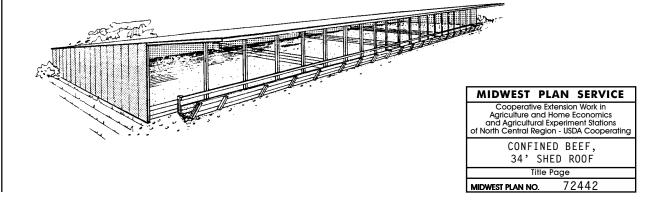
### **MWPS-72442**

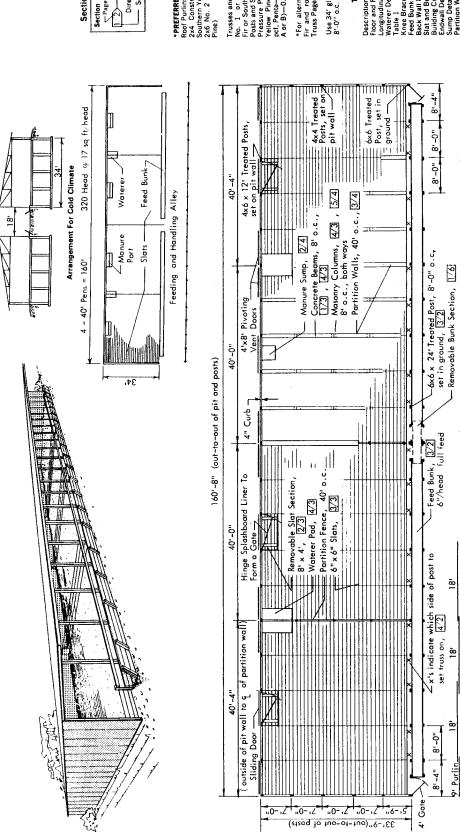
### **Confined Beef, 34' Shed Roof**

An open-front pole building with a shed roof for 320 feeders in complete confinement. Outside feed alley with fenceline bunk. Slotted floor with 8' manure pit.

### **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.





# Section & Detail Indicator Section Page No. Where Detail Is Found Direction Vou Are Looking Section of Detail No.

# PREFERRED LUMBER SPECIFICATIONS Roof Purlins and Wall Girns 2.44 Construction Grade (Doug Fir or Southern Yellow Pine) 2.55 No. 2 (Doug Fir or Southern Yellow Pine) Pine)

Trusses and Headers

No. 1 or 1500; aciome rated (Doug
Fir or Southern Yellow Pine)
Posts and Splashboards
Pressure Preservative Treated (Southern
Yellow Pine or equivalent) Creosotle—10
pct, Penta—0.50 pct, ACA or CCA (Type
A or B)—0.40 pcf

pcl. Penta--0.50 pct. ACA or CCA (Type A or B)--0.40 pcf
-for alternate member sizes using HemFir and round poles, see page 4 and
Truss Page.

fruss Page. Use 34' glued nailed single slope trusses. 8'-0'' o.c.

## TABLE OF CONTENTS

Description
Page
Floor and Footing Plan
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Twater Detail
Twater Detail
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Sist and Beam Sections
Sist and Beam Section
Sist and Beam Section
Sist and Beam Section
Sist and Boor Details
Sist and Boor Details
Fore Main Section
Sist and Boor Details
Fore Main Section
Sist and Boor Details
Fore Main Section
Sist and Beam Sec

Fence to provide 12' alley for feed truck and cattle handling

FLOOR AND FOOTING PLAN-1/1

( Purlin lengths for staggered joints)

18' Purlin

8"x16" Masonry Column

-8"×10" × 8'-0" Beam

10" Thick Partition Wall, 40' o.c., 3/4

6"x6" x 7'-11" Slats, 13" apart, [3/3]

Pen Partition, 40' o.c.

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# MUDD MIDWEST PLAN SERVICE

Cooperative Extension & Research in Agriculture & Home Economics in the 12 North Central Universities—USDA Cooperating

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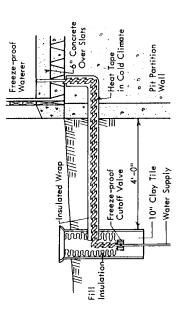
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LONGITUDINAL SECTION—2/1

## CONFINED BEEF, 34' SHED ROOF Slatted Floor, Open-Front, Fenceline Bunk

		rencelline Durik	
8	8 Pages	Plan No.	Page
		тмрs- 72442	1 0/8
ı	11 1 2 1 1 1 1 1 1	the state of the s	

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WATERER DETAIL—1/2Bring water line into building next to pit partition wall.

# CONCRETE compressive strength = 3500 psi

# Table 1. Manure Tank Wall Reinforcing

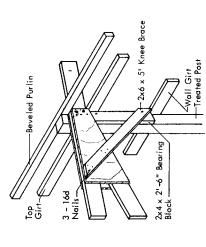
	Grade 36 (	Grade 36 (36,000 psi)	*Grade 60 (60,000 psi)	0,000 psi)
	(bar size	keiniorcing bars (bar size, spacing)	welled wife fability (also of steel/ft of wall	t of wall
		VERTICAL STEEL	STEEL	
	Soil Pressure	essure	Soil Pressure	essure
	30 psf	90 psf	30 psf	gsd 09
Wall	moderately	poorly	moderately	poor1y
Thickness	drained soil	drained soil	drained soil	drained soil
9	#3,9.4	#4,8.4	0.0864	0.1756
**8*	#3,9.2	#3,6.8	0.1152	0.1184
		HORIZONTAL STEEL	STEEL	
Wall	Reinf	Reinforcing	*Grade 60 (	*Grade 60 (60,000 psi)
Thickness	Ba	Bars	Welded Wi	Welded Wire Fabric
9	#3,	#3,7.3	0.1	0.1440
**8**	#4,10.0	0.0	0.1	0.1920
				The second second second

\*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"x8"x10" notch in tank wall.

# CONFINED BEEF 34' SHED BOOF

5	Page 2 o' 8	s, IA 50011
Slotted Floor, Open-Front, Fenceline Bunk	Plan No mwps- <b>72442</b>	Copyright 1974 Midwest Plan Service, Ames, 1A 50011
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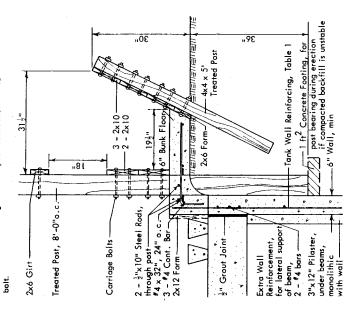


# KNEE BRACE DETAIL A-2/2

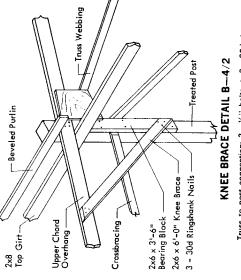
Note: Post is not notched for truss. Truss to post conscion: 2½" bolts 4 3.30d ringshank nails.

Top girt to post connection: 2 . 30d ringshank nails.

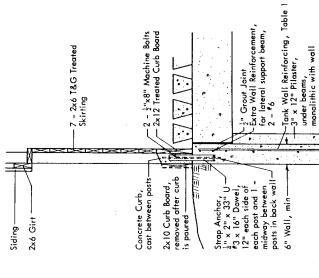
Bearing block to post connection: 1 - ½" bolt + 3 - 30d Knee brace to bearing block to post connection: 1-1/2." ringshank nails.



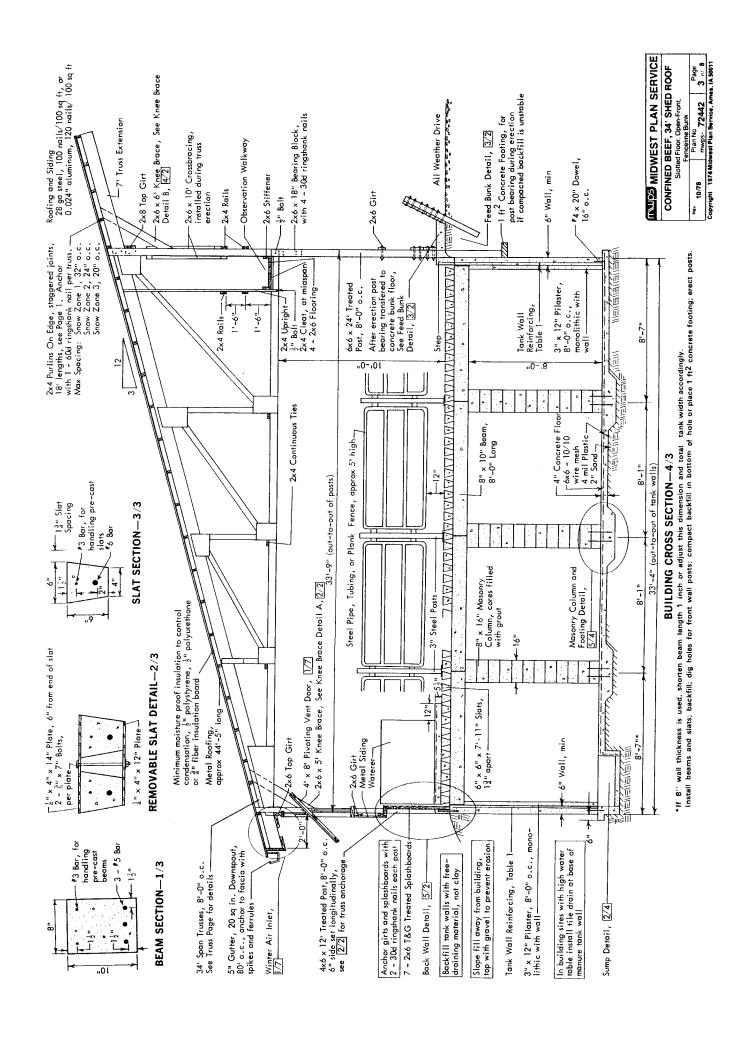
FEED BUNK DETAIL—3/2
Use 3/8" x 5" Carriage Bolts to fasten 2x10's to pipe.
After erection post bearing transferred to concrete bunk floor by ½" steel rods and 2x10 liner.

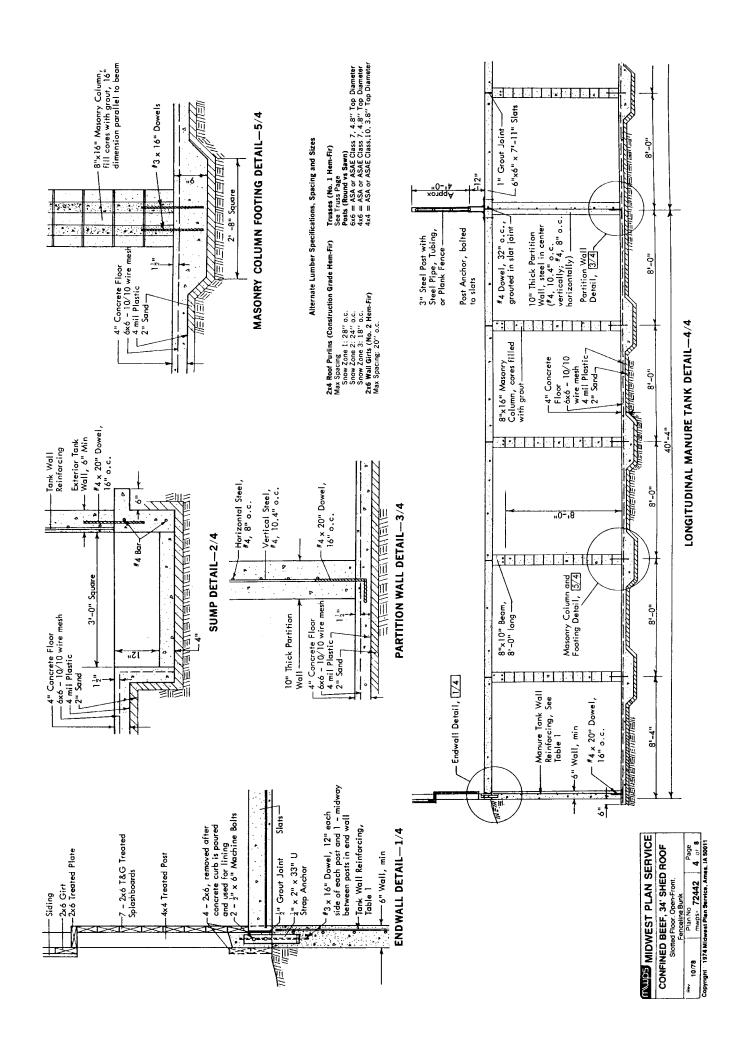


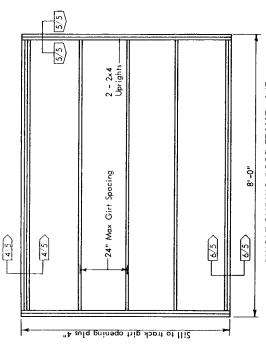
Truss to post connection:  $2\cdot \%$ '' bolts  $+\ 3\cdot 304$  ringshank nails through top chord,  $2\cdot \%$ '' bolts  $+\ 3\cdot 304$  ringshank nails through gusset and bearing block.



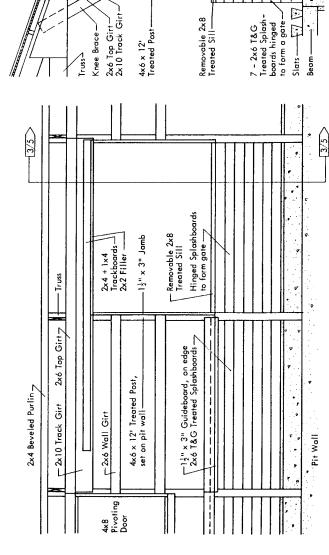
# BACK WALL DETAIL-5/2





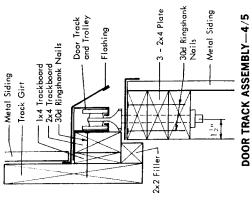


SINGLE SLIDING DOOR FRAME-1/5



SECTION-3/5

BACK WALL FRAMING—2/5 Sliding door for pit access with manure pump.



95

ESTIMATING LIST

432 36 1000

4800

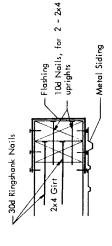
1080

1850 9000 8 4 152 100 160

Fencing, feet Observation Walkway, feet

460 230 160

Manure Tank
Floor
Concrete, cubic yards
Welded wire fabric, lbs
Wells (6 in... 30 lb/sq ft load)
Concrete
Sivel, Grade 36, lbs
Cournes
Masony block, 8" x 16"
Beams, 8" x 10" x 8 · 0"
Bams, 8" x 10" x 8 · 0"
Bams, 8" x 10" x 8 · 0"
Building
Trusses
Fad the single slope trusses
Endwall trusses
Fosts (pressure-treated)
Sox6, feet
4x4, feet
Purins (Zone 3) and Truss Tres
2x45, feet
Av4, feet
Spisted Rocks (2x4) feet
Well Girts and Braces
2x6, s feet
Spisshood (3x 8)
Feed Burk, (5x 8)



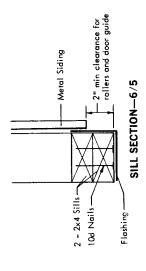
Beveled Purlin

UPRIGHT SECTION—5/5 Extend flashing around uprights and nail to girts and uprights.

—Trackboard —Filler

-Sliding Door Frame

Jamb



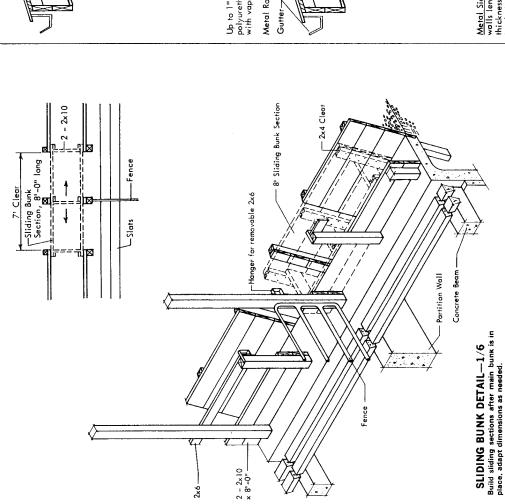
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- 2x12 Treated Curb Board

Love Boar

— Door Guide — Guide Board

SERVICE	ROOF		Page 5 o' 8	1005 JA 50011
EST PLAN	CONFINED BEEF, 34' SHED ROOF	Stotted Floor, Open-Front, Fenceline Bunk	Plan No mwps- 72442	est Plan Service, Ar
INUS MIDWEST PLAN SERVICE	CONFINED B	Siotted	Rev. 10/78	Copyright - 1974 Midwest Plan Service, Ames, IA 50011



-2x10 Track Girt

– 2x4 Track – board

-2x6 Top Girt

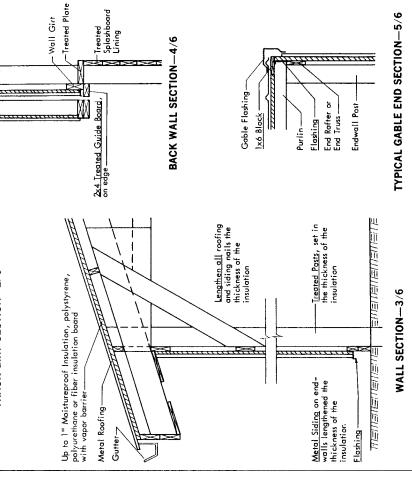
-2x6 Top Girt

-2x10 Track Girt

-1x6 Block -2x4 Jamb

TRACK GIRT SECTION-2/6

-2x4 Block

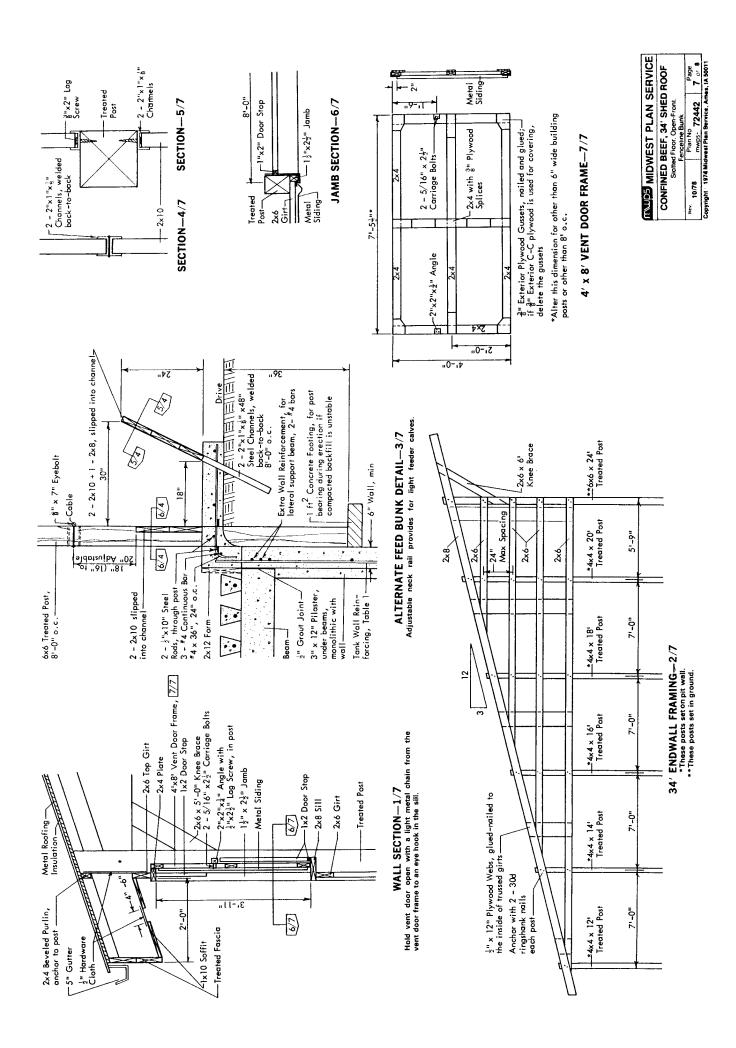


# MUDS MIDWEST PLAN SERVICE CONFINED BEEF, 34' SHED ROOF Slotted Floor, Open-Front.

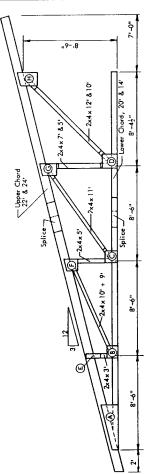
Fenceline Bunk Plan No. mwps- 72442	75	ž	Page	72442 6 0' 8	
	,	Fenceline Bu	Plan No	-Sdwm	

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# INSULATION DETAILS Underlines show materials that change when insulation is added.



# 34' Single Slope



								Sing	usset sizes.		es				
	TRUSS				∢		60		O	٥		ıL	G	Ι	
	SPACING	SNOW	UPPER	LOWER											
	fee	ZONE	CHORD	CHORD	F	≷	<b>≯</b>		<b>≯</b>	≥ I	3	× 1	>	Ť	2
#1 Doug Fir	4	_	5x6	24	1,6 x 4	k16	8×12		×12	8×1;	2	12×12	12×12	16×1;	١.,
þ		<b>=</b>	5x8	2x4	9×8/s	<b>K</b> 24	8x12		2×12	12x1	2	12×12	12×12	16×1	n.
Southern Pine	80	_	2x8	5xe	9×4,	32	12:.12		2×12	14X1	2	12×12	12×12	16×1;	01
		=	2×10	2x6	9×4,	×48	12×12		2×12	16x3	4	12×12	14×12	18×1	
		<b>=</b>	2x12	2-2×4	s/axe	×48	16×12		Dx 14	20×1	9	14×12	16×14	24×1	'n
	4	_	5x6	2×4	4×4'	416	8×12		1×12	8×1	o.	12×12	12×12	16×1;	اہ
		=	2×8	2×4	9×9,	x24	8×12		1×12	12×1	2	12×12	12×12	16x1	~
#1 Hem Fir		Ξ	2×10	5x6	9×8/	8x6x24	12x12		12x12	14×12	8	12×12	12x12	18×14	
	60	_	2×10	2x6	9×4,	×32	12x12		2x12	14 1×	ç	12×12	12×12	18x1	4
		=	2×12	2-2×4	1,2×6	64×	16x12		0×14	20x1	9	12×12	14×12	24×1	ıΩ
		≅	ı	1	•		1		:	:		٠	t	1	

GUSSETS B. C. D. F. G. Hare 3/6" plywood

## Snow Zone

Determine the snow zone number for your locality from the map below. If the building will be in mountain regions, consult local authorities. Design snow loads in loke ft (pst) for low-risk buildings in exposed locations: Zone I = 12 psf

Zone I = 12 psf Zone II = 18 psf Zone III = 24 psf



This page is a summary of the information in "Designs for Glued Trusses," MWPS-9.

RVICE	300F	:	Page Sor 8	1, 1A 50011
MUSS MIDWEST PLAN SERVICE	CONFINED BEEF, 34' SHED ROOF	Slotted Floor, Open-Front, Fenceline Bunk	Plan No mwps- 72442	Copyright 1974 Midwest Plan Service, Ames, 1A 50011
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## Wind Loads

Trusses are designed to withstand winds of  $80~\mathrm{mph}$  on a building less than  $30'~\mathrm{high}$ .

## Lumber Quality

moisture content. Those members whose name in the selection tables contains an asternisk (for example, 2% instead of 2x6) may be reduced one size if lumber was milled at 15%. The species specified are Douglas Fir-Larch or Hem-Fir. Comparable Southern Yellow Pine may be substituted for Douglas Fir-Larch. The tables list member sizes for lumber milled at 19% The grade classifications are:

2x6s—No. 1 Structural Light Framing (MC 19%)
2x6s—No. 1 Structural Joists and Planks (MC 19%)
Milled lumber sizes, 1 ½" thick, 3 ½", 5 ½", 7 ½", 9 ½", and 11 ½"

ness (variation in manufacture) come together at a joint, sand or plane the thicker member so the gusset can make full contact. Do not use cupped or twisted lumber. Use clean smooth lumber. Where members of different thick-

Use exterior, C-C grade "!" plywood and 5-ply "!" plywood, or use Structural I, 4-ply, "!" plywood.

The right glue to use:

waterproof, is adequate for trusses that will stay dry truckfour their life. Resorcinol resin is waterproof, use it for trusses with any joint exposed to unusual moisture conditions. Casein that is highly mold and water resistant, though not

The right way to use it: Follow the manufacturer's specifications for mixing, pot life, temperature during use, etc.

# Roof Slope (inches of rise/inches of run)

bers. A steeper roof may reduce some truss member sizes. 3/12 slope—used in low snow load areas or for short spans Roof slope significantly affects the forces in the truss mem-

and narrow spacings.

4/12 slope—most common for farm buildings 5/12 slope—used in high snow load areas or for long spans and wide spacings.

## Truss Spacing

Roof and ceiling materials and wall framing influence truss spacing selection. In pole buildings it is desirable to support each truss on a pole

2' spacing uses more material and labor. It is common for buildings with ceilings and plywood roof decks. 4' spacing is common in insulated livestock buildings with

ceilings and metal roofs, and in some storage buildings.

8' spacing uses least material and labor for buildings without ceilings such as machinery storages, uninsulated livestock buildings, etc. Total cost may be greater if a ceiling is needed.

# Dead Load Ib/sq ft (psf)

Dead loads include the weight of the roof, ceiling, trusses, and bracing.

Low, for uninsulated buildings roof = 35 pet ceiling = 0.0 pet.

Medium, for insulated buildings: roof = 35 pet; ceiling = 5.0 pet.

High, for residential and commercial buildings: roof = 7.5 pet ceiling = 8.0 pet.

## ecautions

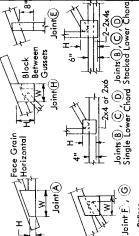
Protect the glued joints from moisture for one week after Remove all dirt, oil, and sand from the lumber and plywood

Temperatures below 70° will delay curing. Trusses will be ready to erect in 24 hours at 70°, but require at least a week at  $40^\circ$ .

### Joints

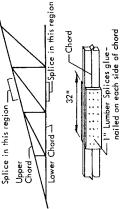
## Gussets and Laps

Apply a gusset to each side of each joint. Use gussets listed in table at left. Laps are 1" lumber or  $\frac{1}{12}$ " plywood as wide as the web or king post, applied to each side of each joint.



### Splices

Upper chord and lower chord lumber should be full-length if possible. When splices are necessary, locate them as shown



### Construction

Measure and cut all the pieces for one truss. Lengths given are approximate. They will need to be cut to true length. All members are in the same plane and all joints are butt joints.

2. Draw the complete truss on the floor or a plywood base and fit the pieces on the outline. Lightly nail (don't glue the complete truss together. Check the dimensions; both sides of the truss should be the same. Make a jig by nailing 224 blocks around the lightly nailed truss. Mark off the 4" nail spacings

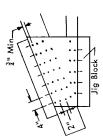
along the jig at each joint.

3. Cut lumber for all trusses using the cut pieces as patterns.

a. Our lumer for all trusses lumps the cut preess as patterns. Clustets are required on both sides of each joint.

4. Use the jig to make uniform trusses. Spread the glue with a fiber glue brush, woden paddle, or paint roller. Apply to both surfaces to be joined. When natiling the gusses in place, glue should onze out around the joint. Move the truss out of the way and store flat for at least 24 hours. See Precautions. After the glue has cured, the truss is ready to be placed on the structure.

Nails apply pressure to the joint until the glue sets. Use 6d or 7d box nails, preferable galvanized or cement coated. Use enough nails—see diagram. If machine nailing is used, hit each nail or staple at least once with a hammer.



## Windbracing

feners along the lower chords are not required if a rigid œiling is to be installed. Lower chord stiffeners are required at panel points. For single-slope trusses, cross-brace the supports on the high side of the runs. Brace and anchor the trusses as they are placed. The stif-

