



**WATER SAMPLING AND REPORTING SERVICES**

**COLUMBIA PUBLIC SCHOOLS  
ELIOT BATTLE ELEMENTARY SCHOOL  
2400 BATTLE AVENUE  
COLUMBIA, MISSOURI**

Prepared for:  
**COLUMBIA PUBLIC SCHOOLS  
COLUMBIA, MISSOURI**

Prepared by:  
**GEOTECHNOLOGY, LLC, DBA UES  
ST. LOUIS, MISSOURI**

Date:  
**AUGUST 23, 2024**

Project No.:  
**J044517.01**

**SAFETY  
TEAMWORK  
RESPONSIVENESS  
INTEGRITY  
VALUE  
EXCELLENCE**



August 23, 2024

Mr. David Seamon  
District Project Manager  
Columbia Public Schools  
1818 West Worley Street  
Columbia, Missouri 65203

Re: Water Sampling and Reporting Services  
Columbia Public Schools  
Eliot Battle Elementary School  
2400 Battle Avenue  
Columbia, Missouri  
Project No. J044517.01

Dear Mr. Seamon:

In accordance with Columbia Public Schools' (CPS) Request for Proposal No. C-24043, dated October 10, 2023, Geotechnology, LLC, dba UES, is pleased to provide this drinking water sampling report for the referenced project. Our scope of services included flushing and sampling of drinking water from potable water outlets, laboratory analysis of water samples, and a letter report.

#### **SITE AND PROJECT DESCRIPTION**

The subject property consists of the existing Columbia Public Schools Eliot Battle Elementary School, located east of the terminus of Tabor Drive at Battle Avenue in Columbia, Missouri. The purpose of the drinking water sampling was to identify potable water outlets that may require remediation in accordance with the State of Missouri's *Get the Lead out of School Drinking Water Act* (RSMo 160.077).

#### **DRINKING WATER SAMPLING**

RSMo 160.077 sets standards for lead concentrations in school drinking water, stating that each Missouri school shall provide drinking water with a lead concentration level below five (5) parts per billion (ppb). This Act requires schools to conduct the inventory, sampling, remediation, and monitoring at all potable drinking water outlets used or potentially used for drinking, food preparation, and cooking or cleaning utensils.

In general conformance with the RSMo 160.077 requirements, and the Environmental Protection Agency's (EPA) *3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities* manual, initial water flushing and sampling activities were conducted on February 8 and 9, 2024, and June 26, 2024, by Mr. Brad Lohrum, a Missouri-licensed lead risk assessor. Mr. Lohrum was assisted by Mr. Seth Lamble, a Missouri-licensed lead inspector. Copies of



training certificates and lead licenses for Messrs. Lohrum and Lambie are included in Appendix A.

An inventory of potable drinking water outlets was provided to UES by CPS. UES personnel sampled the identified outlets utilizing the EPA’s “first-draw” methods. The identified outlets were flushed, then allowed to sit undisturbed for a period of 8-18 hours. Following this stagnation period, the first 250 milliliters (ml) of water expelled from the outlets were collected in laboratory-provided containers. Copies of the drinking water sampling forms, which include a list of sample locations, and the times and dates of flushing and sampling activities, are included in Appendix B. A floor plan depicting approximate sample locations is included as Figure 1.

Using standard chain-of-custody procedures, the drinking water samples were submitted to Teklab, Inc. of Collinsville, Illinois, an independent, certified Missouri Department of Natural Resources (MDNR) Drinking Water and National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory, for analysis of lead content via EPA Method 200.8: *Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma-Mass Spectrometry*.

## RESULTS

Laboratory analyses detected the presence of lead at or above 5 ppb in the following sample.

**TABLE 1  
DRINKING WATER OUTLETS AT OR ABOVE 5 PARTS PER BILLION**

<b>Sample Number / Location and Fixture Type</b>	<b>Results</b>
EBE-35 / Kitchen – Food Prep East Sink	24.7 ppb

UES personnel resampled this outlet on April 12, 2024 (EBE-35-2), and again on June 26, 2024 (EBE-35-3). Laboratory analyses detected the presence of lead at or above 5 ppb in the following samples.

**TABLE 2  
RESAMPLED DRINKING WATER OUTLETS AT OR ABOVE 5 PARTS PER BILLION**

<b>Sample Number / Location and Fixture Type</b>	<b>Results</b>
EBE-35-2 / Kitchen – Food Prep East Sink	9.8 ppb
EBE-35-3 / Kitchen – Food Prep East Sink	17.7 ppb



UES will not be able to represent that the site contains no lead-bearing water outlets beyond those detected or observed by UES during flushing and sampling activities. Copies of the drinking water analytical results are included in Appendix C.

## RECOMMENDATIONS

Our recommendations are summarized below:

- It is our understanding that the outlet identified in Table 2 has been taken out of service pending further remediation activities. This fixture should be resampled and tested prior to being put back into service.
- The exterior water fountain located on the east side of the building was not operational at the time of sampling activities and was not sampled. Should this fixture be put back into service, it should first be sampled and tested.

\* \* \* \* \*

The following attachments are included in and complete this report:

- |            |  |
|------------|--|
| Figure 1   | - Drinking Water Sample Locations                          |
| Appendix A | - Certificates and Licenses of Environmental Professionals |
| Appendix B | - Drinking Water Sampling Forms                            |
| Appendix C | - Drinking Water Laboratory Data Sheets                    |
| Appendix D | - Limitations of Report                                    |

\* \* \* \* \*

We appreciate the opportunity to provide our professional environmental consulting services to Columbia Public Schools on this project. If you have any questions or comments, please contact me at (314) 997-7440.

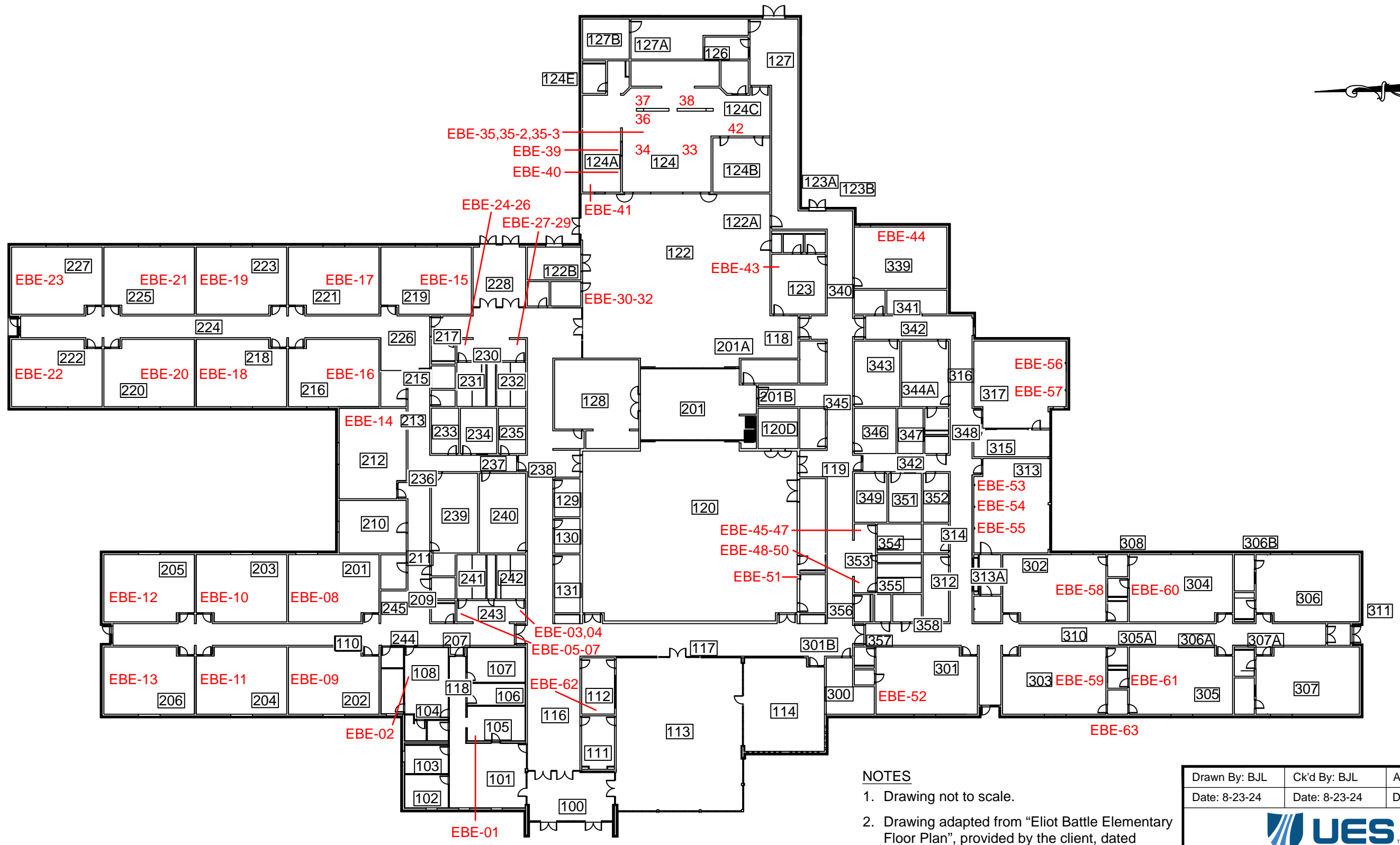
Very truly yours,

**UES**

A handwritten signature in blue ink that reads "Bradley J. Lohrum".

Bradley J. Lohrum  
Project Manager

BJL/MSR:bjl/jsj



**NOTES**

1. Drawing not to scale.
2. Drawing adapted from "Eliot Battle Elementary Floor Plan", provided by the client, dated 07/12/2021.
3. Sample locations were identified in the field relative to building features and are approximate only.

Drawn By: BJL	Ck'd By: BJL	App'vd By: MSR
Date: 8-23-24	Date: 8-23-24	Date: 8-23-24



2400 Battle Avenue  
Columbia, Missouri

**DRINKING WATER  
SAMPLING LOCATIONS**

Project Number  
J044517.01

**FIGURE 1**



## **APPENDIX A**

### **CERTIFICATES AND LICENSES OF ENVIRONMENTAL PROFESSIONALS**



**STATE OF MISSOURI**  
**DEPARTMENT OF HEALTH AND SENIOR SERVICES**

**LEAD OCCUPATION LICENSE REGISTRATION**

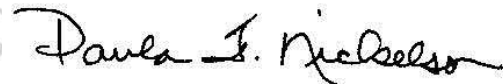
Issued to:

**Bradley J. Lohrum**

The person, firm or corporation whose name appears on this certificate has fulfilled the requirements for licensure as set forth in the Missouri Revised Statutes 701.300-701.338, as long as not suspended or revoked, and is hereby authorized to engage in the activity listed below.

**Lead Risk Assessor**  
Category of License

Issuance Date: **1/20/2023**  
Expiration Date: **1/20/2025**  
License Number: **230120-300006460**



Paula F. Nickelson  
Acting Director  
Department of Health and Senior Services





**STATE OF MISSOURI**  
**DEPARTMENT OF HEALTH AND SENIOR SERVICES**

**LEAD OCCUPATION LICENSE REGISTRATION**

Issued to:

**Seth P. Lamble**

The person, firm or corporation whose name appears on this certificate has fulfilled the requirements for licensure as set forth in the Missouri Revised Statutes 701.300-701.338, as long as not suspended or revoked, and is hereby authorized to engage in the activity listed below.

**Lead Inspector**  
Category of License

Issuance Date: **4/25/2022**  
Expiration Date: **4/25/2024**  
License Number: **160425-300004897**



Paula F. Nickelson  
Acting Director  
Department of Health and Senior Services







## **APPENDIX B**

### **DRINKING WATER SAMPLING FORMS**











## **APPENDIX C**

### **DRINKING WATER LABORATORY DATA SHEETS**







































































































## **APPENDIX D**

### **LIMITATIONS OF REPORT**

## **ENVIRONMENTAL SAMPLING LIMITATIONS OF REPORT**

1. The Report has been prepared on behalf of and for the exclusive use of the addressee, solely for use in documenting specific sample results. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of UES.
2. The sampling was performed in accordance with generally accepted practices of other consultants undertaking similar projects at the same time and in the same geographical area, and UES endeavored to observe that degree of care and skill ordinarily exercised by other consultants under similar circumstances and conditions. The findings and conclusions stated herein must be considered not as scientific certainties, but rather as professional opinions concerning the significance of the limited data gathered during the course of the project. UES does not and cannot represent that the site contains no hazardous waste or material, or other latent condition beyond that observed by UES.
3. In the event that information is developed relative to environmental or hazardous waste or material issues at the site and not contained in this report, such information shall be brought to UES' attention. UES will evaluate such information and, based on this evaluation, may modify the conclusions stated in this Report.
4. The conclusions and recommendations contained in this Report are based in part upon the data obtained from a limited number of water samples. The identified presence of contaminated water is limited to the extent that they could be identified by instrumentation and sampling and testing. There is a potential for contaminated water above the indicated concentrations to occur elsewhere on the site. The nature and extent of variations between these explorations may not become evident until further exploration. If variations or other latent conditions then appear evident, and/or if changes are made in regulations, it will be necessary to reevaluate the conclusions and recommendations of this report.
5. If quantitative laboratory testing was performed as part of the assessment by an outside laboratory, UES has relied upon the data provided, and has not conducted an independent evaluation of the reliability to these data.
6. Chemical analyses have been performed for specific parameters during the course of this sampling as described in the text. Do not assume that a given analyte is not present at the site simply because it was not present at the test locations. The analyte may exist on the site where tests were not performed. In addition, it should be noted that additional chemical constituents not tested for during the sampling could be present in water at the site.