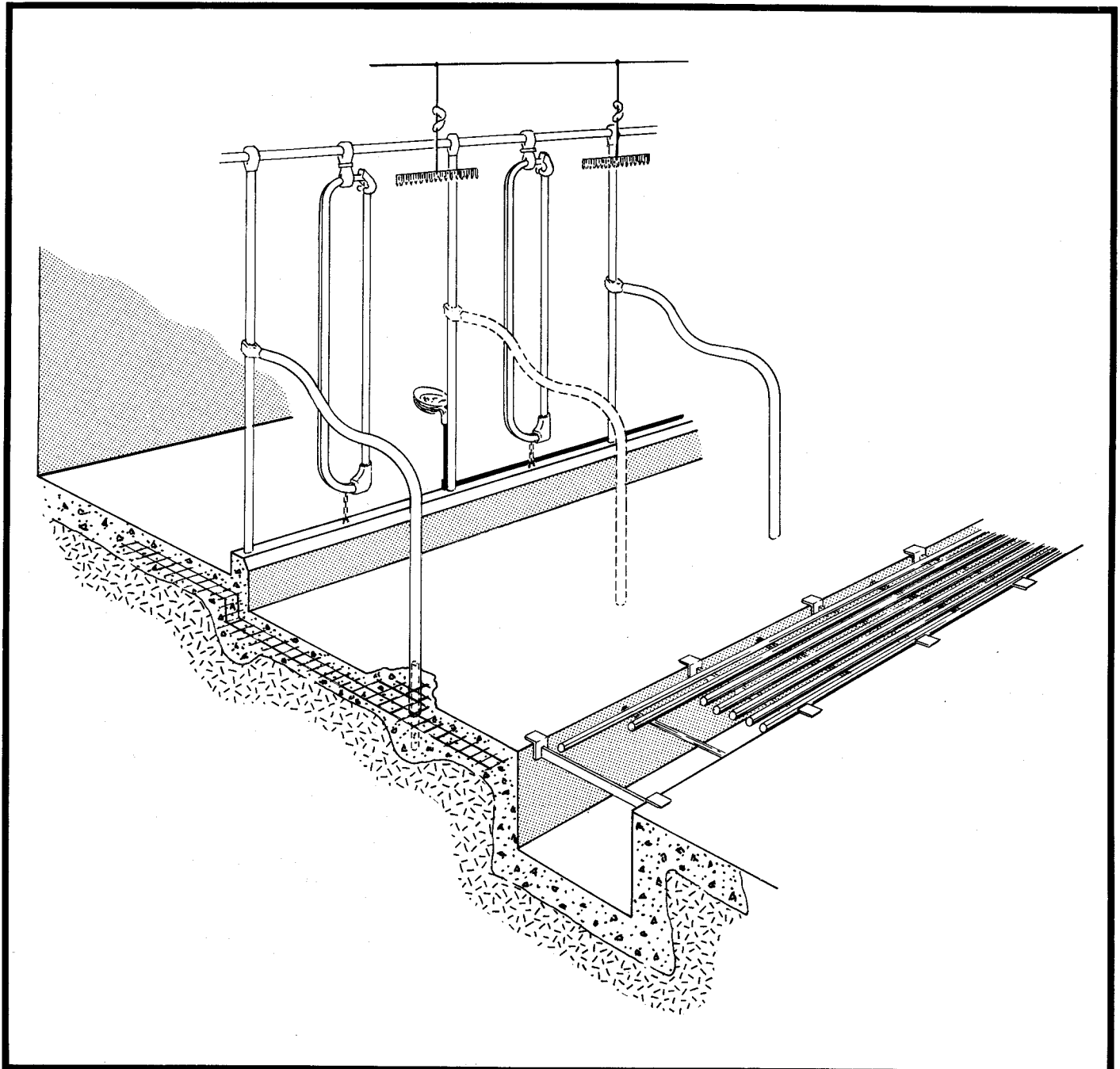


PLAN
2823

STANCHION TIE STALL



The Canada Plan Service prepares detailed plans showing how to construct modern farm buildings, livestock housing systems, storages and equipment for Canadian Agriculture.

This leaflet gives the details for a farm building component or piece of farmstead equipment. To obtain another copy of this leaflet, contact your local provincial agricultural engineer or extension advisor.

STANCHION TIE STALL

PLAN 2823 NEW 83:03

This plan gives recommended dimensions and details for stalls using commercial stanchions for tying dairy cows. Less time is required for stanchioning cattle than for most other tie arrangements. Cattle have less freedom of movement in stanchions than in other tie systems; however electric cow trainers are still recommended. Heifers should be stanchioned prior to calving to familiarize them with limited movement.

This plan shows a concrete curb about 8 in, above the stall floor at the front of the stall, with the feed alley about 2 in. above the stall floor. Or the feed alley may be the same level as the stall floor, or have a sweep-in manger recessed. Some dairymen prefer no curb at all, but water spilled from the bowl can then drain back onto the stall.

The manure gutter includes an optional steel grating which keeps cows' tails out of the gutter and simplifies traffic. With the grating, the gutter should be at least 1 ft deep for efficient operation of the gutter cleaner. The stall platform is best at the same level as the litter alley floor; however, if a raised stall platform is preferred, pockets to support the stall edge of the grating must be formed in the concrete gutter wall. To make the pockets, tack small rectangular blocks of blue polystyrene to the concrete side of the gutter forms before placing concrete.

Grounding mats are strongly recommended under the stall and manger areas. This is to eliminate possible 'tingle voltage' problems. Galvanized wire mesh 2 x 2 in., should be bonded directly, to front and rear of stall hardware and bedding retainers. Make bonding connections either by direct welding, or by No. 4 solid copper wire and ground clamps. Further details concerning materials and methods of installation can be found in Leaflet Q-2503, Milking Parlor Grounding.

- 1 manure gutter, stalls level with litter alley (see manufacturer)
- 2 manure gutter, stalls raised above litter alley (see manufacturer)
- 3 6' - 0" clear to wall, for face-out arrangement, or 7' - 0" clear to opposite stalls for face-in
- 4 stanchion tie
- 5 1 1/4" galvanized pipe divider, reinforced at floor line with solid round bar insert, every other divider optional
- 6 optional 5" wide concrete curb, approx. 8" high from stall floor, 1 1/2" x 3" chamfer at stall side
- 7 galvanized water pipe, may be cast in curb, with tee and riser to each water bowl, capped pipe at least 6" above bowl, controls water hammer
- 8 1 1/4" galvanized pipe
- 9 electric cow trainer, adjustable vertically, locate 18" behind stall front
- 10 optional manure gutter grating, 3/4" smooth round bars @ 23/8" oc, with tops flush with floor, length of section at least 10' - 0"
- 11 3/4" dia. bars 30" oc alternating with 12 , weld to underside of 10
- 12 1/2" x 1 1/2" steel b on edge 30" oc alternating with 11, 1/4" fillet weld all around to 13
- 13 2" x 2" x 1/4" clip angles 2" long @ 30" oc, corners rounded with grinder
- 14 grating bars equally spaced
- 15 form pockets in concrete gutter, per wall 4" x 3" x 2" at 30" oc, for 13
- 16 stall and litter alley slope 1/2"/1' to gutter

COW STALL DIMENSIONS (with trainers)

cow size lb.	880	1100	1350	1540
17 stall width in.	40	46	50	56
18 stall length* in.	58	62	66	72

- * If trainers not used, shorten stall by 4"
- 19 optional 1 1/4" gale. pipe bedding retainer, weld to lugs of gutter grate, omit retainer at cross-alleys and maternity stalls
 - 20 optional galvanized mesh grounding mat in floor (see leaflet Q-2503, Milking Parlor Grounding for material & methods), bond to front and rear of stall hardware with clamps or tack weld; maximum 1 1/2" concrete cover

