

PLAN 1820: NEW 1999.06

This plan provides construction details for wood and concrete feed bunks. The main requirements for feed bunks are good quality, rugged, practical and economical. Bunk length and capacity should meet livestock requirements. There are several variations that perform well if attention is paid to details.

## Types of Bunks and Materials

### Concrete:

- Most rugged and economical in the long term.
- Material cost is low, but forming and placing requires skill, extra labour and equipment.
- May be done rapidly by slip-form contractors.
- Permanent, but difficult to renovate or move.

### Wood:

- Similar material cost to concrete.
- Plank on a steel post frame is durable and economical.
- Easy to construct, modify or repair.
- Should have a concrete bottom pad.

### Posts and Rail Feed Fence:

Best bunk fences are posts of steel pipe with plank, cable or steel head rails. Heavy-duty treated wood posts

are a good alternative. Comments on bunk fencing alternatives:

- Plank rails: Rough 2 x 8 are excellent. Attach rails on the bunk side of the post for greater comfort for animals while eating.
- Steel Head Rail: Cable with spring tension is very good. Cable fraying can be a long term maintenance problem. Alternatives are steel rod or pipe (used oil field rod is low cost); steel highway guard rails make excellent headrails. Offsetting the head rail, as shown on the plan, provides the most comfort for cattle.
- Drainage and clean-out: Long bunks can collect significant rain water; provide a drain hole at the lowest closed end. Stale feed along front and back corners needs to be removed periodically.

Concrete Apron: is essential for clean cattle at the feed area, and for cattle to eat comfortably, not get mired in muck, and thus spend quality time at the feed bunk.

Apron width should be adequate for cattle to stand comfortably. A 6 ft. apron allows cattle to stand comfortably; 8 ft. is ideal. Wider pads up to 12 ft. permit

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## COMPLETE INSTRUCTIONS

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access for wide tractor blades plus allowing cattle to walk on concrete behind those at the bunk.

Slope: Slope the apron at 2 - 4% (¼ to ½ in/ft.) away from the bunk.

Concrete Specification: Use 25 MPa, air-entrained concrete for bunks and aprons. Control joints, like sidewalk joints, will control cracking but are not essential. If used, set at a slight angle so the cleaning blade does not catch.

### Design Criteria

Bunk Space: Provide the desired length per head and volume capacity for the application (Table 1). Feedlot bunk space varies from 6"/head for animals on full feed to 18"/head for animals starting on a limited ration where all eat at once. Most feedlots compromise at 10-12"/head, which may be crowded for starting and more than necessary for full-feed rations.

Throat Height: Needs to be comfortable, so animals reach the bunk floor without throat discomfort. Allow 16" for 500 lb calves up to 24" for large cows. Throat height of 20" is good for feedlots where animals range from 600 to 1200 lb.

### Bunk cost:

Material cost for wood and concrete bunks is similar, about \$15.00 per foot of bunk in 1999. Though farm labour will also be similar for either wood or concrete, labour for constructing concrete forms may be nearly as much as that for building the entire bunk of wood. The main challenge for building concrete bunks is to purchase, borrow or rent suitable forms. Custom feedlot contractors are using slip forms for continuous pouring

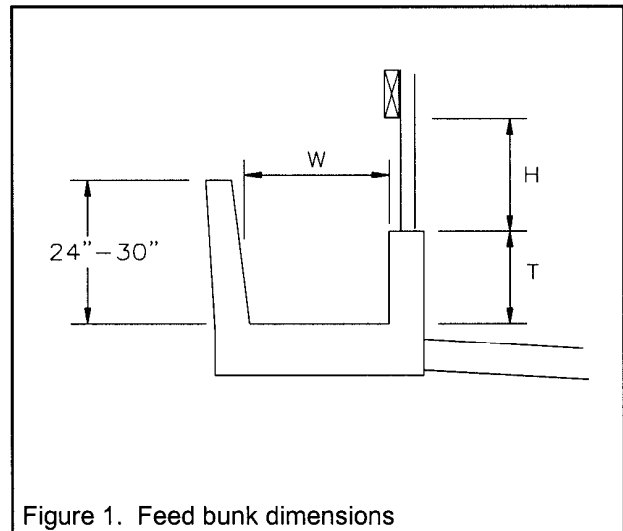


Figure 1. Feed bunk dimensions

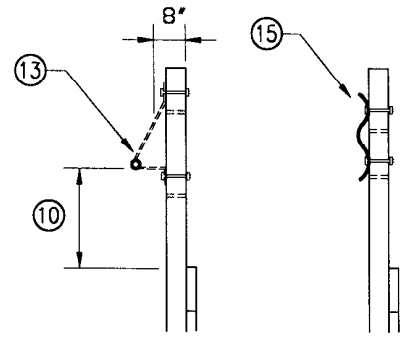
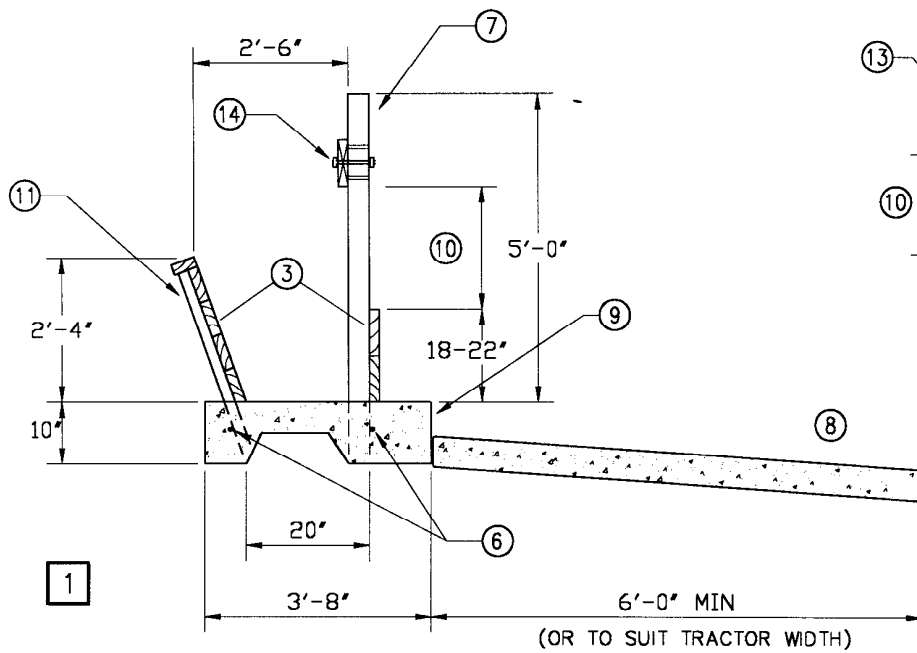
in one rapid operation.

Table 1: Basic dimensions for feed bunks; refer to Figure 1 for details.

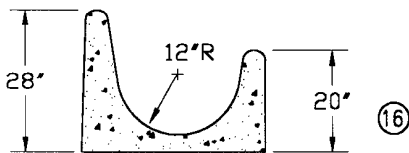
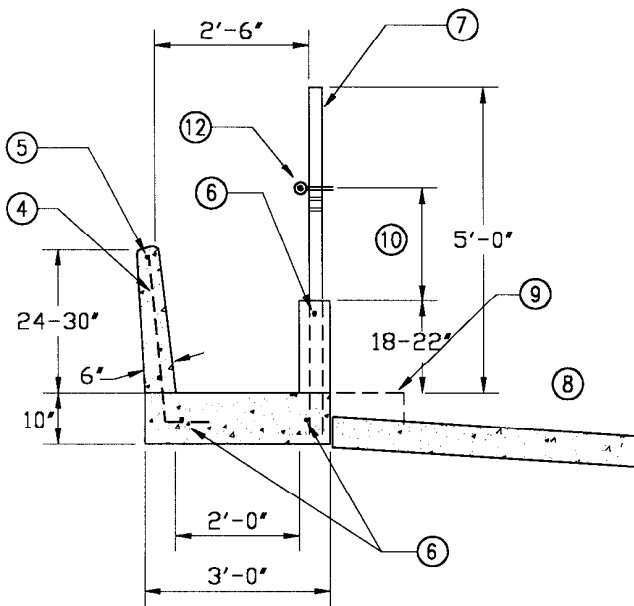
Livestock Type (Dimensions - inches)	Calves to 600 lb	Feeders (600 - 1000)	Feeders & Cows to 1200 lb
Bunk length (in/hd) Full feed <sup>1/</sup> Limited feed <sup>2/</sup>	NA <sup>3/</sup> 14 - 16	8 - 12 18 - 24	12 - 16 24 - 30
Throat height (T)	16 - 18	18 - 21	24
Bottom width (W)	18 - 24	24	24 - 30
Headrail height (H)	14	16	20

1. Full feed: feed present most of the time
2. Limited feed: all animals need to eat at once
3. Calves not normally on full feed

Plan originally from Alberta Agriculture  
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HEAD RAIL OPTIONS



1. pipe & plank bunk option
2. concrete bunk options
3. 2" plank
4. 10M vert rebar 18" oc
5. 10M horiz rebar
6. 15M horiz rebar
7. 3" steel post 6' oc
8. 5-6" concrete apron, slope 3%
9. 12" x 5" step, optional
10. height variable: 16"-22"
11. 2" pipe or double angle iron
12. 1/2" cable in eyebolt
13. pipe on steel brackets
14. 2 x 8 rough plank
15. highway guard rail section
16. slip formed concrete



Designed: D.D./O.K.  
 Drawn: D.D.  
 Date: 1995-09 R99/06  
 File name: CPS1633

Plan 1633

FENCELINE  
 FEED BUNKS

