

# MWPS-72443

## Confined Beef, 65' Wide

Slotted floor, open front, mechanical bunk.

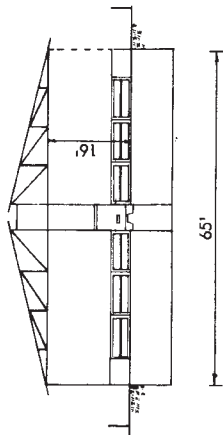
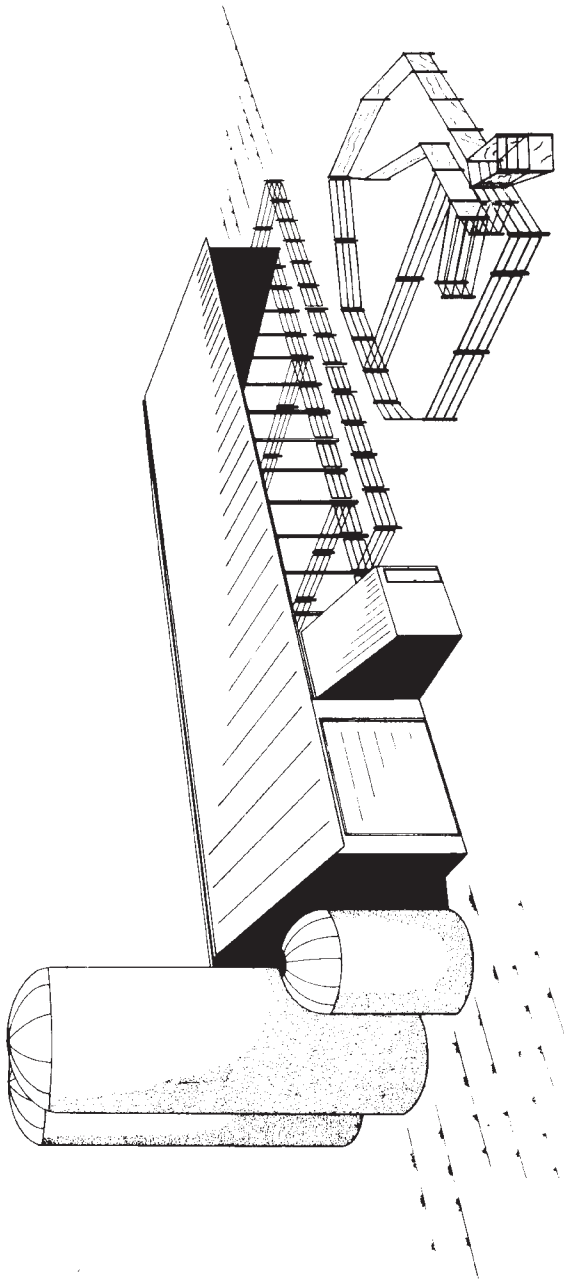
### **CAUTION!**

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.**

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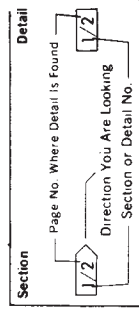
<b>MIDWEST PLAN SERVICE</b>
Cooperative Extension Work in Agriculture and Home Economics and Agricultural Experiment Stations of North Central Region - USDA Cooperating
Confined Beef, 65' Wide
Title Page
MIDWEST PLAN NO. 72443



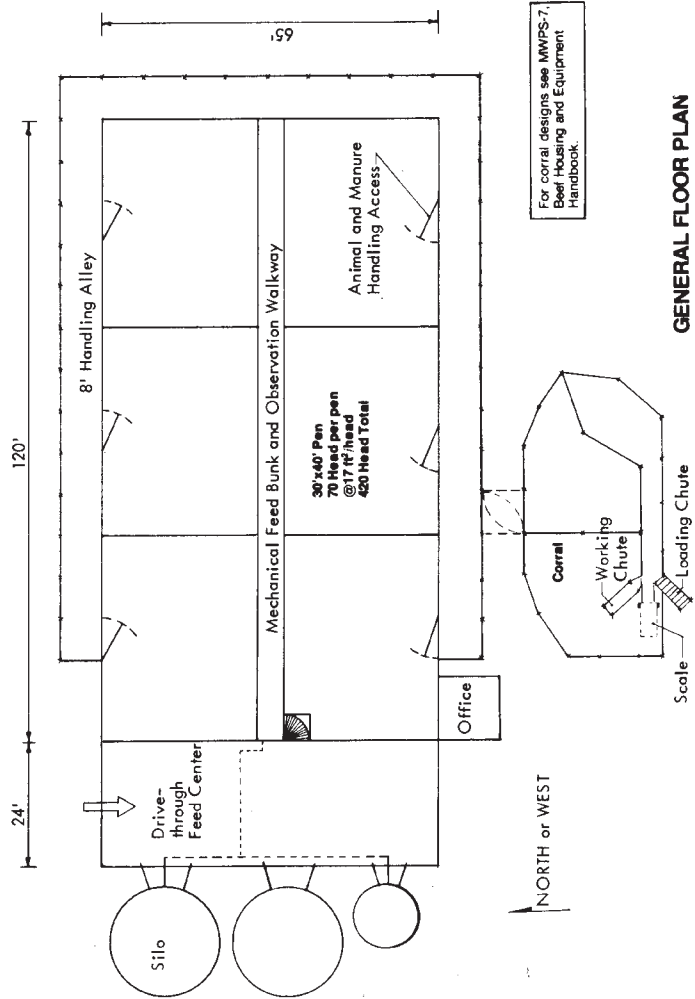
**BUILDING CROSS SECTION**

Lightning Protection is recommended. Use a system listed by Underwriter's Laboratory (UL).

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**Section & Detail Indicator**



For corral designs see MWPS-7, Beef Housing and Equipment Handbook.

**GENERAL FLOOR PLAN**

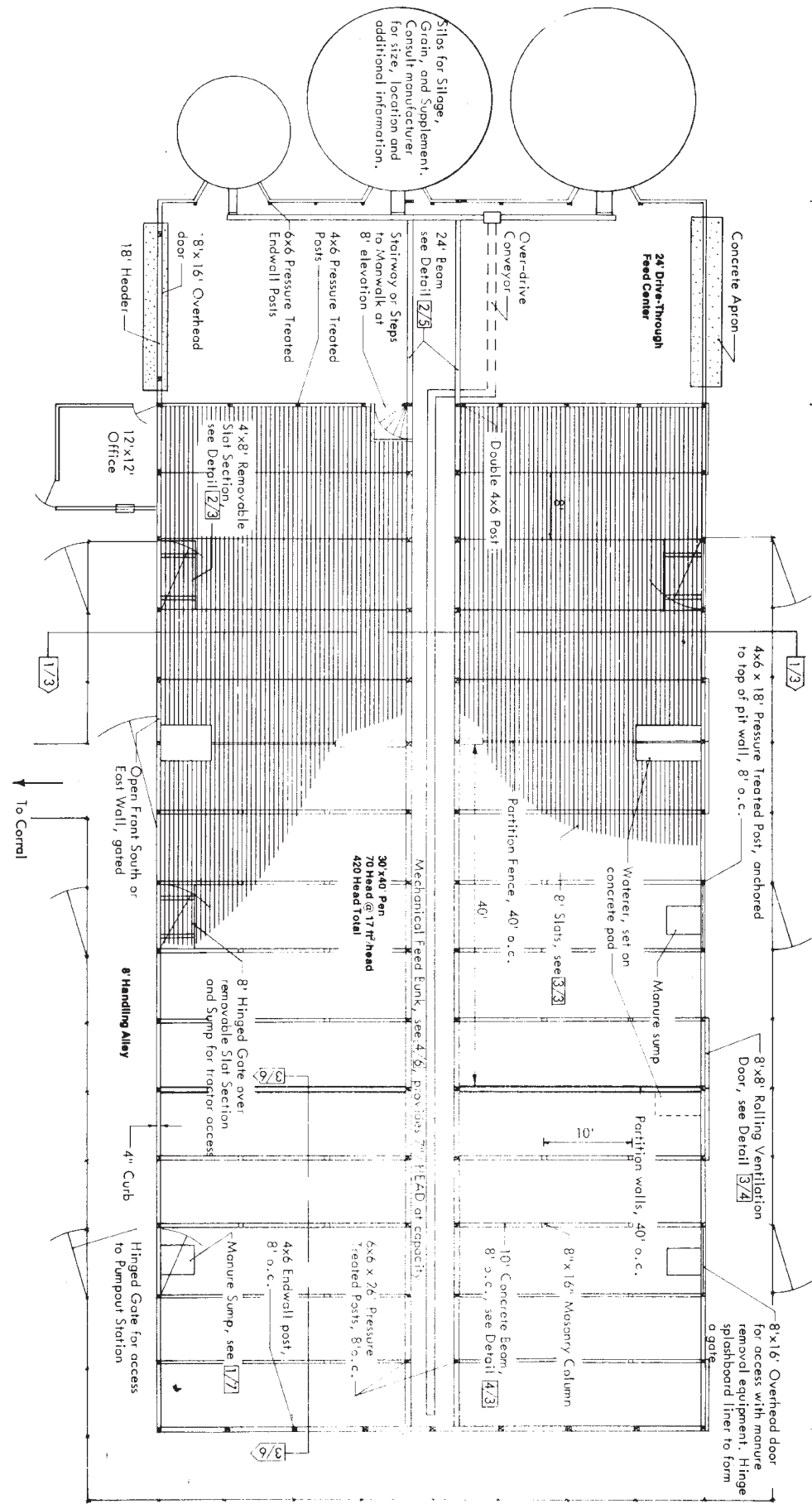
**MWPS MIDWEST PLAN SERVICE**  
 Cooperative Extension & Research in Agriculture & Home Economics in the 12 North Central Universities—USDA Cooperating

**CONFINED BEEF, 65' WIDE**  
 Slotted Floor, Open Front, Mechanical Bunk

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24' 144' 3 pens @ 40' = 120'



Silos for Silage, Grain, and Supplement. Consult manufacturer for size, location and additional information.

**MMPS MIDWEST PLAN SERVICE**

**CONFINED BEEF, 65' WIDE**  
Slotted Floor, Open Front, Mechanical Bunk

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**FLOOR PLAN—1/2**

To Corral

Open Front South or East Wall, gated

8' Handling Alley

4" Curb

Hinged Gate for access to Pumpout Station

8' x 16' Overhead door

18' Header

6x6 Pressure Treated Endwall Posts

4x6 Pressure Treated Posts

Shotway or Steps to Manwalk at 8' elevation

24' Beam see Detail 2/5

Over-drive Conveyor

24' Drive-Through Feed Center

Concrete Apron

Double 4x6 Post

8'

1/3

4x6 x 18' Pressure Treated Post, anchored to top of pit wall, 8' o.c.

Partition Fence, 40' o.c.

Waterer, set on concrete pad

Manure sump

8' x 16' Rolling Ventilation Door, see Detail 3/4

8' x 16' Overhead door for access with manure removal equipment. Hinge splashboard liner to form a gate

8' x 16' Masonry Column

10' Concrete Beam, 8' o.c., see Detail 4/3

Partition walls, 40' o.c.

8' Slats, see 3/3

Mechanical Feed Bunk, see 4/6. Provides 70' F.E.D. or capacity

30' x 40' Pen, 70' Head @ 17" head, 420' Head Total

8' Hinged Gate over removable Slat Section and Sump for tractor access

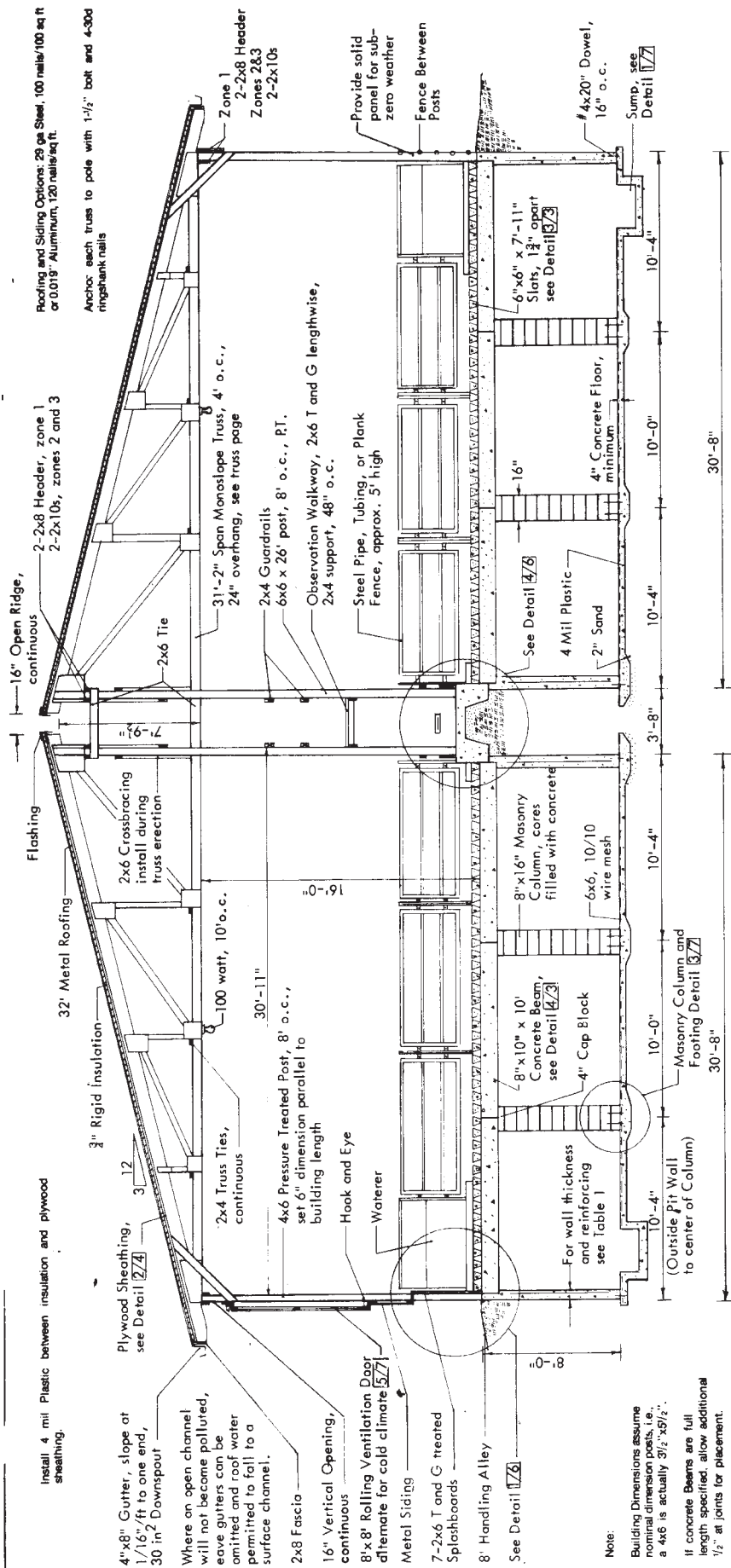
4x6 Endwall post, 8' o.c.

Manure Sump, see 1/7

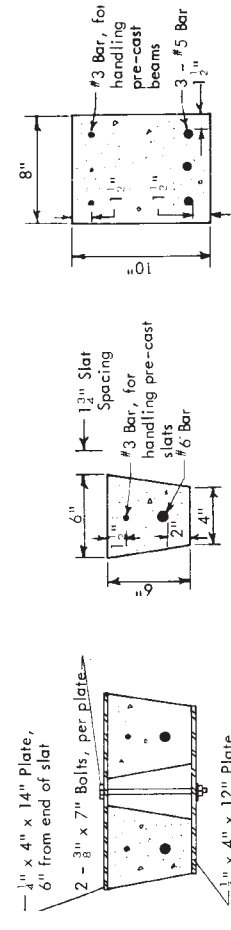
4' x 8' Removable Slat Section, see Detail 2/3

12' x 12' Office

1/3



**BUILDING CROSS SECTION—1/3**



**PREFERRED Lumber Specifications**

- Wall Girts
- 2x6 No. 2 (Doug Fir or Southern Pine)
- Trusses, Headers, Top Girts
- No. 1 or 1500 f machine rated (Doug Fir or Southern Pine)
- Posts and Splashboards
- Pressure Preservative Treated (Southern Pine or equiv.) Creosote-10 pcf, Penta-0.50 pcf, ACA or CCA (Type A or B) 0.50 pcf retention
- Plywood Roof Sheathing
- Use C-C EX, unsanded

**Alternate Lumber Specifications**

- 2x6 Girts (no. 2 Hem-Fir)
- Trusses (No. 1 Hem-Fir)
- See Truss Page
- 2x6s (Round vs Sawm)
- 6x6 = ASA or ASAE Class 7, 4.8" Top Diameter

**MIDWEST PLAN SERVICE**

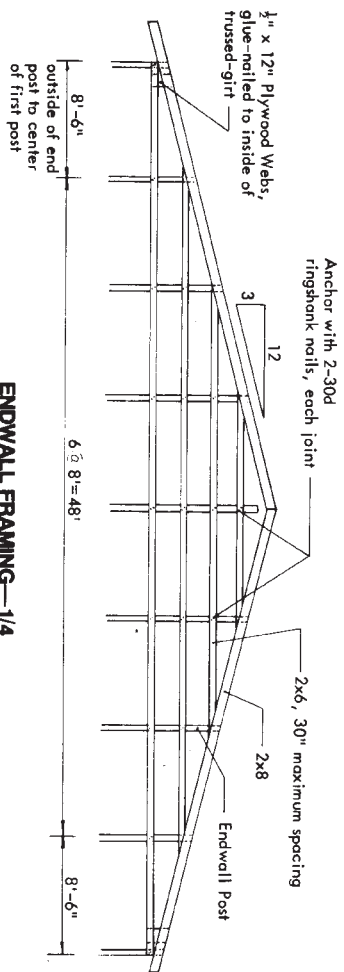
**CONFINED BEEF, 65' WIDE**

Slotted Floor, Open Front, Mechanical Bank

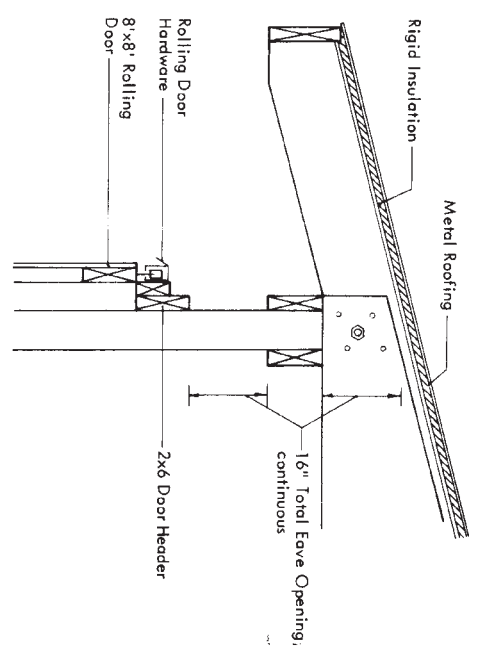
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**ENDWALL FRAMING—1/4**



**AIR INLET DETAIL—3/4**

**TABLE 1**

For areas with sloping grades consider placing lead center line of wall 4' to 6' above staked floor. 2x Material is preferable, if available.

Grade 40 (40,000 psi) Reinforcing Bars (bar size, spacing)	Grade 60 (60,000 psi) Welded Wire Fabric (area of steel/ft of wall)
30 psf moderately disturbed soil #4, 10.4	30 psf moderately disturbed soil #4, 10.4
60 psf poorly disturbed soil #4, 10.4	60 psf poorly disturbed soil #4, 10.4
80 psf poorly disturbed soil #4, 10.4	80 psf poorly disturbed soil #4, 10.4
100 psf poorly disturbed soil #4, 10.4	100 psf poorly disturbed soil #4, 10.4

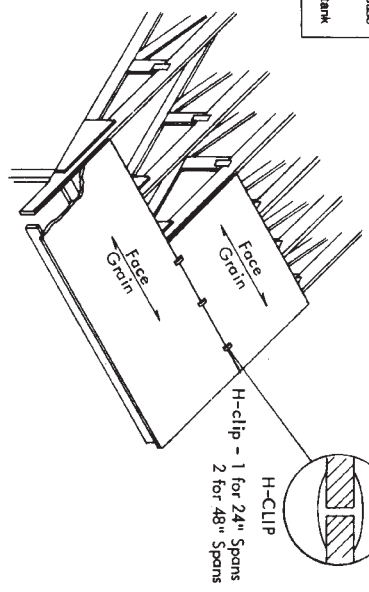
Soil Pressure	Grade 60 (60,000 psi) Welded Wire Fabric
30 psf	0.1440
60 psf	0.1440
80 psf	0.1440
100 psf	0.1440

**NOTE:** Flat sheets of welded wire fabric should be used, not rolls. Two layers may be used to provide required steel area. Reinforcing bars (Grade 60, #3, #4, or #5's may be attached to welded fabric to increase steel area).

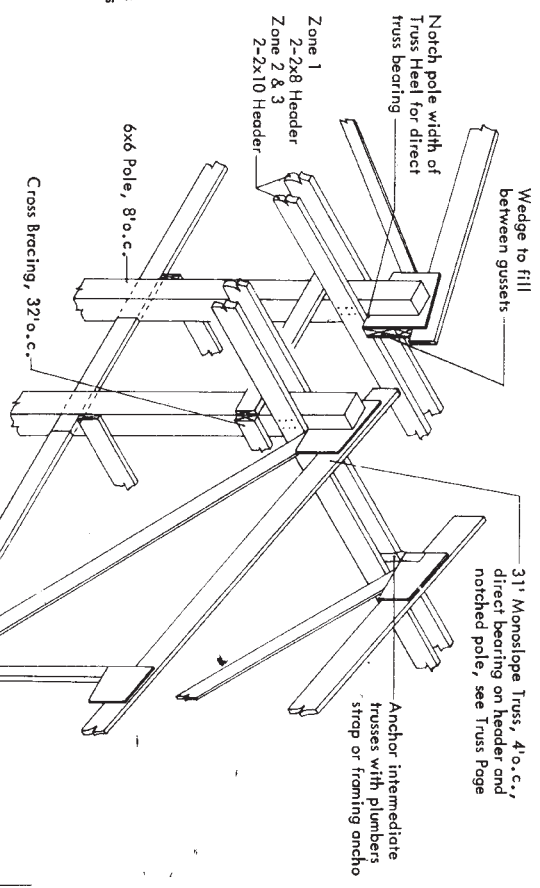
**NOTE:** For 8" wall, beams may be supported in 3"x6"x10" notch in tank wall.

Roof Sheathing (Face grain perpendicular to framing).	Truss Spacing	Identification Index
20 psf (South)	24"	16/0
30 psf (Central)	48"	20/0
37 psf (North)		36/16
		42/20

Roof Sheathing (Face grain perpendicular to framing).  
Total roof load, lb/sq ft  
Nail Size  
6d common  
8d common  
10d common



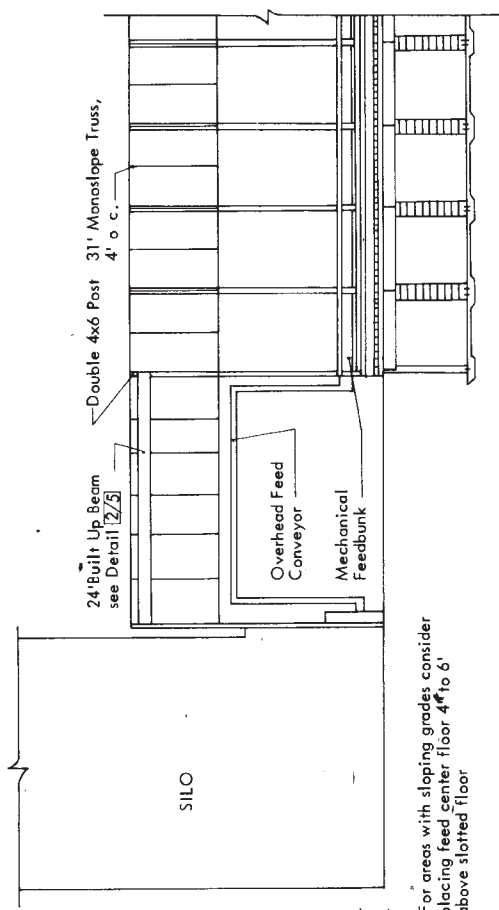
**PLYWOOD OVER TRUSS—2/4**



**RIDGE FRAMING OVER PENS—4/4**

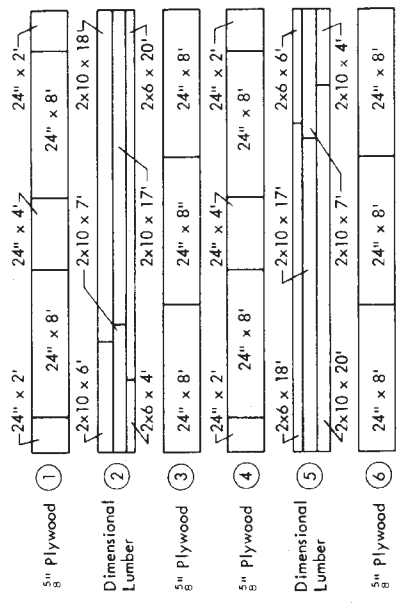
**MIDWEST PLAN SERVICE**

**CONFINED BEEF, 65' WIDE**  
Staked Floor, Open Front, Mechanical Bank



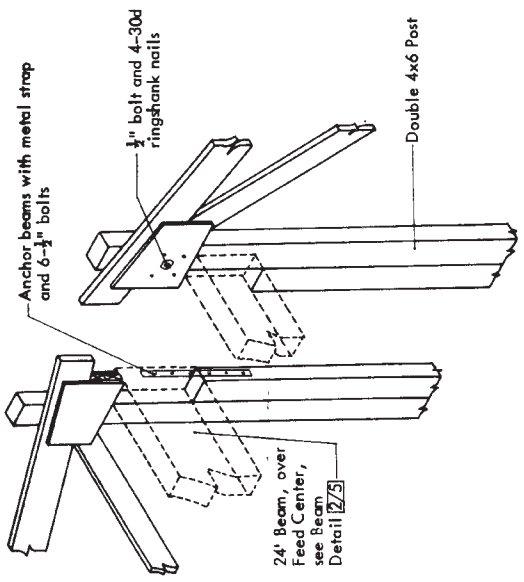
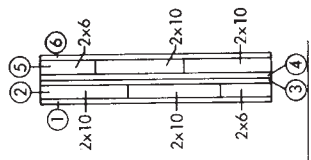
For areas with sloping grades consider placing feed center floor 4' to 6' above slotted floor

**FEED CENTER LONGITUDINAL SECTION - 1/5**



24' Material is preferable, if available

**24' LAMINATED BEAM ASSEMBLY**



**RIDGE FRAMING OVER FEED CENTER - 3/5**

**24' BEAM - 2/5**

**MATERIALS**

**Lumber**

This beam is designed for use of Douglas Fir-Larch (No. 1, MC19), MCL19 or Southern Yellow Pine (No. 1, MC19).

Use clean and smooth lumber. Do not use cupped or twisted lumber.

**Plywood**

Use 5/8" C-C Ext. ("Identification Index" = 42/20)

**Glue**

Casein (MMB-125A, type II, mold resistant) is not waterproof, but is highly water resistant. Resorcinol resin glue is waterproof and should be used if the beam is to be exposed to unusual moisture conditions.

Follow the manufacturer's specifications for mixing, pot life, temperature during use, etc.

**BEAM CONSTRUCTION**

- Assemble the beam in two pieces, layers 1, 2, and 3 and layers 4, 5, and 6. Clamp the narrow faces of the dimensional lumber together (Layer #2 = 2x10 + 2x10 = 2x26). Spread glue on the plywood (Layer #1). Nail plywood to Layer #2 and 6d box nails, preferably galvanized or cement coated, 4" o.c. both ways. Glue should squeeze out from the edges of the beam. Remove the clamps; glue and nail Layer #3 plywood to the other side of the dimensional lumber in a similar manner. Then assemble layers #4, #5, and #6.

2. Final Assembly - use method a, or b.

**a. Clamping method.**

When both halves of the beam have been assembled, apply glue to the two remaining inside surfaces. Place clamps about 2' apart on the fully assembled beam and leave on the 24 hours.

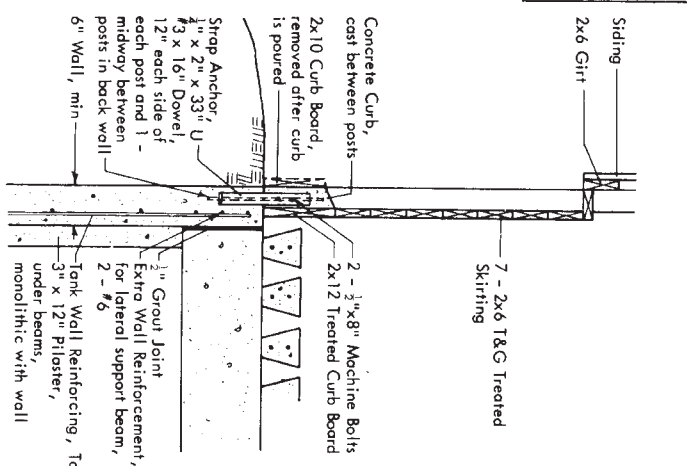
**b. Weighting method.**

When both halves of the beam have been assembled, apply glue to the two remaining inside surfaces. Lay the beam on a level surface. Place sufficient weight on the fully assembled beam to squeeze glue out from the edges of the beam. Leave on for 24 hours.

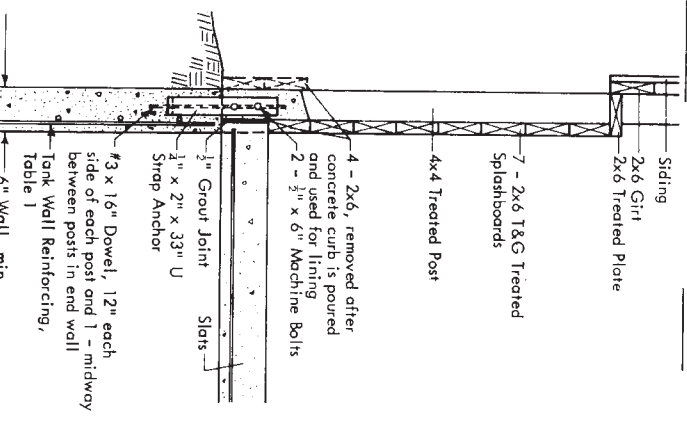
**MIDWEST PLAN SERVICE**  
**CONFINED BEEF, 65' WIDE**  
 Slotted Floor, Open Front, Mechanical Bunk

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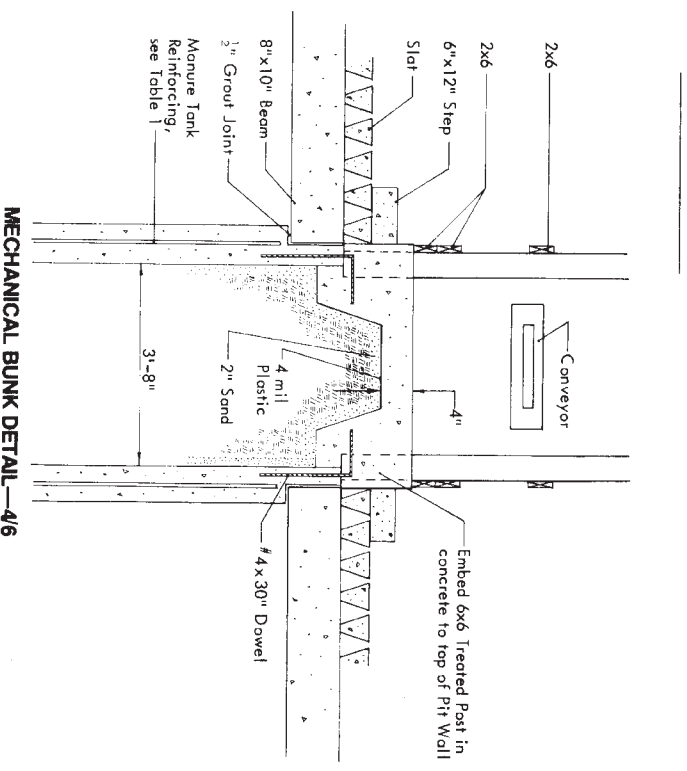
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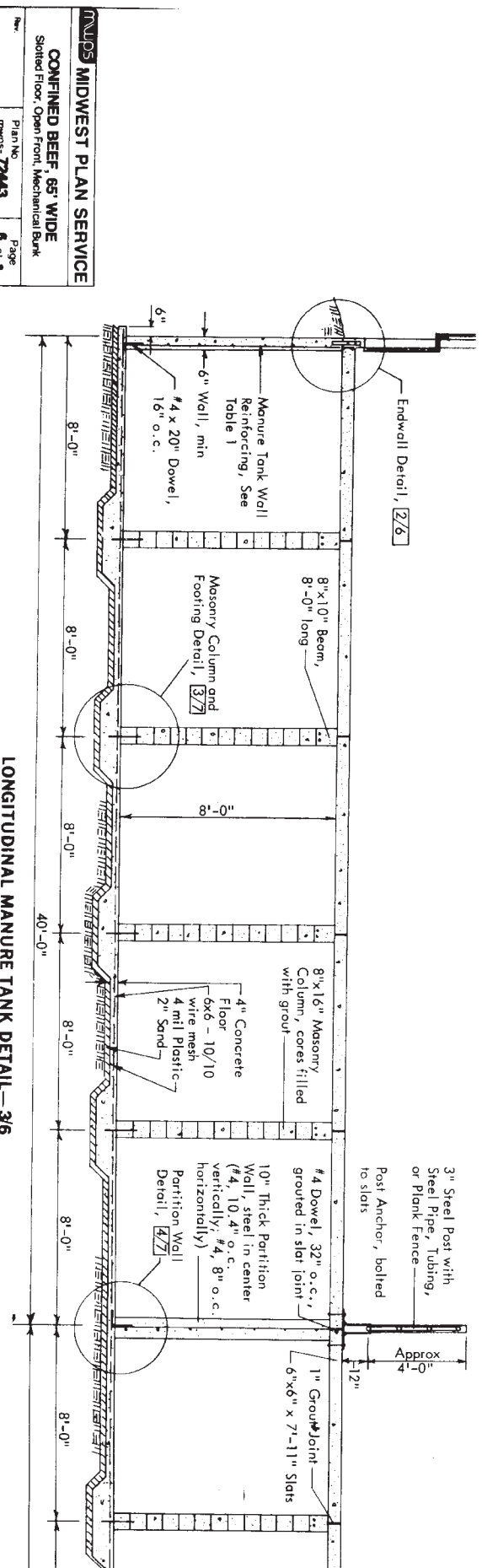
BACK WALL DETAIL—1/6



ENDWALL DETAIL—2/6



MECHANICAL BUNK DETAIL—4/6



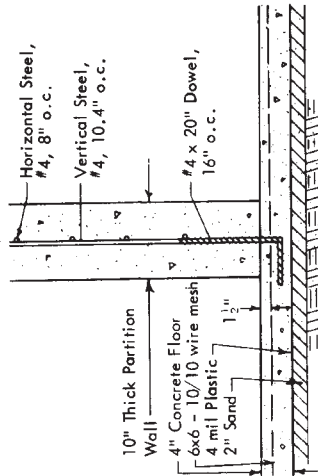
LONGITUDINAL MANURE TANK DETAIL—3/6

**MWD5 MIDWEST PLAN SERVICE**

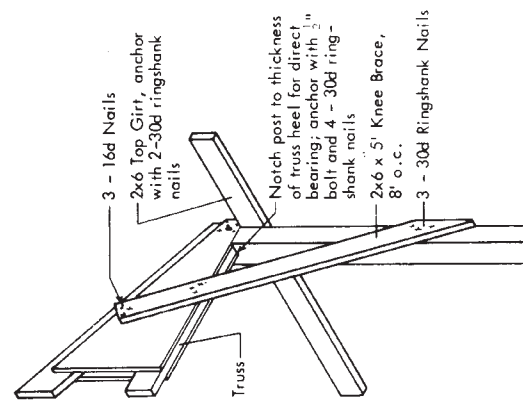
**CONFINED BEEF - 65' WIDE**  
 Slotted Floor, Open Front, Mechanical Bunk

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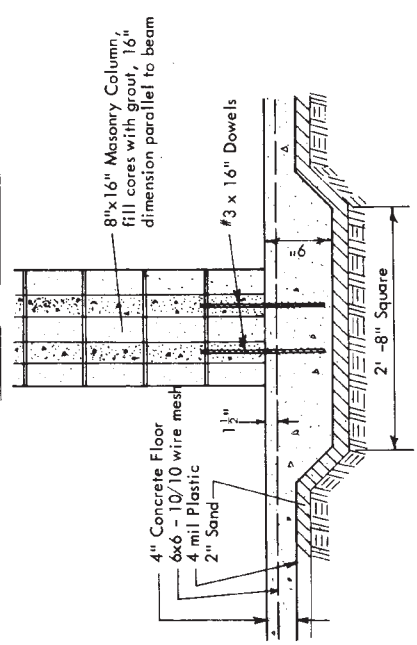




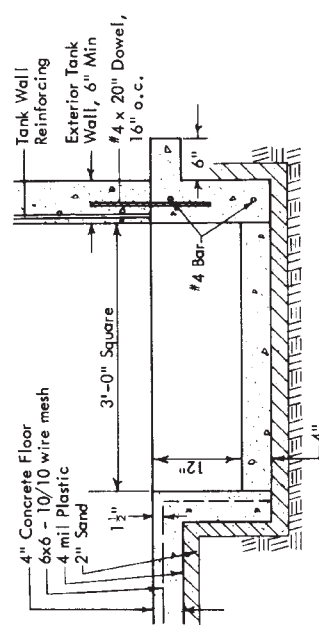
**PARTITION WALL DETAIL—47**



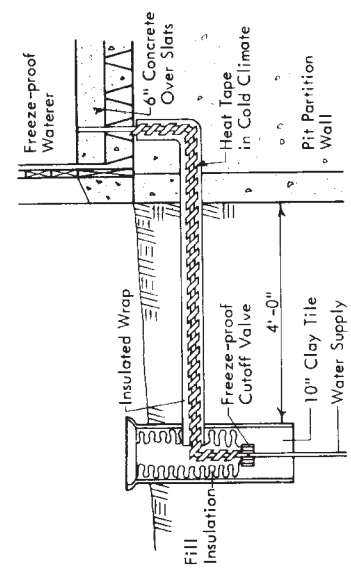
**KNEE BRACE DETAIL—27**



**MASONRY COLUMN FOOTING DETAIL—37**

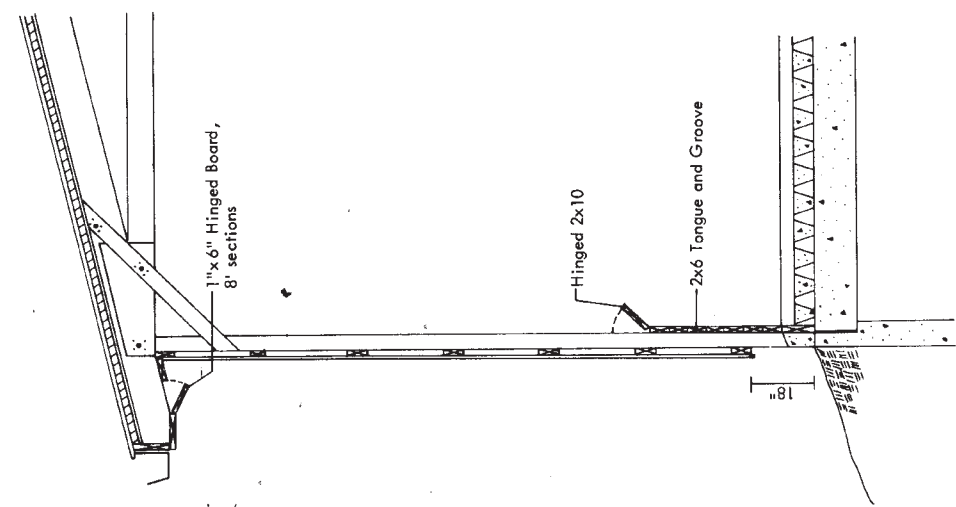


**SUMP DETAIL—17**



**WATERER DETAIL—67**

Bring water line into building next to pit partition wall.



**ALTERNATE WALL CONSTRUCTION FOR COLD CLIMATES, WINDY AREAS—57**



