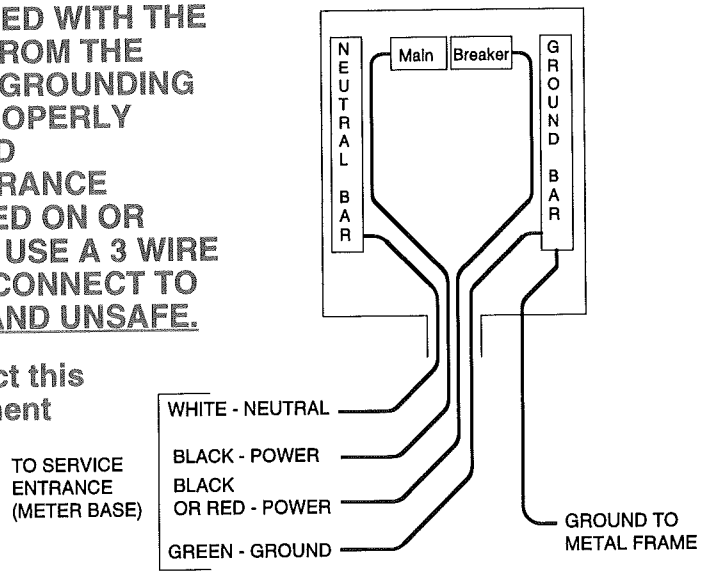
CHAPTER 8 UTILITY SERVICE CONNECTIONS AND TESTING

MAIN PANEL BOX

WARNING: THIS PANEL BOX IS WIRED WITH THE GROUNDING SYSTEM INSULATED FROM THE NEUTRAL SYSTEM. CONNECT THE GROUNDING BUS IN THIS PANEL 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

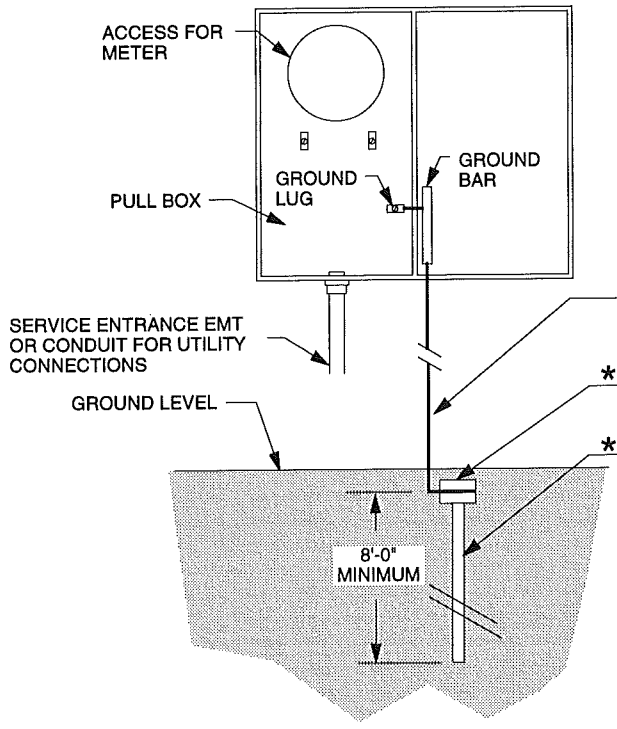


All conductors with outer sheathing labeled THHN nylon jacket or equivalent unless otherwise noted.

ELECTRICAL FEEDER AND EQUIPMENT SIZES

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

DRIVE ELECTRODE 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

8

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 home is being connected to local water supply pressure that exceeds 80 pounds per square inch (psi), a pressure reducing valve must be installed to limit the supply pressure. Be sure to install a master cold water shutoff full flow valve 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. After home installation is complete, all utility service connections should be tested to ensure no damage occurred in transit and that the final connections are correct.

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), APPLIANCES MUST BE CONVERTED TO LPG ACCORDING TO 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, THE ROOF JACK (VENT) HAS BEEN INSTALLED (IF APPLICABLE), 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 form, tighten connection until there are no more bubbles.

CAUTION: DO NOT USE SOLUTION CONTAINING AMMONIA TO BUBBLE CHECK COPPER OR BRASS FITTINGS.

After completion of test, connect home gas inlet to gas supply line. Use a listed gas connection and make sure the capacity is the same as indicated on the label by the gas inlet. Check the inlet connection for leaks per step 5 above.

8

WATER SYSTEM TEST PROCEDURES

Fill the water distribution system with water and bleed all air from the highest and farthest points of the system. Use a hydrostatic pump, valve, and gauge to pressurize 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

Perform the following tests after electrical connections to the home are complete. Perform the ground continuity test *before* turning on the electrical power to the home, and perform the polarity and operation tests *after* the electrical power is turned on.

1) Before turning "ON" the main circuit breaker, proceed as follows:

   A 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.

   B Using the continuity tester, check every direct-connected appliance or fan. Be sure the tester is hooked to a convenient ground and to the metal frame of the appliance.

   C Using the continuity tester, check the continuity between the chassis frame and

      1. Metal gas piping.
      2. Metal water piping.
      3. Metal raceway below main electrical panel box.
      4. Between one riser of heat duct and convenient ground.

   D Investigate and correct any loss of grounding continuity.

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.

2. 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:

A Plug an AC receptacle wiring tester into each receptacle in the home to check for reversed polarity, open grounds and shorts.

B Investigate and repair any reverse polarity, open grounds, or shorts that are found.

C 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.

D Shut off all light switches in the home and perform test on smoke detector(s) according to the manufacturer's instructions.

E 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. Be sure the home is level, all fixtures are connected, and the plug or cap is installed at the outlet. Fill entire system with water to the rim of the water closet (toilet). Make sure tub and shower drains are plugged.

2. After all trapped air has been released, maintain the test for not less than 15 minutes to be certain there are no leaks. If leaks are found, make necessary repairs and test again for not less than 15 minutes. If no leaks are found, unplug the system at the outlet and drain the water from the system.

3. Test items higher than the water closet (toilet), such as kitchen sink and lavatory, by filling with water and then emptying. As water drains, check to be sure there are no leaks in drain piping.

Home Installation Manual Calculation Index
This is a partial list of approved calculations used
in preparation of this manual

Calc.No.	Description
0022116	Single-Wide Anchoring, WZ1
0022123	Main Beam Footings, over 16"
0022123	Main Beam Bending Check (pages 3 - 5)
0022127	Main Beam Footings, Standard Sizes
0022130	Perimeter Footings
0022135	Footing Strength Check
0022169	Opposite (Second) Beam Anchoring