October 11, 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



Health & Safety Solutions

RE: **Crestview Elementary Lead-in-Water Testing**

IEA Project #201610819

Dear Mr. Vogel,

At the request of South Washington County Schools, IEA collected a total of 77 samples of drinking water on September 21, 2016, for lead analyses from the Crestview Elementary 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 77 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 for Crestview Middle School ranged from below the level of detection (<0.05 ppb) to 19.6 ppb. There are no sample results for Crestview Middle School greater than 20 ppb. The laboratory report is provided in Appendix B. Laboratory results are reported in micrograms per liter (μ g/L) which is equivalent to parts per billion (ppb).

There is one (1) result that showed a lead level between 15 ppb and 20 ppb. See *Table 1: Water Testing Result Approaching 20 ppb* for this result. 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 1: Water Testing Result Approaching 20 ppb - September 21, 2016

Sample Number	Building	Sampling Location	Fixture Type	Lead Results (ppb)
16-A49626	Crestview Elementary	Sink Room 206	Faucet	19.6

ppb - parts per billion

RECOMMENDATIONS

Although there were no fixtures with lead levels exceeding the EPA action level of 20 ppb, IEA recommends implementing one of the same treatment options it recommends for exceeding, for the fixture 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 Karen Weiblen

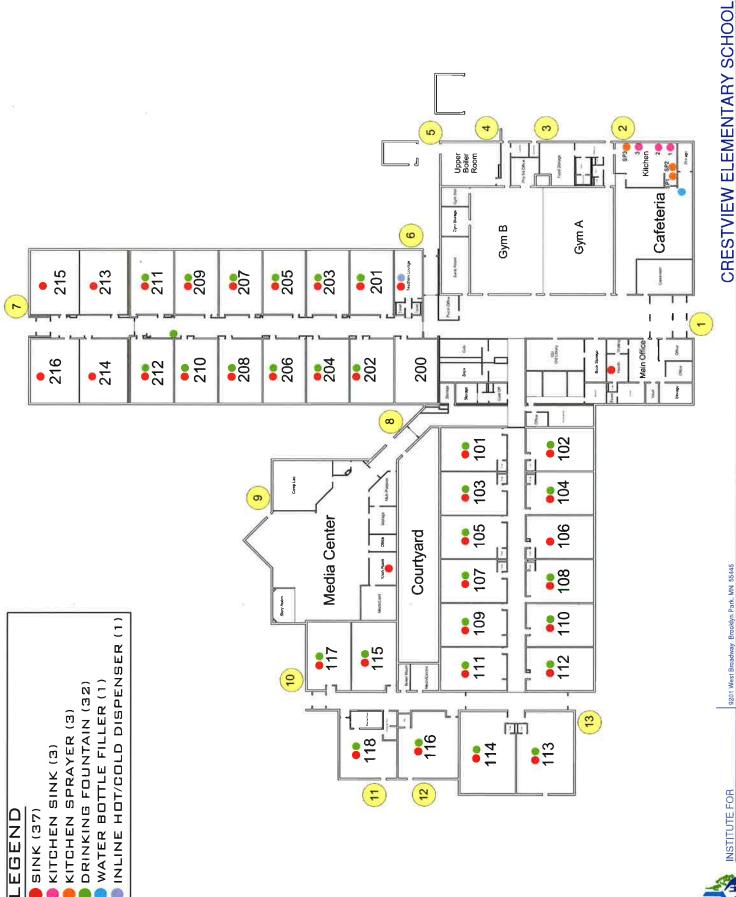
EHS/IEQ Consultant

Enclosure

cc: Damien Nelson, Safety & Security

Appendix A

Site Map/Drawing





FIRST LEVEL FLOOR PLAN

Appendix B

Laboratory Testing Report



1126 N. Front St. ~ New Ulm, MN 56073 ~ 800-782-3557 ~ Fax 507-359-2890
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www.mvtl.com

ACIL

Report Date: 11 Oct 2016

HEIDI SOLBERG IEA/BROOKLYN PARK 9201 W BDWY STE #600 BROOKLYN PARK MN 55445 Work Order #: 12-14489

Account #: 002190

Purchase Order #: 201610819

Date Received: 21 Sep 2016 Date Sampled: 21 Sep 2016 Temperature at Receipt: 19.9C

PROJECT NAME: CRESTVIEW ELEM. PROJECT NUMBER: 201610819

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
16-A49610	09212016CE-1 KITCHEN SINK #1	1.60 ug/L	15.0	30 Sep 16	RMV
16-A49611	09212016CE-2 KITCHEN SINK #2	0.87 ug/L	15.0	30 Sep 16	RMV
16-A49612	09212016CE-3 KITCHEN SINK #3	2.04 ug/L	15.0	30 Sep 16	RMV
16-A49613	09212016CE-4 KITCHEN SPRAYER #1	9.32 ug/L	15.0	30 Sep 16	RMV
16-A49614	09212016CE-5 KITCHEN SPRAYER #2	0.70 ug/L	15.0	30 Sep 16	RMV
16-A49615	09212016CE-6 KITCHEN SPRAYER #3	3.02 ug/L	15.0	30 Sep 16	RMV
16-A49616	09212016CE-7 BOTTLE FILLER CAFETERIA	< 0.5 ug/L	15.0	30 Sep 16	RMV
16-A49617	09212016CE-9 DF OUTSIDE GYM B	0.70 ug/L	15.0	30 Sep 16	RMV
16-A49618	09212016CE-10 SINK HEALTH OFFICE	5.26 ug/L	15.0	30 Sep 16	RMV
16-A49619	09212016CE-11 SINK TEACHERS LOUNGE	2.37 ug/L	15.0	30 Sep 16	RMV
16-A49620	09212016CE-12 INLINE FIXTURE TEACHERS LOUNGE	0.84 ug/L	15.0	30 Sep 16	RMV
16-A49621	09212016CE-13 SINK 201	5.26 ug/L	15.0	30 Sep 16	RMV
16-A49622	09212016CE-14 SINK 202	2.25 ug/L	15.0	30 Sep 16	RMV

Approved by: R. Q. Combon Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN

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@ = Due to sample matrix

= Due to concentration of other analytes

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,=					
16-A49623	09212016CE-15 SINK 203	2.44 ug/L	15.0	30 Sep 16	RMV
16-A49624	09212016CE-16 SINK 204	1.57 ug/L	15.0	30 Sep 16	RMV
16-A49625	09212016CE-17 SINK 205	2.14 ug/L	15.0	30 Sep 16	RMV
16-A49626	09212016CE-18 SINK 206	19.6 ug/L	15.0	30 Sep 16	RMV
16-A49627	09212016CE-19 SINK 207	1.59 ug/L	15.0	30 Sep 16	RMV
16-A49628	09212016CE-20 SINK 208	2.22 ug/L	15.0	30 Sep 16	RMV
16-A49629	09212016CE-21 SINK 209	4.50 ug/L	15.0	30 Sep 16	RMV
16-A49630	09212016CE-22 SINK 210	1.50 ug/L	15.0	30 Sep 16	RMV
16-A49631	09212016CE-23 SINK 211	1.33 ug/L	15.0	30 Sep 16	RMV
16-A49632	09212016CE-24 SINK 212	2.41 ug/L	15.0	30 Sep 16	RMV
16-A49633	09212016CE-25 SINK 213	11.9 ug/L	15.0	30 Sep 16	RMV
16-A49634	09212016CE-26 SINK 214	6.67 ug/L	15.0	30 Sep 16	RMV

Approved by: R. Don Q Camp

Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN Page: 2

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LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
16-A49635	09212016CE-27 SINK 215	14.4 ug/L	15.0	30 Sep 16	RMV
16-A49636	09212016CE-28 SINK 216	5.58 ug/L	15.0	30 Sep 16	RMV
16-A49637	09212016CE-29 DF 201	3.29 ug/L	15.0	30 Sep 16	RMV
16-A49638	09212016CE-30 DF 202	5.25 ug/L	15.0	30 Sep 16	RMV
16-A49639	09212016CE-31 DF 203	1.72 ug/L	15.0	30 Sep 16	RMV
16-A49640	09212016CE-32 DF 204	3.20 ug/L	15.0	30 Sep 16	RMV
16-A49641	09212016CE-33 DF 205	4.27 ug/L	15.0	30 Sep 16	RMV
16-A49642	09212016CE-34 DF 206	3.68 ug/L	15.0	30 Sep 16	RMV
16-A49643	09212016CE-35 DF 207	1.70 ug/L	15.0	30 Sep 16	RMV
16-A49644	09212016CE-36 DF 208	2.43 ug/L	15.0	30 Sep 16	RMV
16-A49645	09212016CE-37 DF 209	2.90 ug/L	15.0	30 Sep 16	RMV
16-A49646	09212016CE-38 DF 210	1.62 ug/L	15.0	30 Sep 16	RMV
16-A49647	09212016CE-39 DF 211	2.15 ug/L	15.0	30 Sep 16	RMV

Approved by: R. Da QCCanD

Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN Page: 3

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LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
					=======================================
16-A49648	09212016CE-40 DF 212	1.37 ug/L	15.0	30 Sep 16	RMV
16-A49649	09212016CE-41 DF OUTSIDE 212	1.84 ug/L	15.0	30 Sep 16	RMV
16-A49650	09212016CE-42 SINK MEDIA CENTER	1.26 ug/L	15.0	30 Sep 16	RMV
16-A49651	09212016CE-43 SINK 101	3.55 ug/L	15.0	30 Sep 16	RMV
16-A49652	09212016CE-44 SINK 102	2.31 ug/L	15.0	30 Sep 16	RMV
16-A49653	09212016CE-45 SINK 103	1.97 ug/L	15.0	30 Sep 16	RMV
16-A49654	09212016CE-46 SINK 104	1.84 ug/L	15.0	30 Sep 16	RMV
16-A49655	09212016CE-47 SINK 105	1.54 ug/L	15.0	30 Sep 16	RMV
16-A49656	09212016CE-48 SINK 106	2.84 ug/L	15.0	30 Sep 16	RMV
16-A49657	09212016CE-49 SINK 107	2.01 ug/L	15.0	30 Sep 16	RMV
16-A49658	09212016CE-50 SINK 108	1.21 ug/L	15.0	30 Sep 16	RMV
16-A49659	09212016CE-51 SINK 109	2.96 ug/L	15.0	30 Sep 16	R MV

Approved by: R Da Q O'Carel

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Page: 4

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PROJECT NAME: CRESTVIEW ELEM. PROJECT NUMBER: 201610819

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
16-A49660	09212016CE-52 SINK 110	2.74 ug/L	15.0	3 Oct 16	RMB
16-A49661	09212016CE-53 SINK 111	1.46 ug/L	15.0	3 Oct 16	RMB
16-A49662	09212016CE-54 SINK 112	2.69 ug/L	15.0	3 Oct 16	RMB
16-A49663	09212016CE-55 SINK 113	1.40 ug/L	15.0	3 Oct 16	RMB
16-A49664	09212016CE-56 SINK 114	4.29 ug/L	15.0	3 Oct 16	RMB
16-A49665	09212016CE-57 SINK 115	3.30 ug/L	15.0	3 Oct 16	RMB
16-A49666	09212016CE-58 SINK 116	3.94 ug/L	15.0	3 Oct 16	RMB
16-A49667	09212016CE-59 SINK 117	1.22 ug/L	15.0	3 Oct 16	RMB
16-A49668	09212016CE-60 SINK 118	1.85 ug/L	15.0	3 Oct 16	RMB
16-A49669	09212016CE-61 DF 101	6.19 ug/L	15.0	3 Oct 16	RMB
16-A49670	09212016CE-62 DF 102	4.75 ug/L	15.0	3 Oct 16	RMB
16-A49671	09212016CE-63 DF 103	5.31 ug/L	15.0	3 Oct 16	RMB
16-A49672	09212016CE-64 DF 104	5.33 ug/L	15.0	3 Oct 16	RMB

Approved by: R. D. QCC

CERTIFICATION: MN LAB # 027-015-125

Dan O'Connell, Asst. Chemistry Laboratory Manager New Ulm, MN
Page: 5

ND MICRO # 1013-M

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WI LAB # 999447680

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ND WW/DW # R-040

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PROJECT NAME: CRESTVIEW ELEM. PROJECT NUMBER: 201610819

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16-A49673	09212016CE-65 DF 105	3.16 ug/L	15.0	3 Oct 16	RMB
16-A49674	09212016CE-67 DF 107	4.87 ug/L	15.0	3 Oct 16	RMB
16-A49675	09212016CE-68 DF 108	3.69 ug/L	15.0	3 Oct 16	RMB
16-A49676	09212016CE-69 DF 109	3.55 ug/L	15.0	10 Oct 16	RMB
16-A49677	09212016CE-70 DF 110	3.98 ug/L	15.0	3 Oct 16	RMB
16-A49678	09212016CE-71 DF 111	3.65 ug/L	15.0	3 Oct 16	RMB
16-A49679	09212016CE-72 DF 112	5.05 ug/L	15.0	3 Oct 16	RMB
16-A49680	09212016CE-73 DF 113	4.42 ug/L	15.0	3 Oct 16	RMB
16-A49681	09212016CE-74 DF 114	7.27 ug/L	15.0	3 Oct 16	RMB
16-A49682	09212016CE-75 DF 115	3.26 ug/L	15.0	3 Oct 16	RMB
16-A49683	09212016CE-76 DF 116	1.61 ug/L	15.0	3 Oct 16	RMB
16-A49684	09212016CE-77 DF 117	0.86 ug/L	15.0	3 Oct 16	RMB

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LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
16-A49685	09212016CE-78 DF 118	2.66 ug/L	15.0	3 Oct 16	RMB
16-A49686	09212016CE-79 DF OUTSIDE 108	3.35 ug/L	15.0	3 Oct 16	RMB

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ND MICRO # 1013-M