The two compartment bulk feed bin in this plan will permit a farmer to take advantage of bulk feed deliveries. The economies of bulk service coupled with gravity discharge give the dollar saving and convenience needed in modern agriculture.

Filling and feeding from alternate compartments will permit changing of ration and provide a means of thoroughly cleaning the bin without completely depleting the feed supply. Research has shown that now feed dumped on top of a partially filled bin may actually funnel down and discharge before the older feed has been drawn off.

The ten ton capacity of this bin is based on filling to the plate level with feed weighing about 30 lbs. per cu. ft. The shape of the roof should permit added capacity by mounding the feed. Feed delivery truck capacities suggested the 5 ton single compartment size. Heavier feeds will, of course, result in a greater tonnage capacity. The bin is designed to safely hold heavier materials - including the loads of wheat.

Automatic feeders and feed conveyors should fit easily under the bin. The 3' clearance will also permit drawing feed into a wheelbarrow or feed cart. Additional clearance may be provided by lengthening the 4 x 4 legs. If the 4 x 4's extend more than 10' below the bin, they should be braced to prevent buckling. Most delivery trucks can easily reach the 17' high door, however, raising the bin for added clearance may result in delivery problems.

Plywood's insulating ability will help prevent condensation and the resulting feed spoilage. At the same time, the even temperature maintained by the plywood bin will prevent vaporization of valuable feed additives.

Careful attention to caulking of the horizontal plywood joints will prevent rain leakage. An alternate method of providing weather protection is to apply plywood siding to the outside of the 4 x 4 uprights.

The foundation of the bulk feed bin must carry the load of the feed and the bin. Local conditions will determine the bearing area required. Nearly all soils can safely carry one ton per square foot of area.

**ERECTION PROCEDURE:**

The normal sequence of construction would be:

1. Set up all 4 x 4 uprights and position with temporary braces.
2. Install floor and roof joist at proper position, taking care that they are in alignment.
3. Install 4 x 4 supports for divider; bolt to joists.
4. Nail the plywood lining on end walls.
5. Cut and fit sloping plywood floor.
6. Put divider plywood in place.
7. Fit and nail the plywood side lining.
8. Complete roof and filling door.
9. Construct the draw-off slides
10. Install tie rods at locations shown.
11. Check nailing and bolting to make sure all fasteners are in place.
SIDE 4X4'S SET OUT 1/2"

FACE GRAIN DIRECTION

FACE GRAIN DIRECTION

DRAW-OFF SLIDES SIZE AND LOCATION MAY VARY

CLIP ANGLE TO FOUNDATION FOR WIND RESISTANCE

REAR ELEVATION
2X4 Cripple Under Joist

Clip Angle To Foundation For Wind Resistance

2X4 Outrigger For Door Pulley

Face Grain Direction

Detail X

Side Wall Elevation

10 Ton Feed Bin

Douglas Fir Plywood Association
1119 "A" Street Tacoma 2, Washington
SECTION A-A

1/2" EXT-DFPA PLYWOOD
2X2 EACH SIDE OF PARTITION
1/2" x 4 1/2" BOLT 2'-0" APART
2X6 BEVELED
3/4" EXT-DFPA PLYWOOD

1/2" x 6"
BOLT

1/2" x 5"
LAG

1/2" x 7 1/2"
BOLTS

1/2" EXT-DFPA PLYWOOD SLIDE
SIZE AND SPACING VARIABLE

DRAW-OFF DETAIL

10 TON FEED BIN

DOUGLAS FIR PLYWOOD ASSOCIATION
1119 "A" STREET TACOMA 2, WASHINGTON

DFPA
TESTED QUALITY
PLYWOOD
1/2" TIE-Rods SEE ELEVATIONS FOR VERTICAL LOCATION
SEE PARTITION CONNECTION DETAIL BELOW
PLYWOOD DIVIDER
SIDE 4x4's SET OUT 1/2"

SECTION B-B
NAIL PLYWOOD TO 2x4 WITH 8d GALV. NAILS 6" O.C.
NAIL 2x4 TO 4x4 WITH 16d GALV. NAILS 6" O.C.
CORNER FRAMING DETAIL

SECTION C-C
1/2" EXT-DFPA PLYWOOD
1/2"x4 1/2" BOLT 24" O.C.

PARTITION CONNECTION DETAIL
2 x 4 RAFTER
4 REQ'D

3 5/8"
2 3/4"
4 3/4"
3 1/4 1 1/8"

UPRIGHTS -
TOP CUT

3 5/8"
1 1/2"

2 1/4"
5 1/2"

RIDGE JOIST
1 REQ'D
8 1/4" 1 1/4" LONG

1 5/8"
2 1/4"
54°

FLOOR JOIST
8 1/4" LONG
4 - 2X10 REQ'D
4 - 2X6 REQ'D

22 1/2°
1 5/8"
3 5/8"
1 1/16"

2 x 4 ROOF JOIST
3 REQ'D
8 1/4" 1/4" LONG

DOUGLAS FIR PLYWOOD ASSOCIATION
1119 "A" STREET TACOMA 2, WASHINGTON
3/8" EXT-DFPA PLYWOOD ROOF SHEATHING
2X4 ROOF JOIST
1/2" X 6" BOLT ENDS AND CENTER
4X4 UPRIGHT
2X4 BLOCKING BETWEEN UPRIGHTS
1/2" EXT-DFPA PLYWOOD BIN LINING

SECTION D-D

1/2" EXT-DFPA PLYWOOD
2X4 FASCIA
3/8" EXT-DFPA PLYWOOD GABLE SIDING

TIE ROD DETAIL

1/2" TIE ROD
3" SQUARE PLATE WASHER
BIN PARTITION
4X4 UPRIGHTS
4'-6" LONG
4'-10" LONG

TIE ROD GOING THE OTHER DIRECTION ARE 8'-10" LONG, THREAD 2" OF EACH END

1/2" PLYWOOD SHIM
2X4 CRIPPLE UNDER JOIST

SECTION E-E

2X2 CORNER NAILET
6d NAILS
BOTTOM SLOPE
### Plywood:

<table>
<thead>
<tr>
<th>Pcs.</th>
<th>Size</th>
<th>Description</th>
<th>Use</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>4' x 8'</td>
<td>3/4&quot; AC or BC EXT - DFPA Douglas fir</td>
<td>Bottom slope</td>
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<td>14</td>
<td>4' x 8'</td>
<td>1/2&quot; CC, BC or AC EXT-DFPA Douglas fir</td>
<td>Sides, Divider</td>
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<td>4' x 8'</td>
<td>3/8&quot; CC, BC or AC EXT-DFPA Douglas fir</td>
<td>Roof, Gable Sides</td>
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### Lumber:

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<td>Construction grade Douglas fir</td>
<td>Side posts</td>
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<td>Divider post</td>
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<td>2</td>
<td>4x4</td>
<td>16'</td>
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<td>Front &amp; Rear posts</td>
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<td>14'</td>
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<tr>
<td>2</td>
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<td></td>
<td>beveled top Bottom joists</td>
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<tr>
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<td>Roof joist</td>
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<td>Bottom joist</td>
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<td>2</td>
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<td>9'</td>
<td>Plate</td>
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<tr>
<td>1</td>
<td>2x6</td>
<td>12'</td>
<td>Divider Support</td>
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<td>8'</td>
<td>Divider Support</td>
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<td>3</td>
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<td>8'</td>
<td>Fascia</td>
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<td>Rafters</td>
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<td>Door framing</td>
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<tr>
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<td>2x4</td>
<td>16'</td>
<td>Open Door Support</td>
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<td>4</td>
<td>2x4</td>
<td>12'</td>
<td>Cripple Supports</td>
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<td>4</td>
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<td>8'</td>
<td>Corner Nails</td>
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<td>Corner Nails</td>
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<tr>
<td>3</td>
<td>2x2</td>
<td>4'</td>
<td>Bottom Edge Nails</td>
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### Hardware:

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<tbody>
<tr>
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<td>Steel Rod thread both ends</td>
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<td>Plate Washer, 1/2&quot; Hole</td>
<td>Tie Rod Ends</td>
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<td>Carriage Bolt with Washer</td>
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<td>Ridge Joist</td>
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<td>Roof Joist</td>
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<tr>
<td>3</td>
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<td>15</td>
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<td>16</td>
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<td>3/4&quot;, 1/2&quot; Plywood</td>
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