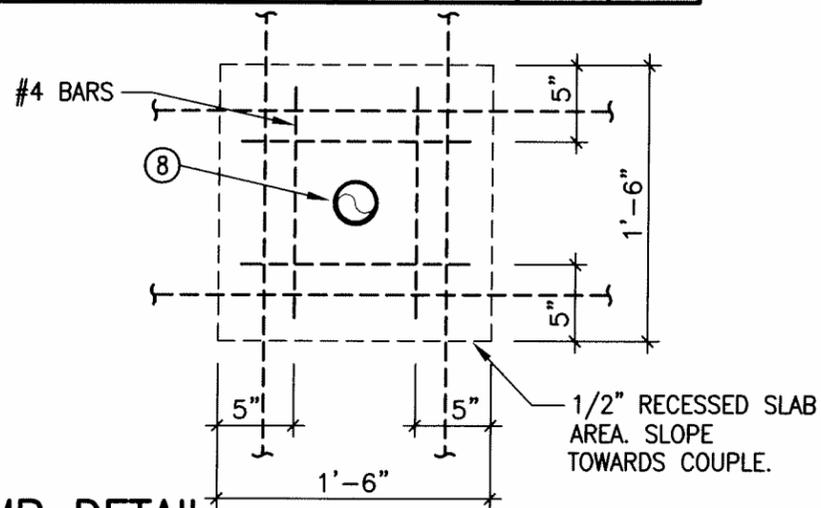


# STORAGE IN GALLONS

H HEIGHT (FEET)	D WATER DEPTH (FEET)	D INSIDE DIAMETER (FEET)				
		10	15	20	25	30
2	1.58	928	2,089	3,713	5,802	8,355
2	1.75	1,028	2,313	4,113	6,426	9,253
4	3.75	2,203	4,957	8,813	13,770	19,829
6	5.75	3,378	7,601	13,513	21,114	30,404



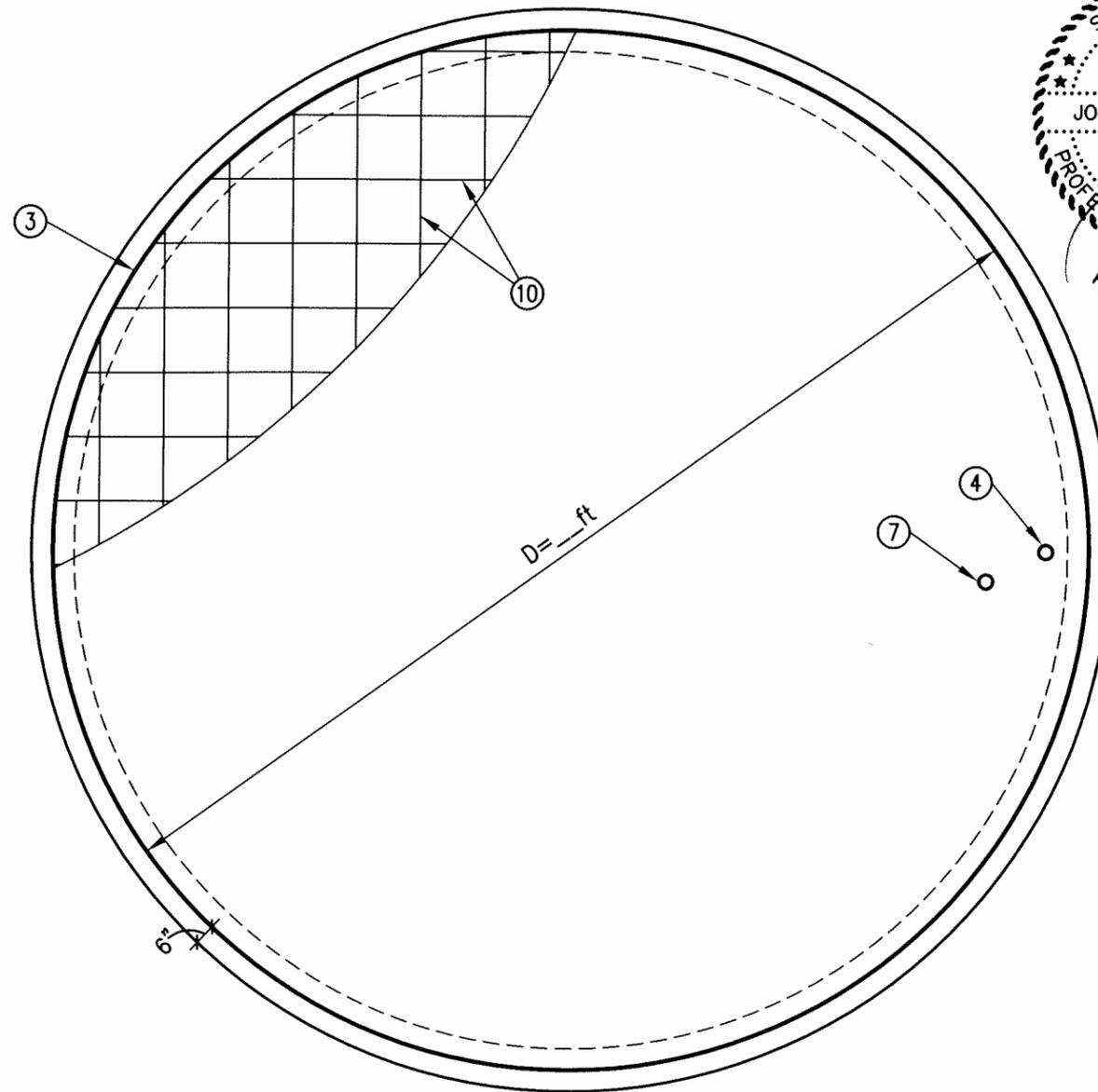
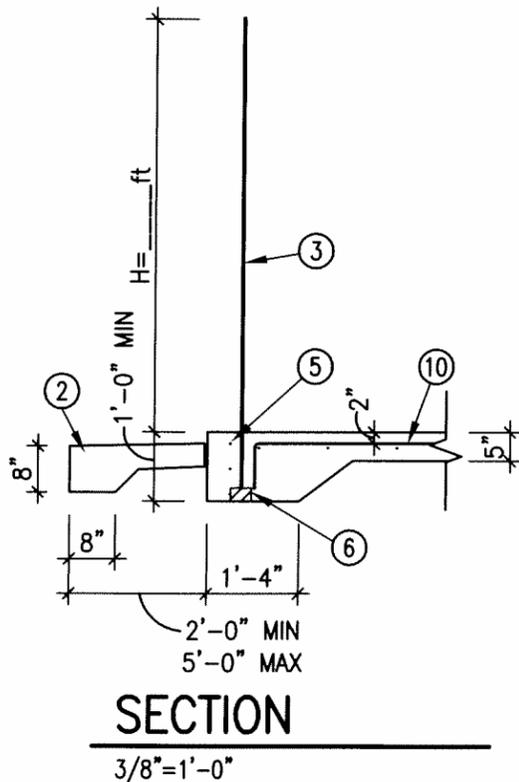
## SUMP DETAIL

NO SCALE

## KEYED NOTES

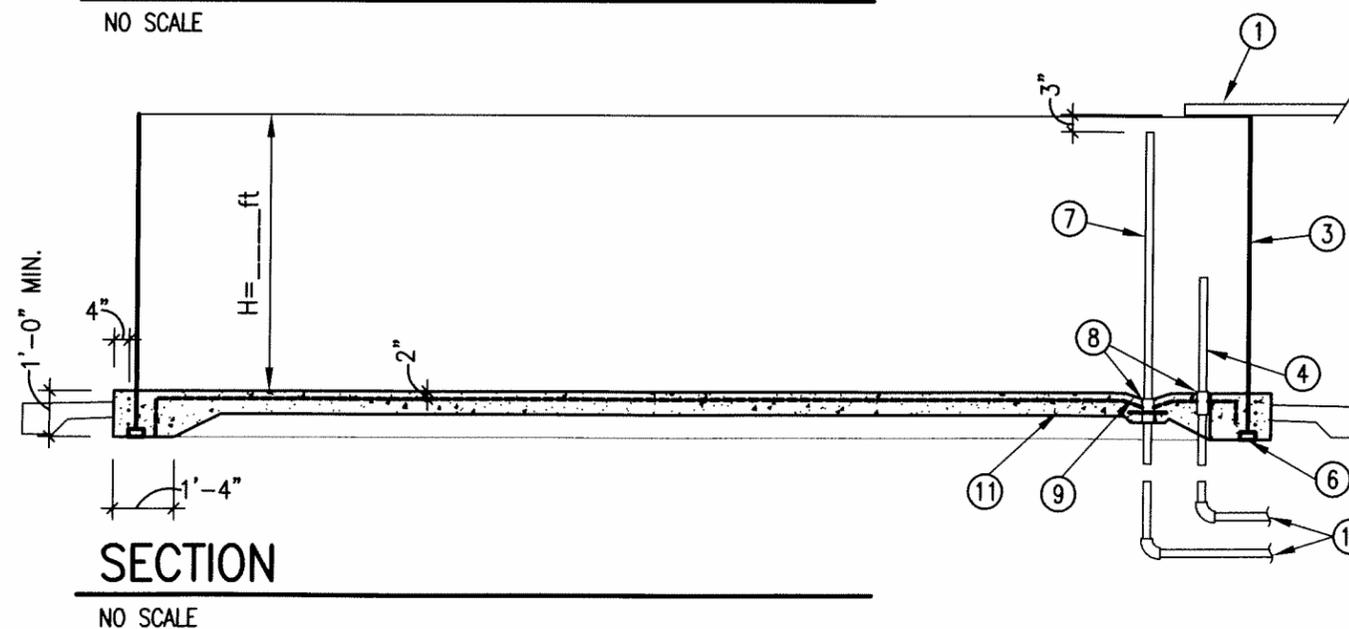
AS INDICATED BY:

- ① LEAD-IN PIPE FROM WINDMILL OR OTHER SOURCE OF WATER SUPPLY
- ② 4" THICK CONCRETE APRON - PROVIDE CONCRETE MIX WITH 1.0 POUNDS PER CUBIC YARD OF POLYPROPYLENE FIBERS SPECIFICALLY INTENDED FOR USE AS SECONDARY CONCRETE REINFORCEMENT.
- ③ STEEL PLATE: 11 GAGE THICK FOR H=4'-0" OR LESS.  
7 GAGE THICK FOR H>4'-0" UP TO 6'-0"  
16 GAGE FOR GALVANIZED CORRUGATED (HORIZONTAL CORRUGATIONS)
- ④ 2" OUTLET PIPE
- ⑤ 3-#4 REINFORCING BARS
- ⑥ COMMON BRICK OR 2.5" THICK CONCRETE BLOCK SPACED 4' APART AROUND CIRCUMFERENCE OF TANK TO SUPPORT STEEL WHILE CONCRETE IS BEING POURED
- ⑦ 2" OVERFLOW & DRAIN PIPE
- ⑧ 2" COUPLING
- ⑨ SMALL SUMP
- ⑩ 5" FLOOR SLAB W/ #3 BARS AT 18" EACH WAY OR 4x4-W1.4xW1.4 WWF
- ⑪ DRAIN PIPE IS REQUIRED AND MUST DISCHARGE AT A POINT AWAY FROM THE WATERING FACILITY THAT IS STABLE AND SUITABLE FOR RELEASE OF DRAIN AND/OR OVERFLOW WATER.  
PLANNED MINIMUM LENGTH: \_\_\_\_\_ FT.  
INSTALLED LENGTH: \_\_\_\_\_ FT.



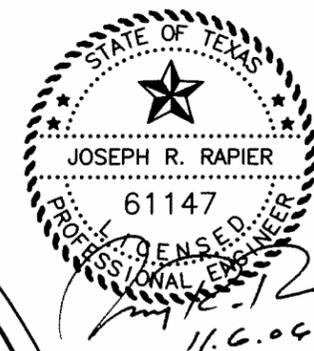
## PLAN

NO SCALE



## SECTION

NO SCALE



THIS DRAWING WAS PREPARED FOR PICS BY:

DESIGNED BY: SRS  
DRAWN BY: AAD  
CHECKED BY: EED  
FILE NAME: TX-EN-0494.DWG  
DATE PLOTTED: 28 MAY 2008

WATERING FACILITY  
REINFORCED CONCRETE FLOOR WITH STEEL PLATE OR CORRUGATED METAL WALLS (MAXIMUM 6' HEIGHT AND MAXIMUM 30' DIAMETER)



REVISIONS DATE

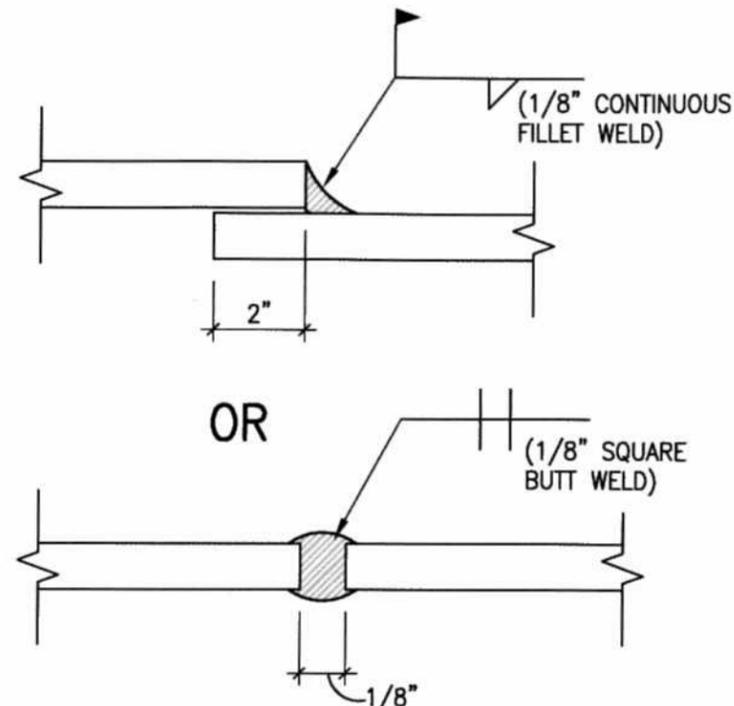
DRAWING NO. TX-EN-0494

SHEET

1 OF 2

# GENERAL NOTES

- DIMENSIONS MAY VARY AS FOLLOWS: MAXIMUM DIAMETER 30 FEET; MAXIMUM HEIGHT 6 FEET.
- MATERIAL PROPERTIES
  - STEEL  
TANK WALL: ASTM A36  
BOLTS: ASTM A325 (3/8"Ø MINIMUM)
  - CONCRETE  
SLAB AND FOUNDATION 3000 PSI AT 28 DAYS
  - PIPING  
NEW GALVANIZED, BRONZE, COPPER OR PLASTIC PVC. PVC SHALL BE SCHEDULE 40 OR SCHEDULE 80 IF THREADED.
- OVERFLOW MAY BE PASSED THROUGH WATERING TROUGH TO KEEP SCUM REMOVED FROM TROUGH.
- VALVES OR PIPES SHALL BE PROTECTED BY SHEILDS OR COVERS TO PREVENT DAMAGE BY LIVESTOCK.
- THE WALL OF THE WATER STORAGE FACILITY MAY BE EITHER STEEL PLATE OR GALVANIZED CORRUGATED SHEET METAL WITH HORIZONTAL CORRUGATIONS.
- CONSTRUCTION PROCEDURES:
  - PREPARE FOUNDATION BY LEVELING AND SMOOTHING AREA WHERE FACILITY IS TO BE CONSTRUCTED. EXCAVATED TRENCH FOR WALL FOOTING. A MINIMUM OF A 4" LAYER OF SAND IS REQUIRED BETWEEN BOTTOM OF THE CONCRETE FLOOR SLAB AND SUBGRADE WHEN SUBGRADE IS HIGH CLAY SOIL SUBJECT TO SIGNIFICANT SWELLING AND SHRINKING WITH WETTING AND DRYING. THE OUTLET AND DRAIN PIPES SHOULD BE POSITIONED BEFORE FINAL SMOOTHING OF THE FOUNDATION.
  - IN THE CENTER AND THE BOTTOM OF THE WALL FOOTING TRENCH, PLACE COMMON BRICKS 4' APART TO SUPPORT THE STEEL PLATE OR SHEET METAL WALL WHILE CONCRETE IS BEING POURED.
  - PLACE REINFORCING BAR AS SHOWN. LAPPED SPLICES SHALL NOT BE LESS THAN 15".
  - THE JOINTS FOR THE STEEL PLATES MAY BE MADE BY BUTT WELDING, OR BY PUNCHING AND BOLTING. PUNCHED HOLES SHOULD BE FREE OF BURRS THAT WOULD INTERFERE WITH WATER TIGHT CONNECTION. BOLTS WILL BE PLACED A MAXIMUM DISTANCE OF 2 INCHES APART. JOINTS WILL BE COATED WITH AN ASPHALT MASTIC OF KNIFING CONSISTENCY BEFORE ASSEMBLY, OR ASSEMBLED WITH GASKETS MADE FOR THIS PURPOSE.
  - AFTER THE LOWER OR FIRST PORTION OF THE WALL HAS BEEN ASSEMBLED AND IS IN PLACE THE CONCRETE FOR THE FLOOR SLAB AND WALL FOOTING MAY BE POURED. THE CONCRETE MUST BE WORKED FIRMLY AROUND AND UNDER THE WALL. CARE SHOULD BE USED IN PLACING THE CONCRETE TO AVOID SEGREGATION. THE TOP OF THE FLOOR SLAB SHOULD BE TROWELED TO A REASONABLY SMOOTH FINISH.



**TYPICAL TANK WALL JOINT**

NO SCALE



FRIABLE MATERIAL QUANTITY (CUBIC YARDS) 4" THICK BEDDING BELOW SLAB					
	DIAMETER - FEET				
	10	15	20	25	30
QUANTITY- cy	1	3	4	6	9

SLAB AND FOOTING CONCRETE QUANTITY (CUBIC YARDS) WATERING FACILITY DRAWING NO. TX-EN-0494					
	DIAMETER - FEET				
	10	15	20	25	30
CONCRETE - CY	3	5	8	12	16

APRON CONCRETE QUANTITY (CUBIC YARDS) WATERING FACILITY DRAWING NO. TX-EN-0494						
		DIAMETER - FEET				
		10	15	20	25	30
APRON WIDTH - FEET	2	1	1	2	2	2
	3	1	2	2	3	3
	4	2	2	3	3	4
	5	2	3	3	4	4

REINFORCING QUANTITY (FEET) WATERING FACILITY DRAWING NO. TX-EN-0494						
		DIAMETER - FEET				
		10	15	20	25	30
SLAB wwf (sf)		85	191	340	532	766
SLAB #3 bar (lf)		164	370	659	1031	1484
PERIMETER #4 bar (lf)		34	53	72	91	106

**NOTES:**

- QUANTITIES DO NOT INCLUDE AN ALLOWANCE FOR WASTE
- QUANTITIES ARE ROUNDED UP TO THE NEAREST WHOLE YARD OR FOOT

THIS DRAWING WAS PREPARED FOR NRCS BY:

DESIGNED BY: SRS  
DRAWN BY: AAO  
CHECKED BY: EED  
FILE NAME: TX-EN-0494.DWG  
DATE PLOTTED: 28 MAY 2008

WATERING FACILITY FLOOR REINFORCED CONCRETE FLOOR WITH STEEL PLATE OR CORRUGATED METAL WALLS (MAXIMUM 6' HEIGHT AND MAXIMUM 30' DIAMETER)



**NRCS**  
National Resources Conservation Service  
U.S. Department of Agriculture

REVISIONS DATE

DRAWING NO. TX-EN-0494

SHEET