

# MWPS-72689

## Swine Finishing Building

Partly slotted floors, 168 pigs. This plan is for a 24' x 56' (or 64') pole-frame building housing three 8-pig litters in each of 7 pens for a total of 21 litters or 168 pigs. Plan A shows a 10' wide by 8' deep manure storage pit under slats. Plan B shows a 10' wide by 1' deep flushed gutter under slats. Ventilation: Open front and ridge vents provide natural ventilation for the building. The open front can be closed down with doors, or rolled curtains.

### **CAUTION!**

Additional professional services will be required to tailor this plan to your situation, including but not limited to: assurance of compliance with codes and regulations; review of specifications for materials and equipment; supervision of site selection, bid letting and construction; and provision for utilities, waste management, roads or other access. **Furthermore, any deviation from the given specifications may result in structural failure, property damage, and personal injury including loss of life.**

### **WARRANTY DISCLAIMER**

This plan provides conceptual information only. **Neither midwest plan service nor any of the cooperating land-grant universities, or their respective agents or employees, have made, and do not hereby make, any representation, warranty or covenant with respect to the specifications in this plan.** Additional professional services will be required to tailor this plan to your situation, including but not limited to: assurance of compliance with codes and regulations; review of specifications for materials and equipment; supervision of site selection, bid letting and construction; and provision for utilities, waste management, roads or other access.

<b>MIDWEST PLAN SERVICE</b>
Cooperative Extension Work in Agriculture and Home Economics and Agricultural Experiment Stations of North Central Region - USDA Cooperating
Swine Finishing Building Partly slotted floors, 168 pigs.
Title Page
MIDWEST PLAN NO. 72689

**Plan MWPS-72689**

**Modified Open Front  
SWINE FINISHING BUILDING**  
Partly Slotted Floors

This plan is for a 26 x 36' (or 64' pole-frame building housing three 8-pig litters in each of 7 pens for a total of 21 litters or 168 pigs.

Plan A shows a 10' wide by 8' deep manure storage pit under slats. Plan B shows a 10' wide by 1' deep flushed gutter under slats.

**Ventilation:** Open front and ridge vents provide natural ventilation for this building. The open front can be closed down with doors, or rolled curtains.

**General Specifications**  
Pits: Use 3500 psi concrete with 7% air entrainment. Use steel of at least 40,000 psi yield. Install steel and concrete carefully and accurately.

Set one 8" diam. PVC pumping port to serve as an emergency overflow from each pit. The lip of the plastic pipe must be at least 6" below the slats. Discharge any overflow to an approved facility. Pump from its outlet enough to prevent overflow.

Pump pits to within 6" of the bottom at least once a year. Check for solids buildups, increase agitation and pump from ports nearest to solids buildup at next pumping.

**Floors:** Slope floors as shown on the plans. If dumping in the upper corners of the pens is a problem, shut down the feeders and floor feed near the gates.

**Floor heat:** Use heat lamps, radiant heaters, heat pads, or floor heat. Heat in the floor may be electric or hot water; see MWPS-8, Swine Housing and Equipment Handbook.

**Insulation**

An "R" value measures the insulating quality of a material—larger R's mean better insulation. The R values shown on the plan are for the insulation only—plywood, air spaces, etc., also add some insulation.

Full insulation, R=13 or more in the walls and roof, is recommended for animal comfort.

The minimum insulation for this building is R=5 under the roofing. This small amount will reduce condensation in cold weather and improve comfort somewhat in summer, compared with an uninsulated metal roof.

**Slat designs**

Dimensions in these plans assume concrete slats as listed below and may need to be adjusted for other designs or materials. About 1/2" is allowed at each end of a slat for construction variation and grouting.

Space slats 1" apart in farrowing stalls, with the slot widened to 1" behind the sows. For other swine buildings, use 1" slots.

Slat span	Pig nursery	Finishing	Farrowing, sow-pig nursery, or gestation
4	4' x 4" #3	Width x depth, lower bar size: 4' x 4" #3	4' x 4" #3
6	4' x 4" #3	4' x 4" #3	4' x 4" #3
8	3' x 4" #4	5' x 5" #4	6' x 5" #5
10	4' x 5" #4	5' x 5" #5	6' x 6" #5

**Design Loads**

Slats: Per foot of slat 150 plf  
Beams: Per sq ft floor area 65 psf  
Columns: 35 psf

**Manure Pit Storage**

Pit depth based on 0.14 cu ft/day manure per pig. 6" in pit after pumping, and 12" freeboard.

**PREFERRED LUMBER SPECIFICATIONS**

Roof Purlins and Wall Girts  
2x4 Construction Grade (Doug Fir or Southern Yellow Pine)  
2x6 No. 2 (Doug Fir or Southern Yellow Pine)

**Trusses and Headers**

No. 1 or 1500F machine rated (Doug Fir or Southern Yellow Pine).

**Posts and Sillboards**

Pressure Preservative Treated (Southern Yellow Pine or equivalent) creosote—10 pcf, Penix—0.50 pcf, ACA or CCA (Type A or B)—0.40 pcf

P. T. means lumber pressure preservative treated against insect and fungus attack.

**Alternate Lumber Specifications, Spacing and Sizes.**

**2x4 Purlins (Construction Grade Hem-Fir) Max Spacing**

Snow Zone 1: 28' o.c.  
Snow Zone 2: 24' o.c.  
Snow Zone 3: 18' o.c.

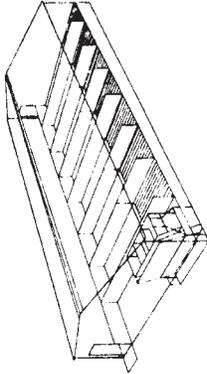
**2x6 Girts (No. 2 Hem-Fir) Max Spacing: 20' o.c.**

**Headers (No. 1 Hem-Fir)**

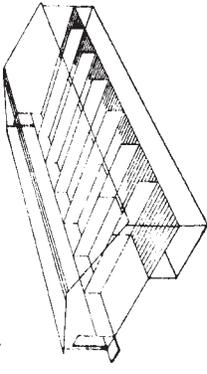
16 Door  
Snow Zone 1: 3'-2x12  
Snow Zone 2: 2'-2x12  
Snow Zone 3: 5'-2x12  
24 Door  
All Zones: 5 1/2' x 24

**Trusses (No. 1 Hem-Fir)**

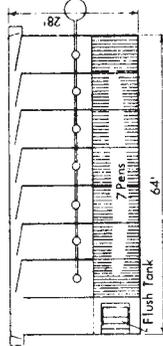
See Truss Page



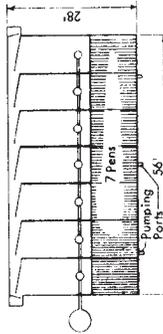
**PLAN B—Flushed Gutter Under Slats**



**PLAN A—Manure Storage Pit**



**FLOOR PLAN B**



**FLOOR PLAN A**

Or:  
b) Wean pigs at 4-6 weeks (20-25 lb).  
Move pigs to nursery.  
Return sows to breeding and gestating facilities.

Move pigs to finishing unit at 10 weeks (60 lb).  
(As farrowing intensifies to more than 6 times per year, pigs may be moved at about 8 weeks.) Put into smaller pens if you have two pen sizes. Put more pigs per pen if you have only one pen size.  
Move pigs to larger pens, or reduce number of pigs per pen, at about 17 weeks (125 lb).  
As they approach market weight, and if the finishing unit is crowded, larger hogs can be marketed early.

Sows are often rebred during the first or second heat period after weaning, and farrow about 16 weeks later.

**Building space and production cycles.**

Although many variations are successful, the following are typical meat hog production systems. Plan building capacity for some extra animals to allow for large litter size, or slow growth rate.  
Farrow during 3 weeks. Some stalls can be used twice.

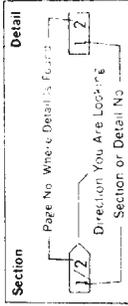
Either:  
a) Move sows and litters to sow-pig nursing pens at 1-3 weeks, depending on how soon the farrowing stalls are needed for the next sows.  
Wean pigs at 3-6 weeks, putting 3-4 litters together.  
Return sows to breeding and gestation facilities.

**TYPICAL HOUSING CYCLES**

**PIGS:** Farrowing House, Sow-Pig Nursery, Pig Nursery, Growing-Finishing Unit, Larger Pens, To Market

**SOWS:** Farrowing House, Sow-Pig Nursery, Breeding Unit, Gestating Unit, Farrowing House, To Farrowing House

**WEEKS:** 0, 3, 5, 10, 12, 17, 24



**Section & Detail Indicator**

MIDWEST PLAN SERVICE	
Cooperative Extension & Research in Agriculture & Home Economics in the 12 North Central Universities—USDA Cooperating	
Modified Open Front	
Partly Slotted Floors, 168 Pigs	
8 Pages plus	Page
28' Truss Sheet	1 of 10
mwp-72689	

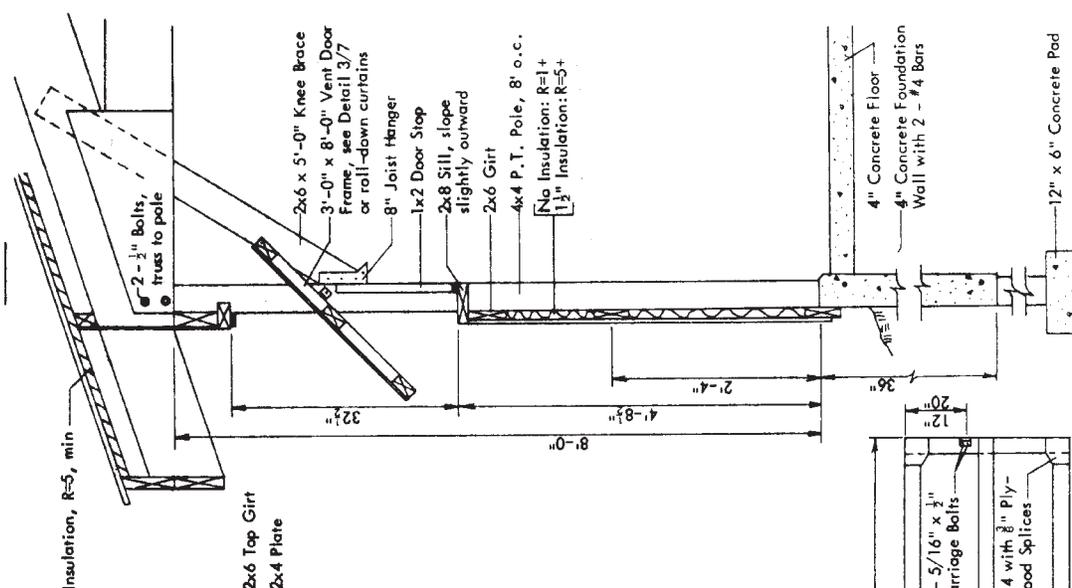












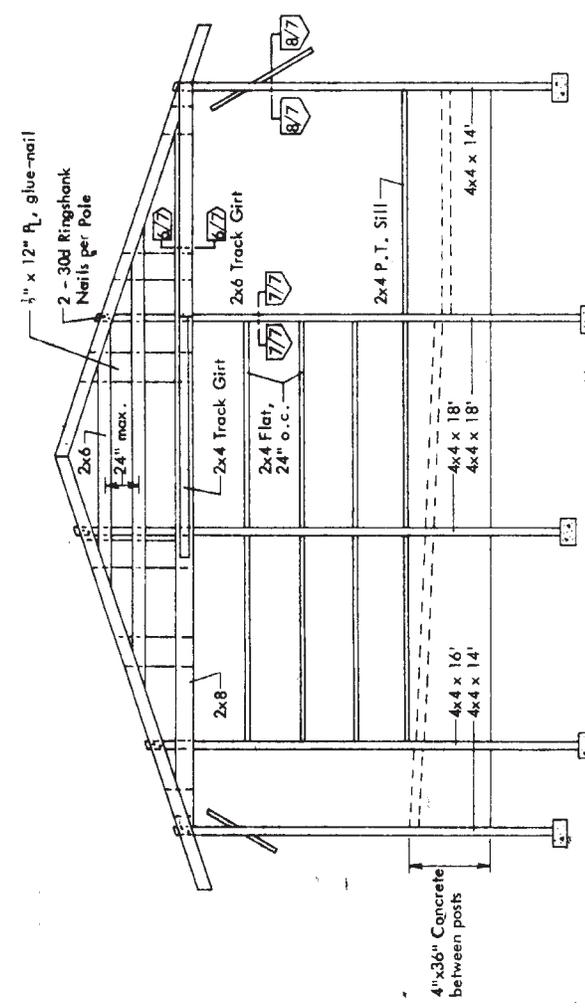
**OPTION—UNINSULATED WALL—517**

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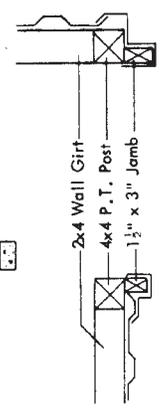
**SWINE FINISHING HOUSE**  
Flushed or Scraped Gutter, 160 Pgs

8 Pages plus	Plan No.	Page
28" Truss Sheet	mwp- 72688	7 of 10

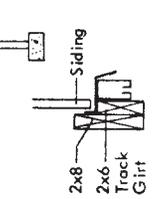
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**ENDWALL FRAMING—17**

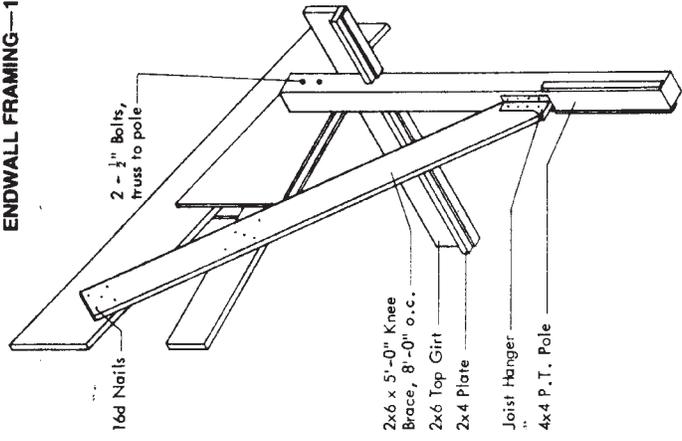


**SECTION—87**

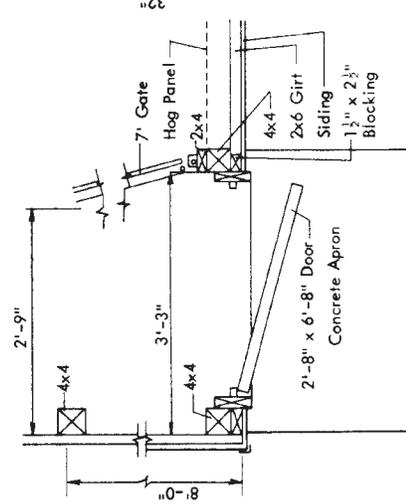
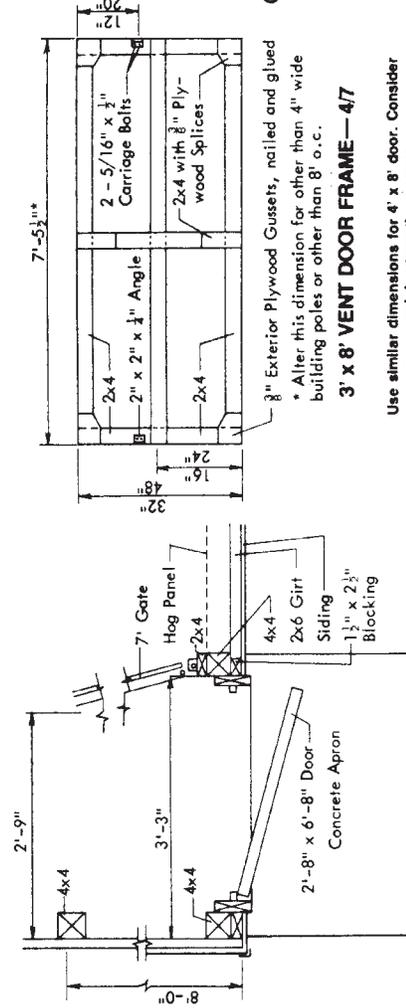


**SECTION—77**

**SECTION—67**



**KNEE BRACE DETAIL—27**



**WALK DOOR DETAIL—37**

