

Mahnomen Community Water System – Project Planning Updates

I often receive questions on the status of the Mahnomen Planning Project from concerned Mahnomen residents, as well as concerned Band members who have family residing in the Mahnomen area as the department conducts day to day field operations. The department welcomes those questions, as it provides an avenue to understanding a complex problem dealing with a precious resource. The questions often revolve around health concerns, what the issues and violations are, project timelines as well as different perspectives on drinking water, and the resource we are required to be stewards of.

In regards to being a steward, the FDL Water/Wastewater Department routinely monitors for the presence of contaminants in the Community Water System as required by the Safe Drinking Water Act. The department is required to report all sampling results for various parameters to USEPA for review.

Project History:

In the fall of 2016, the USEPA issued a Maximum Contaminant Level (MCL) monitoring violation for Disinfection By-Products (DBPs) in the Mahnomen Community Water System (CWS). Since this original violation in 2016, the water system has been required to conduct increased quarterly monitoring of DBPs, and further provide public notifications should quarterly monitoring continue to be in violation. Since the original violation, the Mahnomen CWS has remained in violation and has been required to provide quarterly Public Notification to area residents as required by the Public Notification Rule with sampling results.

As a reminder, there are many factors to consider as to why DBPs form in distribution systems, including, type of disinfectant used, concentration of disinfectant, concentrations of organic matter (Total Organic Carbon), water temperature, pH, contact time, and length of distribution network. When taking into consideration these factors, it should be noted that the Total Organic Carbon (TOC) from the Mahnomen Source Water is very high 12.5, and 10.4 mg/L in wells #1 and #2, respectively. While the TOC are not toxic themselves, they can aid in the pre-cursor formation of DBPs, especially when a disinfectant, such as chlorine is used with high concentrations of organics. Due to the ammonia in the raw (unfinished) water, the department has added higher concentrations of chlorine to meet its demand and still provide a residual disinfectant in the distribution. In short, one exacerbates the other, and the current treatment plant as is, does not filter (remove) the Total Organic Carbons. The department has also made numerous operational modifications in an attempt to mitigate for the increased DBPs; these modifications have not aided in decreasing the DBPs.

Recent Sampling Results:

The most recent quarterly sampling conducted on November 6th, 2018 showed that the Mahnomens CWS exceeds the standard, or MCL for Total Trihalomethane (TTHM) and Haloacetic Acids (HAA5). The MCL limit for TTHM is 0.080 mg/L and HAA5 is 0.060 mg/L. The most recent Running Annual Average (RAA) levels for the November 2018 sampling was:

Site 1- 0.161 mg/L (TTHM), 0.103 mg/L (HAA5)

Site 2- 0.165 mg/L (TTHM), 0.108 mg/L (HAA5)

Project Timeline & Community Meeting:

Lastly, the department understands frustration from community members on the pace of such a project. In general, large infrastructure projects take an immense amount of effort, on a number of fronts, but mainly time and patience. Please remain patient with the on-going efforts and join us for food and refreshments to better understand those efforts at an upcoming community meeting where additional updates will be provided, and questions can be answered relative to the Mahnomens Planning Project.

The community meeting will be held on Thursday, March 7th, 2019 at the Brookston Community Center, 8200 Belich St, Cloquet, MN from 5pm – 730pm.

If you have additional questions or concerns please contact me directly.

Thank you.

Jordan Vandal, FDL Water/Wastewater Manager

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