

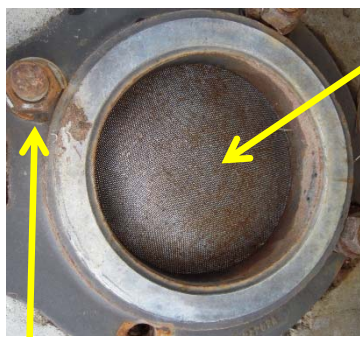


EPA Region 8 Drinking Water Unit Tech Tips

Sanitary Protection of Drinking Water Storage Tanks: Overflows

Finished Water Storage Sanitary Protection: An overflow releases water when controls fail to shut off the incoming water at the high water mark; it is an integral component that protects the tank from damage from overflowing. The overflow allows an emergency release of water when telemetry fails, which should be a rare occurrence. Because water would only be flowing out of an overflow when another system has failed, it is important that the discharge is visible, so that the flow of water can be observed and reported. All key components of storage tanks must be protected to maintain sanitary conditions inside the tank. Also, storage tank overflows cannot serve as the only vent; tanks must have a vent separate from the overflow.

Overflow screen requirements



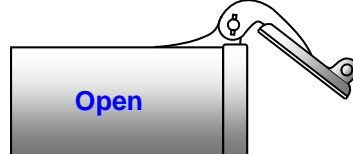
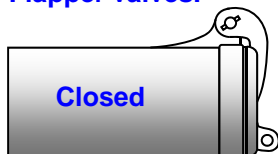
The #24 mesh screen can be installed between two flanges. After an overflow event the screen can be inspected and replaced, if needed.

Protection from contamination entering through the overflow.

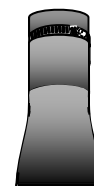
A #24 mesh screen is needed to keep contamination carried by insects, rodents and birds from entering the tank

Not having a #24 mesh screen or a properly sealed flapper or duckbill valve on an overflow will trigger a significant deficiency.

Flapper valves.



Duckbill valves.



Flapper valves and rubber “duckbill” valves can also be used on overflows to keep contamination out. Each valve design can get stuck open and therefore should be fitted with a screen inside. EPA recommends a #24 mesh screen. **A flapper valve with no screen inside will trigger a significant deficiency.**

Overflow height requirements



Protection of tank structure and water quality

An overflow inhales just like a vent but through a pipe that extends to the ground. Having the overflow opening at least 12 to 24 inches above an inlet structure, splash plate or engineered rip-rap protects against the inhalation of contamination (dried feces, leaves, dried plants, dust, etc.).

The other reasons to bring the overflow within 12 to 24 inches above a inlet structure, splash plate, or engineered rip-rap are for safety reasons and to prevent erosion that can washout the tank supports or foundation.

Not having the overflow piped to 12 to 24 inches above an inlet structure, splash plate, or engineered rip-rap will trigger a significant deficiency.

Not having access to inspect the overflow will trigger a significant deficiency.

EPA also recommends that overflows be visible so that any discharge can be observed and reported to identify possible problems.

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



Overflows 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 overflow pipe. This air gap also prevents the tank from inhaling air from a sewer or storm drain when the overflow is not spilling water, which should be most of the time.