FLOOR PLAN

(See Sheet No. 4 for Alternate Floor Plan)

NOTE:
1. DOORS 4'-0" WIDE x 8'-0" HIGH
2. DOORS 4'-0" WIDE x 6'-0" HIGH
3. INSULATED COOLER DOOR

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 manufacturers regarding details and dimensions of cage floor & pit elevations before starting construction.

DESIGN SPECIFICATIONS:
- Roof design load: 45 psf
- Live & dead load: 80 mph Wind Eq.
- Lumber: 1500 F
- Concrete: c = 2500 psi
- Masonry block: c = 800 psi

DESIGNED BY: H.R. DAVIS
CORNELL UNIVERSITY
PLAN 919

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 1 OF 6
TYPICAL BRACING DETAILS FOR STUD FRAME WALLS & FOR ROOF TRUSSES

MASONRY BLOCK

PREFAB PANEL

CONCRETE BRIDGING

CONCRETE FOOTING

Metal Roofing

24\'x4\' Cut-in Wall Bracing
40\'-0\' OC

1\'x6\' Studs 2\'-0\' OC

2\'x8\' Sill

2\'x4\' Nailing Girts

Concrete Cop on Buttress

2\'x8\' Miscellaneous Plates

24\' Long 1\(\frac{1}{2}\)" Anchor Rods 4\'-0\' OC

Steel Lam to Support Concrete Fill

2 - 3\(\frac{1}{2}\) Costs of Portland Cement Plaster

1\(\frac{1}{2}\)" Expanded Polystyrene Rigid Insulation

Plywood, Asbestos Cement, or Equivalent Interior Siding

Alternate Courses

Mortar

Mastic

BUTTRESS with CONTROL JOINT

(24\'-0\' OC)

Building Floors

Walls or Every Other Course

2\'x10", 4\'x4\' Spaced Panel

(B) 2\'x10", 4\'x4\' Spaced Panel

(T) 2\'x10", 4\'x4\' Spaced Panel

(2) 2\'x10", 4\'x4\' Spaced Panel

2\'x4" Spacer Block

4\'-0" OC

2\'x8" Joint

2\'x4" Transverse Braces installed on every other Panel

2\'x4" Knee Braces installed at 45° on Both Sides of All Posts

6\'x6" Center Span

6\'x6" PPT. Post 15\'-0\' OC

Channel for Anchorage of Post

2\'x2, 2\'x2 Concrete Post

Concrete to be Poured after Posts are Aligned, Braced, & Plane Levelled to Post.

POST ANCHORAGE & BRACING

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UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING

LAYING HOUSE FOR POULTRY

CAGE TYPE

N.Y. '68 EX. 6062 SHEET 3 OF 6

ALTERNATIVE TYPE OF WALL CONSTRUCTION
TRUSSED RAFTER

Notes for Truss 8276: Not designed for Concentrated Loads of Suspended Cages and Poultry

Design Values:

- Dead Loads: Truss + Roof + Insulated Ceiling = 10 psf
- Live Loads: 50 cents
- Wind Equivalent: 88 mph
- Truss spacing: 4' = O.C.

Lumber - for upper and lower chords and web members:
- Douglas Fir - Coat Region - Construction J & P
- Hemlock - West Coast - Construction J & P
- Pine - Southern - No. 1 grade (2 in. thick) = 1500 psf

Plywood - for gusset plates at each side of joints:
- Sanded exterior type CC grade Douglas Fir or equivalent

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 6d box nails, and 3/8" gusset plates with 6d box. Space nails 6" 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 "steal" joints of glue.

(II) Carefully remove each truss from the jig after assembly. Check the trusses in a horizontal position for at least 24 hours. Protect the unceded trusses from rain. Glue takes 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 use:

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<th>Member</th>
<th>No. of Pieces</th>
<th>Size</th>
<th>Bd. Ft.</th>
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<td>Top Chord</td>
<td>2</td>
<td>5&quot; x 4&quot; x 24'</td>
<td>64</td>
</tr>
<tr>
<td>Lower Chord</td>
<td>2</td>
<td>2 1/2&quot; x 10'</td>
<td>18</td>
</tr>
<tr>
<td>Webs</td>
<td>2</td>
<td>2 1/2&quot; x 10'</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2&quot; x 4&quot; x 24'</td>
<td>32</td>
</tr>
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<td>2</td>
<td>2&quot; x 4&quot; x 6'</td>
<td>24</td>
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<tr>
<td></td>
<td>2</td>
<td>1&quot; x 6&quot; x 12'</td>
<td>3</td>
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</tbody>
</table>

GUSSSET PLATES - CUTTING DIAGRAM
Douglas Fir Plywood, Bonded, Exterior Type

TRUSS ANCHORAGE
For Post & Girders

COOPERATIVE EXTENSION WORK IN
AGRICULTURE AND HOME ECONOMICS
UNITED STATES DEPARTMENT OF AGRICULTURE "PEARCE"
LAYING HOUSE FOR POULTRY
CAGE TYPE
N.Y. '69 EX.5062 SHEET 5 OF 6
WIRING LAYOUT

Electrical Symbols

- Lighting Outlet
- Duplex Convenience Outlet
- Grounding-Type Convenience Outlet
- Special Purpose Outlets
  - EG: Egg Grader
  - EW: Egg Washer
  - EM: Egg Room Cooler
  - FA: Feed Bin Auger
  - AF: Automatic Feeder
  - EC: Egg Collector
  - DC: Dropping Cleaner
  - CE: Cross Elevator
  - VF: Ventilating Fan
  - AS: Alarm System

Example of Demand Calculation for Service Entrance Conductors & Equipment

Article 220-4 (A) 1965 National Electrical Code

Continuous Loads
- Lighting 240 x 40 watts = 9,600 + 230V
  - Fan Motors, 10 x 1/2 hp. x 1.1A
  - Total @ 100%

Intermittent Loads (not 95 Amperes)
- Lights 10 x 100 watts = 1,000 + 230V
- Convenience Outlets 5 x 1.5A
- Feeders 4 x 1 hp. x 1A
- Egg Gatherer 4 x 1/2 hp. x 0.9A
- End Elevator - 1 x 2 hp. x 1.2A
- Cross Conveyor 1 x 1/2 hp. x 0.9A
- Pit Cleaners 4 x 1/2 hp. x 1.9A
- Egg Cooler 1 x 1/2 hp. x 0.8A
- Egg Grader 1 x 1/2 x 3.6A, 1 x 1/2 x 2.2

Total Intermittent Loads
- 60 Amperes @ 10%
- 42.5
- Remainder @ 25%
- 12.7

Computed Demand for Service Entrance Equipment
- 141.9

A 150 Amp Service is Required

Notes
1. All permanent wiring should comply with the National Electrical Code and any other local code is advisory.
2. Non-metallic wiring and devices (switches, lampholders and receptacles) are recommended for all buildings and structures. See National Electrical Code Article 336-3.
3. All motors 1/2 hp. or larger should be connected to 230 volts to reduce amperage requirements by one-half. This allows the use of smaller wire, reduces voltage drop and insures balanced load on the electric service and transformers.
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 amperage 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 smoked dome reflectors are recommended. Lamps should be not more than 6 feet above the lowest feeder or provide at least one foot of minimum intensity for birds in lowest cages.
6. Light control circuitry diagrams are available for increasing the light intensity for short stalls in the house.

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