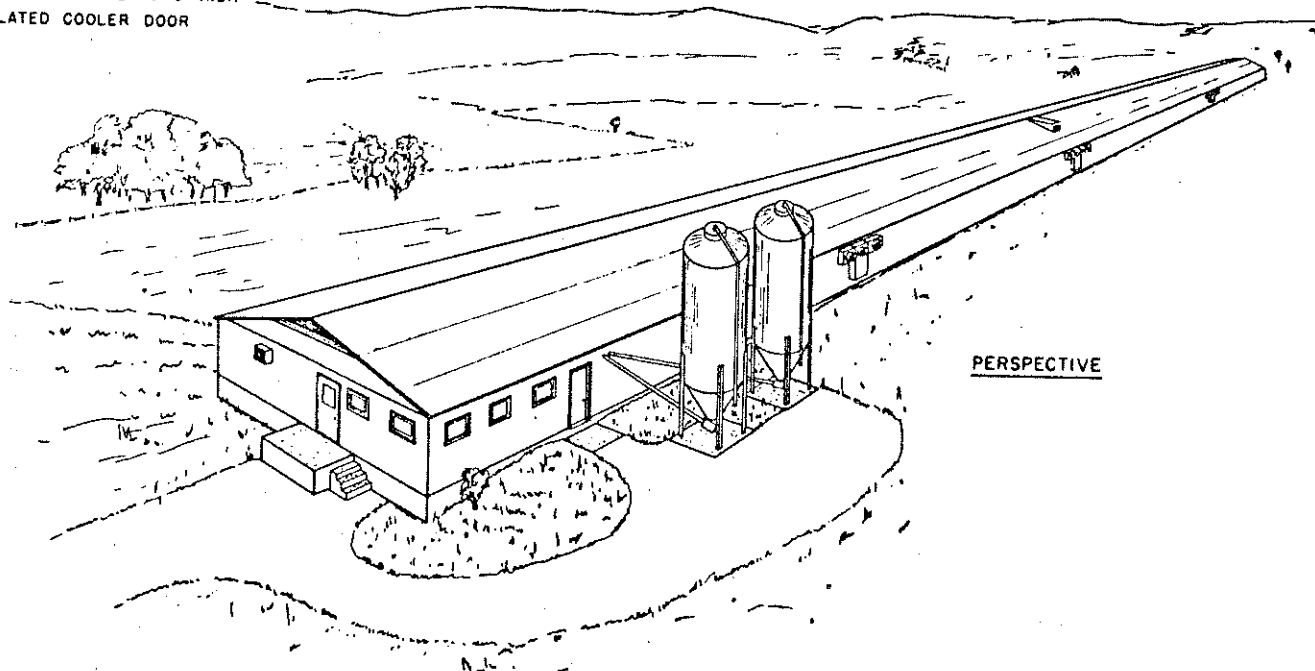


FLOOR PLAN

(See Sheet No. 4 for Alternate Floor Plan)

NOTE:

- Ⓐ DOORS 4'-0" WIDE x 8'-0" HIGH
- Ⓑ DOORS 4'-0" WIDE x 6'-8" HIGH
- Ⓒ INSULATED COOLER DOOR



PERSPECTIVE

This is a windowless automatically ventilated poultry house designed for approximately 30,000 laying hens in cages. An egg processing room and cooler are included.

Consult with equipment manufacturer regarding details and dimensions of cages floor & pit elevations before starting construction.

Design specifications:

Roof design load - 45 psf

Live + dead load
88 mph Wind Eq.

Lumber - 1500 f

See truss notes Sheet #5

Concrete - c = 2500 psi

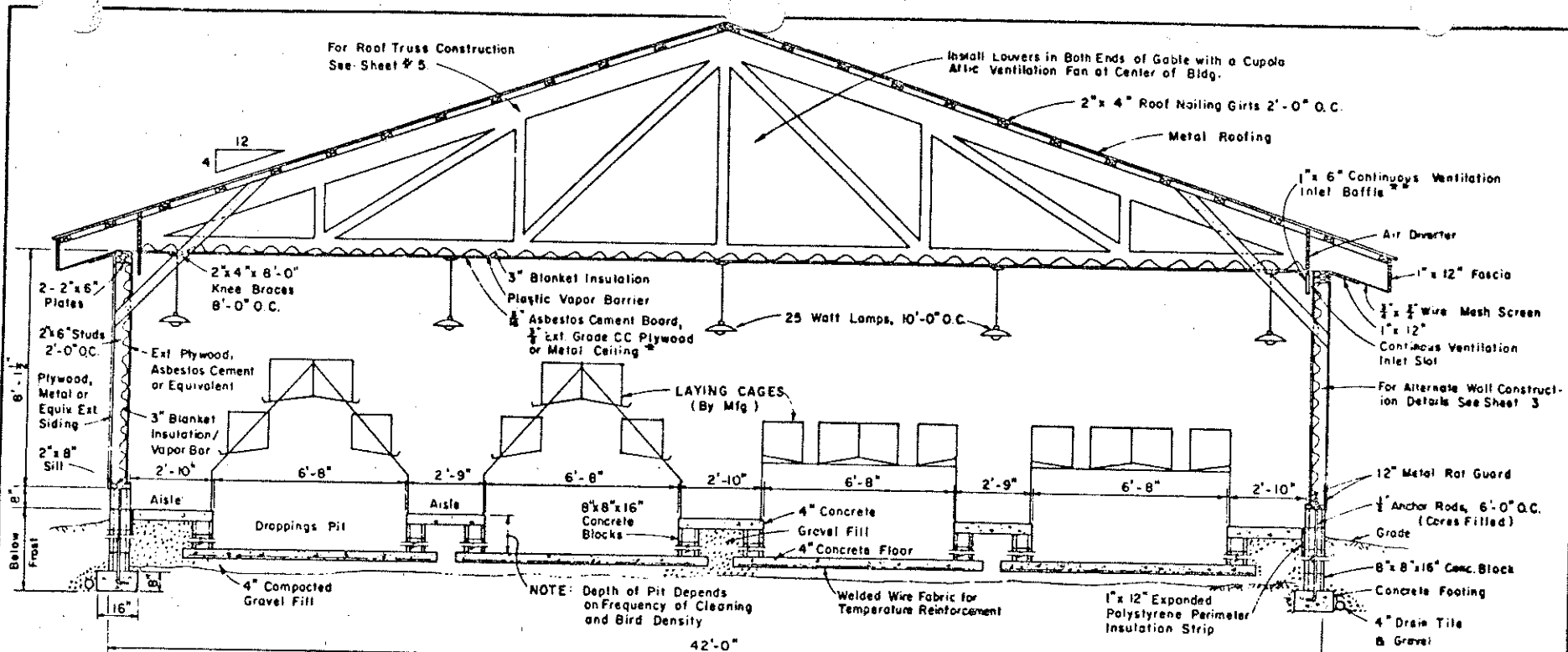
Masonry Block - c = 800 psi

COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS

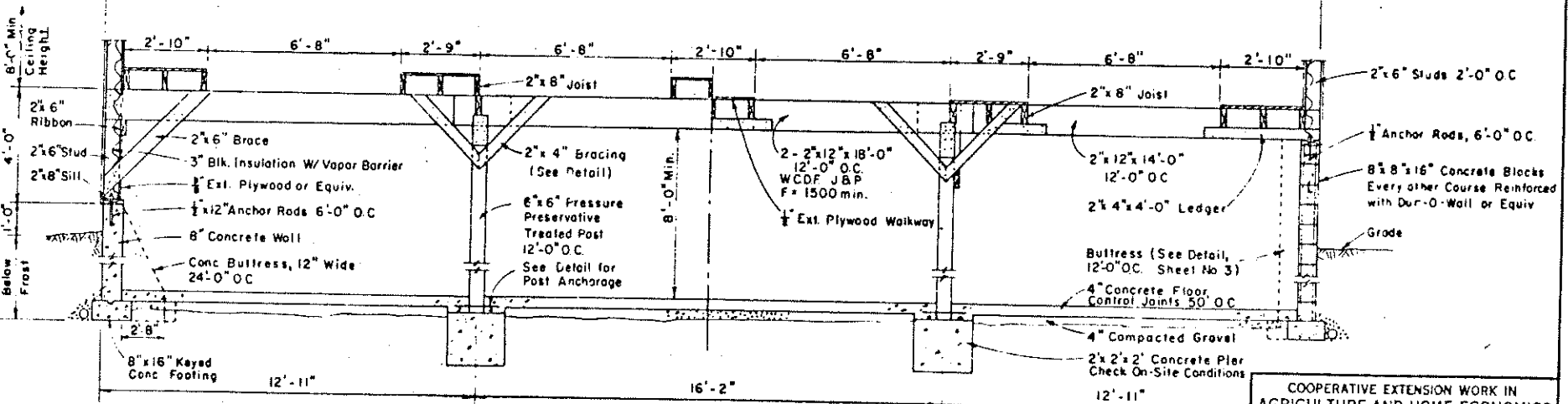
AND
UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING
LAYING HOUSE FOR POULTRY
CAGE TYPE

N.Y. '68 EX. 6062 SHEET 1 OF 6

DESIGNED BY: H.R. DAVIS
CORNELL UNIVERSITY
PLAN #24



TYPICAL CROSS SECTION



ALTERNATE FLOOR & FOUNDATION SECTIONS

• Composite Rigid Foam Insulation Panels with Equivalent Insulation, Vapor Barrier & Interior Surface Properties may be used
 • For Detailed Information See Cornell Ext. Bulletin No. 1140, Agricultural Eng. Ext. Bulletin No. 319 & Bulletin Titled, Cornell Automatic Motorized Slot Inlet Control for Livestock Environment.

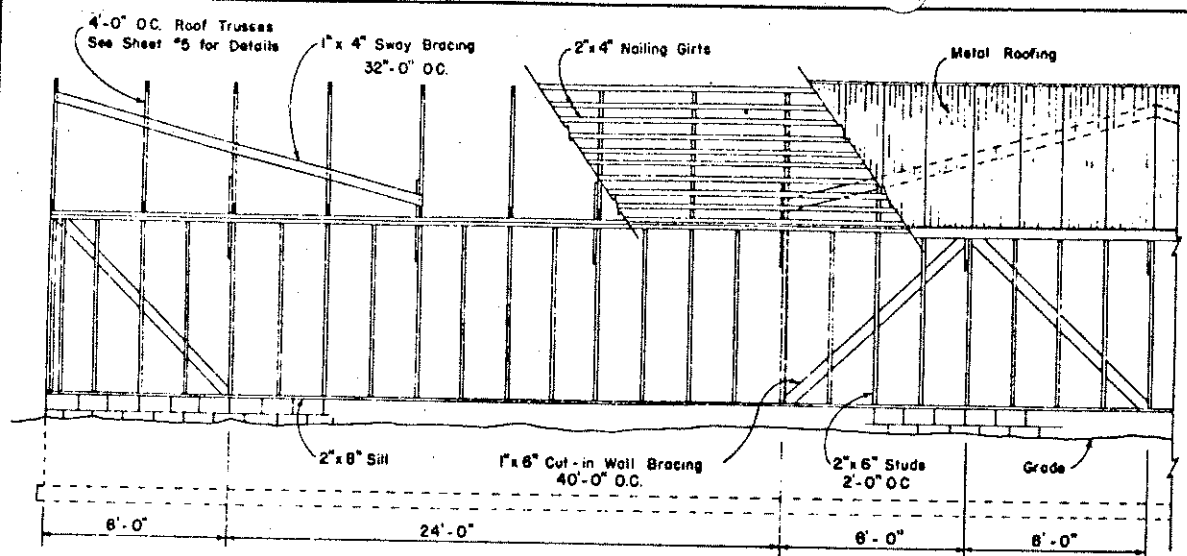
Note: **WARNING** Suffocating or Lethal Gases May be present in Pits. Provide Adequate Ventilation at All Times. Each Producer Should Make Provisions for Cleaning & Rodent Control of Pits.

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

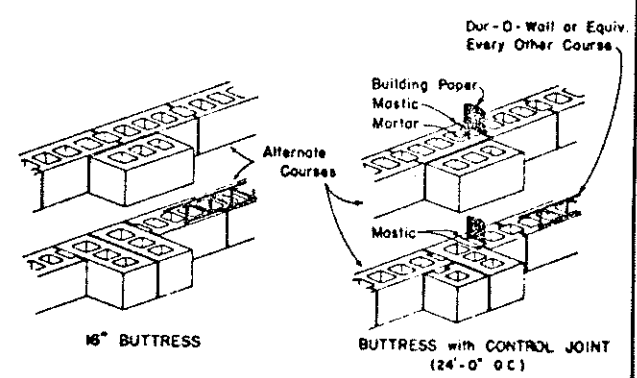
UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

LAYING HOUSE FOR POULTRY CAGE TYPE

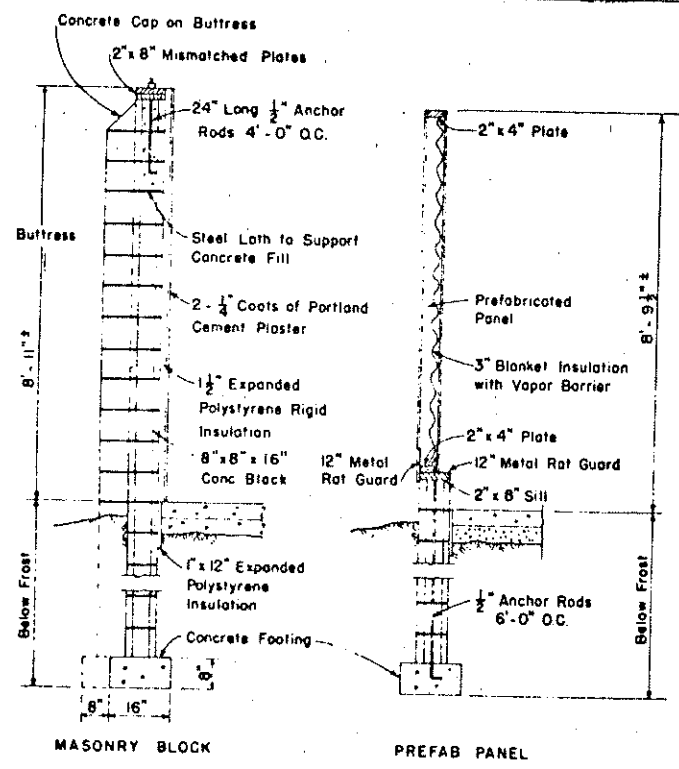
N.Y. '68 EX. 6062 SHEET 2 OF 6



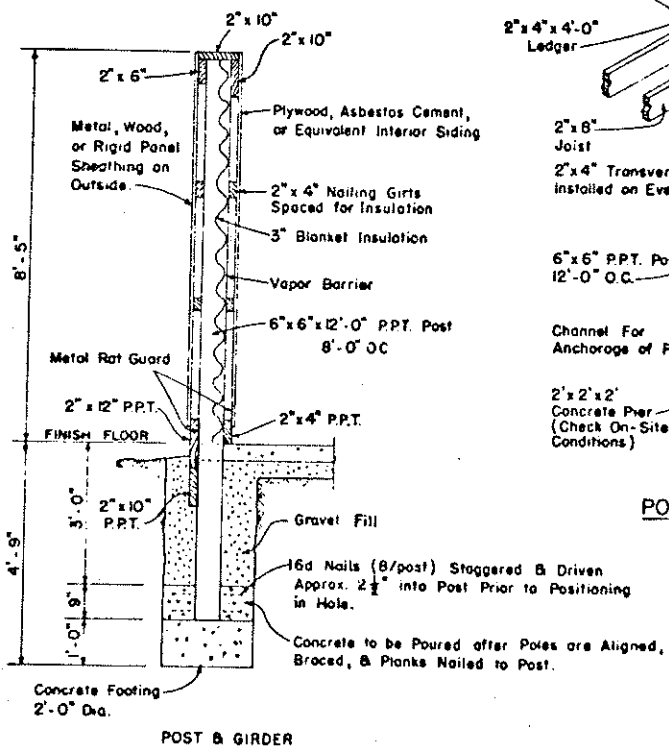
TYPICAL BRACING DETAILS FOR STUD FRAME WALLS & FOR ROOF TRUSSES



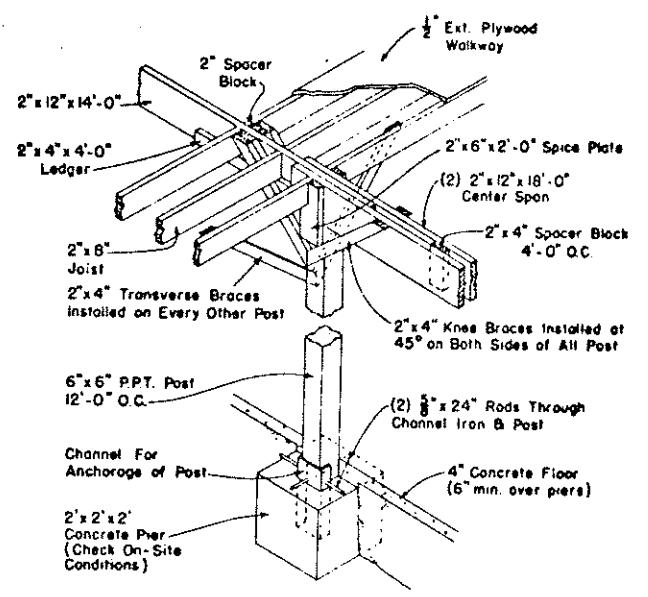
BUTTRESS DETAILS FOR MASONRY WALLS



ALTERNATIVE TYPE OF WALL CONSTRUCTION

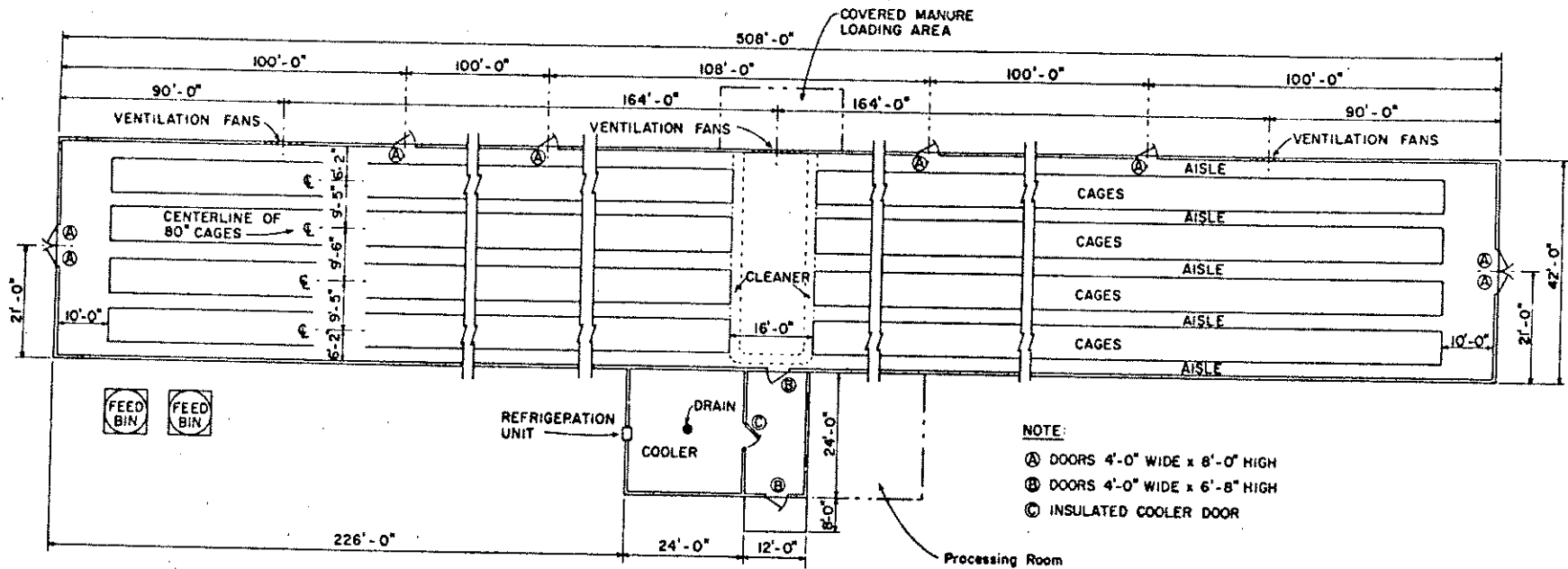


POST & GIRDER

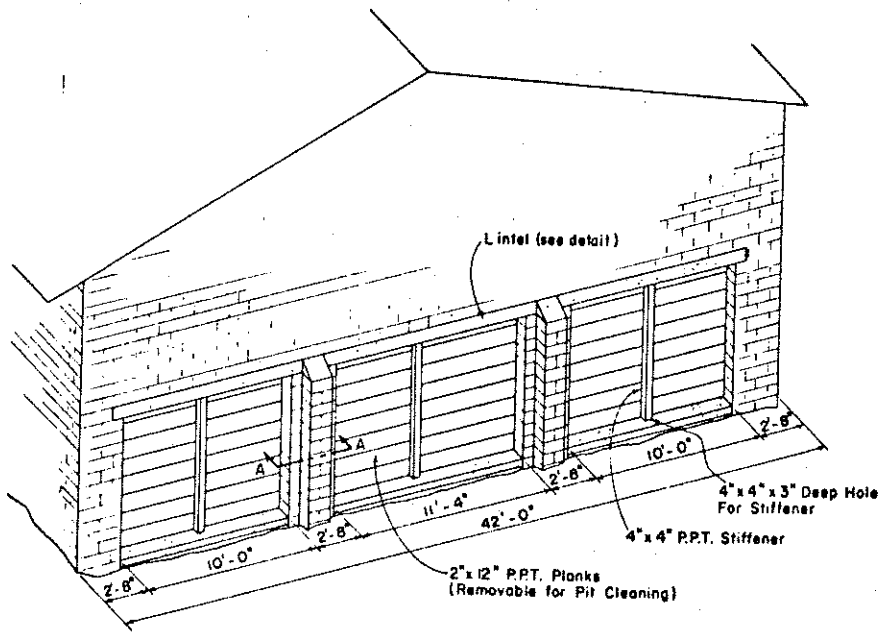


POST ANCHORAGE & BRACING

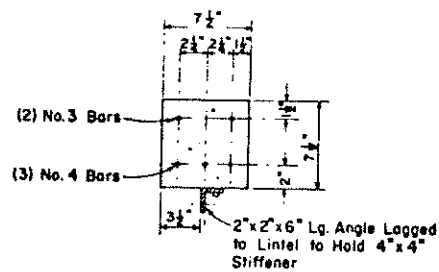
COOPERATIVE EXTENSION WORK IN
 AGRICULTURE AND HOME ECONOMICS
 UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING
 LAYING HOUSE FOR POULTRY
 CAGE TYPE
 N.Y. '68 EX. 6062 SHEET 3 OF 6



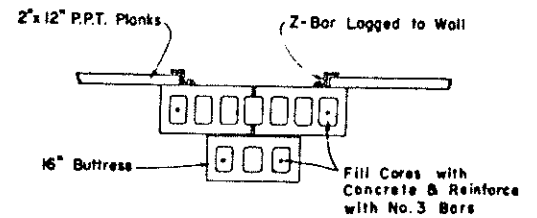
ALTERNATE FLOOR PLAN



REMOVABLE END WALL SECTIONS FOR CLEANING DEEP PITS



LINTEL DETAIL



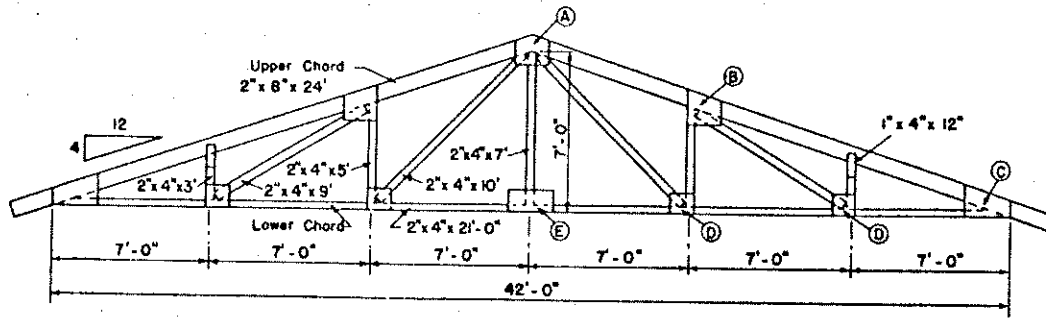
SECTION A-A

COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS

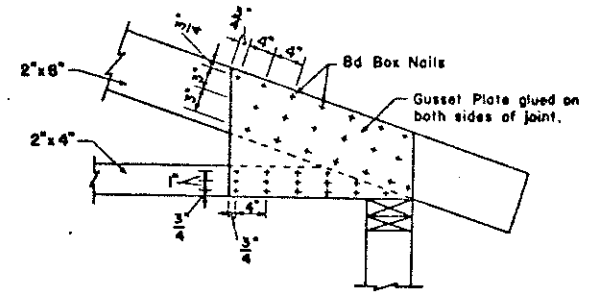
AND
UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

LAYING HOUSE FOR POULTRY
CAGE TYPE

N. Y. '68 EX. 6062 SHEET 4 OF 6



TRUSSED RAFTER



TRUSS HEEL JOINT DETAIL

Notes for Truss #826 Not designed for Concentrated Loads of Suspended Cages and Poetry

Design Values:

Dead Load: Truss + Roof + Insulated Ceiling	- 10 psf
Live Load: Snow	35 psf/zone one
Wind equivalent	88 mph
Truss spacing	4' - O.C.

Lumber - for upper and lower chords and web members

Douglas Fir - Coast Region	- Construction J & P	f = 1500 psi
Hemlock - West Coast	- Construction J & P	f = 1500 psi
Pine - Southern	- No. 1 grade (2 in. thick)	f = 1500 psi or equivalent

Plywood - for gusset plates on each side of joints

Sanded exterior type CC grade Douglas Fir or equivalent
3/4" and 3/8" as indicated in cutting diagrams

Glue - Resorcinol Resin at all gusset to truss member joints

Nails - at all joints

Nail all 3/4" gusset plates to the truss members with 8d box nails, and 3/8" gusset plates with 6d box. Space nails 4" on center in rows 1" to 3" apart. Nail no closer than 3/4" to edge of the gusset plates to avoid splitting.

Fabrication

- (I) Mix Resorcinol Resin glue according to manufacturer's specifications. Note glue's pot life and curing time as a function of temperature. Apply glue to both the plywood gusset plates and the lumber members at each joint. Do not "starve" joints of glue.
- (II) Carefully remove each truss from the jig after assembly. Stack the trusses in a horizontal position for at least 24 hours. Protect the uncured trusses from rain. Glue cures more slowly if construction is done in cool weather. Heat will be required if fabrication is done in winter for trusses to be stored for later erection during good weather.

Materials for one truss

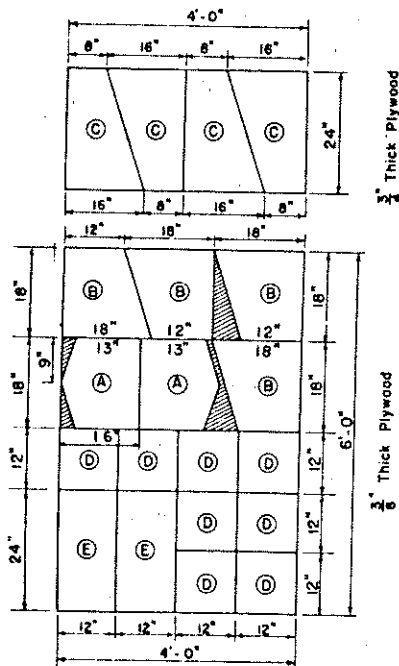
Member	No. of Pieces	Size	Dd. Ft.
Top Chord	2	2" x 8" x 24'	64
Lower Chord	2	2" x 4" x 21'	28
Web	2	2" x 4" x 10'	14
	2	2" x 4" x 9'	
	1	2" x 4" x 7'	
	2	2" x 4" x 5'	28
	2	2" x 4" x 3'	
	4	1" x 4" x 12"	2
			134

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS

AND UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

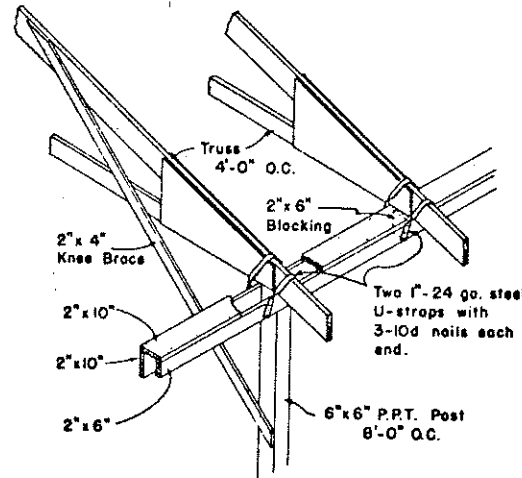
LAYING HOUSE FOR POULTRY CAGE TYPE

N.Y. '68 EX. 6062 SHEET 5 OF 6



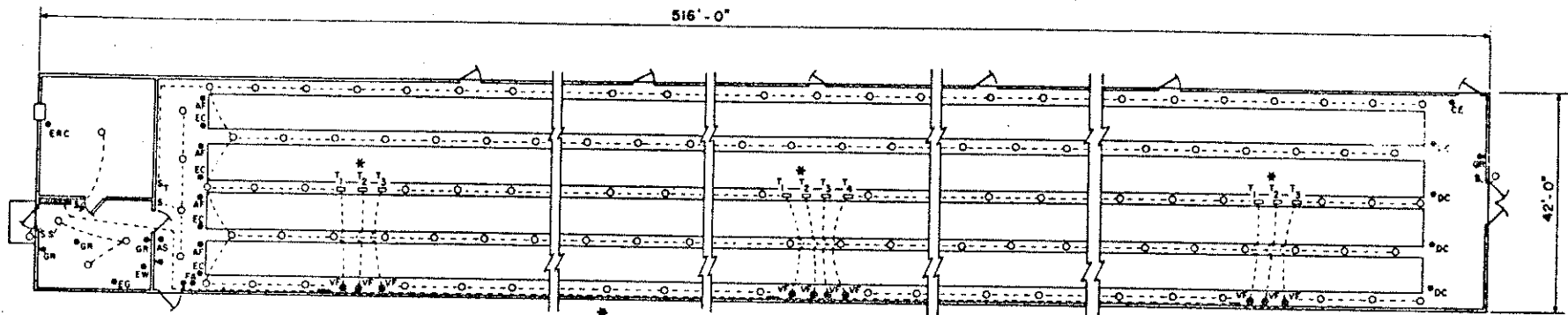
GUSSET PLATES - CUTTING DIAGRAM

Douglas Fir Plywood, Sanded, Exterior Type



TRUSS ANCHORAGE

For Post & Girder



* Thermostat for Low-Volume Low-Level Exhaust



WIRING LAYOUT

Electrical Symbols	Example of Demand Calculation for Service Entrance Conductors & Equipment Article 220-4 (1) 1965 National Electrical Code	Notes																																																
<ul style="list-style-type: none"> ○ Lighting Outlet ⊕ Duplex Convenience Outlet ⊕ GR Grounding-Type Convenience Outlet ● Special Purpose Outlets <ul style="list-style-type: none"> EG - Egg Grader EW - Egg Washer ERC - Egg Room Cooler FA - Feed Bin Auger AF - Automatic Feeder EC - Egg Collector DC - Droppings Cleaner CE - Cross Elevator VF - Ventilating Fan AS - Alarm System S SPST Switch S_p Switch w/Pilot Light S_T SPDT Time Switch (230 Volt) T Thermostat ▨ DPDT Service Entrance Switch for use with Standby Generator ▩ Distribution Panel - (Fuse or Circuit Breaker) 	<p>Continuous Loads</p> <table border="0"> <tr> <td>Lighting 240 x 40 watts = 9,600 ÷ 230V</td> <td style="text-align: right;">41.3</td> <td></td> </tr> <tr> <td>Fan Motors, 10 - 1/2 hp. x 4.9A</td> <td style="text-align: right;">49.0</td> <td></td> </tr> <tr> <td>Total @ 100%</td> <td style="text-align: right; border-top: 1px solid black;">90.3</td> <td style="text-align: right; vertical-align: bottom;">90.3</td> </tr> </table> <p>Intermittent Loads (next 60 Amperes)</p> <table border="0"> <tr> <td>Lights 10 x 100 watts = 1,000 ÷ 230V</td> <td style="text-align: right;">4.4</td> <td></td> </tr> <tr> <td>Convenience Outlets 6 x 1.5A</td> <td style="text-align: right;">9.0</td> <td></td> </tr> <tr> <td>Feeders 4 - 1 hp. x 8A</td> <td style="text-align: right;">32.0</td> <td></td> </tr> <tr> <td>Egg Gatherers 4 - 1/2 hp. x 4.9A</td> <td style="text-align: right;">19.6</td> <td></td> </tr> <tr> <td>End Elevator - 1 - 2 hp. x 12A</td> <td style="text-align: right;">12.0</td> <td></td> </tr> <tr> <td>Cross Feed Auger 1 - 1/2 hp. x 4.9A</td> <td style="text-align: right;">4.9</td> <td></td> </tr> <tr> <td>*Pit Cleaners 1 - 3 hp. x 17A</td> <td style="text-align: right;">17.0</td> <td></td> </tr> <tr> <td>*Cross Conveyor - 1 - 5 hp. x 28A</td> <td style="text-align: right;">28.0</td> <td></td> </tr> <tr> <td>Egg Cooler 1 - 1/2 hp. x 10A</td> <td style="text-align: right;">10.0</td> <td></td> </tr> <tr> <td>Egg Grader 1 - 1/3 x 3.6A, 1 - 1/2 x 2.2</td> <td style="text-align: right;">5.8</td> <td></td> </tr> <tr> <td>Total Intermittent Loads</td> <td style="text-align: right; border-top: 1px solid black;">142.7</td> <td></td> </tr> <tr> <td>60 Amperes @ 50%</td> <td style="text-align: right;">60.0</td> <td style="text-align: right;">30.0</td> </tr> <tr> <td>Remainder @ 25%</td> <td style="text-align: right;">82.7</td> <td style="text-align: right; border-top: 1px solid black;">20.7</td> </tr> </table> <p>Computed Demand for Service Entrance Equipment 141.0</p> <p>A 150 Ampere Service is Required</p> <p>* If the 3 hp. electric pit cleaners and a 5 hp. cross conveyor are not used the computed demand will be 15.3 amperes less or 125.7.</p>	Lighting 240 x 40 watts = 9,600 ÷ 230V	41.3		Fan Motors, 10 - 1/2 hp. x 4.9A	49.0		Total @ 100%	90.3	90.3	Lights 10 x 100 watts = 1,000 ÷ 230V	4.4		Convenience Outlets 6 x 1.5A	9.0		Feeders 4 - 1 hp. x 8A	32.0		Egg Gatherers 4 - 1/2 hp. x 4.9A	19.6		End Elevator - 1 - 2 hp. x 12A	12.0		Cross Feed Auger 1 - 1/2 hp. x 4.9A	4.9		*Pit Cleaners 1 - 3 hp. x 17A	17.0		*Cross Conveyor - 1 - 5 hp. x 28A	28.0		Egg Cooler 1 - 1/2 hp. x 10A	10.0		Egg Grader 1 - 1/3 x 3.6A, 1 - 1/2 x 2.2	5.8		Total Intermittent Loads	142.7		60 Amperes @ 50%	60.0	30.0	Remainder @ 25%	82.7	20.7	<p>Notes</p> <ol style="list-style-type: none"> 1. All permanent wiring should comply with the National Electrical Code and any other local code in authority. 2. Non-metallic wiring and devices (switches, lampholders and receptacles) are recommended for all buildings housing livestock. See National Electrical Code Article 336-3. 3. All motors 1/2 hp. or larger should be connected to 230 volts to reduce ampere requirements by one-half. This allows the use of smaller wire, reduces voltage drop and insures balanced load on the electric service and transformer. 4. Lighting circuits used for egg production should be equally divided on 115 volt sides of the service to insure balanced load on the system. The ampere load on any circuit should not exceed 80 percent of the rating. 5. Incandescent lamps rated at 120 to 125 volts and 25 watts on 10 ft. centers for use with light colored ceilings or with shallow dome reflectors are recommended. Lamps should be not more than 6 feet above the lowest feeder or provide at least one foot candle minimum intensity for birds in lowest cages. 6. Light control circuitry diagrams are available for increasing the light intensity for chore duties in the house. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS</p> <p style="text-align: center;">AND UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING</p> <p style="text-align: center;">LAYING HOUSE FOR POULTRY CAGE TYPE</p> <p>N.Y. '68 EX. 6062 SHEET 6 OF 6</p> </div>
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