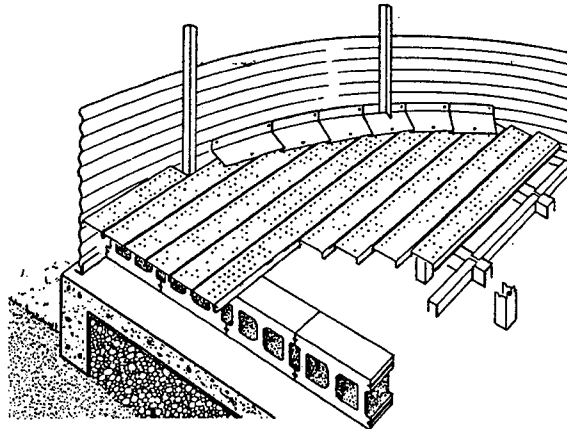


1



4

- 1 reinforced concrete foundation with "X-type" aeration duct
- 2 reinforced concrete foundation with "Y-type" aeration duct
- 3 reinforced concrete foundation with "I-type" aeration duct, for bins not over 18'-0" diam.
- 4 reinforced concrete foundation with "full floor aeration system"; system consists of galv. steel or concrete block supports, perforated plank flooring, and flashing to seal bin; see manufacturer
- 5 aeration duct extension or fan transition
- 6 aeration duct with floor panels or use perforated flooring
- 7 center bin well and unloading auger
- 8 unloading auger trench with removable solid floor
- 9 intermediate bin well (optional); do not use to start emptying a full bin

SPECIFICATIONS

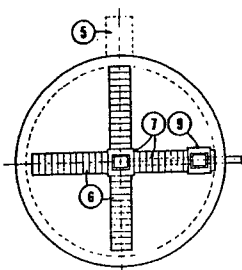
Before constructing foundation consult manufacturer of steel grain bins for details, such as: foundation and bin diameter, bin anchorage, under floor and sweep augers, aeration ducts and fan outlets. Also consult local authorities for compliance with codes.

The design of this plan considered a max. bin diameter of 22'-0" with a max. depth of 16'-5" (shallow bin). For greater bin depths and diameters increase the perimeter footing width and circumferential reinforcing.

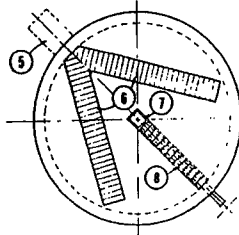
The minimum soil safe bearing pressure must be larger than 1200 psf. Unless otherwise specified, all cast-in-place concrete is to be min 3000 psi at 28 days, 6% air-entrainment. The plan user must ensure that the foregoing requirements are met. Consult an engineer if you are not familiar with the details required or if your bin and soil do not fall within these limits.

All reinforcing steel to be min. 60,000 psi deformed bars; provide 2" min. concrete cover over reinforcing steel.

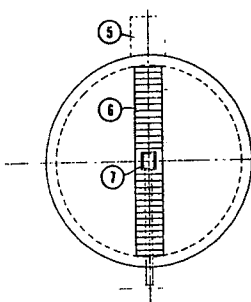
All exposed steel to be galvanized or painted to resist corrosion from moisture.



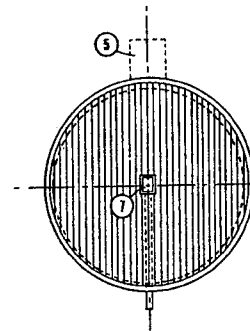
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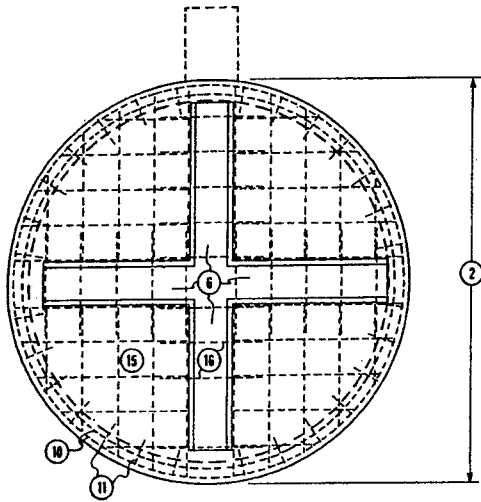


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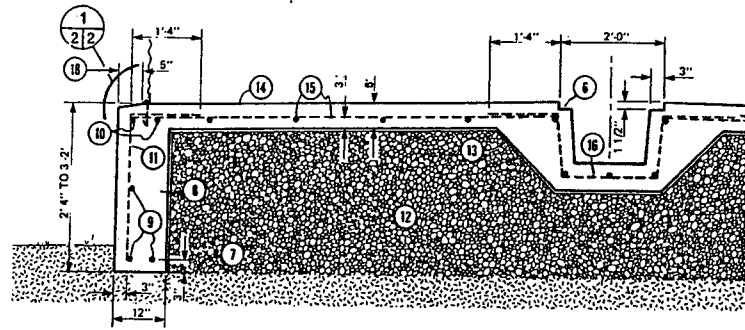


FOUNDATIONS FOR CIRCULAR STEEL GRAIN BINS UNDER 22 FT DIAMETER

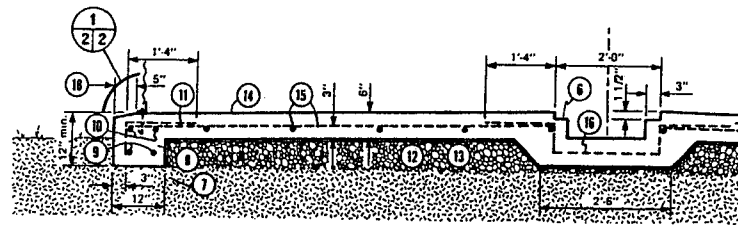
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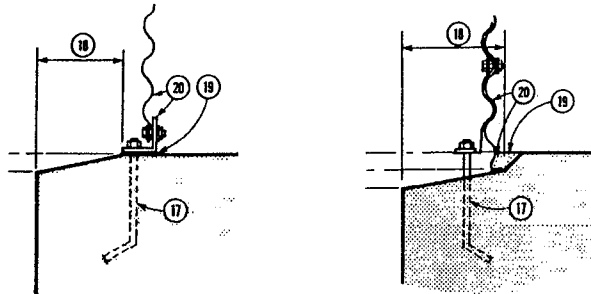
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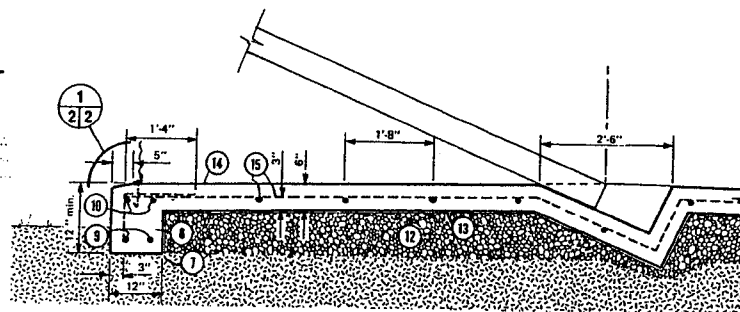
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4



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2/2



5

- 1 reinforced concrete foundation with "X-type" aeration duct (rebar size and spacing is identical for foundations with "Y-type" or "I-type" aeration duct)
- 2 outside diameter of foundation is bin diameter plus 2 x ⑩
- 3 section with footing depth 2'-4" to 3'-2" for in-floor auger, unloading into second conveyor
- 4 footing depth 12" minimum for in-floor unloading auger with universal joint drive extension
- 5 foundation with inclined auger unloading
- 6 aeration duct, notch floor for perforated flooring
- 7 remove top soil and compact soil at foundation ring location
- 8 erect form, place ⑨, ⑩, ⑪ and pour concrete footing
- 9 5/8" continuous rebars, ends overlapped by 1'-4"; 2 rebars for footing depth of up to 1'-6", 3 rebars for up to 3'-2"
- 10 2 - 5/8" continuous rebars, ends overlapped by 1'-4"
- 11 5/8" temperature L-rebars @ 1'-8" oc
- 12 compacted granular fill
- 13 6 mil polyethylene liner
- 14 6" reinforced concrete floor, slope 2" from center
- 15 5/8" temperature rebars both ways @ 1'-8" oc
- 16 5/8" rebars @ 1'-8" oc, bend to suit aeration duct design; overlap with ⑮ by 1'-4"
- 17 1/2" x 6" anchor bolt @ 10'-0" oc or as req'd to pull bin onto concrete moisture seal
- 18 5" minimum (greater for larger bins)
- 19 sealant
- 20 protective coating on bin sheets



FOUNDATIONS FOR CIRCULAR STEEL GRAIN BINS UNDER 22 FT DIAMETER

CANADA '87 6391 SHEET 2 OF 2

Disclaimer

This site makes available conceptual plans that can be helpful in developing building layouts and selecting equipment for various agricultural applications. These plans do not necessarily represent the most current technology or construction codes. They are not construction plans and do not replace the need for competent design assistance in developing safe, legal and well-functioning agricultural building system. The LSU Agriculture Center, the Mid-West Plan Service, the United States Department of Agriculture and none of the cooperating land-grant universities warranty these plans.