



DRINKING WATER QUALITY MANAGEMENT INITIATIVE

COMPLIANCE WITH PA SCHOOL CODE ACT 39 SECTION 742 OF 2018
FOR LEAD TESTING IN SCHOOLS

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March 4, 2019

Expect great things. 

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PPS DRINKING WATER QUALITY MANAGEMENT INITIATIVE

Lead Testing: Introduction

PPS Drinking Water Quality Management Initiative began as a proactive approach to enhance the quality of drinking water in the District's facilities for the safety of all.

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Lead Testing: Objective

The objective is to comply with the amended PA SCHOOL CODE ACT 39 Section 742 – to discuss PPS Drinking Water Quality Initiative and efforts to continue to provide safe and healthy school environment which meets the holistic needs of all students and staff.

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Lead Testing: Definitions

PA SCHOOL CODE ACT 39 – SECTION 742 – LEAD TESTING:

- Amended in June 2018.
- Encourages schools to conduct lead in drinking water testing on an annual basis starting in 2018-19 school year
- Although the testing is not mandatory, the code require schools that do not test to discuss lead issues in a public meeting setting.
- Implement a remedial plan if results exceed 15 parts per billion (ppb).
- Elevated lead levels must be reported to the Pennsylvania Department of Education (PDE) and to be posted on PDE's website.

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Lead Testing: Definitions

Lead: a naturally occurring bluish-gray metal found in small amounts in earth's crust.

Health Effects of Lead: Lead is a toxic metal that is harmful to human health. Young children, those 6 years and younger, are at particular risk for lead exposure because they have frequent hand-to-mouth activity, and their bodies absorb metals at higher rate than the average adult does.

Sources of Lead in drinking water

Typically, lead in water occurs through corrosion of plumbing products containing lead.

- **Corrosion of Plumbing** - Lead Solder (commonly used until 1988), pipes, brass and bronze fittings, valves, particles, various drinking water outlets (e.g., water fountains and faucets).
- **Factors Influencing Corrosion** - Hardness/minerals, pH, velocity of flow/contact time/water use patterns, temperature, chlorine level/water chemistry, age and condition of pipe, physical disturbance (particulate release).

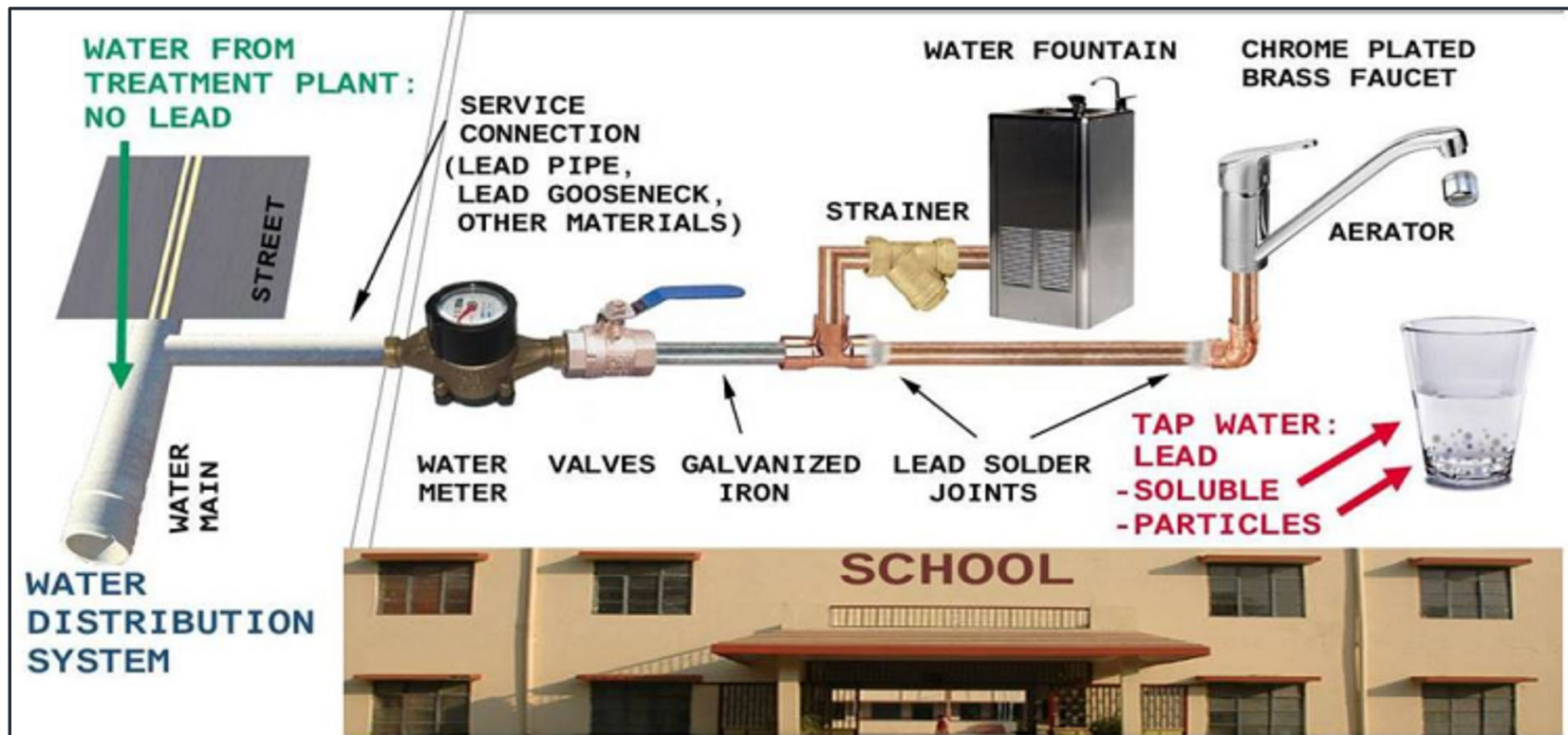
(Source: EPA's 3Ts)

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Example of Water Distribution System

(source: W.K. Kellogg Foundation 2016; Edwards 2009)



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Lead Testing: The '3T's' – EPA Guidelines

U.S. Environmental Protection Agency (EPA) - 3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities (3Ts)

Used in 2016 (2006 Version)

- Training
 - Raise awareness of the “3T’s” program and summarize the potential causes and health effects of lead in drinking water.
- Testing
 - Drinking water in schools and child care facilities to identify potential lead issues.
- Telling
 - Population education, media communication, etc.
- Action Level 20 ppb

Used in 2019 (Revised 2018 Version)

- Training
 - Raise awareness of the “3T’s” program and summarize the potential causes and health effects of lead in drinking water.
- Testing
 - Drinking water in schools and child care facilities to identify potential lead issues.
- Taking action
 - Steps taken to reduce lead in drinking water.
- Action Level 15 ppb (PA School Code Act 39)

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Lead Testing: – 2016 Initiative

- In 2016, there were no federal, state or local laws requiring the testing of drinking water for lead in schools.
- Under the leadership of the Superintendent, the District initiated a voluntary testing of the drinking water for lead at all drinking water fountains and other outlets used for cooking at PPS facilities. Additionally, as recommended by the EPA, classroom, office, nurse's room and other sink faucets were also tested.
- Per the guidelines provided by EPA 3Ts, the 2016 PPS Drinking Water Quality Management Initiative was developed, planned and implemented.
- Through this initiative the 2016 PPS Drinking Water Quality Management Team was formed.

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Lead Testing: – 2016 Initiative Plan of Action Training – Team Members

Team of Internal Stakeholders

- Superintendent
- COO
- Executive Director of Finance and Facilities Management
- Law Office
- Communications
- Facilities
- Maintenance
- Plant Operations
- Food Services

External

Allegheny County Health Department
US Environmental Protection Agency
PA Department of Environmental Protection

Water Supply Companies

Pittsburgh Water and Sewer Authority (PWSA)
Penn American Water Company
Wilkesburg-Penn Joint Water Authority
West View Water Authority

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Lead Testing: – 2016 Initiative Plan of Action - Testing

- A plan of action for sampling, testing and remedial options were developed based on EPA 3Ts guidelines.
- Per EPA's 3Ts, the District engaged professional mechanical engineering firms to review and develop plumbing profiles of all school facilities. These plumbing profiles identified the locations and types of all drinking water fountains, cooking use outlets, classrooms, offices, restrooms, laboratories and other outlets.
- Professional environmental consultants used the plumbing profile, and per EPA 3Ts, conducted testing of drinking water at water fountains, cooking use outlets, and faucets located in classrooms, offices, nurse's rooms and other sinks at all schools throughout the District.

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Lead Testing: – 2016 Initiative Plan of Action - Testing

Complete testing of all facilities was conducted in 2016.

The total number of facilities tested in 2016: 70

- Academic Facilities – 60
- Athletic Field Houses – 7
- Non-Academic Administrative Facilities – 3

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Lead Testing: – 2016 Initiative Plan of Action - Testing

Total Drinking Water Fountains and Other Outlets Tested Throughout the District:	
Total number of drinking water fountains, cooking use and other outlets tested	2388
Total number of drinking water fountains only included in the above number	1093
Total Number of Water Samples Collected throughout the District:	
Total number of water samples collected (first & second draw)	4756
Total Test Results:	
Total number of passed samples	4627
Total number of failed samples	129
Total Percentage Failed	2.8%
Total number of failed samples after emergency response actions and retest (these outlets were taken out of service and/or 'hand wash only-do not drink from faucet' signage were posted)	47

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Lead Testing: – 2016 Initiative Plan of Action - Testing

Emergency Remedial Actions:

- Affected Drinking Water Fountains
 - Immediately shut-off and signage posted.
 - Replaced with chilled filtered (point of use) drinking water fountain, or permanently taken out of service.
- Affected classroom and other faucets
 - Immediately shut-off and signage posted.
 - Faucet assembly replaced.
 - Retested.
 - If failed, taken out of service or permanent 'hand wash only' signage posted.

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Lead Testing: – 2016 Initiative Plan of Action - Telling

Communications

- Where applicable immediately upon receipt of recommendation for response actions from the Environmental Consultants, Facilities forwarded the recommendations to PPS Maintenance for implementation.
- Upon receipt of the Preliminary Reports of water quality testing, Facilities forwarded the reports to Chief Operations Officer and Communications Officer for further disclosure to schools, parents and public.
- Communications Officer provided further updates to schools and parents.
- Public Information Officer as single point of contact responded to media inquiries.
- Reports were also posted on PPS Website.

<https://www.pghschools.org/domain/1225>

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Lead Testing: – 2019 Initiative Plan of Action - Testing

Listed below are the seven Early childhood centers (ECC)/Pre-K Schools were picked by Operations Team to include all water suppliers and focus on populations under the age of six (6).

- Beechwood PreK-5
- Chartiers ECC
- Crescent ECC
- Montessori PreK-5
- Pioneer
- Spring Garden ECC
- Westwood K-5

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Lead Testing: – 2019 Initiative Plan of Action - Testing

Total Drinking Water Fountains and Other Outlets Tested in Seven Schools:	
Total number of drinking water fountains, cooking use and other outlets tested	168
Total number of drinking water fountains only included in the above number	64
Total Number of Water Samples Collected in Seven Schools:	
Total number of water samples collected (first & second draw)	323
Total Test Results in Seven Schools:	
Total number of passed samples	317
Total number of failed samples	6
Total Percentage Failed	1.9%
Total number of failed samples after emergency response actions and retest (these outlets were taken out of service and/or 'hand wash only-do not drink from faucet' signage were posted)	TBD

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Lead Testing: – Highlights & Success

- **2016** – Tested all drinking water and cooking use outlets, including classrooms, offices, nurse’s rooms and other sink faucets at all schools throughout the District.
- **2016** - Simultaneously, upon completion of testing, the District provided 309 new filtered high efficiency water coolers at all schools throughout the District as a proactive measure, irrespective of test results.
- **2016** - Adequate number of new filtered water coolers were installed at all schools that also meet Allegheny County Health Department requirement of 1 water fountain per 100 students.
- **2016** - New filtered water coolers with bottle filling stations are available for used on each level of every school building to optimize access to and encourage sustainable consumption of water to students and staff at all schools.
- **2018** – Replaced all remainder of water fountains in four (ECC) school buildings – Chartiers, Crescent, Montessori and Spring Garden. Additionally, to support ECC toothbrushing activity, filtration system were also installed at select sink fixtures in these buildings.
- **2019** – Tested select ECC and Pre-K schools.

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Lead Testing: – Next Steps

Periodic Drinking Water Quality Testing for Lead

- During 2019 - conduct testing of remainder of school facilities.
- Testing of schools to continue every 3rd year.

Upgrading Remainder of Water Fountains

- Long term systematic replacement of remainder of water fountains to upgrade to filtered water coolers has started with ECC schools.
- Replace water fountains, where feasible, also during restroom renovation projects.