

MWPS-73111

36' Wide Hay Barn

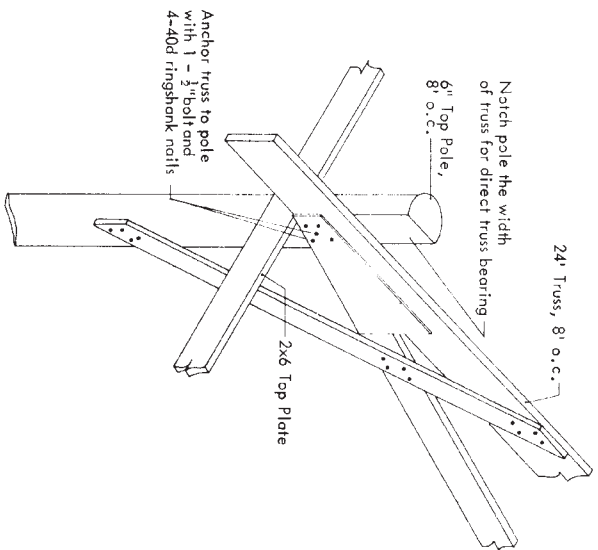
CAUTION!

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.**

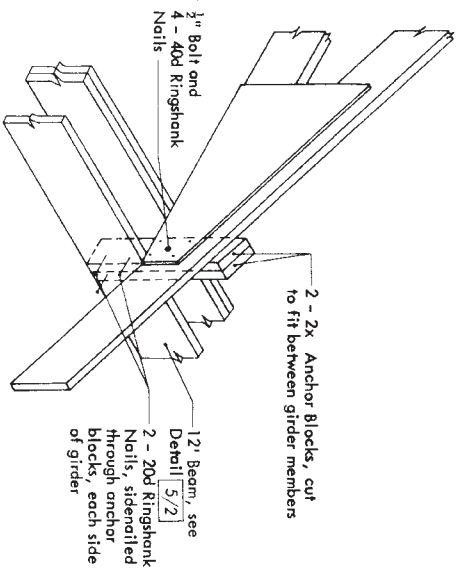
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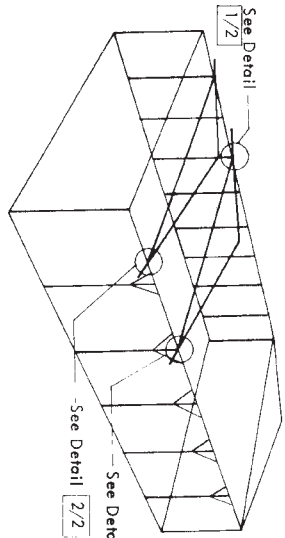
MIDWEST PLAN SERVICE
Cooperative Extension Work in Agriculture and Home Economics and Agricultural Experiment Stations of North Central Region - USDA Cooperating
36' Wide Hay Barn
Title Page
MIDWEST PLAN NO. 73111



TRUSS/POLE DETAIL—ENCLOSED SIDE —1/2



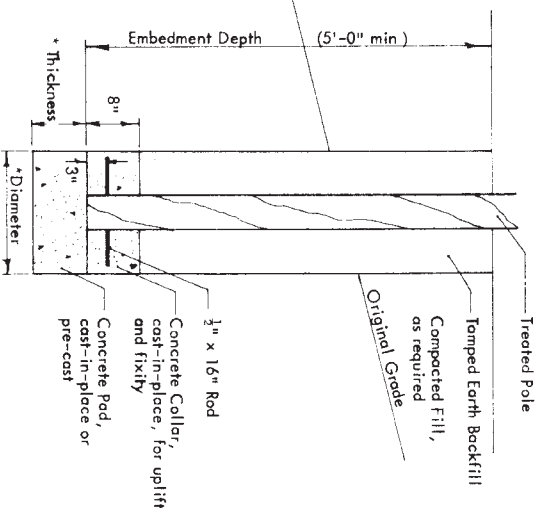
TRUSS/BEAM DETAIL—OPEN FRONT SIDE —2/2



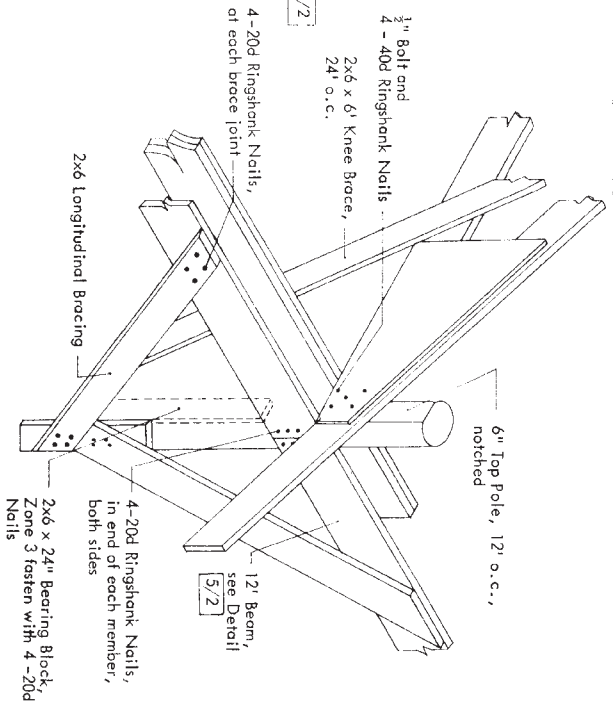
* Footing Size

18" Dia x 6" Thick Endwall Posts (8' o.c.)
 20" Dia x 6" Thick Sidewall Posts (8' o.c.)

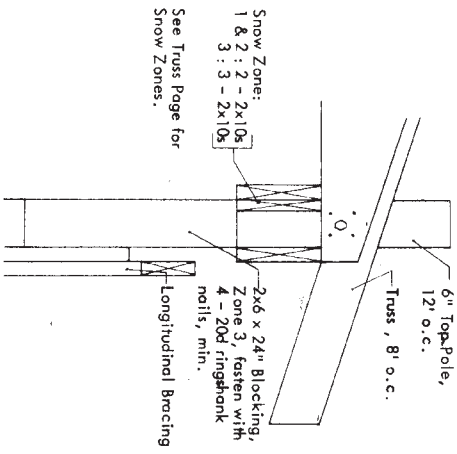
Extend embedment depth as required to place footing on undisturbed soil. For large diameter footings, use smaller diameter auger and flare the bottom of the hole with Lineman's spoon.



POST FOOTING DETAIL —3/2

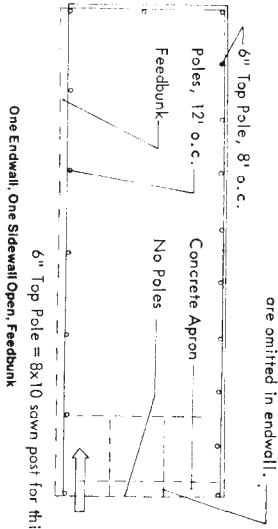


TRUSS/POLE DETAIL—OPEN FRONT SIDE —4/2



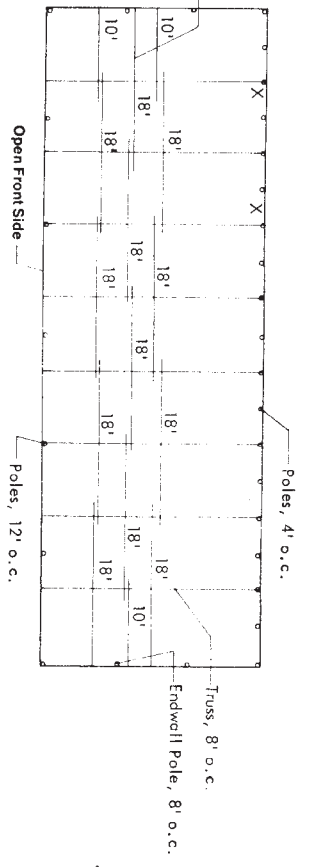
BEAM DETAIL —5/2

Three rows of crossbracing in gable ends where poles are omitted in endwall.

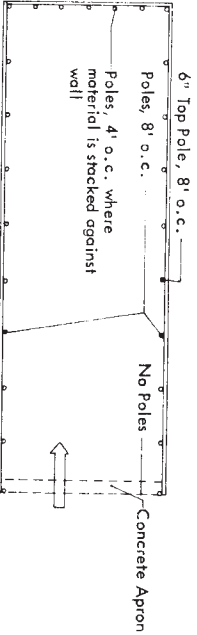


One Endwall, One Sidelwall Open, Feedback

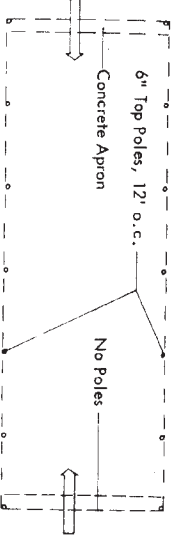
10' and 18' purlins, for staggered joints. 16' purlin lengths may be substituted for 18' lengths where "X" side of pole is notched for truss bearing.



TRUSS/POLE/PURLIN DETAIL—1/4



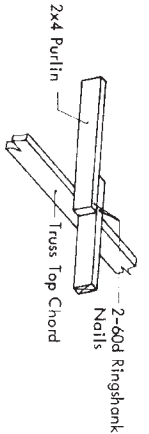
One Endwall Open 6" Top Pole = 6x10 sawn post for this plan.



All Walls Open 6" Top Pole = 6x8 sawn post for this plan.

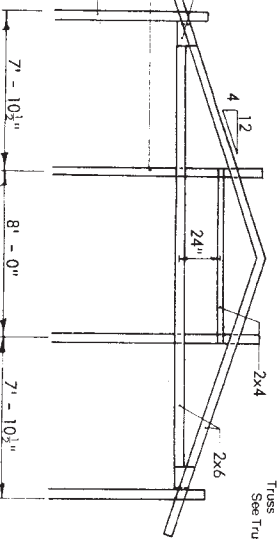
WALL ENCLOSURE OPTIONS

Extend siding partially down north and west open walls to reduce snow and rain blow in.



PURLIN ANCHORAGE

3/4" x 12" Plywood Web, glue nailed to the inside of trussed girt.



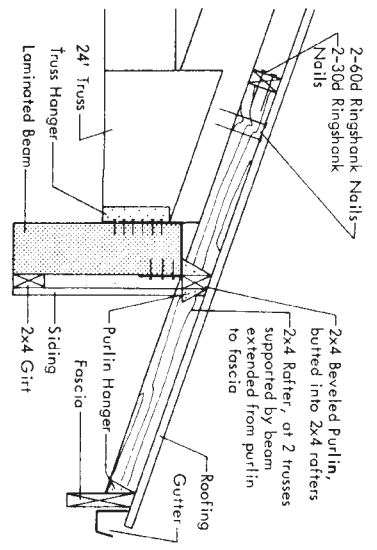
SOLID ENDWALL DETAIL—2/4

PREFERRED LUMBER SPECIFICATIONS

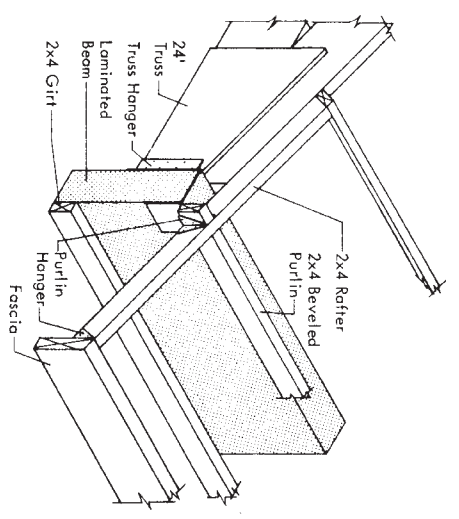
- Roof Purlins, Wall Girts, and Slatboards**
 - No. 2 Doug-Fir or Southern Pine
 - See Truss Page for Additional Information
 - No. 1, 2, or 3 Machine Stress Rated, Doug-Fir or Southern Pine
- Trusses and Headers**
 - See Truss Page for Additional Information
 - No. 1, 2, or 3 Machine Stress Rated, Doug-Fir or Southern Pine
- Round Poles**
 - Grade 1 or Southern Pine (F_v = 2100 psi)
 - Creosote Preserved
 - Southern Pine 9-pd Coastal Doug-Fir, 12-pd Interior Doug-Fir, 16-pd Penla 0.60-pd
- Sawn Timber Posts**
 - AC4 or CCA (Type A or B) 0.60-pd
 - Timber Posts may be substituted for 6" top poles. Use ends with F_v = 1300 psi min. for this plan.
- Alternate Lumber Specs:**
 - 2x4 Purlins (No. 2 Hem-Fir) Maximum Spacing: Snow Zone 1: 30', 2: 28', 3: 24', 4: 20'
 - 2x6 Girts (No. 2 Hem-Fir) Maximum Spacing: 24' Truss

LIST OF MATERIALS

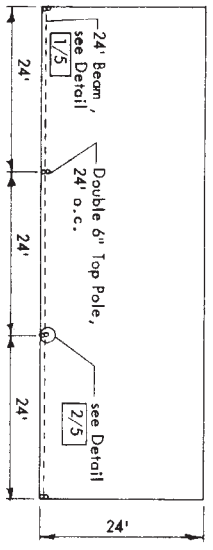
Quantity	Description
26	6" Top Poles, 26' long Pressure Treated (17' for 8' o.c. rear wall)
4	6" Top Poles, 28' long, Pressure Treated
45	2x6 x 16" Wall Girts and Top Plates and Groove Slatboards
55	2x6 x 16" Pressure Treated Tongue and Groove Slatboards
14	2x4 x 18" Truss Ties
12	2x6 x 10" Crossbraces
56	2x4 x 18" Root Purlins (Zone 2)
14	2x4 x 10" Root Purlins (Zone 2)
10	2x6 x 6" Knee Braces
12	2x10 x 12" Girders (Zone 2)
8	2x10 x 12" Blocking and Bracing
24	Truss 2x4 web, 8' o.c., 412 Slope Zone 2, 8' required with 8' o.c. spacing
16	Truss 2x6 x 16" Top Chords (Doug-Fir)
8	2x4 x 14" Bottom Chords (Doug-Fir)
8	2x4 x 10" Bottom Chords (Doug-Fir)
8	2x4 x 18" Web Members
1 sheet	4x8 - 1/2" CC Exterior Plywood
2 sheets	4x8 - 1/2" CC Exterior Plywood Girt and Nails. See Truss Page
32 yds	Gravel Fill, min.
7 yds	Air Entrained Concrete (6" apron + post footings)
72 ft	5" wide - 6x6/10/10 Welded Wire Fabric
2200 ft ²	Siding
72	Roofing
72	Ridge Cap
16	2 x 12 Anchor Bolts
	800 + 20d Ringshank Nails



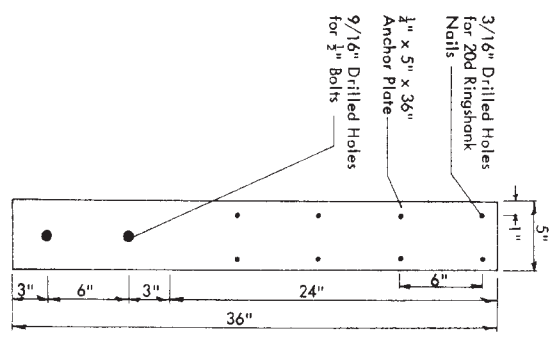
SECTION — 1/6
 24' truss with 8 1/2" cut off heel. Extend gusset 8 1/2" to the left so they are not shortened.



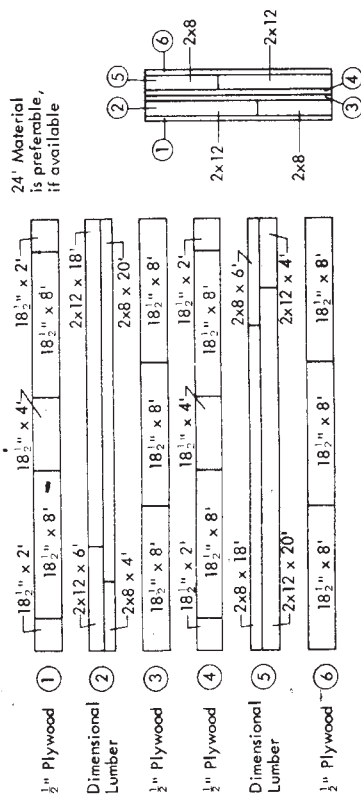
OVERHANG RAFTER DETAIL — 2/6



FLOOR PLAN FOR 24' OPEN FRONT BAYS



ANCHOR PLATE DETAIL — 3/6



24' Material is preferable, if available

24' LAMINATED BEAM ASSEMBLY—1/5

For snow Zones 1, 2, and 3

24' Beam—for 24" Wide Sidewall Bays

MATERIALS

Lumber

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

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

Plywood

Use 1/2" C-C Ext. ("Identification Index" = 32/16)

Glue

Casein (MMA-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.

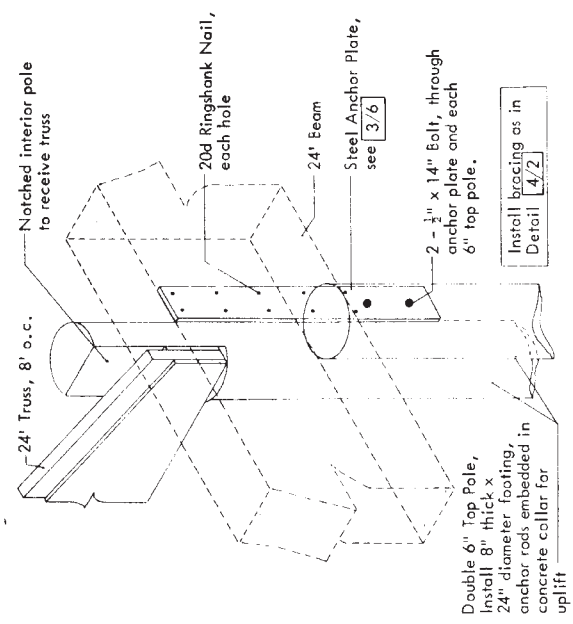
Follow the manufacturer's specifications for mixing, pot life, temperature during use, etc.

BEAM CONSTRUCTION

1. 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 = 2x8 + 2x12 = 2x20). 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 dimension 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.



24' BEAM TO POST DETAIL—2/5