October 6, 2016

Mr. Mike Vogel
Interim Director of Facilities and Construction Management
South Washington County Schools
7362 East Douglas Point Road S
Cottage Grove, MN 55016
P 651-425-6274
E mvogel@sowashco.org

Providing Trusted Health & Safety Solutions

RE: Cottage Grove Middle School
Lead-in-Water Testing
IEA Project #201610819

Dear Mr. Vogel,

At the request of South Washington County Schools, IEA collected a total of 57 samples of drinking water on September 20, 2016, for lead analyses from the Cottage Grove Middle School building.

The purpose of the site sampling was to document lead levels in the sampled locations and compare them to the EPA action level of 20 parts per billion (ppb).

INTRODUCTION

The Environmental Protection Agency (EPA) established the Lead Contamination Control Act (LCCA) of 1988 to identify and reduce lead in drinking water. Both the EPA and the Minnesota Department of Health (MDH) recommend testing of potable water sources (water used for consumption) every five years for the presence of lead. Lead is a metal that usually enters drinking water through the distribution system, including pipes, solders, faucets, and valves. Lead levels in water may increase when the water is allowed to sit undisturbed in the system, such as in science, biology, or art areas. Exposure to lead is a significant health concern, especially to infants and young children whose growing bodies absorb lead more readily than adult bodies do. Lead exposure can cause delays in physical and/or mental development in children and damage to the brain, kidneys, nervous system, and red blood cells. The EPA and MDH recommend that action be taken at a specific fixture when the lead concentration exceeds the EPA's action level for schools of 20 parts per billion (ppb).

METHODOLOGY

IEA collected 57 first-draw (unless otherwise noted) samples of approximately 500 milliliters (ml). "First draw" means the samples are collected before the fixture is used or flushed during the day. The first-draw sample results reflect a worst case scenario, i.e., the highest lead level that would be consumed by building occupants. Current protocol calls for flushing locations 8-18 hours prior to sampling.

Site map with sample locations are included in Appendix A. Water samples were analyzed by Minnesota Valley Testing Laboratories (MVTL) in New Ulm, Minnesota, which uses EPA approved analytical methods and quality control/assurance procedures. Samples were analyzed using the ICP/MS EPA Method 200.8.

RESULTS & DISCUSSION

The lead-in-water sampling results ranged from below the level of detection (<0.05 ppb) to 32.6 ppb. There are two (2) sample results greater than 20 ppb. See *Table 1: Water Testing Results Exceeding 20 ppb*. The laboratory report is provided in Appendix B. Laboratory results are reported in micrograms per liter (µg/L) which is equivalent to parts per billion (ppb).

Table 1: Water Testing Results Exceeding 20 ppb – September 20, 2016

Sample Number	Building	Sampling Location	Fixture Type	Lead Results (ppb)
16-A49000	Cottage Grove Middle School	Sink #2 Staff Prep	Faucet	21.5
16-A49005	Cottage Grove Middle School	Sink Room C124	Faucet	32.6

ppb – parts per billion

In addition, one (1) result showed lead level between 15 ppb and 20 ppb. See *Table 2: Water Testing Result Approaching 20 ppb* for these results. Although the EPA recommends that school drinking water not exceed 20 ppb, the MDH recommends schools seek to reduce the amount of lead in drinking water to as close to zero as possible.

Table 2: Water Testing Result Approaching 20 ppb – September 20, 2016

Sample Number	Building	Sampling Location	Fixture Type	Lead Results (ppb)
16-A48976	Cottage Grove Middle School	Sink Room A144	Faucet	16.9

ppb – parts per billion

RECOMMENDATIONS

IEA recommends implementing one of the following treatment options for the fixtures with lead level exceeding the EPA action level of 20 ppb. These recommendations should also be considered for the fixtures with lead level approaching 20 ppb.

- Install a point-of-use treatment device, such as the Omnipure OMB934 1M Lead Reduction Filter.
- Conduct flush testing in accordance with EPA or MDH guidelines to determine if flushing will reduce lead levels. If results indicate that flushing will reduce lead to acceptable levels, implement a flushing program which includes documentation of daily flushing and periodic program review.
- Replace fixture with "lead free" fixture certified to NSF/ANSI 372 or NSF/ANSI 61-G. The *Reduction of Lead in Drinking Water Act* redefines "lead free" as "not more than a weighted average of 0.25% lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures." Effective January 4, 2014, drinking water system components sold or installed must adhere to this new requirement.
- Remove fixture from service by disconnecting it from the water supply.
- Post signs that the water is not potable and to notify staff of this.

In addition, IEA recommends that a copy of the district's Lead- in-Drinking Water Testing Report be made available to staff and the public through the district's administrative offices.

GENERAL CONDITIONS

The analysis and opinions expressed in this report are based upon water testing at South Washington County Schools. This report does not reflect variations in conditions that may occur. Actual conditions may vary and may not become evident without further assessment.

The report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted environmental, health and safety practices. Other than as provided in the preceding sentence and in our Proposal #5406A dated August 5, 2016 regarding Lead-in-Water Testing, including the General Conditions attached thereto, no warranties are extended or made.

Please contact IEA if you would like assistance with any of the above recommendations or have questions regarding this report.

Sincerely,

IEA, INC.

Amy Satterfield, CPPM I
Director of Business Development

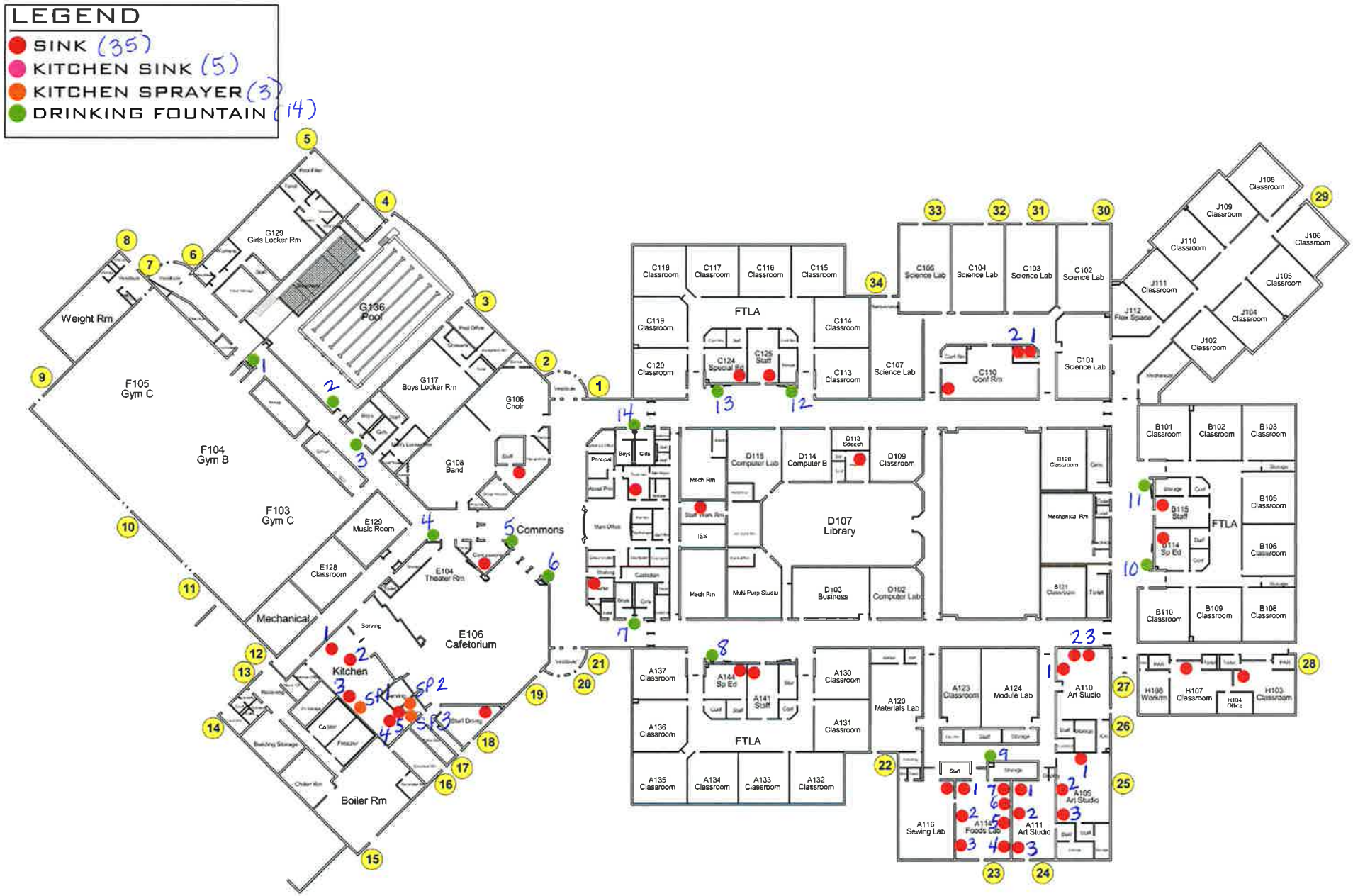
Karen Weiblen
EHS/IEQ Consultant

Enclosure

cc: Damien Nelson, Safety & Security

Appendix A

Site Map/Drawing



INSTITUTE FOR ENVIRONMENTAL ASSESSMENT
9201 West Broadway Brooklyn Park, MN 55445
Tel: 763.315.7900 Toll Free: 800.233.9513
Fax: 763.315.7920

COTTAGE GROVE MIDDLE SCHOOL

FIRST LEVEL FLOOR PLAN

OCT. 2016

Appendix B

Laboratory Testing Report

MINNESOTA VALLEY TESTING LABORATORIES, INC.

MVTL

1126 N. Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
2616 E. Broadway Ave. ~ Bismarck, ND 58501 ~ 800-279-6885 ~ Fax 701-258-9724
1201 Lincoln Highway ~ Nevada, IA 50201 ~ 800-362-0855 ~ Fax 515-382-3885
www.mvtl.com

MEMBER ACIL

Report Date: 6 Oct 2016

HEIDI SOLBERG
IEA/BROOKLYN PARK
9201 W BDWY STE #600
BROOKLYN PARK MN 55445

Work Order #: 12-14376
Account #: 002190
Purchase Order #: 201610819

Date Received: 20 Sep 2016
Date Sampled: 20 Sep 2016
Temperature at Receipt: 20.4C

PROJECT NAME: COTTAGE GROVE MIDDLE SCHOOL
PROJECT NUMBER: 201610819

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS		MCL	DATE ANALYZED	ANALYST
16-A48952	09202016CGMS-1 KITCHEN SINK #1	8.38	ug/L	15.0	4 Oct 16	RMB
16-A48953	09202016CGMS-2 KITCHEN SINK #2	9.93	ug/L	15.0	27 Sep 16	RMV
16-A48954	09202016CGMS-3 KITCHEN SINK #3	4.46	ug/L	15.0	27 Sep 16	RMV
16-A48955	09202016CGMS-4 KITCHEN SINK #4	12.6	ug/L	15.0	27 Sep 16	RMV
16-A48956	09202016CGMS-5 KITCHEN SINK #5	10.0	ug/L	15.0	27 Sep 16	RMV
16-A48957	09202016CGMS-6 KITCHEN SPRAYER #1	8.03	ug/L	15.0	27 Sep 16	RMV
16-A48958	09202016CGMS-7 KITCHEN SPRAYER #2	3.96	ug/L	15.0	27 Sep 16	RMV
16-A48959	09202016CGMS-8 KITCHEN SPRAYER #3	0.58	ug/L	15.0	27 Sep 16	RMV
16-A48960	09202016CGMS-9 SINK STAFF DINING	1.87	ug/L	15.0	27 Sep 16	RMV
16-A48961	09202016CGMS-10 DF #1	< 0.5	ug/L	15.0	27 Sep 16	RMV
16-A48962	09202016CGMS-11 DF #2	2.03	ug/L	15.0	27 Sep 16	RMV
16-A48963	09202016CGMS-12 DF #3	< 0.5	ug/L	15.0	27 Sep 16	RMV
16-A48964	09202016CGMS-13 DF #4	< 0.5	ug/L	15.0	27 Sep 16	RMV

Approved by: R. Dan O'Connell

Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN

Analyses performed under our Minnesota Department of Health Accreditation conform to the current TNI standards.
The reporting limit was elevated for any analyte requiring a dilution as coded below:
@ = Due to sample matrix # = Due to concentration of other analytes
! = Due to sample quantity + = Due to internal standard response
CERTIFICATION: MN LAB # 027-015-125 WI LAB # 999447680 ND MICRO # 1013-M ND WW/DW # R-040

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16-A48965	09202016CGMS-14 DF #5	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48966	09202016CGMS-15 DF #6	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48967	09202016CGMS-16 DF #7	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48968	09202016CGMS-17 DF #8	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48969	09202016CGMS-18 DF #9	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48970	09202016CGMS-19 DF #10	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48971	09202016CGMS-20 DF #11	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48972	09202016CGMS-21 DF #12	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48973	09202016CGMS-22 DF #13	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48974	09202016CGMS-23 DF #14	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48975	09202016CGMS-24 SINK CONCESSIONS	7.33 ug/L	15.0	27 Sep 16	RMV
16-A48976	09202016CGMS-25 SINK A144	16.9 ug/L	15.0	27 Sep 16	RMV
16-A48977	09202016CGMS-26 SINK A141	6.95 ug/L	15.0	27 Sep 16	RMV

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Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN

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LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS		MCL	DATE ANALYZED	ANALYST
16-A48978	09202016CGMS-27 SINK A116	0.95	ug/L	15.0	27 Sep 16	RMV
16-A48979	09202016CGMS-28 ROOM A114 SINK #1	6.55	ug/L	15.0	27 Sep 16	RMV
16-A48980	09202016CGMS-29 ROOM A114 SINK #2	3.30	ug/L	15.0	27 Sep 16	RMV
16-A48981	09202016CGMS-30 ROOM A114 SINK #3	2.17	ug/L	15.0	27 Sep 16	RMV
16-A48982	09202016CGMS-31 ROOM A114 SINK #4	1.75	ug/L	15.0	27 Sep 16	RMV
16-A48983	09202016CGMS-32 ROOM A114 SINK #5	2.65	ug/L	15.0	27 Sep 16	RMV
16-A48984	09202016CGMS-33 ROOM A114 SINK #6	1.01	ug/L	15.0	27 Sep 16	RMV
16-A48985	09202016CGMS-34 ROOM A114 SINK #7	< 0.5	ug/L	15.0	27 Sep 16	RMV
16-A48986	09202016CGMS-35 ROOM A111 SINK #1	7.10	ug/L	15.0	27 Sep 16	RMV
16-A48987	09202016CGMS-36 ROOM A111 SINK #2	7.18	ug/L	15.0	27 Sep 16	RMV
16-A48988	09202016CGMS-37 ROOM A111 SINK #3	4.31	ug/L	15.0	27 Sep 16	RMV
16-A48989	09202016CGMS-38 ROOM A105 SINK #1	4.28	ug/L	15.0	27 Sep 16	RMV

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LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
16-A48990	09202016CGMS-39 ROOM A105 SINK #2	9.56 ug/L	15.0	27 Sep 16	RMV
16-A48991	09202016CGMS-40 ROOM A105 SINK #3	10.9 ug/L	15.0	27 Sep 16	RMV
16-A48992	09202016CGMS-41 ROOM A110 SINK #1	6.71 ug/L	15.0	27 Sep 16	RMV
16-A48993	09202016CGMS-42 ROOM A110 SINK #2	7.00 ug/L	15.0	27 Sep 16	RMV
16-A48994	09202016CGMS-43 ROOM A110 SINK #3	4.53 ug/L	15.0	27 Sep 16	RMV
16-A48995	09202016CGMS-44 SINK H107	< 0.5 ug/L	15.0	27 Sep 16	RMV
16-A48996	09202016CGMS-45 SINK H103	2.21 ug/L	15.0	27 Sep 16	RMV
16-A48997	09202016CGMS-46 SINK B114	11.9 ug/L	15.0	27 Sep 16	RMV
16-A48998	09202016CGMS-47 SINK B115	1.55 ug/L	15.0	27 Sep 16	RMV
16-A48999	09202016CGMS-48 SINK #1 STAFF PREP	5.49 ug/L	15.0	27 Sep 16	RMV
16-A49000	09202016CGMS-49 SINK #2 STAFF PREP	21.5 ug/L	15.0	27 Sep 16	RMV
16-A49001	09202016CGMS-50 SINK C110	5.12 ug/L	15.0	27 Sep 16	RMV
16-A49002	09202016CGMS-51 SINK LIBRARY WORKROOM	5.59 ug/L	15.0	27 Sep 16	RMV

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16-A49003	09202016CGMS-52 SINK STAFF WORKROOM	6.85	ug/L	15.0	27 Sep 16	RMV
16-A49004	09202016CGMS-53 SINK C125	3.51	ug/L	15.0	27 Sep 16	RMV
16-A49005	09202016CGMS-54 SINK C124	32.6	ug/L	15.0	28 Sep 16	RMV
16-A49006	09202016CGMS-55 SINK MAIN OFFICE WORKROOM	0.96	ug/L	15.0	27 Sep 16	RMV
16-A49007	09202016CGMS-56 SINK BAND (INSTRUMENTS)	13.2	ug/L	15.0	27 Sep 16	RMV
16-A49008	09202016CGMS-57 SINK NURSES OFFICE	2.96	ug/L	15.0	27 Sep 16	RMV

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Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN

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