



**Environmental
Works, Inc.**

**Richwoods R-VII School District
Lead in Drinking Water
Sampling and Testing Plan**

Prepared For:

Richwoods R-VII School District
10788 State Highway A
Richwoods, Washington County, Missouri 63071

Prepared By:

Environmental Works, Inc.
2008 North Westwood Blvd
Poplar Bluff, MO 65802

Plan Prepared:

December 28, 2023

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1.0 Purpose

Environmental Works, Inc. (EWI), on behalf of the Richwoods R-VII School District, has prepared this Lead in Drinking Water Sampling and Testing (LDWST) Plan in response to the Missouri Revised Statutes of Missouri (RSMo) Chapter 160 Section 077 (160.077). This LDWST Plan includes procedures for inventorying and sampling outlets used for drinking water and water dispensed for cooking and cleaning of eating and cooking utensils in each of the school buildings.

This Plan has been prepared to meet the requirements of the RSMo 160.077, the Environmental Protection Agency's (EPA) 3Ts for Reducing Lead in Drinking Water and the EPA Safe Drinking Water Act (SDWA). The Richwoods R-VII School District has distributed this LDWST Plan to the public through the district website (www.richwoodsr7.org). General information on the health effects of lead contamination and additional informational resources for employees and parents of children at each school will be provided upon request.

1.1 Regulatory Schedule Requirements (RSMo 160.077(4))

In accordance with RSMo 160.077, on or before January 1, 2024, each school will:

- Conduct an inventory of all drinking water outlets and all outlets that are used for dispensing water for consumption, cooking, and cleaning of cooking and eating utensils;
- Develop a Plan for testing each outlet inventoried;
- Provide the Plan to the public; and
- Upon request, provide general information on the health effects of lead contamination and additional informational resources for employees and parents of children at each school.

Before August 1, 2024, or on the first day students will be present in the building, whichever is later, each school will:

- Complete sampling in accordance with RSMo 160.077,
- Make all testing results and any lead remediation plans available on the school's website within two weeks of receiving final analytical test results, and
- Remove and replace any drinking water coolers or drinking water outlets that the EPA has determined are not lead-free under the federal Lead Contamination Control Act of 1988.

1.2 Previous Sampling Activities

The Richwoods School District has tested water outlets in the ten years prior to the 2023-24 school year. A limited drinking water sampling was completed for five (5) outlets on September 13, 2023, and analytical results are included in **Appendix D**. Lead sampling results were below 5 parts per billion (ppb) for all drinking water outlets.

2.0 Richwoods R-VII School District Description and Contact Information

2.1 Richwoods R-VII School District Information

School Name: Richwoods R-VII School District

School Type: Public

Address: 10788 State Highway A
Richwoods, Washington County, Missouri 63071-944

Phone: (573) 678-2257 (O) and (573) 678-2695 (F)

Email: lconway@richwoods.k12.mo.us

Contact: Mr. Lindell Conway
Superintendent
(573) 678-2257 (O)

2.2 Buildings

The following table summarizes the schools covered in this LDWST Plan.

Schools	Level	Grade	Address
Richwoods Elementary	Elementary	Pre-K – 8th	10788 State Highway A Richwoods, MO 63071-9744
District Library	Elementary	Pre-K – 8th	10788 State Highway A Richwoods, MO 63071-9744
District Modular Building	Elementary	Pre-K – 8th	10788 State Highway A Richwoods, MO 63071-9744

3.0 Inventory

Richwoods R-VII School District completed a building and outlet questionnaire, and EWI completed a site visit to gather information such as:

- Date of building construction,
- Year and location of plumbing repairs,
- Location where water enters the building and flow,
- Identification of any known lead lines or plumbing components,
- Location of water pipes and piping material,
- Location of any tanks in the plumbing system,
- Identification of all faucets and fixtures used for drinking water and cooking,
- Identification of filters, aerators, signs of corrosion or banned water cooler tanks.

3.1 Outlet Identification and Prioritization

Drinking water and cooking outlets were identified from the questionnaire and site-visit in accordance with the Missouri RSMo's 160.077.2 drinking water outlet definition, which includes but may not be limited to:

- a) A water fountain, faucet, or tap that is used or potentially used for drinking or food preparation and
- b) Ice-making and hot drink machines.

Building diagrams are attached in **Appendix A**, detailed information on each building can be found in **Appendix B**, and the outlets identified in the inventory are outlined in **Appendix C**.

4.0 Sampling and Testing

4.1 Initial Sampling and Testing

The outlet inventory and prioritization schedule included in this plan will be used to conduct sampling for Richwoods R-VII School District. Samples will be collected using proper sampling procedures. The sampler will utilize laboratory prepared 250-milliliter (mL) unpreserved plastic containers to collect outlet water for analysis of lead by Method 200.8. Samples will be labeled, managed under a Chain of Custody, and sent to a certified laboratory for analysis. EWI personnel will collect samples from each identified outlet based on the following criteria:

First Draw Sampling

First draw samples will be immediately collected from the outlet from the first water after the outlet is turned on. Samples will be collected after a stagnation period of at least 8 hours but no greater than 18 hours.

Flush Sampling

Follow-up flush samples will be collected from at least 25% of inventoried drinking water outlets.

All results will be summarized in a final report, submitted to the Missouri Department of Health and Senior Services, and published on the Richwoods R-VII School District website.

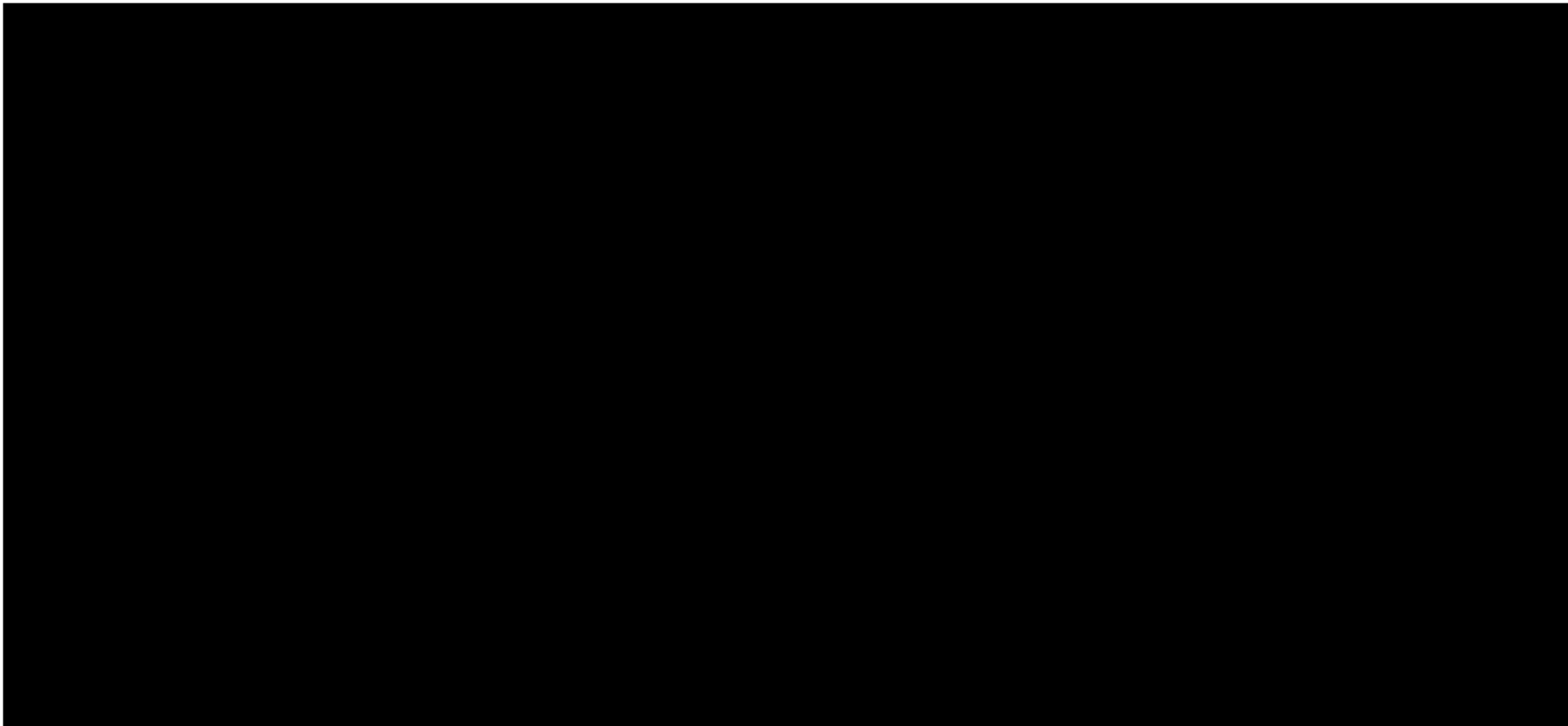
4.2 Subsequent Sampling and Testing

If initial testing finds lead above 5 parts per billion (ppb), Richwoods R-VII School District will implement remedial measures, then test and sample 25% of remediated drinking water outlets by first draw and follow-up flush sampling annually.

If initial testing does not find a drinking water source with a lead concentration above 5 ppb, Richwoods R-VII School District will complete testing and sampling every five years.

APPENDIX A – Building Diagrams

LEGEND	
X	SINKS
O	FOUNTAINS
□	DISH WASHER
△	ICE MACHINE



NORTH



CHECKED BY:
M. KEITH

E.W.I. # 233258
DRAWN BY: CRR
Jan. 8, 2024

NOT TO SCALE



Poplar Bluff Office Location
2008 N. Westwood BLVD
Poplar Bluff, MO 63901
Phone: (513) 316-9300

BUILDING A

RICHWOODS R-VII SCHOOLS
RICHWOODS, MISSOURI

FIGURE
1.0

APPENDIX B – Building Summary

School District: Richwoods R-VII Date: 9/11/2023
 Person Completing Questionnaire: Lindell Conway Title: Superintendent

Building	Address	Original Construction Date	Outlet Count	Any Building Maps/Drawings		Any Building Additions?			Where Does Water Enter the Building?	Who Provides Water to the Building?
				Yes/No	Electronic/ Hard Copy <i>(see note below)</i>	Yes/No	Year of Addition	What Was Added?		
Richwoods Elementary	10788 State Hwy A	1940	29	Yes	Electric	Yes	1962	5-8 Wing/Main Office	Washroom Closet	Richwoods Elementary Well
							1974	Gym/Kitchen	Washroom Closet	Richwoods Elementary Well
							1995	K-4 Wing	Washroom Closet	Richwoods Elementary Well
Library Building	10788 State Hwy A	1997	7	Yes	Electric	Yes	1997	Library Building	Library Building Maintenance Closet	Richwoods Elementary Well
Modular Building	10788 State Hwy A	1993	2	Yes	Electric	Yes	1993	Modular	North Side of Building through office	Richwoods Elementary Well

APPENDIX C – Outlet Inventory

School District:
Person Completing Questionnaire:

Richwoods R-VII
Lindell Conway

Date: 9/11/2023
Title: Superintendent

MAP ID	Outlet Type	Location (hall, room #, etc.)	Specific Location	Sample ID
				Format (Bldg.-floor-Outlet-Type-Sample Number)
1	Faucet #1	Girls Restroom	Library Building	01-01-RR-HW-P-001
2	Faucet #2	Girls Restroom	Library Building	01-01-RR-HW-P-002
3	Faucet #3	Boys Restroom	Library Building	01-01-RR-HW-P-003
4	Faucet #4	Boys Restroom	Library Building	01-01-RR-HW-P-004
5	Faucet #5	Art	Library Building	01-01-CR-CF-P-005
6	Drinking Fountain #6	Library Hall	Library Building	01-01-HW-DW-P-006
7	Utility DNR Tap #7	Maintenance Room	Library Building	01-01-DNR-HB-P-007
8	Drinking Fountain #8	K-4 Hall	Elementary Building	02-01-HW-DW-P-008
9	Bottler Filler #9	K-4 Hall	Elementary Building	02-01-HW-BF-P-009
10	Faucet #10	Girls Restroom K-4 Hall	Elementary Building	02-01-RR-HW-P-010
11	Faucet #11	Boys Restroom K-4 Hall	Elementary Building	02-01-RR-HW-P-011
12	Utility DNR Tap #12	Utility Closet	Elementary Building	02-01-DNR-HB-P-012
13	Drinking Fountain #13	5-8 Hall Office	Elementary Building	02-01-HW-DW-P-013
14	Faucet #14	Staff Restroom	Elementary Building	02-01-RR-HW-P-014
15	Utility DNR Tap #15	5-8 Maintenance	Elementary Building	02-01-DNR-HB-P-015
16	Faucet #16	Nurse Restroom	Elementary Building	02-01-RR-HW-P-016
17	Utility Faucet #17	5-8 Custodian Closet	Elementary Building	02-01-CC-UF-P-017
18	DNR Sample Tap #18	5-8 Custodian Closet	Elementary Building	02-01-DNR-HB-P-018
19	Faucet #19	5-8 Girls Restroom	Elementary Building	02-01-RR-HW-P-019
20	Faucet #20	5-8 Girls Restroom	Elementary Building	02-01-RR-HW-P-020
21	Faucet #21	5-8 Boys Restroom	Elementary Building	02-01-RR-HW-P-021
22	Faucet #22	5-8 Boys Restroom	Elementary Building	02-01-RR-HW-P-022
23	Faucet #23	7th Grade Class Restroom	Elementary Building	02-01-CR-CF-P-023
24	Faucet #24	Science Room	Elementary Building	02-01-CR-CF-P-024
25	Drinking Fountain #25	5-8 Hall	Elementary Building	02-01-RR-HW-P-025
26	Bottler Filler #26	5-8 Hall	Elementary Building	02-01-HW-BF-P-026
27	3 VAT Sink #27	Kitchen	Elementary Building	02-01-KIT-KF-P-027
28	Ice Machine #28	Kitchen	Elementary Building	02-01-KIT-IM-P-028
29	Faucet #29	Kitchen	Elementary Building	02-01-KIT-KF-P-029
30	Faucet #30	Kitchen	Elementary Building	02-01-KIT-KF-P-030
31	Faucet #31	Kitchen Restroom	Elementary Building	02-01-KIT-KF-P-031
32	DNR Sample Tap #32	Kitchen Closet	Elementary Building	02-01-DNR-HB-P-032
33	Drinking Fountain #33	Gym	Elementary Building	02-01-RR-HW-P-033
34	Faucet #34	Gym Boys Restroom	Elementary Building	02-01-RR-HW-P-034
35	Faucet #35	Gym Girls Restroom	Elementary Building	02-01-RR-HW-P-035
36	Outside Hydrant #36	Rear of Gym	Elementary Building	02-01-GYM-HB-P-036
37	Faucet #37	Modular Restroom	Modular Building	03-01-RR-HW-P-037
38	Faucet #38	Modular Office	Modular Building	03-01-RR-HW-P-038
38	Total Building Outlets			

APPENDIX D – Previous Sample Results

Results of Sample Analyses




1st Group: 2023 September PbCu mailing (5) - School

Order ID: WO230816033



Public Drinking Water Branch
MO6171238
Richwoods Elementary School

Kurt Emily
10788 STATE HIGHWAY A
RICHWOODS MO 63071

Sample: 2314742		Site: Richwoods Elementary School			
		Site Number: MO6171238			
		Sample Location and Type: Kitchen 3 vat Sink (Tier 3)		County: Washington	
Collected 09/13/23 05:20				Public Drinking Water Supply	
Analyte	Result	MCL	SS	Qualifier(s)	
Analysis: 200.8 Metals - PbCu Direct Analysis by EPA 200.8					
Copper*	180 µg/L	1,300			
Lead*	3.22 µg/L	15			
Analysis: Turbidity - PbCu by EPA 180.1					
Turbidity	<1 NTU			NO	
Sample: 2314743		Site: Richwoods Elementary School			
		Site Number: MO6171238			
		Sample Location and Type: Library Water Fountain (Tier 3)		County: Washington	
Collected 09/13/23 05:36				Public Drinking Water Supply	
Analyte	Result	MCL	SS	Qualifier(s)	
Analysis: 200.8 Metals - PbCu Direct Analysis by EPA 200.8					
Copper*	104 µg/L	1,300			
Lead*	<1 µg/L	15		ND	
Analysis: Turbidity - PbCu by EPA 180.1					
Turbidity	<1 NTU			NO	
Sample: 2314744		Site: Richwoods Elementary School			
		Site Number: MO6171238			
		Sample Location and Type: K-2 Water Fountain (Bottle Filler) (Tier 3)		County: Washington	
Collected 09/13/23 05:33				Public Drinking Water Supply	
Analyte	Result	MCL	SS	Qualifier(s)	
Analysis: 200.8 Metals - PbCu Direct Analysis by EPA 200.8					
Copper*	71.1 µg/L	1,300			
Lead*	1.24 µg/L	15			
Analysis: Turbidity - PbCu by EPA 180.1					
Turbidity	<1 NTU			NO	

Sample: 2314745

Site: Richwoods Elementary School

Site Number: MO6171238

County: Washington

Sample Location and Type: 7-8 Water Fountain (Bottle Filler) (Tier 3)

Collected 09/13/23 05:30

Public Drinking Water Supply

Analyte	Result	MCL	SS	Qualifier(s)
Analysis: 200.8 Metals - PbCu Direct Analysis by EPA 200.8				
Copper*	141 µg/L	1,300		
Lead*	2.84 µg/L	15		
Analysis: Turbidity - PbCu by EPA 180.1				
Turbidity	<1 NTU			ND

Sample: 2314746

Site: Richwoods Elementary School

Site Number: MO6171238

County: Washington

Sample Location and Type: Gym Water Fountain (Tier 3)

Collected 09/13/23 05:26

Public Drinking Water Supply

Analyte	Result	MCL	SS	Qualifier(s)
Analysis: 200.8 Metals - PbCu Direct Analysis by EPA 200.8				
Copper*	90.5 µg/L	1,300		
Lead*	1.81 µg/L	15		
Analysis: Turbidity - PbCu by EPA 180.1				
Turbidity	<1 NTU			ND

MCL - A Maximum Contaminant Level (MCL) is the legal threshold limit on the amount of a substance that is allowed in drinking water under the Federal Safe Drinking Water Act. MCLs are health based, legally enforceable standards. Drinking water results below the MCLs are considered safe.

*Lead and Copper samples have an Action Level (AL) and not an MCL. The AL levels for Lead and Copper are shown in the MCL column.

SS - Secondary Drinking Water Regulations (secondary standards) are non-enforceable guidelines regulating contaminants that may cause aesthetic effects in drinking water, such as taste, color or odor. It is recommended that water systems comply with secondary standards but water systems are not required to comply.

The analysis of this sample was performed in accordance with procedures approved or recognized by the U. S. Environmental Protection Agency.

If you have any questions, please contact the Public Drinking Water Branch's chemical monitoring coordinator Brent Weis at 573-751-3458.

Data qualifiers used in this report:

ND Not detected at reported value

Units used in this report:

µg/L micrograms per liter
NTU nephelometric turbidity units

Richard Kirsch
Richard Kirsch
Laboratory Manager
Environmental Services Program
Division of Environmental Quality