



State of Ohio Environmental Protection Agency

STREET ADDRESS:

**Central District Office**

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Columbus, OH 43216-1049

April 2, 2008

**Re: Pickaway County  
City of Circleville  
Community Water System  
PWS ID: 6500412  
STU ID: 6557171**The Honorable Charles Taylor  
Mayor of Circleville  
104 E. Franklin Street  
Circleville, OH 43113

Dear Mayor Taylor:

Our office has received your letter dated March 19, 2008, regarding the City of Circleville's response to Ohio Environmental Protection Agency (Ohio EPA) requirements as stated in our February 25, 2008 correspondence. The February 25, 2008 correspondence specifically outlined the requirements the City must follow in order to comply with Ohio EPA rules and regulations in accordance with Ohio Revised Code (ORC) 6109 and Ohio Administrative Code (OAC) Chapter 3745.

Your request for a 120 day extension for submitting the schedule for media replacement is not being granted. The deadline set by Ohio EPA was not for the optimization of the water treatment plant but rather for a schedule to correct a significant deficiency with the water treatment plant. Though it is expected operational changes will need to be made once filter media is changed, it is our experience that iron and manganese breakthrough will continue regardless of operational changes until the media is replaced.

The current media in the filters does not meet standards. The anthracite installed in the 1990 plant expansion was too small in size and was installed as an "as-built". The media replacement in 1997 and 2003 utilized the same 1990 specifications. It is true that media life, when properly sized, is expected to last longer than four (4) years; however, the life expectancy of undersized media is unknown. According to past sanitary surveys conducted at this facility, the filter operation protocol remained unchanged until the filters began air binding in June 2007. Ohio EPA along with the City's operators and previous consultants have not been able to definitively determine what caused the already undersized media to deteriorate faster than properly sized media. Additional coring and study of the existing media is not expected to provide any new information since the City has begun to backwash every 24 hours potentially accelerating the deterioration of the media. Correction of the significant deficiencies already identified along with establishing appropriate operational

Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director

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procedures can be done within the same time period. In addition it will be necessary to have the media in place before some operational parameters (i.e. backwash rate) can be determined. Though estimates can be provided by the suppliers and your consultants, field verification will be required for final determination of standard operational procedures.

Our office has additional concerns related to some of the other enhancements listed in your letter. Switching from zinc ortho-phosphate to ortho-poly phosphate is seen as a temporary measure for addressing manganese leaving the water treatment plant. Removal below the secondary maximum contaminant level for both iron and manganese is required based on the 1990 plan approval and OAC 3745-91-09. Note the zinc ortho-phosphate is being utilized to help prevent corrosion of unlined iron pipe present within the distribution system. Any modification of the phosphate feed system should address this treatment goal as determined by distribution studies. Failure to do so may result in trading one problem for another. The relocation of the phosphate feed injection point from before the clearwell to a point prior to the filters would not be allowed since it does not meet the "Recommended Standards for Water Works" (also known as Ten State Standards), section 4.6.6, for sequestration by polyphosphates. These changes may require detail plan approval by the Director of Ohio EPA depending on the extent and nature of the modification.

Adding a gauge to each filter to measure filter media gain or loss each month is acceptable. Though this modification will not resolve the problems being experienced by the water treatment plant, it may be a valuable tool once filter media has been replaced. In addition, a gauge or other measuring device should be obtained to measure filter bed expansion during backwash.

The item that states "checking of filter valves for proper seating to prevent potential bleedback of unfiltered water" gives us the greatest concern. This statement seems to indicate that there is an illegal cross connection. Ohio EPA is unaware of any filter or water treatment plant bypass line. All water leaving the aeration reaction basin flows by gravity through the filters and then into the clearwell. The drain line from the filters also flows by gravity into the backwash lagoons. It is not physically possible for unfiltered water to bypass the filters.

#### **Requirements**

1. The City of Circleville must submit a written schedule immediately for filter media replacement and effective treatment for iron and manganese removal including interim dates for significant milestones. An acceptable schedule shall include the submission of approvable detail plans for media replacement to Ohio EPA Central District Office by no later than July 18, 2008, and the media replacement project completion by December 31, 2008.

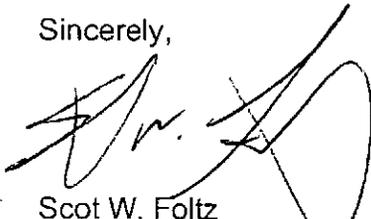
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2. Prior to making any operational or treatment changes you must first consult with Ohio EPA Central District Office. Plan approval may be required for some of the items outlined in your letter.

Continued noncompliance may result in Ohio EPA taking enforcement action. If an enforcement action is necessary, potential consequences may include penalties and loss of licensures. Ohio EPA is authorized under Revised Code chapter 6109.33 to assess penalties up to \$25,000.00 per violation per day.

If you have any questions regarding the requirements noted in this letter, please contact your Ohio EPA field representative Bridgette Marchio at (614) 728-3870 or myself at (614) 728-3863.

Sincerely,



Scot W. Foltz  
Environmental Manager  
Division of Drinking and Ground Waters  
Central District Office

- c: Terry Elliott, Circleville Utilities Director  
David Crawford, Circleville Council President  
Ronald Stephens, Circleville Water Plant Superintendent  
Gary Long, PE, CH2M HILL  
Central Office/DDAGW/CMCU  
Kim Rhodes, Ohio EPA/Legal  
CDO File