

### PERMANENT FOUNDATION—OPTION 1

A perimeter wall extending below frost line (42") with piers:

(Fig. 1)



## Natrona County Development



### PERMANENT FOUNDATION—OPTION 2

A series of supporting caissons extending below frost line (42") with piers based on manufacture's placement requirements.

(Fig. 2)

(Fig.3)



Typical caisson



## MANUFACTURED HOME INSTALLATION

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## ZONING

A zoning certificate, obtained from the Natrona County Planning Department, is required before placing any Manufactured/Mobile Home in Natrona County and before obtaining permits from the Building Department. The zoning certificate will check the zoning regulations for the particular area, the set back requirements, and the septic requirement. A "permanent foundation" is required for manufactured homes placed in the following zones—(SR-2) Suburban Residential 2, (RR-2) Rural Residential 2, (UR) Urban Residential.

## PERMITS

Building permits are required before placing and Manufactured/Mobile Home in Natrona County. All installation work including blocking, leveling, and installation of tie downs shall be performed by a person who is the holder of a Mobile Home Installer's License or the home owner. Licensed Contractors are required for all Mobile Homes that are for immediate resale or used as rentals. Required permits can only be obtained by the appropriate person/contractor following the above guidelines.

- \* Manufactured/mobile home set-up inspection of gas line pressure test, sewer connection, water connection, blocking and tie downs.
- \* Manufactured home permanent foundation : (Inspection of caissons and/or footers)
- \* Manufactured home basement foundation: (inspection of footers and walls)
- \* Electrical permit:: Required for attaching home to an existing service. There will be an additional charge for inspection of a new service and for attaching well, garages, barns, etc. To that service/ Homes set in mobile home parks must use licensed electrical contractor.
- \* Plumbing permit: Required only if new water and sewer service lines are being installed.

## LOCATION ON SITE: (SETBACKS)

See the Natrona County Development Department for the set backs as they vary.

## SETUP

Manufactured/Mobile Homes are required to be blocked at interval not exceeding 8 feet. A minimum of 12 inches are required between the lowest part of the frame and the earth or pad the home is set on. A minimum 16 x 16 x 4 inch pad is required for placement of concrete blocks and a 24 x 24 x 4 inch poured pad for steel support stands. Concrete blocking is to be installed perpendicular to the frame of the home (not parallel to the frame).

## HEIGHT OF PIERS/BLOCKING

Pier construction may have heights as follows:

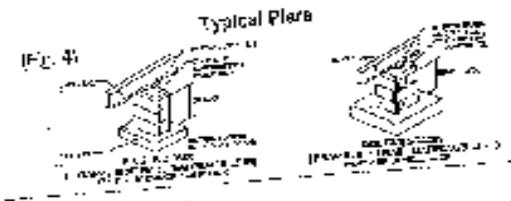
1. Piers 36 inches or less in height may be constructed of concrete block, placed with cells vertically. Single-stacked block piers shall be installed with the long dimension at right angles to the main frame member it supports. Piers shall be fully capped with a minimum 4 inch solid concrete block or equivalent.
2. Piers between 36 inches and 80 inches in height and all corner piers over 24 inches in height shall be at least 16 inches consisting of interlocked blocks and shall be fully capped with a minimum 4 inch solid concrete block or equivalent.
3. Piers over 80 inches in height may be constructed in accordance with the provisions of item (2) above, provided the piers shall be filled solid with grout and reinforced with two continuous No. 5 bars inserted vertically through the open cells of each 16 inch block. Grout shall be as specified in the Building Code.
4. Cast-in-place concrete piers meeting the same size and height limitations of items (1), (2), and (3) above may be substituted for piers constructed of concrete blocks.

## ANCHORAGE INSTALLATION

Six (6) tie downs are required per side. These tie downs have to be manufactured for mobile homes (home-made tie downs are not allowed). Wood is not allowed in contact with the earth or as the sole means of blocking.

Piers constructed as indicated may have heights as follows:

1. Piers 36" or less in height may be constructed of concrete block, place with cells vertically. Single-stacked block piers shall be installed with the long dimension at right angles to the main frame
2. Piers between 36" & 80" in height and all corner piers over 24" in height shall be at least 16" x 16" consisting of interlocked blocks & shall be fully capped with a minimum 4" solid



Each approved ground anchor, when installed shall be capable of resisting an allowable working load at least equal to 3,150 lbs in the direction of the tie plus a 50% overload (4725 lbs total) without failure. Ground anchors which are designed to be installed so that loads on the anchor are other than direct withdrawal shall be designed and installed to resist an applied design load of 3150 lbs a 40 to 50 degrees from vertical or within the angle limitations specified by the home manufacturer without displacing the tie end of the anchor more than 4 inches horizontally.

## PLUMBING

The Manufactured/Mobile Home Installer should check for damaged or leaking drain pipes. Gas pipes or water pipes. Any faulty pipes must be replaced. There is no acceptable way to patch leaking or damaged pipe except by replacing with new material.

- **Waterline:** 3/4 inch minimum of one of the following soft copper, CPVC, Polyethylene 160 PSI minimum, or other approved material.
- **Sewer Line:** Sewer, minimum 3 inch schedule 40 A.B.S. (Black) or OVC (White). Do not mix black and white. Use type approved type of cement for the type of material being installed. There is no universal cement. The sewer line is required to be supported every 4 feet. Cleanouts are required at the connection to the lot sewer and also for every 135 of bend and at the base of a sewer stack. The sewer is required to have a slope of no less than 1/4 inch per foot. The cleanout for the home shall extend through the skirting for the home. The connection to the lot sewer shall be air tight.
- Rubber connections or fittings, flexible drain lines of any kind or short turn 90 elbows are prohibited on Manufactured/Mobile Home installations. Acceptable materials for connecting the home to the Manufactured/Mobile Home park sewer are as follows: Schedule 40 A.B.S. or Schedule 40 PVC.

- **Gas line:** Materials for gas piping in the home shall be black iron, 3/4 inch minimum, (Schedule 40), properly secured to the bottom of the home not to be laid or touch the ground. The line shall be supported every 8 ft. and extend at least 6 inches past the skirting. The line from the home shall be no further than 3 ft, and no closer than 18 inches to the h the yard gas service. An air pressure test of 30 lbs is required on the gas line (the County does not do the pressure test). No more than a 60 lbs gauge shall be used. The test must hold for thirty minutes. Do not remove the test until it has passed inspection.
- **Gas appliances:** All appliances must be supplied with an approved gas cock. Spring loaded gas cocks or gas cocks that can be turned on and off by hand are not allowed. These gas cocks are to be on the upstream side of the appliance connectors or unions. All gas cocks must be accessible.
- Double wall flex connectors may be used to connect the appliance to the gas piping outlets, provided they do not extend through or are concealed within any floor, wall or partition. Maximum length 6" kitchen range. All others maximum length 3". Aluminum connectors shall not come in contact with masonry, plastic, insulation or the earth.
- Gas fired water heater shall not be installed in any room used or designed to be used for sleeping purposes, bathroom, clothes closet or in any closet or other confined space opening into any bath or bedroom unless said water heater has a sealed combustion chamber.

Single wall flex connectors, copper tubing, or fittings, cast iron fittings, bushing reducers and thread nipples are prohibited.

The Manufactured/Mobile Home installer should check for proper venting of all gas fired appliances. The home shall be connected to Manufactured/Mobile Home park gas service line riser with an approved flex hose connector not to exceed six feet in length. This point of connection shall not be under any porch or steps. Before this flex hose connection can be made the installer shall perform the following:

1. Disconnect all appliances.
2. Remove all appliance connection and gas cocks.
3. Cap plug all appliance outlets.
4. An air pressure test of exactly 30 lbs can now be applied. This air pressure must hold for a minimum of 30 minutes without any loss of pressure

When the home installer is sure the home installation will pass the county inspection, he should call the Building Department and request on inspection.

## ELECTRICAL

The minimum service for a Manufactured/Mobile Home is 125 amp 125/250 volt. The service disconnect shall have a main for the home and as additional space for anything that is outside the home. Only 50 amp rated homes are allowed plug in, all others are required to hard wire to the service.

**Power Supply Cord:** A power supply cord no longer than 361/2' and no shorter than 21' with a molded plug is the only approved method an installer can connect the home to the Manufactured/Mobile Home park power service.

The installer cannot splice, repair, extend, or replace the home power supply cord. If the maximum 36 1/2' power supply cord is not long enough to reach from the home to the service, the installer must call an electrician to make the necessary changes. Over 50 amps rated must be hard wired (directly wired) by a licensed electrician.

**Poles:** Poles for the home service equipment shall be no smaller than a 6" x 6" x 25" treated pole, buried 4' in the ground and projecting 21' above grade (longer poles may

Be required on some installations due to soil conditions or clearance requirements) for overhead services and no smaller than 6" x 6" x 10' buried 4' in the ground and projecting 6' above grade for underground service.

**Location:** Service poles shall be located no more than 30' from the home. When the service pole is located more than 30' from the home a service rated disconnect shall be placed within 30' of the home before feeding power to the home. Power locations outside the home shall not be fed from the home (well, garages, additions, barns, etc).

**Equipment:** Service equipment shall be rated for the home. No less than 125 amps, 125/250 volts. A "J" box and a slip joint are required and shall be placed with a minimum distance of 2" from grade to the bottom of the panel. All fittings are required to be rain tight with metal raceways used for all above ground installation of conductors. PVC (plastic), electrical conduit, raceway is allowed for underground installation of conductors. All outlets installed outside shall GFCI protected.

Must have 4 wires going into the home:

Two (2) hot wires, One (1) neutral wire, One (1) ground wire

(Tie the neutral and the ground wires together at the pole on the neutral buss but separate them in the panel in the home.)

**Grounding:** All services shall be grounded by two 5/8" x 8' copper coated ground rods. Galvanized ground rods are not permitted due to soil conditions. A minimum distance of 6' shall be maintained between ground rods. Eight to ten feet is preferred. They must feed by one continuous wire. The first rod can be close to the service pole. The grounding electrode conductor from the service panel to the ground rods shall be no smaller than #6 copper (water pipe clamps can not be used on ground rods). The equipment grounding conductor from the service panel to the home shall be insulated (size of equipment ground depends on size of home service).

**Conductors:** The following table gives the conductor wire size required for the service being installed.

Type USE conductors are not allowed to enter the home.

Service size in amps	Raceway size in amps	Phase conductor AWG (hot)	Neutral size AWG (white)
100	1 1/4	4cu or 2 al	6 cu or 3 al
125	1 1/2	2cu or 1/0 al	3cu or 1 al
150	1 1/2 or 2	1 cu or 2/0 al	2 cu or 1/0 al
175	2	q/0 cu or 3/0 al	1 cu or 2/0 al
200	2 or 2 1/2	2/o cu or 4/0 al	1/o cu or 3/o al

## INSPECTIONS

After the home has been properly tied down, blocked, leveled and all utility hookups are done, call for inspection of the installation. Inspectors will not be done if all required permits have not been obtained.

**DO NOT SKIRT THE HOME BEFORE IT HAS PASSED INSPECTIONS!!!**

**MANUFACTURED/MOBILE HOMES THAT ARE SKIRTED BEFORE INSPECTION MAY BE CHARGED A REINSPECTION FEE!!!**

Separate building permits are required for decks and additions, attached to the home.

## OCCUPANCY

Home cannot be occupied until properly blocked, all utilities properly connected HUD or other approved tie downs are properly installed and the inspector has signed a Certificate of Final Inspection.