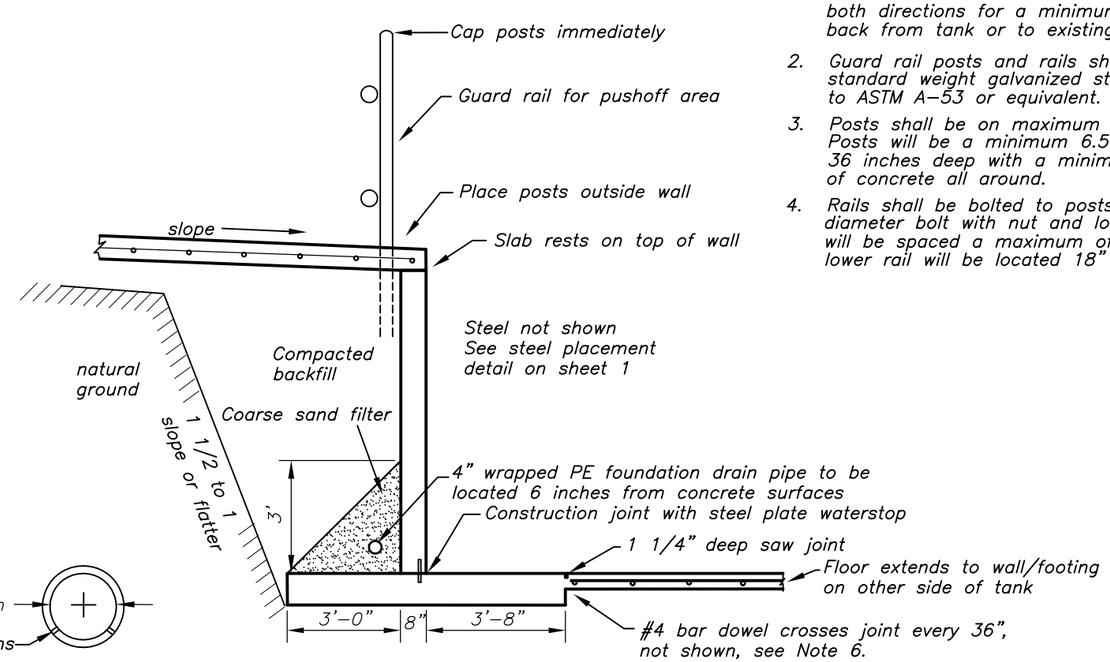
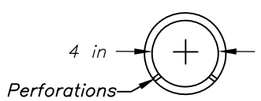
29N603

Notes:

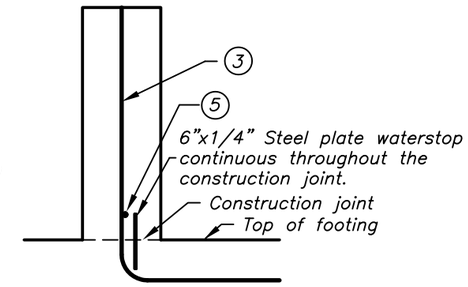
1. Pushoff slab is 5" thick with #4 @ 12" OC both directions for a minimum of 12' back from tank or to existing concrete.
2. Guard rail posts and rails shall be 2 inches(min) standard weight galvanized steel pipe conforming to ASTM A–53 or equivalent.
3. Posts shall be on maximum 5 foot spacings. Posts will be a minimum 6.5' long and buried 36 inches deep with a minimum 4 inches of concrete all around.
4. Rails shall be bolted to posts with minimum 7/16 inch diameter bolt with nut and lock washer. Rails will be spaced a maximum of 18 inches apart. The lower rail will be located 18" above the concrete slab.



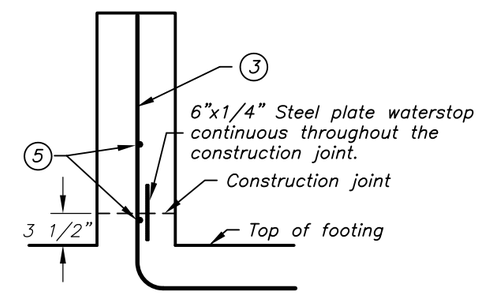


FOUNDATION DRAIN PIPE DETAIL

TYPICAL CROSS SECTION INCLUDING PUSHOFF RAMP



CONSTRUCTION JOINT
Detail View



ALTERNATE CONSTRUCTION JOINT
Detail View

NOTE:

1. Foundation drain pipe is to be routed around the tank and to a protected outlet.
2. Foundation drain pipe shall be heavy duty corrugated, high density PE pipe, meeting ASTM F405 or AASHTO M252 and be clearly marked as such. Minimum two rows of perforations. Hole spacing will be a minimum of 5 inches. Hole will be between 1/4" and 3/4" diameter. If slotted perforations are used the slots shall not exceed 1/8 inch by 1 1/4 inch length. A minimum 1 sq. inch of open area per foot will be provided.
3. Foundation drain pipe will be shop–wrapped with a geotextile. Spunbond fabric shall weigh at least 0.8 oz./s.y. Knitted fabric shall weigh at least 3 oz./s.y. Flow rate through fabric shall be at least 100 gpm/sf. Fabric will be pulled over any joints and securely taped.
4. Drainfill shall be clean, well graded coarse sand (concrete sand) meeting ASTM C33 for fine aggregates. Pipe will be installed according to ASTM F449. Hand tamping of haunches may be necessary to insure adequate pipe support. A minimum of 12 inches of sand cover all around the pipe will be provided to outlet.
5. Saw joint 1 1/4" deep is to be made as soon as concrete sets enough to not dislodge aggregate and before any drying stress cracks start to form. Fill saw joint with pourable polyurethane immediately. The saw joint may be replaced by the groove made by an edging tool if the floor is poured separately from the footing. The groove would be approximately 1/2 inch wide by 3/4 inch deep and would be filled with pourable polyurethane immediately.
6. Dowel to be 30 inches long and embedded 15 inches in each direction. One side to be covered with snug fitting plastic pipe, rubber hose or equivalent as needed to prevent bond with concrete.
7. Splices in waterstop may be made by butt welding or lapping 3 inches and fillet welding or bolting.
8. A safety fence shall be constructed around the tank.
9. For additional details see Missouri Construction Specification 313–A.
10. This drawing and design is only to be utilized on tanks with opposing walls.

DRAFT

NOT FOR CONSTRUCTION

Date

Designed

Drawn

Checked

Approved

8 FOOT REINFORCED CONCRETE WALL
FOR ANIMAL WASTE STORAGE

United States Department of Agriculture
NRCS Natural Resources Conservation Service

File Name

Drawing Name
29–N–603

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