



GAC FILTRATION 101—TURNING A NEW PAGE

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Water filtration is simply the process of running water through a porous barrier to remove unwanted substances. However, in most cases, the process is not really all that simple. Drinking water filters come in a wide range of types and configurations and are designed to remove specific impurities found in the water supply being treated. The most common type of municipal drinking water filtration uses granular media such as quartz sand to trap fine particles and suspended solids that are too large to pass through the media pore spaces. This method is used by the District to treat the Branch Brook surface water supply. Groundwater well supplies typically do not require conventional filtration since the sand/gravel aquifers provide “natural filtration” before the water is pumped from the ground.

Unfortunately, our filtration story is no longer that simple. During the process of required testing for new unregulated contaminants, one of the District’s well supplies was discovered to have trace amounts (about 50 parts per trillion) of two polyfluoroalkyl substances (PFAS), namely perfluorohexane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). Since shutting the well down, the District has engaged in extensive research and consultation and determined that Granular Activated Carbon

(GAC) filtration offers the most viable treatment option to remove PFOS and PFOA. We have several pilot studies currently underway to evaluate several different configurations of GAC. GAC is made from organic materials with high carbon content such as wood, coconut shells and bituminous coal. These materials are heated in the absence of oxygen to increase (activate) the surface area of the carbon. The large surface area makes GAC a highly effective adsorbent and unlike conventional filtration, allows GAC to remove dissolved organic contaminants like PFOS/PFOA by absorbing, or binding them onto the porous GAC particle surface.



One of our pilot study setups comparing the performance of four types of GAC

The GAC filtration process being considered by the District would involve the use of several vessels containing a deep bed (8-10 feet) of GAC media that the water would continually pass through, removing the PFOS and PFOA. Unlike with sand filters, the GAC media becomes spent during the filtration process and will need to be replaced at least annually. The District hopes that the significant capital investment and increased operating costs to install GAC filtration is deemed worthwhile. Stay tuned as we continue to turn the page on this next chapter of water supply treatment.

WATER RATE UPDATE 2018 (CONTINUED FROM PAGE 2)

which causes a good deal of volatility in the District’s Operating expenses and complicates the goal of rate setting. In an effort to stabilize this cost component, the District has elected to create a new Operating Fund called the Tank Maintenance Fund. This fund will be supported by an annual allocation of

\$150,000 from rates. Funds will only be withdrawn as the cyclical tank painting projects become necessary. The MPUC encourages such targeted funding mechanisms to help stabilize water rates.

OUR MISSION, QUALITY AND COST (CONTINUED FROM PAGE 1)

Another water quality success story

You may recall that in 2017 we changed our primary water disinfectant from free chlorine to chloramines. The results are in and they are good. For a full description of how this change worked out for us and for you, see *Disinfection Change to Chloramines—The Follow-up* on Page 6.

Our mission

In order to best accomplish our mission, quality and cost are our primary areas of focus. However, we can’t begin to ac-

complish our mission without our dedicated employees that are passionate about their vocation and have a “service above self” attitude. For some additional perspectives on this topic, see *Then and Now – Adapting to Change* on Page 5, our *Employee Spotlight* on Page 8 and last but not certainly not least, the personal perspectives of one of our retiring baby boomers in *It’s a Wrap* on Page 7.

As always, if you have any questions or any ideas as to how we can improve the value of our service to you, just let us know.



Don't forget about Charlie this winter

For his safety, please keep a clear path to your outside meter register after each snow storm. It was a tremendous help last year.