



## HANNIBAL BOARD OF PUBLIC WORKS

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**ELECTRIC, WATER AND WASTEWATER**

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**DATE:** November 15, 2017  
**TO:** Hannibal Board of Public Works  
**FROM:** Robert W. Stevenson, P.E.  
**Re:** Chloramine Replacement Project

Since my October report Black and Veatch accomplished the following:

1. Black and Veatch is continuing to perform bench scale testing to determine the most effective solution to replacing chloramines.
2. Within the last month Black and Veatch has continued to collect and analyze data from the GAC pilot test set-up at the Treatment Plant, they have begun drafting sections of their final report, and have been in phone contact with MoDNR to review certain elements of their proposed design.
3. The GAC simulation testing continues with a second supplier of carbon. The first test with Calgon was inconclusive. B&V is still waiting on test results from the second supplier.
4. B&V has determined that a new and third alternative deserves a closer look due to the developing apparent costs of the GAC alternative. Besides Ozone treatment, they are now reviewing the feasibility of Reverse Osmosis systems. There are no conclusions or relative costs available for the City to consider yet with respect to any alternatives.
5. The GAC pilot testing continues at the Treatment Plant. Accumulated data is presented in the attached two charts.

Our own staff is responsible to collect data from the test columns and log the data in spreadsheets provided by Black and Veatch. Periodically the data collected is transmitted to Black & Veatch electronically for their review and analysis. Part of the data we are collecting involves the weekly shipping of samples to a certified lab for analysis. Samples have been delivered weekly since we started testing.

Also our staff is responsible to maintain the test column equipment, ensure the water feed pumps continue to operate properly, watch for leaks or spills, and report any malfunctions to Black & Veatch.

Staff is carrying out their responsibilities daily and plan to continue to do so until the testing phase ends.

The graphs were prepared by Black & Veatch of preliminary TOC data collected from the pilot study. The trend lines to pay attention to are represented by Columns 3 and 4. When the Column output TOCs matches or equals the Clearwell TOC levels it is an indication the GAC must be replaced. Recall that prior to the start of this study, there was some speculation that we could expect the batch of GAC to last up to a year before replacement was required. As you can see from the charts we may make it to 120 days before the GAC is exhausted. B&V will comment on this in greater detail in their final report.

MoDNR is being kept updated on progress but at this time has nothing to review or comment on.

At this time it appears that B&V will have a draft of their report ready for HBPW review in late December.

***“The mission of the Hannibal Board of Public Works is to provide safe, reliable utility products with excellent customer service at reasonable prices.”***