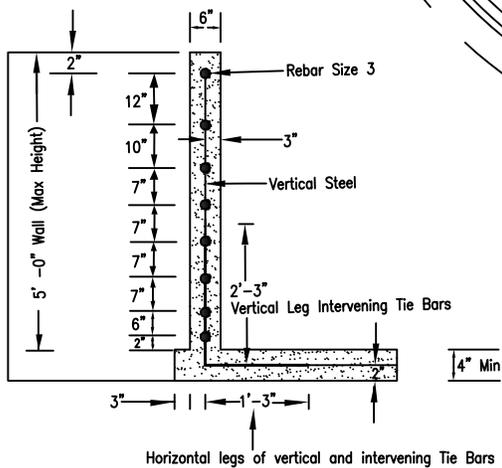
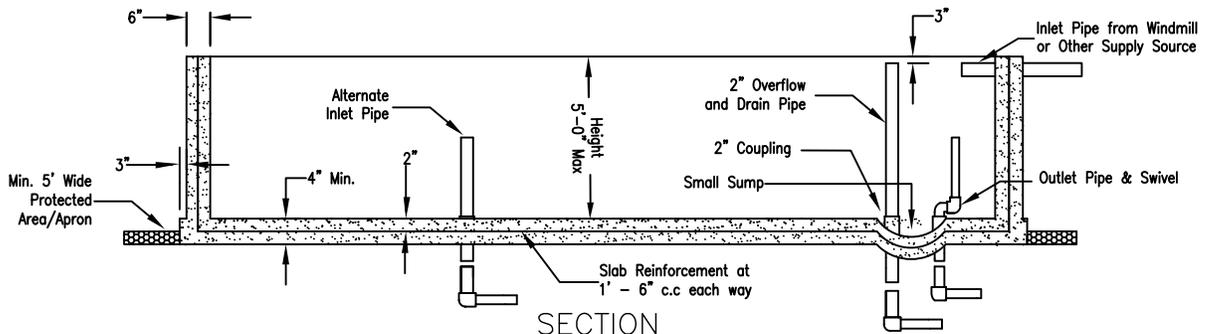


PLAN



WALL DETAIL



SECTION

See General Notes on Sheet 2  
 Drawing Not to Scale  
 Plumbing Locations May Vary

GENERAL NOTES:

1. Dimensions may vary as follows: diameter from 10 feet to 30 feet; height from 2 feet to 5 feet.
2. All new plumbing is to be of new 2 inch galvanized steel, copper, bronze, PVC plastic Sch-40 unthreaded or Sch-80 threaded or PE pipe 160 psi. All fittings shall comply with the ASTM standard for the type of fitting and material used. Overflow may be passed through watering trough to keep scum removed from trough.
3. The vertical bars are to have a 1'-3" leg projecting horizontally into the floorslab and a leg equal to the height of the wall projecting vertically into the wall. The intervening tie bars are to have a 1'-3" leg projecting horizontally into the floor and a 2'-3" leg projecting vertically into the wall. The intervening tie bar will not be required for wall heights 3' or less.
4. All reinforcing steel size is 3.
5. Double check valves or other measurement prescribed in local plumbing codes are required at watering facility inlets when watering facilities are connected to waterlines that have domestic users.
6. Concrete watering facilities and concrete aprons shall be constructed from a concrete mix producing a minimum compressive strength of 3,000-PSI at 28 days..
7. Construction procedures:
  - a. Foundation is prepared by leveling, compacting and smoothing area where facility is to be constructed. The foundation area should be free of debris, and rocks or pebbles larger than ½ inch diameter. Fill material under or around the watering facility shall be compacted to the density of the existing natural materials. A minimum of a 6 inch layer of sand, is required between the bottom of floor and subgrade when subgrade is a high clay soil subject to a significant swelling and shrinking with wetting and drying. The plumbing pipes should be positioned before final smoothing of the foundation.
  - b. Reinforcing steel is tied in place by tying the vertical bars to the first three ring bars. Guy the vertical bars if necessary for rigidity. Splices in the ring bars are to be lapped a minimum of 12 inches. Rig the intervening tie bars so that the horizontally projecting leg is 2 inches below the finished surface of the floor slab. Tie the floor slab reinforcement in place so that it is 2 inches below the finished surface of the floor slab. The slab reinforcement will rest on the horizontally projecting legs of the vertical bars. Splices in the slab reinforcement will be lapped a minimum of 12 inches.
  - c. The concrete for the floor slab is poured after the vertical bars, the intervening tie bars, and the slab reinforcement are in place. Concrete is to be a mixture of one part of cement to four parts of washed sand and gravel. Care should be used in placing the concrete to avoid segregation. Top of the floor slab should be troweled to a reasonably smoothed finish. The bond area between the floor slab and the wall is to be left rough or roughened if necessary to insure a good bond between the floor and wall.
  - d. After the floor is poured, the remaining ring bars are tied in place. The forms for the wall are to be positioned as soon as possible after the placement of concrete in the floor slab. Either metal or wood forms may be used.
  - e. Concrete for the wall is to be poured after the forms are positioned. Use the same concrete mixture ratio for the wall as for the floor. Care should be used in pouring the concrete to avoid segregation. Tamp the concrete into the forms as it is poured to insure tight bond to reinforcing steel and to yield a dense concrete reasonably free of voids. After the forms are removed, all exposed voids should be filled with cement-sand mortar and the entire surface wet rubbed to accomplish a dense smooth surface.

STORAGE IN GALLONS (Based on Water Depth)						
Height, Feet	Water Depth, Feet	Inside Diameter, Feet				
		10	15	20	25	30
2.00	1.75	1,028	2,314	4,113	6,426	9,254
3.00	2.75	1,616	3,636	6,463	10,099	14,542
4.00	3.75	2,203	4,958	8,814	13,771	19,830
5.00	4.75	2,790	6,280	11,164	17,443	25,118

The storage capacity for sizes different from those in the table may be calculated using the following formula:  
 Capacity = [3.1415\* (r^2)\*h]\*7.48 where r = radius and h = height of watering facility, in feet.