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March 14, 2019

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Attn: Bailey Taylor – Enforcement Analyst

RE: City of Marion
NPDES Permit No.AR0021971
AFIN 18-00110

Dear Bailey,

This is in response to your request for corrective action dated February 4, 2019. Before we get into corrective action please accept a brief explanation for some of these violations.

September 30, 2016 the wet testing samples were simply not taken because of a mix up in schedule. Going from semi-annual to quarterly it got off of the Utility's to do list. The 7/31/17 violations were due to a problem with the Chlorine bleach pump and no Chlorine was being fed. The March 31, 2018 samples were taken and an attempt was made to send these electronically which apparently failed. These will be sent to you by the Utility. Also on March 31, 2018 the wet sampling was not completed by the lab and we have no explanation. August 31, 2018 coliform violation was again due to a problem with the Chlorine solution pump that has been corrected.

The balance of these violations tend to be related to high BOD which triggers violations in not only concentrations but mass loading prior to the effective date of our new permit (October 17, 2018).

In a letter to you dated January 23, 2019 we pointed out some rather strange results noted by wide swings in BOD concentration. In that same letter we eluded to our concern over the sampling method. At this point we need to discuss the way Marion has been operating.

Since the issuance of our new permit where the gallons pumped within a reasonable rate allows quite a bit of flexibility in pumping sequence. The Utility Department in Marion works 4 – 10 hour days. In order to monitor the discharge pumps pumping to the River and the chemical feed, the routine is to start the

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pumps early in the morning and then discontinue pumping at the end of the work day. This of course is dictated by pond level which means that there are some weeks that they do not discharge and other weeks that there is extreme rainfall and they might have to pump longer hours. Here is where we suspect the problem.

When our treatment system was built the Chlorine contact chamber is also the pump basin for our discharge pumps. Chlorination and de-Chlorination chemicals are added based on pump run time. In order to allow a certain amount of mixing and contact time a sampling line was simply tapped 50' down the force main and a 1" line was returned to the sink for sampling and to the automatic sampler. BOD and TSS samples are collected on Tuesdays and Thursdays. This generates the following conditions; from Thursday, which is the end of the Utility's work week until the following Tuesday the treated effluent is dormant in not only the force main but the 50' of 1" tubing. Because of the lab schedule, the automatic sampler is programmed to start at 6:00 am. It does have a provision for purging but the volume that is purged is nowhere near the two gallons of waste that is resident in the 1" sample line. This is now believed to be an inherent problem that must be addressed. We have looked back at individual samples and there is clearly a pattern showing lower concentrations of BOD on Thursday compared to the previous Tuesday. The most extreme example of this was mentioned in our January 23, 2019 correspondence showing 80 mg/L concentration of BOD on a Tuesday and 17 mg/L concentration two days later. One would not expect this much change in a pond discharge.

In a lengthy discussion with the Utility personnel we managed to Chlorinate and flush this sample line. Following this effort BOD concentrations on March 5, 2019 were 15 mg/L and on March 7, 2019, 14 mg/L.

We must now figure out a corrective action plan based on the above findings. It is obvious that we have not been collecting results on what is considered a representative sample of our discharge. First we have contacted the manufacturer of our automatic sampler in an effort to see if the initial purging volume can be expanded to an amount that will exceed 5 gallons. This should allow a complete turnover of waste in the sampling line. We also need to program the discharge pumping sequence to ensure that we have freshly treated volume out of the Chlorine contact chamber passing by the sampling port prior to the purge. This should result in a representative sample being collected. It also needs to be a part of standard procedure to periodically Chlorinate and flush this sampling line. Future results should dictate how often this needs to be done.

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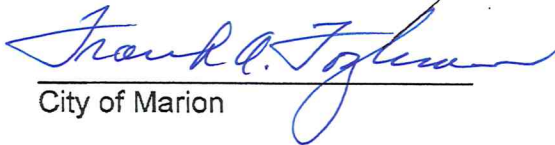
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We would anticipate that these changes can be made in a matter of weeks and these corrective efforts should be complete by June 1, 2019.

Sincerely,



Jerome Alford, P.E.



Frank A. Johnson
City of Marion