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Are contractors trained properly to prevent a backflow contamination incident?

Getting an emergency call from a customer that their containment reduce pressure principle backflow assembly (RP) is in full dump is troublesome, A full dump condition usually indicates a catastrophic failure caused by foreign object impact inside the backflow assembly. The first question I ask the customer is, “Have you had any work accomplished on your plumbing system or has the water utility issued a boil water advisory in your service area?”

Unfortunately like most customers, this customer was not very knowledgeable on the work being performed, but they were able to tell me their water service line going into their restaurant had been worked on and the work was completed.

After arriving at the restaurant and investigating the issue with their containment backflow assembly, I discovered that sand and rocks were all imbedded inside the relief valve and the checks of the backflow assembly. This debris damage to the backflow assembly occurred due to contractor negligence because; they did not flush the service line after completing work which allowed dirt, gravel and sand to get into the service line during the repair. Once the repair was complete, the water service was restored and had flushed all the debris left in the line downstream to the main containment backflow assembly. Not only did the waterline get restored with dirt and rocks in it, but who knows what other contaminants were allowed to enter the service line to the commercial restaurant.

(**Containment backflow definition:** Is the first backflow installed on the service line for the primary purpose of protecting the water distribution system from customer onsite backflow contamination.)

After determining the main cause of the failed backflow assembly, I started accomplishing a detailed investigation around the restaurant. I investigated equipment that uses water in the building such as the water softener, carbonated beverage machine and the coffee maker. What I found is all equipment using water had all been contaminated. The salt in the water softener was brown and completely covered with ground soil, the contaminate then flowed into the coffee and beverage machine and made its way to the ice maker which could of been dispensed for drinks throughout the day.

Unbeknownst to the restaurant, their customers were drinking products contaminated with soil and mud dissolved in the water. Urban soils contain pesticides, fertilizer, human sewage, petroleum products and other contaminants.

It’s extremely important the utility oversee contractors accomplishing work on potable water lines and their distribution system piping. Utilities have a vested Interest because

ultimately they are responsible for the quality of water provided for its customers as defined by the required EPA and State regulations.

Utilities should train their contractors in the safe practices before allowing them to work on drinking water systems. Contractors need to follow the proper safety practices for ensuring customer drinking water systems are not exposed to hazards as a result of the work they perform.

It's essential they follow best practices for flushing water lines to ensure all debris and contamination is completely out of the service line before restoring water service. You might think accomplishing such a task would go without saying; its surprising how often this occurs without anyone realizing the issue due to a lack of understanding water systems.

One method utilities should take for avoiding future contractor issues discussed in this article is to, Have a verification and contractor training check list providing procedures for restoring water to any system. Better yet have an onsite utility inspection to ensure to ensure its safe to restore water service!

If you have any questions or comments, please feel free to reach out to me,

James Probst
AWWA Backflow Committee Chair
E: James@testgauge.net

P: 317-786-8990

5644 South Meridian St. Suite E Indianapolis IN 46217