

**TRUSSED RAFTER 4'-0" O.C.**  
SCALE 1/4" = 1'-0"

USE 3/8" EXTERIOR TYPE PLYWOOD FOR GUSSET PLATES ON BOTH SIDES OF JOINTS.

CUT ALL MEMBERS FOR ONE COMPLETE TRUSS, AND ASSEMBLE; USING THIS TRUSS AS A PATTERN, BUILD A JIG FOR THE OTHER TRUSSES, AND USING THE MEMBERS AS PATTERNS, CUT THE REST OF THE PIECES REQUIRED.

MIX AND USE RESORONOL RESIN GLUE ACCORDING TO MANUFACTURER'S SPECIFICATIONS. APPLY TO BOTH SURFACES TO BE JOINED, FASTEN GUSSET PLATES IN PLACE WITH 6d BOX OR CEMENT-COATED NAILS.

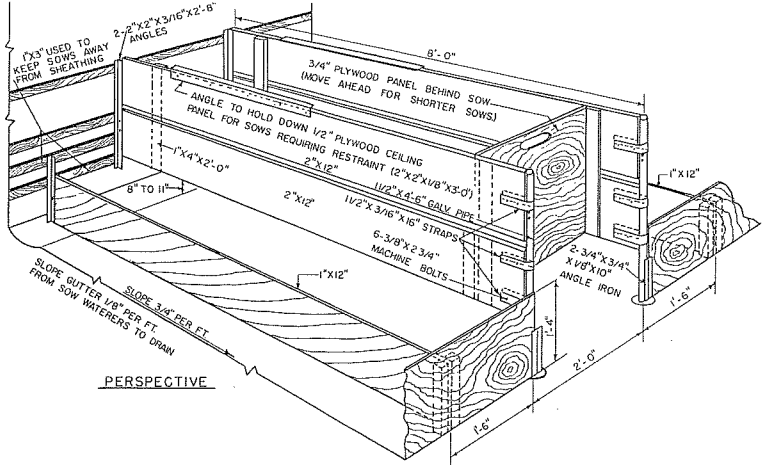
THE TRUSS MAY BE CAREFULLY REMOVED FROM THE JIG IMMEDIATELY AFTER ASSEMBLY, LEAVE THE TRUSSES STACKED IN A HORIZONTAL POSITION FOR AT LEAST 24 HOURS.

**ROOF DECK**  
SOLID 1" T&G LUMBER OR EQUIVALENT.  
SPACED: 2"x4" GIRTS, LAID FLAT. FOLLOW ROOFING MFG. SPEC'S.

**ROOFING AND SIDING**  
OPTIONAL: APPLY TO MFG. SPEC'S.

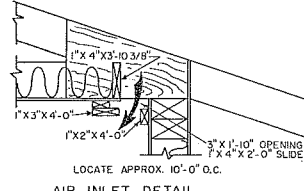
**CEILING**  
LUMBER, 1/2" PLYWOOD, OR EQUIVALENT. 3" INSULATION WITH VAPOR SEAL.

**INTERIOR WALL**  
5/16" C-C EXT. PLYWOOD, HARDBOARD, CEMENT-ASBESTOS BOARD OR EQUIVALENT. 2" INSULATION WITH VAPOR SEAL.

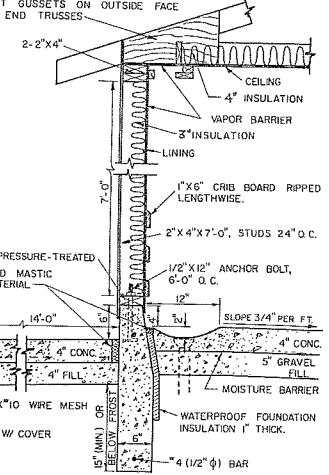


**PERSPECTIVE**

OMIT GUSSETS ON OUTSIDE FACE OF END TRUSSES

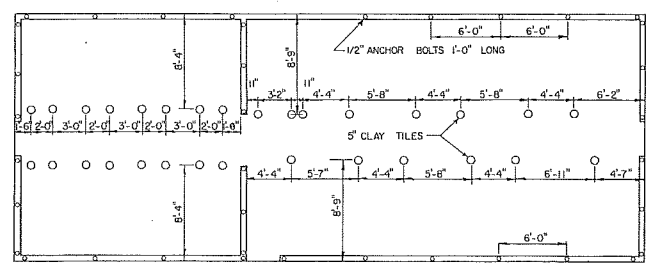


**AIR INLET DETAIL**

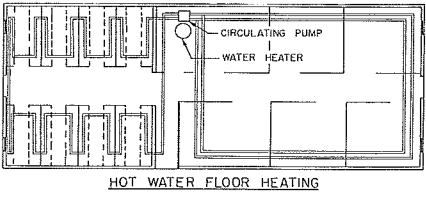


**GUTTER DETAIL**

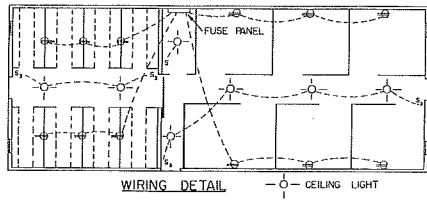
**FARROWING AREA WALL SECTION**



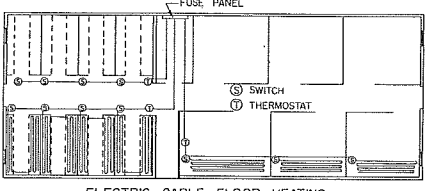
**TILE & ANCHOR BOLT LOCATION**



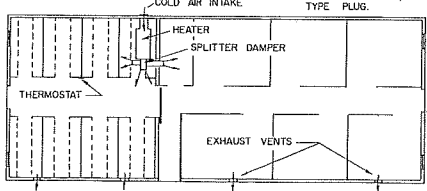
**HOT WATER FLOOR HEATING**



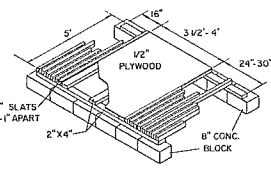
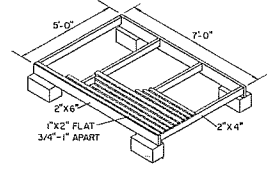
**WIRING DETAIL**



**ELECTRIC CABLE FLOOR HEATING**



**HOT AIR SPACE HEATING**

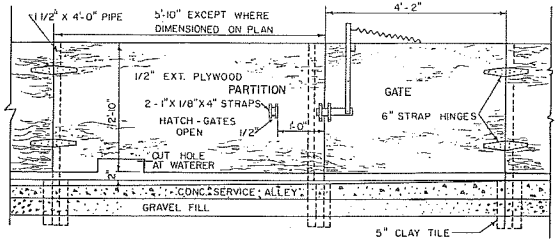


The drawings show two ways of adapting present farrowing facilities to a slatted floor system. Each 5' x 7' section is built so it can be moved for cleaning. Heating or scrubbing will prevent moisture build-ups. The units should be thoroughly cleaned between litters.

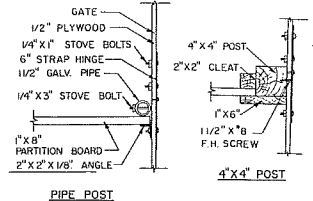
**SLATTED FLOORS FOR FARROWING**

**FLOOR HEATING**

- Use approximately 80° slab temperature at farrowing. Lower gradually to 70° when pigs are 3 weeks old. When pigs move to nursery area, have same condition as in farrowing stall. Discontinue floor heat 4 to 5 weeks of age. Gradually adjust air temperature until conditions during last few days in nursery are equal to conditions in finishing unit.
- Use a thermostat with a sensing bulb on 3 feet of capillary tube. Install 3/4-inch, or larger, conduit so that one end extends into heated area of floor in desired location for sensing bulb. Insert sensing bulb in conduit. Install one thermostat for each 4 to 6 pens. To calibrate thermostat (which indicates temperature inside slab instead of at surface): Adjust thermostat to obtain desired surface temperatures, measure surface temperature with thermometer laid on floor.
- Hot-water heating system, installed in the floor.
  - Use 3/4-inch copper, wrought iron or black iron pipe (not galvanized).
  - Maximum length of each coil - 200 feet.
  - Cover pipe with 2 inches of concrete. DO NOT use cinders for fill.
  - Input of 50 btu per hour per foot of pipe should maintain a floor temperature over pipe of 80°F, with 120° water. Circulating pump must pump 4 gallons per minute for each 10,000 btu per hour. Feet of pipe x 50 = BTU per hour output of boiler or hot water heater required. A 30-gallon domestic gas water heater has an output of about 24,000 btu per hour. Consult your heating contractor about equipment.
- Electric heating cable in the concrete floor:
  - Use a switch on each pen or brooder area.
  - Use approximately 400 watts per pen or stall.
  - Do not shorten or lengthen heating cable.
  - Imbed cable 2 inches deep in concrete and space uniformly. Cable will burn out if two runs touch.



**NURSERY PEN PARTITION**



**PIPE POST**

**PEN GATE HINGE DETAILS**

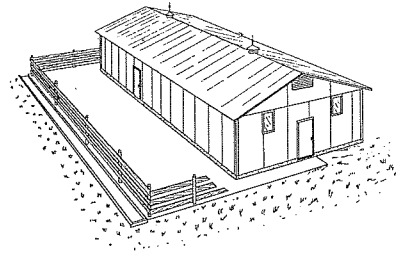
<b>MIDWEST PLAN SERVICE</b>	
Cooperative Extension Work in Agriculture and Home Economics and Agricultural Experiment Stations of North Central Region - USDA Cooperating	
<b>8-PEN FARROWING NURSERY UNIT</b>	
Mar '63	Sheet 2 of 2 Sheets
MIDWEST PLAN NO. 72670	

Item	no.	description	Qty
<b>FOUNDATION &amp; FLOORS</b>			
Floor	15	cu. yd.	
Foundation	7 1/2	" "	
Feeding Floor	13 1/2	" "	
Insulation	252	sq. ft. 1" foundation insulation	
Exp. joint	80 ft.	1"x4" preformed mastic	
Tile	30	5" clay tile	
Doors	3	3'-0"x6'-8"	
Windows	4	22"x36" single-lite	
<b>FRAMING</b>			
Studs	50	2"x4"x14'-0"	467
Roof girds	42	(Computed for 2'-0" o.c. spacing)	450
Knee braces	7	2"x4"x14'-0"	65
Plate & sill	21	2"x4"x16'-0"	225
Trim	10	1"x4"x12'-0"	40
Window sill	1	2"x8"x8'-0"	11
Roofing	148	squares	
Ceiling	1200	sq. ft.	
Sheathing	1252	sq. ft.	
Lining	1160	sq. ft.	
<b>FARROWING STALLS</b>			
Sides	16	2"x12"x16'-0"	512
Plywood	2	4"x8" sheets 3/4" ext.	48
Creep divider	3	1"x4"x16'-0"	32
Cleats	8	1"x4"x12'-0"	21
Guard rails	7	1"x3"x12'-0"	
<b>NURSERY PENS</b>			
Fronts & doors	9	4"x8" sheets 1/2" ext. plywood	
Partition	11	1"x8"x10'-0"	132
Cleats	3	1"x4"x12'-0"	12
Guard rails	34	1"x3"x12'-0"	102
<b>TRUSSES</b>			
Top cord	30	2"x4"x12'-0"	280
Lower cord	15	2"x4"x12'-0"	120
Long diagonal	30	2"x4"x10'-0"	100
Short diagonal	30	2"x4"x2'-4"	56
Plywood	7	4"x8" sheets 3/8" ext.	
Glue	1/2 lb.	type "A" casein or resin	
<b>HARDWARE</b>			
Pipe	30	1 1/2"x4'-6" pipe	
Anchor bolts	38	1/2"x12"	
Hinges	16	6" strap hinge	
Strap	24	1"x1/8"x4"	
	7	2"x 1/4"x3"	
	7	1"x1/8"x4"-0"	
	48	1 1/2"x3/16"x16"	
Spring	7	#5 door spring	
Angles	22	2"x2"x 1/8"x3'-0"	
	32	2"x2"x3/16"x2'-8"	
	6	2"x2"x1/8"x15"	
	32	3/4"x3/4"x1/8"x10"	
Bolts	120	1/4"x1" stove bolts	
	45	1/4"x2" "	
	4	12" bell trap cesspool	
	2	6" "	
Drains	28 ft.	2" cast iron soil pipe	
	61 ft.	4" "	
	24 ft.	6" "	
Waterers	14	non-back siphoning as required	
Nails	14		

The WATER SYSTEM should be the non-back-siphoning type. Choose a type that has an easily removed plug for rapid cleaning for use inside the building.

**WINTER VENTILATION:** Minimum fan capacity is 20 to 25 cubic feet per minute per sow and litter, or about four air changes per hour. Capacity for providing up to six air changes per hour is desirable during mild weather. Thermostatic control is required. In addition, time clocks or humidistats are used with hot-air space heating to prevent competitive cycling of the fans and furnace. Two-speed fans provide flexibility for varying conditions of weather. Provide air inlets through ceiling along outside wall as shown in the plan. Select fans on basis of rated delivery against 1/2" static head of water rather than rated free air delivery. Use only about one-fourth of the inlet opening for WINTER and baffle these inlets to deflect air down along wall. Creep areas under the inlets may be covered with hinged panel if there is too much draft.

**SUMMER VENTILATION:** Provide fan capacity for 15 to 20 air changes per hour. Fans can be mounted in the window openings above the end doors, or in the sidewalls to blow into the building. Air inlets in the ceiling become exhaust ports and must be fully open. The gable ends of the building must be equipped with large louvers (2 sq. ft. free opening, each end), screened with hardware cloth to keep out birds. Spray fogging may be provided.



## FARROWING-NURSERY UNIT 8-STALL

PLAN NO. 72670

### MANAGEMENT SUGGESTIONS

**CAPACITY:** 80 litters per year.

2-20 sow herds, each farrowing twice a year.

**FARROWING:** Sows to holding floor, washed in service room, familiarized with stalls.

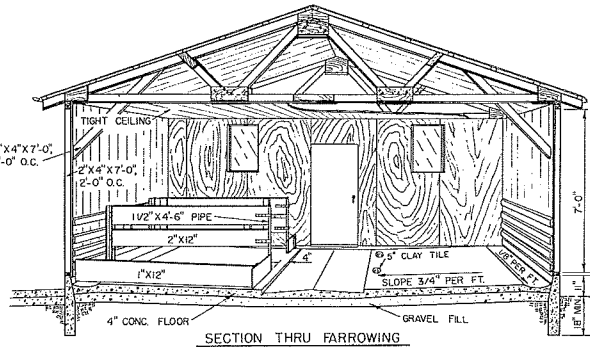
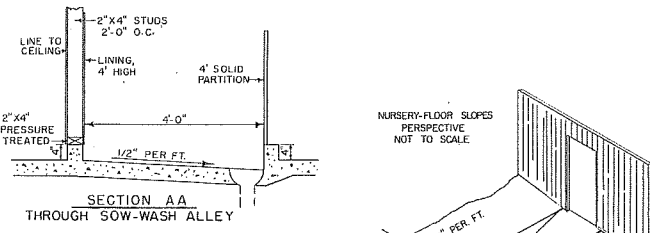
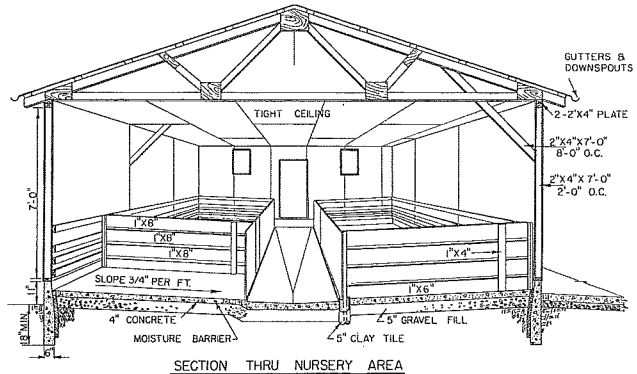
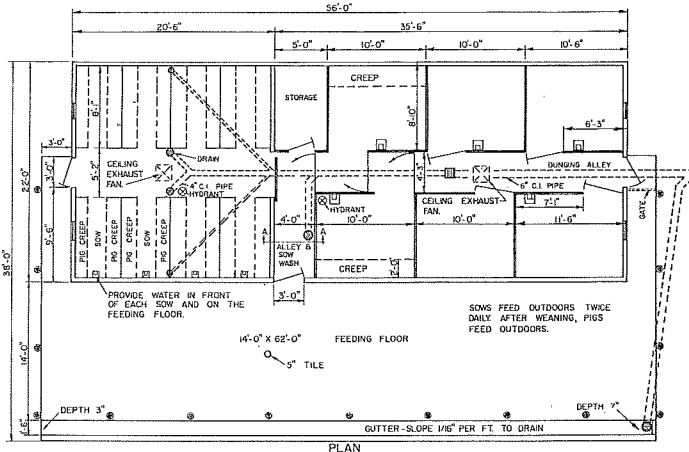
First 8 sows into stalls.  
Move 2 sows and litters to each nursery pen as more stalls are needed.

**NURSING:** First sows plus litters in pens.

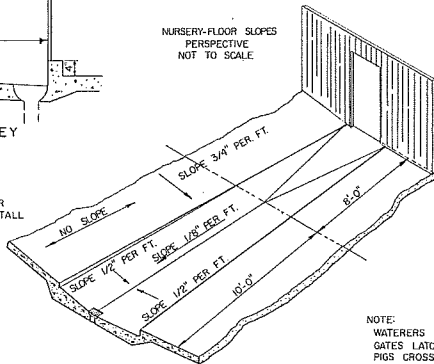
Last sows plus litters in stalls.  
Sows feed outdoors twice daily.  
Small pig feeders in creep areas.

**WEANING:** When pigs are 3-5 weeks old, remove sows and creep feeders. Pigs have free access to feeding floor, and sow feeders.

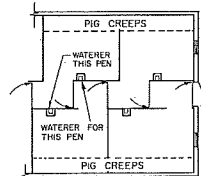
**FINISHING:** Pigs to finishing facilities at 40-50 pounds. Allow 1 week for cleaning before second sow herd starts to farrow.



NOTE: POUR THE ALLEY FLOOR AFTER THE PEN AND STALL FLOORS.



NOTE: WATERERS FACE ALLEY, GATES LATCHED OPEN AS SHOWN, PIGS CROSS ALLEY TO DRINK, CENTRAL ALLEY SERVES AS DUNGING ALLEY.



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Mar '63 Sheet 1 of 2 Sheets  
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