

MWPS-72696

Swine Gestation Building

Group pens, 48 sows. This plan is for a 24' x 54' pole-frame building housing 48 gestation sows in group pens.

The floor plan shows 4 pens with 12 sows each and two separate sow treatment pens. The 4' open gutter can be flushed with dump tanks or siphon flush tanks. Options A and B show 6 pens of 8 sows each and 8 pens of 6 sows each respectively. Option C offers a mechanical scraper system in place of the flush system.

Ridge vents and sidewall vent doors or curtains provide natural ventilation.

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.

MIDWEST PLAN SERVICE
Cooperative Extension Work in Agriculture and Home Economics and Agricultural Experiment Stations of North Central Region - USDA Cooperating
Swine Gestation Building Group Pens, 48 Sows
Title Page
MIDWEST PLAN NO. 72696

Plan MWPS-72696
SWINE GESTATION BUILDING
Group Pens, 48 Sows

This plan is for a 24'-5 1/2" pole-frame building including 48 gestation pens and 360 pig pens.
 The floor plan shows 4 pens with 12 sows each and two separate sow treatment pens. The 4' open gutter can be flushed with dump tanks or siphon flush tanks. Options A and B show 6 pens of 8 sows each and 8 pens of 6 sows each, respectively. Option C offers a mechanical scraper system in place of the flush system.
 Ridge vents and sidewall vent doors or curtains provide natural ventilation.

Insulation

An "R" value measures the insulating quality of a material—larger R is 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.

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.

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 2-3 litters per pen. Return sows to breeding and gestation facilities.

Or:
 b) Wean pigs at 4-6 weeks (20-25 lb). Move pigs to nursery, putting 2-3 litters per pen. Return sows to breeding and gestation facilities.

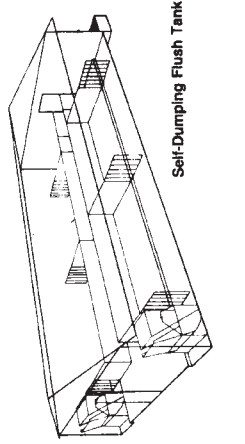
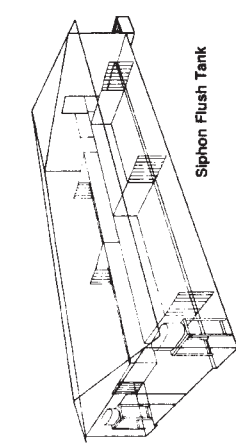
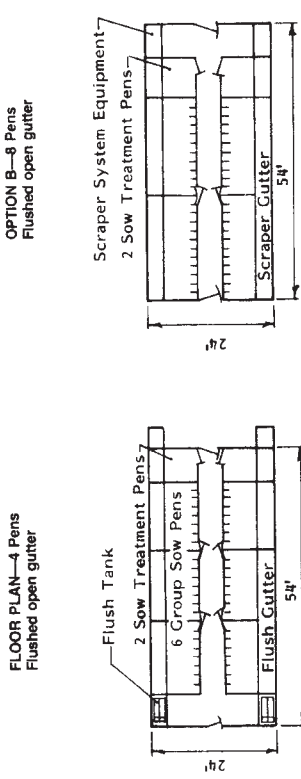
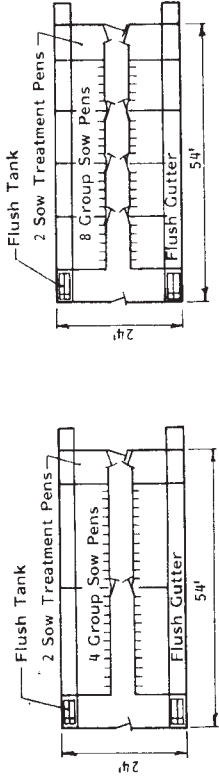
c) Wean pigs at 3-4 weeks (12-15 lb) to a pre-nursery, putting 1-2 litters per pen. At 6-8 weeks move pigs to a nursery, putting 2-3 litters per pen. Return sows to breeding and gestation facilities. Move pigs to finishing unit at 10-12 weeks (50-75 lb). Move pigs to larger pens or reduce number of pigs per pen, at about 20 weeks (150 lb).

As they approach market weight, and if the finishing unit is crowded, larger hogs may have to be marketed early.
 Sows are rebred during the first or second heat period after weaning. They farrow about 16 weeks later.

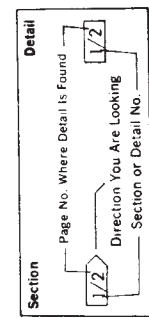
Size of gestation unit

The building shown for 48 sows is adequate for farrowing 6 or 7 litters/year in a 20-sow farrowing house (three 20-sow groups).
 For 8 farrowings/year (four 20-sow groups), increase to 72 sows and/or provide space to hold one group of sows in breeding building. For 10 or 12 farrowings/year (five 20-sow groups), increase to 96 sows. One group of sows could be housed in breeding building.

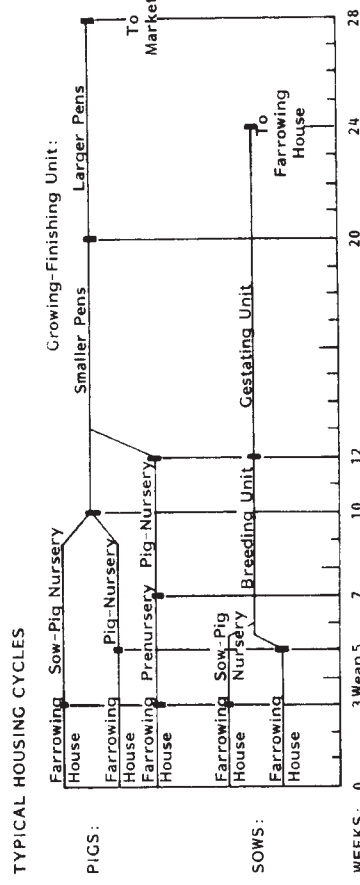
For weekly farrowing in four 10-sow rooms (five 48-sow herds, each handled in four 12-sow groups), a 192 sow capacity is needed.

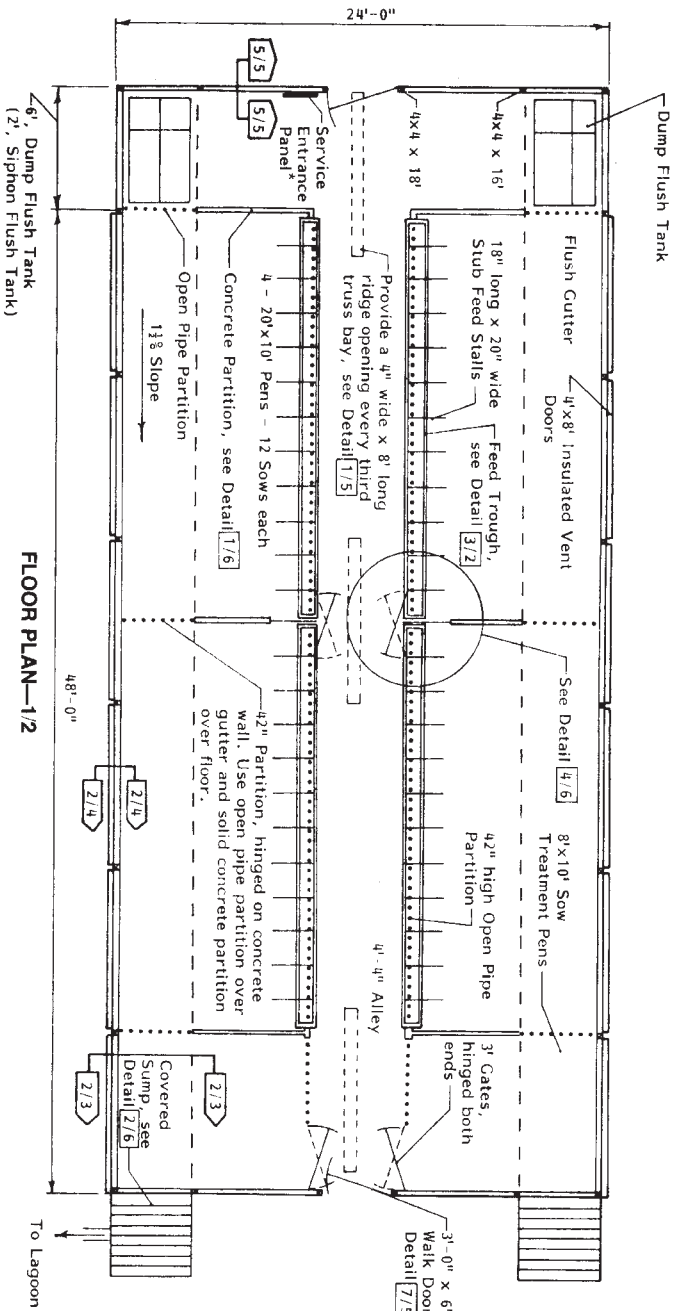


LUMBER SPECIFICATIONS
 Roof Purlins and Wall Cirts
 2x4 Construction Grade (Doug Fir or Southern Pine)
 Trusses
 2x6 No. 2 (Doug Fir or Southern Pine)
 Headers
 See Truss Page
 No. 1 or 1500F machine rated (Doug Fir or Southern Pine)
 Posts and Spasiboards
 Pressure Preservative Treated (Southern Pine or equivalent)
 P. T. means lumber pressure preservative treated against insect and fungus attack.



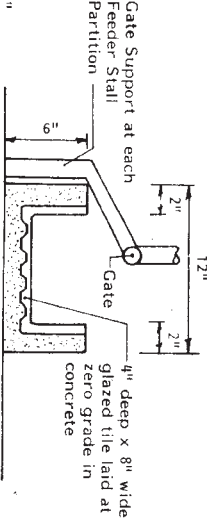
MIDWEST PLAN SERVICE	
Cooperative Extension & Research in Agriculture & Home Economics in the 12 North Central Universities—USDA Cooperating	
SWINE GESTATION BUILDING	
Group Pens, 48 Sows	
7 Pages plus	Page
24 Truss Sheet	1 of 9
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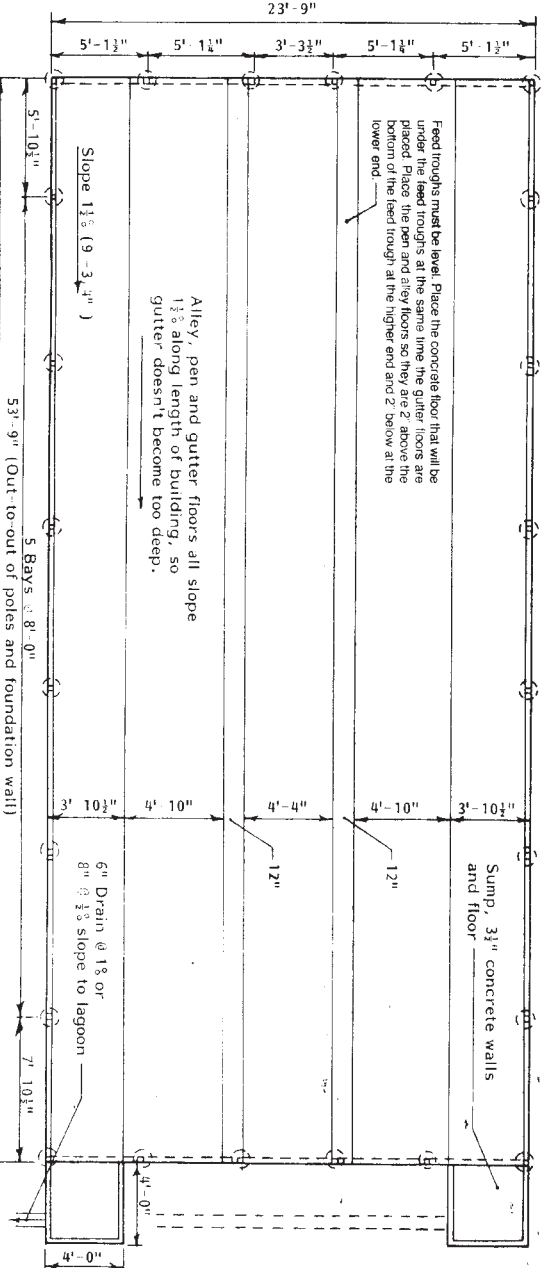
FLOOR PLAN—1/2

*Basic, walllight, and outside light



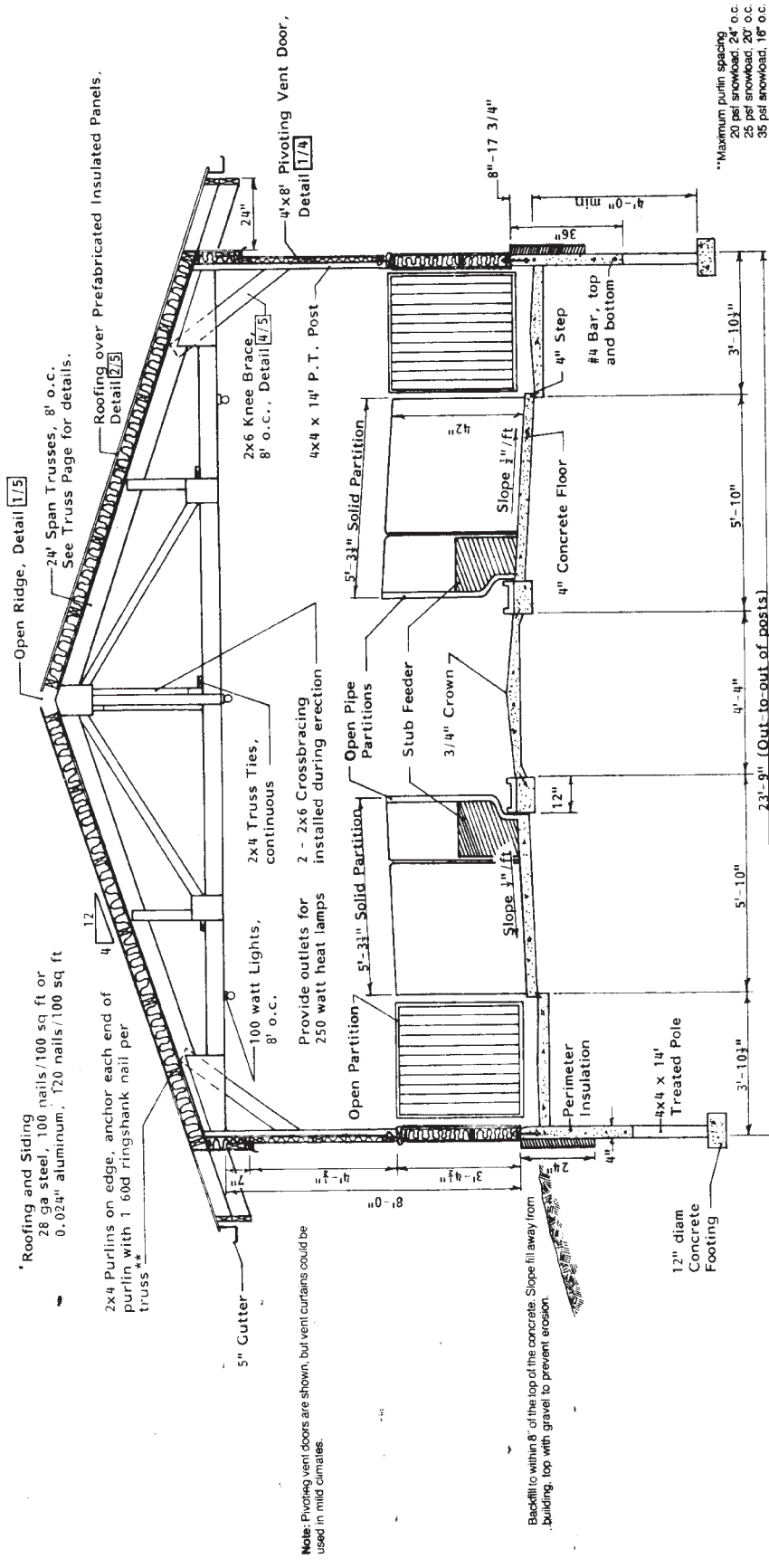
SOW FEED TROUGH DETAIL—3/2

Note: Provide manual or foot controlled water delivery, and add feed to the water. An alternative is to floor feed without the feed trough or stalls, and provide nipples, xelaters over the gutter.



FOUNDATION PLAN—2/2

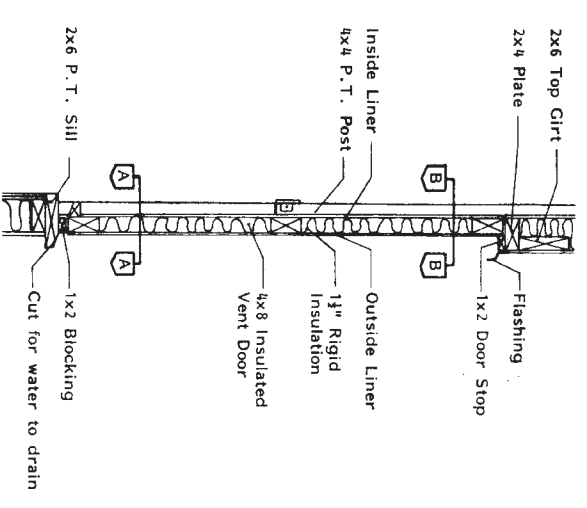
Note: Mechanical scrapers could be used in gutters in place of the cast spongers. At 1/8" for mechanical scrapers system. Slope gutter floors at 1/8". Contact scraper supplier for more details.



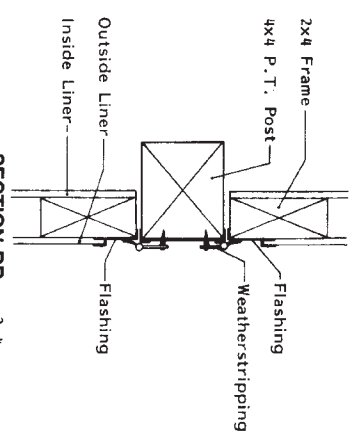
**Maximum purlin spacing
 20 psi snowload, 24' o.c.
 25 psi snowload, 20' o.c.
 35 psi snowload, 16' o.c.

CROSS SECTION—1/3

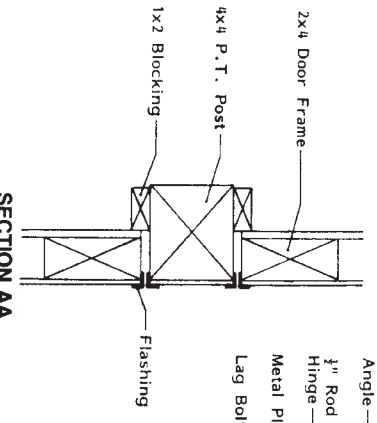
Note: This dimension varies due to 1 1/2% slope in gutter and
 floor.



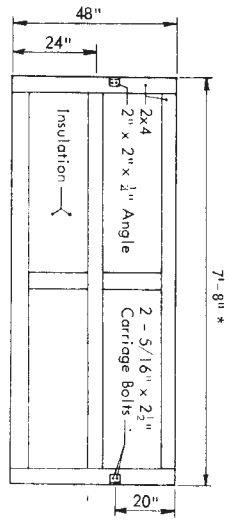
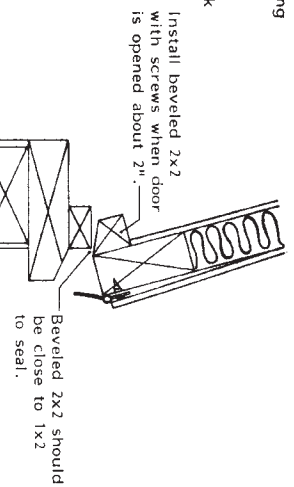
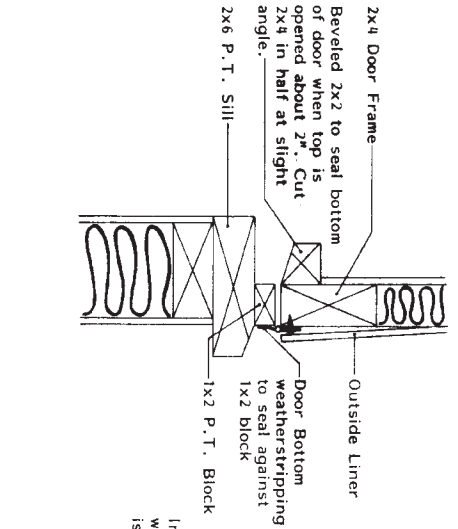
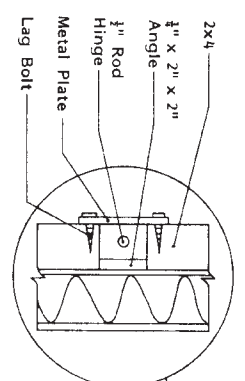
VENT DOOR DETAILS — 1/4



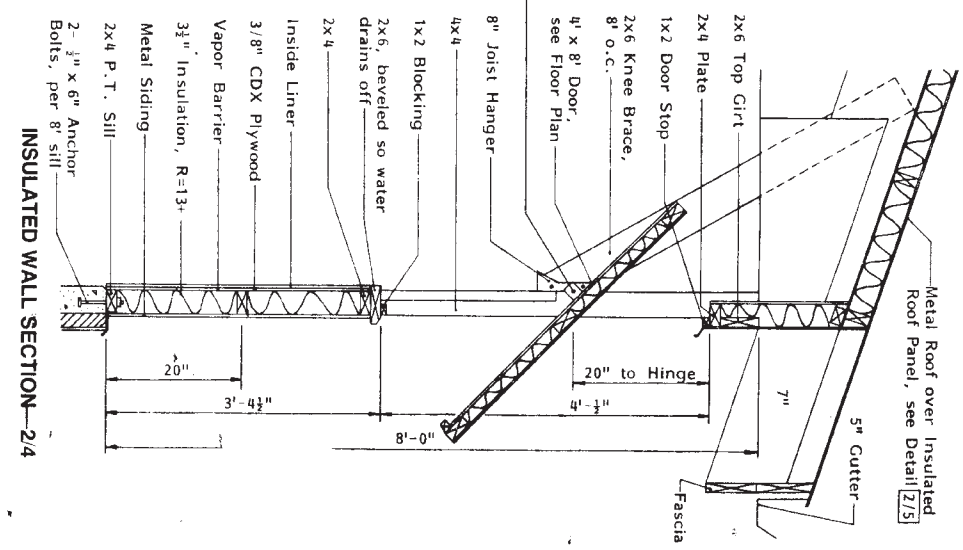
SECTION BB



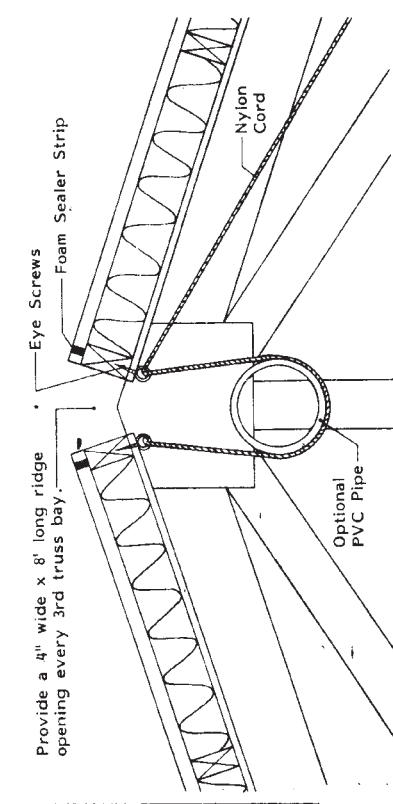
SECTION AA



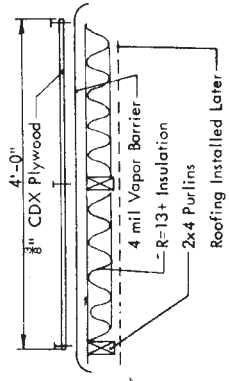
Give and nail - CDX Exterior Plywood on the inside. Install insulation. Nail metal siding on the outside. Alter this dimension for other than 3' wide building doors. Other than 8' o.c.



INSULATED WALL SECTION — 2/4



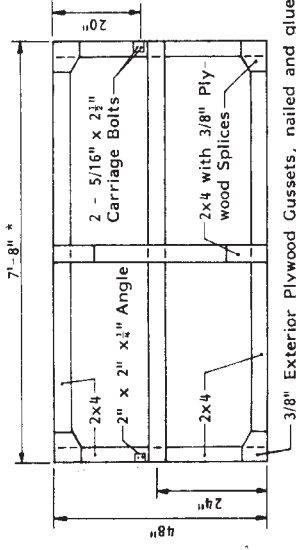
OPEN RIDGE VENT DETAIL—1/5



Fabricate 4x8 and 4x16 panels upside down. Invert and install the panels, staggering the end joints.

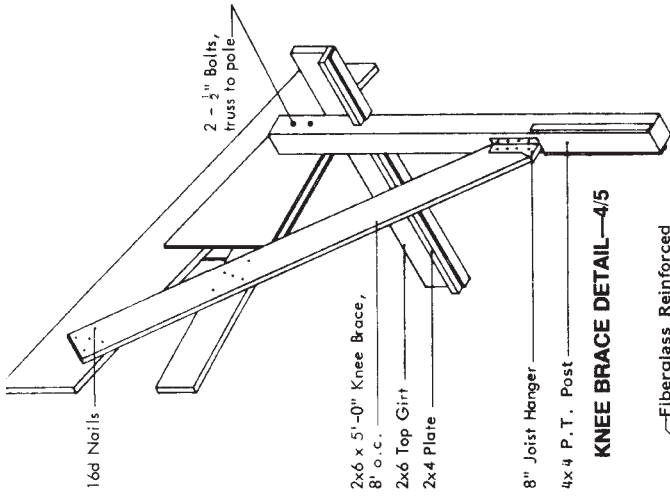
INSULATED ROOF PANELS—2/5

Reduce heat gain in summer and heat loss in winter

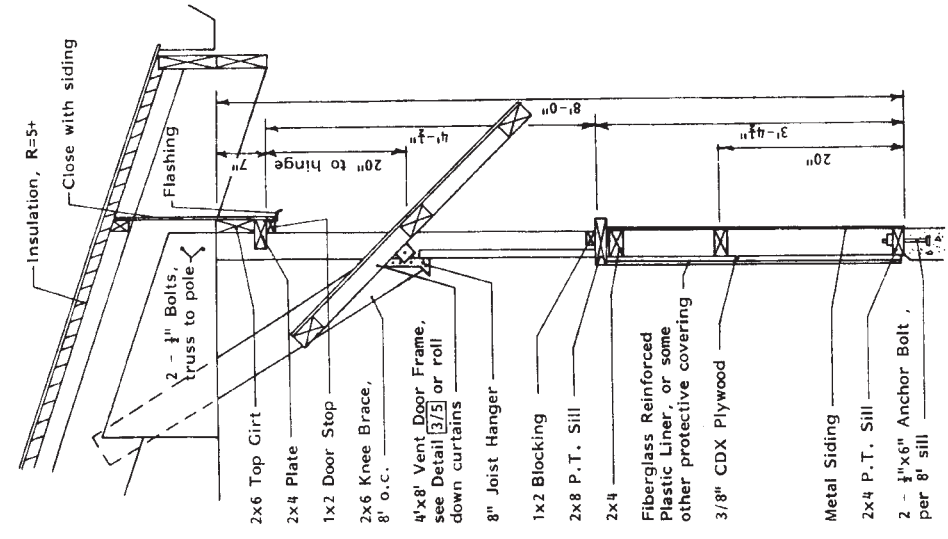


Nail metal siding on the outside.
*After this dimension for other than 3/8" wide building posts or other than 8" o.c.

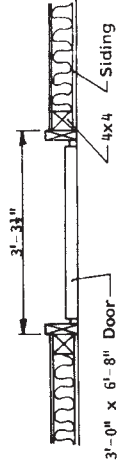
UNINSULATED VENT DOOR FRAME—3/5



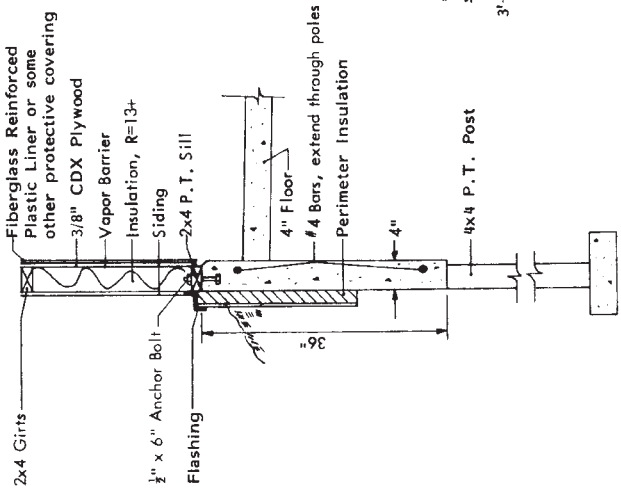
KNEE BRACE DETAIL—4/5



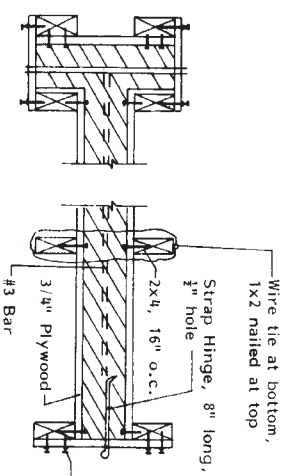
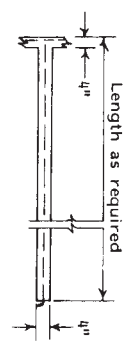
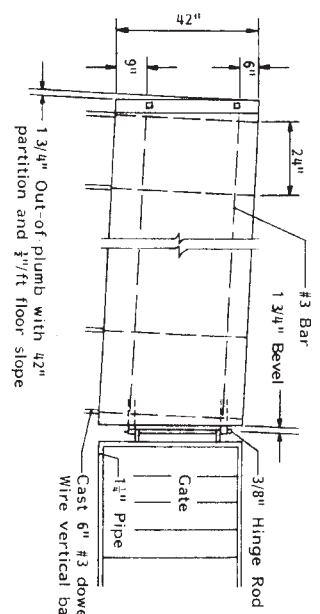
OPTION—UNINSULATED WALL—6/5



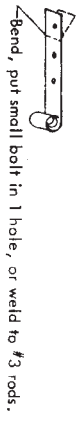
WALK DOOR DETAIL—7/5



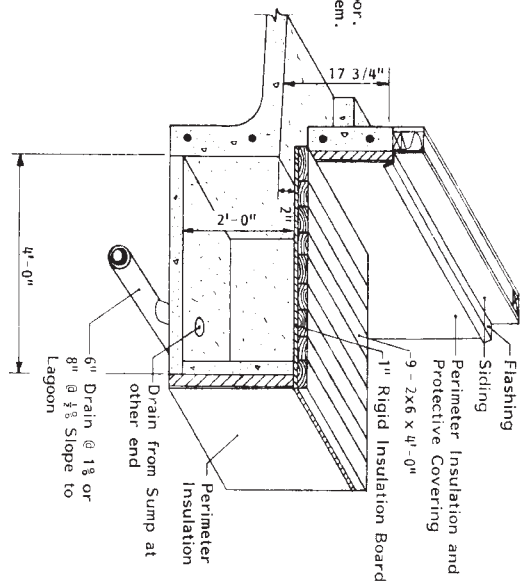
ENDWALL SECTION—5/5



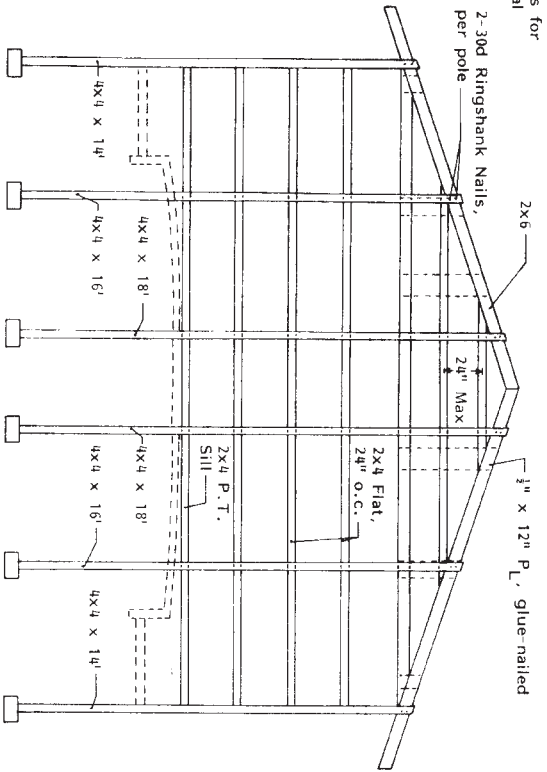
If 6x6 - 4x4 welded wire mesh is available in flat sheets (not rolls), it can be used instead of 3/8" bars.



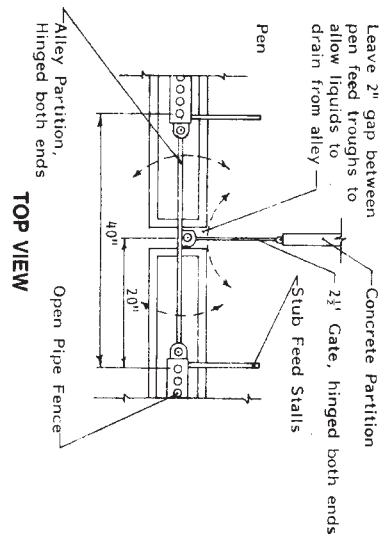
CONCRETE PARTITION DETAIL—1/6



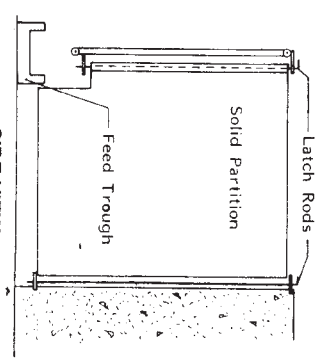
SUMP DETAIL—2/6



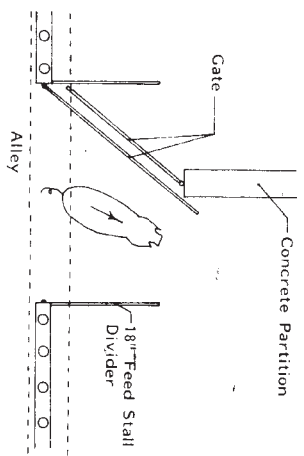
ENDWALL FRAMING—3/6



TOP VIEW



SIDE VIEW

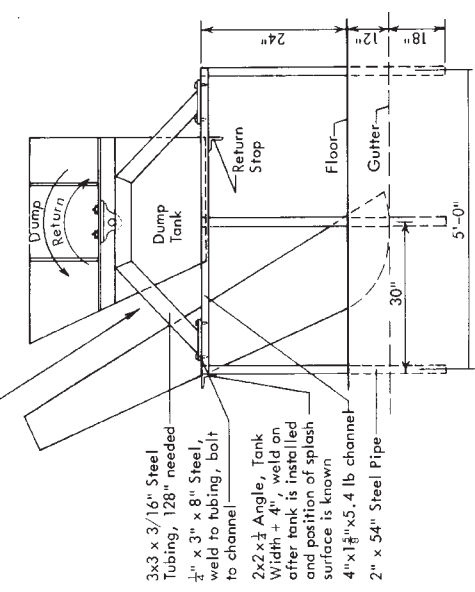
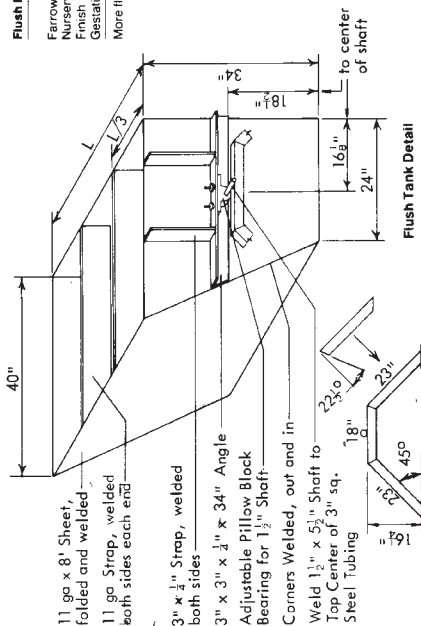


TOP VIEW

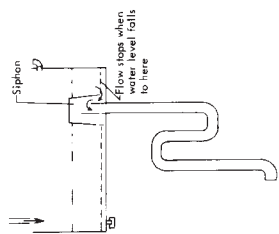
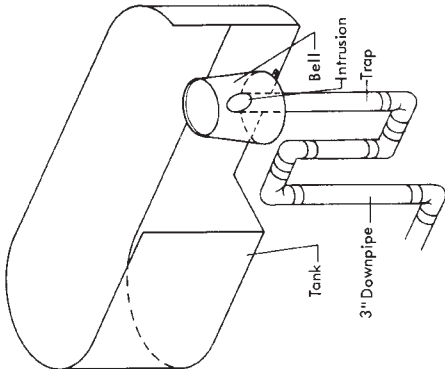
GATE CONNECTION DETAIL—4/6

Variable Dimensions

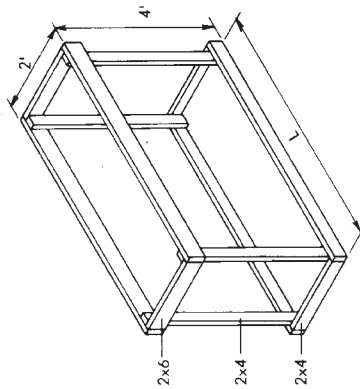
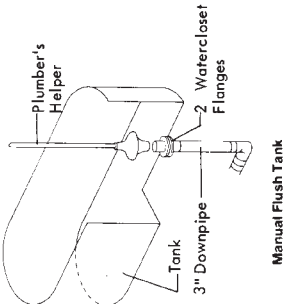
Gutter width	2 1/2	4	6	8	and wider
Tank length, L	23	41	65	89	
Back splash width, W	29	47	71	95	
Flush volume, gal	100	150	300	400	
Flush Frequency—minimum flushes per day					
Farrow	2				
Nursery	4				
Finish	6				
Gestation	4				
More flushes per day tend to decrease odors.					



FLUSH TANK, Self Dumping—17



SIPHON FLUSH TANK—27
See MWPS AED-17



Manual Flush Tank Support Frame

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FARROWING HOUSE
Flushed under slats 20 sows

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