

METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

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MAYOR



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July 20, 2018

Dr. Shawn Joseph
Director of Schools
Metropolitan Nashville Public Schools
2601 Bransford Avenue
Nashville, TN 37204

Dear Dr. Joseph:

I am writing to thank you for joining Dr. Areola of the Metro Public Health Department and myself to create an official protocol for testing the safety of the water in our schools. I remain committed to making sure the drinking water at every school remains safe, and I know you are as well.

As it should, this protocol outlines one of the most protective school water-testing standards in the nation. Coupled with its education and training requirements, I believe this is the right framework for testing school drinking water. The reporting requirements included in the protocol are an additional layer of needed transparency to provide parents and members of the public assurance that the water in our schools is safe for our children to drink.

Thank you again for your work. Please do not hesitate to reach out to me if you need any assistance as you implement this protocol.

Sincerely,

A handwritten signature in blue ink, which appears to read "David Briley". The signature is fluid and stylized, with a large, sweeping "D" and a long, horizontal stroke at the end.

David Briley
Mayor

Enclosure



Metro Nashville Public Schools lead testing protocol

(Updated on July 18, 2018)

Metro Nashville Public Schools (MNPS) regularly conducts comprehensive testing to ensure the water in schools is safe. Though lead exposure to children through drinking water is uncommon, children are more susceptible than adults to the effects of lead because their bodies are still developing. Elevated levels of lead can result in health impacts such as learning disabilities and behavioral issues.¹

MNPS began voluntarily testing water at all Metro schools in 2016 following national concern about the dangers of lead in drinking water. To date, MNPS has tested more than 7,700 samples at a cost of \$361,257. By the end of 2018, MNPS expects to have completed 8,067 total samples at a cost of \$441,057.

The protocol for testing water in schools was developed in consultation with the Metro Nashville Public Health Department (MPHD) and EnSafe Environmental Engineering and in accordance with federal guidelines. It is among the most protective in the nation.

Dr. Marc Edwards, a nationally renowned expert on water corrosion in plumbing and the Charles P. Lunsford Professor of Civil and Environmental Engineering at Virginia Tech, said after reviewing the protocol: "If implemented as written, these standards would be very protective, relative to the rest of the nation."

Since the launch of the district's testing program in 2016, the protocol has been improved and refined. MNPS has implemented a random testing protocol to help ensure fair application of testing. In April 2018, the district also instituted monthly sampling of all fixtures where elevated test results had not been successfully remediated. All sample results are published under the "Lead Testing at MNPS" link at www.MNPS.org.

Exposure:

Testing of Nashville's water supply complies with the requirements of the 1986 and 1996 amendments to the Safe Drinking Water Act² and the U.S. Environmental Protection Agency's (EPA's) Lead and Copper Rule.³

Despite this, lead can get into drinking water by leaching from plumbing materials, particularly in older buildings and water systems. Lead found in tap water usually comes from the corrosion of older fixtures or from the solder that connects pipes. When water sits in leaded pipes for several hours, lead can leach into the water supply. Children can be exposed to lead from multiple sources, though lead-based paint is the most widespread and dangerous high-dose source of lead exposure for young children.⁴

National Standards:

While there is not an established safe threshold for lead in drinking water, there are standards that can be used as guidance and steps that can be taken to protect children. The EPA has established a lead in drinking water action level of 15 parts per billion (ppb) for public utility water systems.⁵ The U.S. Food and Drug Administration (FDA) established the maximum amount of lead allowable in bottled water at 5 ppb.⁶ There is no federal law that requires testing of drinking water in schools, so while these standards do not apply directly to schools such as MNPS, which relies entirely on public water systems for drinking water, they do provide useful guidance.

¹ https://www.epa.gov/sites/production/files/201509/documents/toolkit_leadschools_guide_3ts_leadschools.pdf

² (<http://www.epa.gov/sdwa>)

³ (<http://www.epa.gov/dwreginfo/lead-and-copper-rule>).

⁴ <https://www.cdc.gov/nceh/lead/tips/sources.htm>

⁵ https://www.epa.gov/sites/production/files/2015-09/documents/toolkit_leadschools_guide_3ts_leadschools.pdf

⁶ <https://www.fda.gov/forconsumers/consumerupdates/ucm203620.htm>



Testing and Remediation:

Relying on this guidance as well as that provided by experts at MPHD and the Tennessee Department of Environment and Conservation, MNPS has undertaken the following testing and remediation protocol to ensure drinking water in schools is safe. Testing and remediation procedures follow recommendations provided in the EPA's 3T's (*Training, Testing, Telling*) for *Reducing Lead in Drinking Water in Schools and Child Care Facilities*.

- A. Training** – MNPS environmental staff have been trained on the below testing protocol.
- B. Testing** – School officials will routinely test drinking water in schools to ensure the water is safe and take corrective actions as necessary. Specifically, school officials will: (1) Use a random sampling method to test 10% of all drinking and food preparation water outlets annually. Testing will be conducted in the morning prior to student arrival. Outlets will not be flushed prior to testing. 2) Employ corrective action for locations with drinking water lead levels above 5 ppb until sampling results are less or equal to 5 ppb. Corrective actions can include: shutting off the fixture, replacing pipes or flushing pipes. Locations found with a lead level in excess of 5 ppb will be tested monthly, and corrective action will be employed until a level of 5 ppb or lower is achieved.
- C. Remediation for Higher Lead Levels** – MNPS will disconnect any fixture showing lead levels in excess of 15 ppb until corrective measures are taken and testing confirms levels have been reduced below 15 ppb. Corrective measures may include flushing, replacing of plumbing fixtures or permanent disconnection of water source. Once sampling has confirmed that levels have been reduced, the fixture can be returned to service. If levels are in excess of 5 ppb but less than 15 ppb, the fixture will be included in subsequent monthly testing until two monthly tests are below 5 ppb. If the levels are below 5 ppb then the fixture will be returned to the random sampling protocol.

Flushing:

Lead levels may build up in pipes from corrosion and pattern of use. If water is not drawn from a fixture and sits in the pipe for a long period, lead levels can become more concentrated. Flushing is one intervention that can reduce lead levels, especially when elevated levels are localized in a small area or in a small building.⁷ MNPS will flush all drinking or food preparation locations for a minimum of five minutes prior to the start of the school day after extended breaks, including spring and winter breaks as well as summer vacation. MNPS will retain a log of flushing activity and will make this information publicly available in the principal's office at each school. Previously, MNPS had employed a flushing practice of 30 seconds per outlet on the evening prior to a test (also known as pre-stagnation flushing). However, after further advisement and clarification from the EPA, MNPS has discontinued the practice.

Communication to Parents/ Community:

School officials will inform students, parents, staff and the larger community about monitoring programs, potential risks, the results of testing, and remediation actions through the "Lead Testing at MNPS" link on the District's website, www.MNPS.org. As events warrant, MNPS will also share information with parents through direct communications. Information will be shared with staff in administrative meetings and email.

⁷ https://www.epa.gov/sites/production/files/2015-09/documents/toolkit_leadschools_guide_3ts_leadschools.pdf