



EPA Region 8 Drinking Water Unit Tech Tips

Sanitary Protection of Drinking Water Storage Tanks: Drains

Finished Water Storage Sanitary Protection: A drain allows the water in the tank to be removed for cleaning and inspection, and is an integral component of tank design. A drain is located at a designed low point in the tank such that any accumulated sediment can easily be washed out during cleaning events. At all other times the drain valve remains closed. The system should be designed such that the tank can be cleaned while continuing to maintain pressure in the distribution system. A drain valve can leak due to constant pressure from the height of water in the tank, creating a moisture rich environment that can attract rodents, snakes, insects, and any pathogens they may be carrying. All key components of a tank need to be protected against conditions that would jeopardize the sanitary conditions of a drinking water storage tank, including the tank drain.

Drain cannot be directly connected to a sanitary sewer or storm drain



Drains directly connected to a sanitary sewer or storm drain will trigger a significant deficiency; there must be an air gap of at least 3 pipe diameters above the sanitary sewer or storm drain.

An air gap is needed to prevent a cross connection between the sewer or storm drain and the drain pipe.

Drains must be accessible

Not having access to inspect the drain will trigger a significant deficiency



The area around the drain needs to be cleared of overgrowth such that it can be easily observed and inspected.

Recommendations for screen size and height for drains



The best design is to install the #24 mesh screen between two flanges.

EPA recommends that a removable #24 mesh screen be used to keep contamination brought in by insects, rodents, snakes, and birds from entering through the drain, even though it is valved off. The screen can be removed for cleaning events.

EPA recommends raising the drain 12 to 24 inches above an inlet structure, splash plate, or engineered rip-rap to minimize rodent access and prevent pooled water from entering the drain.



Water accumulated to this mark