



FLUSH IT!

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Let's talk a bit about flushing your fire hydrants. I'm sure we are all aware of the benefits, but let's review the basics. While it may appear that hundreds of gallons are going to waste, there are actually several benefits to this hydrant flushing process. Water main flushing is an important preventative maintenance activity that verifies proper operation of the hydrant, evaluates the available flow to the hydrant, allows utilities to deliver the highest quality water possible to their customers and removes mineral and sediment build up from the water mains. Over time, water settles, ages, and is affected by biofilm (a thin layer of microorganisms) that grows on the inside of the distribution piping. Each of these factors affects the quality and taste of the water, so it is important to flush the water out of the mains and hydrants regularly. Flushing can remove water from areas of the distribution system that have low water use, since the older water may no longer have the desired chlorine residual. Proper flushing may also reduce the amount of disinfection by-products in your water system. Unidirectional flushing is best, but that is a topic for another article. For more information on that just fire up your favorite search engine, or go to the NYRWA website, on the home page click the Training tab/Training Presentations/Unidirectional Flushing for an explanatory PowerPoint presentation.

The water system I was employed at flushed hydrants twice a year, spring and fall. I estimate I have around 65 hydrant flushes under my belt. Over the years, I've learned a few things. One pointer I would like to share, controlling the flow of water is key in preventing the damage to lawns, driveways, and road surfaces. Some water systems choose to flush during the daytime, our system chose to flush at night when water use was down and to prevent inconveniencing the customers. After a long night



of flushing, the last thing we wanted to do was repair damaged property. Simply laying down a foldable, "men working" sign in



front of the hydrant will quite often be sufficient enough to prevent lawn damage. Commonly used in the industry is a flow diffuser. The diffuser will spread the water flow over a wide area preventing wash-out damage without reducing flow.

On lower flow hydrants, 200-500 gallons per minute, we found that using a section or two of 4-inch drain pipe, a couple of threaded eye hooks, nuts, bolts, washers and a bungee cord attached to the hydrant would divert flow away from the sensitive area.

A common question I am asked is "how long do you let a hydrant flow" and that is a good question. There are many variables involved in determining how long to let the hydrant run. The simple answer, when it's clean. Some may take ten minutes; some may take as long as one hour. To help in defining that, we used a clear plastic container to determine when the water was clean enough to shut down. Some operations specialists prefer using a pure white container to assist in identifying any remaining particulates, which works well, but as I mentioned before, we flushed at night and into the daylight hours, so shining a flashlight through the clear container worked quite well. Continue sampling the flow until clear water is obtained.



When flushing several hydrants that are in a row on the same street, try leaving the first one flowing while opening the next one in line. >>>

This will cause differential in pressure and flow in the water main which will assist in loosening tuberculation resulting in a cleaner flush and reducing water hammer. When the first hydrant runs clean, turn it off and continue this method to the end of the street. Remember to fully open and close the hydrant slowly, closing until it comes to a stop, then back off a quarter turn to the resting position.

You should be able to spin the operating nut by hand. It is good practice to change up your flushing pattern, try it a few different ways and over time you will discover which pattern gives the best, most time effective flush.

Let's enjoy the Fall weather, get out there and Flush It! If you would like more information on a hydrant flushing plan or unidirectional flushing please give me a call, I am happy to assist. A clean distribution system will help you to maintain **"Quality on Tap!"** 💧💧

