

December 8, 2015

Jeff Goldy  
Environmental Health & Safety Coordinator  
Hopkins Public Schools  
1001 Highway 7  
Hopkins, MN 55305



**RE: 2015 Lead-in-Water Testing  
IEA Project #201510511**

Dear Mr. Goldy:

At the request of Hopkins Public Schools, IEA collected follow-up samples of drinking water on October 30, 2015 from Glen Lake Elementary, Meadowbrook Elementary, North Junior High and West Junior High for lead analysis. The purpose of the sampling was to document lead content of water in six locations after replacing the fixtures, and to compare the results to initial “first draw” sampling conducted on March 11, 17, 19, 25 and June 10, 2015, and the EPA action level of 20 parts per billion (ppb).

## **INTRODUCTION**

The Lead Contamination Control Act (LCAA) of 1988 was created by the Environmental Protection Agency (EPA) 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 more lead than adults 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).

First draw samples taken on March 11, 17, 19, 25 and June 10, 2015 had elevated lead content above the EPA Action Level of 20 ppm.

## **METHODOLOGY**

IEA collected 1,046 first-draw samples of approximately 500 milliliters (ml) in March, 2015, after the water was standing in the pipes for at least 8-hours, but not more than 18-hours, as recommended by the EPA. “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.

On June 10, 2015, IEA collected 23 additional first-draw samples of approximately 500 milliliters (ml) to re-check taps with lead levels at or above 15 ppb during the initial sampling.

On October 30, 2015, IEA collected six additional first-draw samples of approximately 500 milliliters (ml) to sample following the fixtures being replaced over the summer.

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

Lead levels for the six fixtures that were replaced results ranged from 0.68 ppb to 155 ppb. Results for the six locations are displayed in *Table: Drinking Water Sample Results* and include the original sampling results. The laboratory report is provided in the Appendix A.

**Table 1: Water Testing Results Exceeding 20 ppb – Glen Lake Elementary**

Sample Number	Sample Date	Sampling Location	Fixture Type	Lead Results (ppb)
3192015GL-69	3/19/15	Room 100	Drinking Fountain	23.7
06102015GL-1	6/10/15	Room 100 – under construction	Drinking Fountain	Not sampled
10302015GL-1	10/30/15	Room 100	Drinking Fountain	0.68

ppb – parts per billion

- Discussion of Results**

The lead level for the drinking fountain in Room 100 was below the EPA Action Level following replacement.

**Table 2: Water Testing Results Exceeding 20 ppb – Meadowbrook Elementary**

Sample Number	Sampling Date	Sampling Location	Fixture Type	Lead Results (ppb)
31115MB-85	3/11/15	Room 116 – West	Sink	28.7
06102015MB-3	6/10/15	Room 116 – West	Sink	33
10302015MB-1	10/30/15	Room 116 – West	Sink	4.83
31115MB-87	3/11/15	Room 116 – North	Sink	29.7
06102015MB-4	6/10/15	Room 116 – North	Sink	20.6
10302015MB-2	10/30/15	Room 116 – North	Sink	24.3
31115MB-88	3/11/15	Room 116 – North	Drinking Fountain	107
06102015MB-5	6/10/15	Room 116 – North	Drinking Fountain	52.8
10302015MB-3	10/30/15	Room 116 – North	Drinking Fountain	26.4

ppb – parts per billion

- Discussion of Results**

The lead level for the west sink in Room 116 was below the EPA Action Level following replacement. Lead levels for the north sink and drinking fountain were still above the EPA Action Level following replacement.

**Table 3: Water Testing Results Exceeding 20 ppb – North Junior High School**

Sample Number	Building	Sampling Location	Fixture Type	Lead Results (ppb)
3252015NJ-9	3/25/15	Room 607	Sink	44.9
06102015NJ-1	6/10/15	Room 607	Sink	134
10302015NJ-1	10/30/15	Room 607	Sink	22

ppb – parts per billion

- **Discussion of Results**

The lead level for the sink in Room 607 was still above the EPA Action Level following replacement.

**Table 4: Water Testing Results Exceeding 20 ppb – West Junior High School**

Sample Number	Building	Sampling Location	Fixture Type	Lead Results (ppb)
3172015WJ-76	3/17/15	Room 403A East	Sink	56.7
06102015WJ-2	6/10/15	Room 403A East	Sink	224
10302015WJ-1	10/30/15	Room 403A East	Sink	155

ppb – parts per billion

- **Discussion of Results**

The lead level for the sink in Room 607 was still above the EPA Action Level following replacement.

## CONCLUSIONS & RECOMMENDATIONS

IEA recommends implementing one of the following treatment options for each fixture with lead levels exceeding the EPA action level of 20 ppb.

- Install a drinking water treatment unit certified to NSF/ANSI 53 for lead reduction:  
<http://info.nsf.org/Certified/DWTU/Listings.asp?TradeName=&Standard=053&ProductType=&PlantState=&PlantCountry=&PlantRegion=&submit3=Search&hdModlStd=ModlStd>
- 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.
- Investigate other potential sources for the lead upstream of the replaced fixtures and replace as warranted. Collecting a series of samples from fixture can assist in determining location of source.
- Remove fixture from service by disconnecting it from the water supply.

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

## GENERAL COMMENTS

The analysis and opinions expressed in this report are based upon data obtained from ST##P at the indicated locations. This report does not reflect variations in conditions that may occur across the site, property, or facility. 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 & Safety practices. Other than as provided in the preceding sentence and in our Environmental, Health and Safety (EH&S) Proposal #4461 dated May 20, 2015, including the General Conditions attached thereto, no warranties are extended or made.

If you have any questions or would like further assistance in implementing any of the above recommendations, please do not hesitate to contact me at 763-315-7900.

Sincerely,

Reviewed by:

IEA, Inc.



Rachel Koehler  
Project Manager  
EH&S Division

RK/slj 120815

Enc.



Leslie Cloonan, MPH, CIH, LEED AP O+M  
Senior Project Manager  
Indoor Environments Division

**Appendix A**

**Laboratory Analysis Report**

**MVTL****MINNESOTA VALLEY TESTING LABORATORIES, INC.**

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.mvttl.com

**MEMBER****ACIL**

Report Date: 12 Nov 2015

Work Order #: 12-15823

Account #: 002190

DENICE CLIFF KUCHTA

IEA/BROOKLYN PARK

9201 W BDWY STE #600

BROOKLYN PARK MN 55445

Date Received: 30 Oct 2015

Date Sampled: 30 Oct 2015

Time Sampled: 6:40

Temperature at Receipt: AMBIENT

PROJECT NAME: GLEN LAKE ELEM SCHOOL

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
15-A50560	10302015GL-1 ROOM 100 DF	0.68 ug/L	15.0	10 Nov 15	RMB

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 sample quantity

# = Due to concentration of other analytes  
+ = Due to internal standard response


CERTIFICATION: MN LAB # 027-015-125 WI LAB # 999447680 ND MICRO # 1013-M ND WW/DW # R-040

MVTL guarantees the accuracy of the analysis done on the sample submitted for testing. It is not possible for MVTL to guarantee that a test result obtained on a particular sample will be the same on any other sample unless all conditions affecting the sample are the same, including sampling by MVTL. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

**AN EQUAL OPPORTUNITY EMPLOYER**

# Chain of Custody

9201 West Broadway North, Suite 600  
Brooklyn Park, MN 55445  
763.315.7900 763.315.7900 1.800.233.9513



Client Name			Hopkins Public Schools			Building Name			Glen Lake Elementary School			Analytical Lab			MVTL		
Contact Name			Jennifer Theis			Project #			201510511			Project Name			Fall 2015 Follow up sampling		
Phone #			763-315-7900			IEA Fax #			763-315-7920			Written Sample Results To			Jennifer Theis		
Other Information																	
Sampled By			Jens Erickson			Date 10/30/15		Time 6:40 AM		Analyzed By (Company)			Analyst		Date & Time		
Shipped By			Carole Nelson			Date 10/30/15		Time 12:00 PM		Turnaround Time			Notes				
Received By						Date		Time		Sample Condition			Temperature				
Lab Number	Sample Number	Sample Location	Sample Type			Date Sampled	Time Sampled	Volume/ Bottle Type	Analysis Required	Comments & Observations							
			Water	Soil	Other												
	10302015GL-1	Room 100 - DF	X			10/30/2015	6:40 AM	500mL unpreserved	Lead								

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Report Date: 12 Nov 2015

Work Order #: 12-15822

Account #: 002190

DENICE CLIFF KUCHTA

IEA/BROOKLYN PARK

9201 W BDWY STE #600

BROOKLYN PARK MN 55445

Date Received: 30 Oct 2015

Date Sampled: 30 Oct 2015

Time Sampled: 7:00

Temperature at Receipt: AMBIENT

PROJECT NAME: MEADOWBROOK ELEM SCHOOL

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
15-A50557	10302015MB-1 ROOM 116 WEST SNK	4.83 ug/L	15.0	10 Nov 15	RMB
15-A50558	10302015MB-2 ROOM 116 NORTH SNK	24.3 ug/L	15.0	10 Nov 15	RMB
15-A50559	10302015MB-3 ROOM 116 NORTH DF	26.4 ug/L	15.0	10 Nov 15	RMB

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:

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Client Name Hopkins Public Schools			Building Name Meadowbrook Elem School			Analytical Lab MVTL				
Contact Name Jennifer Theis			Project # 201510511			Project Name Fall 2015 Follow up sampling				
Phone # 763-315-7900			IEA Fax # 763-315-7920			Written Sample Results To Jennifer Theis				
Other Information										
Sampled By Jens Erickson			Date 10/30/15	Time 7:00 AM	Analyzed By (Company)		Analyst		Date & Time	
Shipped By Carole Nelson			Date 10/30/15	Time 12:00 PM	Turnaround Time			Notes		
Received By			Date	Time		Sample Condition			Temperature	
Lab Number	Sample Number	Sample Location	Sample Type			Date Sampled	Time Sampled	Volume/ Bottle Type	Analysis Required	Comments & Observations
			Water	Soil	Other					
	10302015MB-1	Room 116 - West SNK	X			10/30/2015	7:00 AM	500mL unpreserved	Lead	
	10302015MB-2	Room 116 - North SNK	X			10/30/2015	7:00 AM	500mL unpreserved	Lead	
	10302015MB-3	Room 116 - North DF	X			10/30/2015	7:00 AM	500mL unpreserved	Lead	

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**MEMBER  
ACIL**

Report Date: 12 Nov 2015

Work Order #: 12-15824

Account #: 002190

DENICE CLIFF KUCHTA

IEA/BROOKLYN PARK

9201 W BDWY STE #600

BROOKLYN PARK MN 55445

Date Received: 30 Oct 2015

Date Sampled: 30 Oct 2015

Time Sampled: 6:00

Temperature at Receipt: AMBIENT

PROJECT NAME: N JR H.S.

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
15-A50561	10302015NJ-1 ROOM 607 SNK	22.0 ug/L	15.0	10 Nov 15	RMB

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:

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+ = Due to internal standard response


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Client Name Hopkins Public Schools			Building Name North Junior High School			Analytical Lab MVTL				
Contact Name Jennifer Theis			Project # 201510511			Project Name Fall 2015 Follow up sampling				
Phone # 763-315-7900			IEA Fax # 763-315-7920			Written Sample Results To Jennifer Theis				
Other Information										
Sampled By Jens Erickson			Date 10/30/15	Time 6:00 AM	Analyzed By (Company)		Analyst		Date & Time	
Shipped By Carole Nelson			Date 10/30/15	Time 12:00 PM	Turnaround Time			Notes		
Received By			Date	Time	Sample Condition			Temperature		
Lab Number	Sample Number	Sample Location	Sample Type			Date Sampled	Time Sampled	Volume/ Bottle Type	Analysis Required	Comments & Observations
			Water	Soil	Other					
	10302015NJ-1	Room 607 - SNK	X			10/30/2015	6:00 AM	500mL unpreserved	Lead	



# MINNESOTA VALLEY TESTING LABORATORIES, INC.

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MEMBER

ACIL

Report Date: 16 Nov 2015

Work Order #: 12-15826

Account #: 002190

DENICE CLIFF KUHTA

IEA/BROOKLYN PARK

9201 W BDWY STE #600

BROOKLYN PARK MN 55445

Date Received: 30 Oct 2015

Date Sampled: 30 Oct 2015

Time Sampled: 6:00

Temperature at Receipt: AMBIENT

PROJECT NAME: W JR H.S.

LAB NUMBER	SAMPLE DESCRIPTION	LEAD RESULTS	MCL	DATE ANALYZED	ANALYST
15-A50562	10302015WJ-1 ROOM 403A EAST SNK	155 ~ ug/L	15.0	12 Nov 15	RMV

~Sample diluted due to result above calibration or linear range.

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:

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! = Due to sample quantity

# = Due to concentration of other analytes

+ = Due to internal standard response


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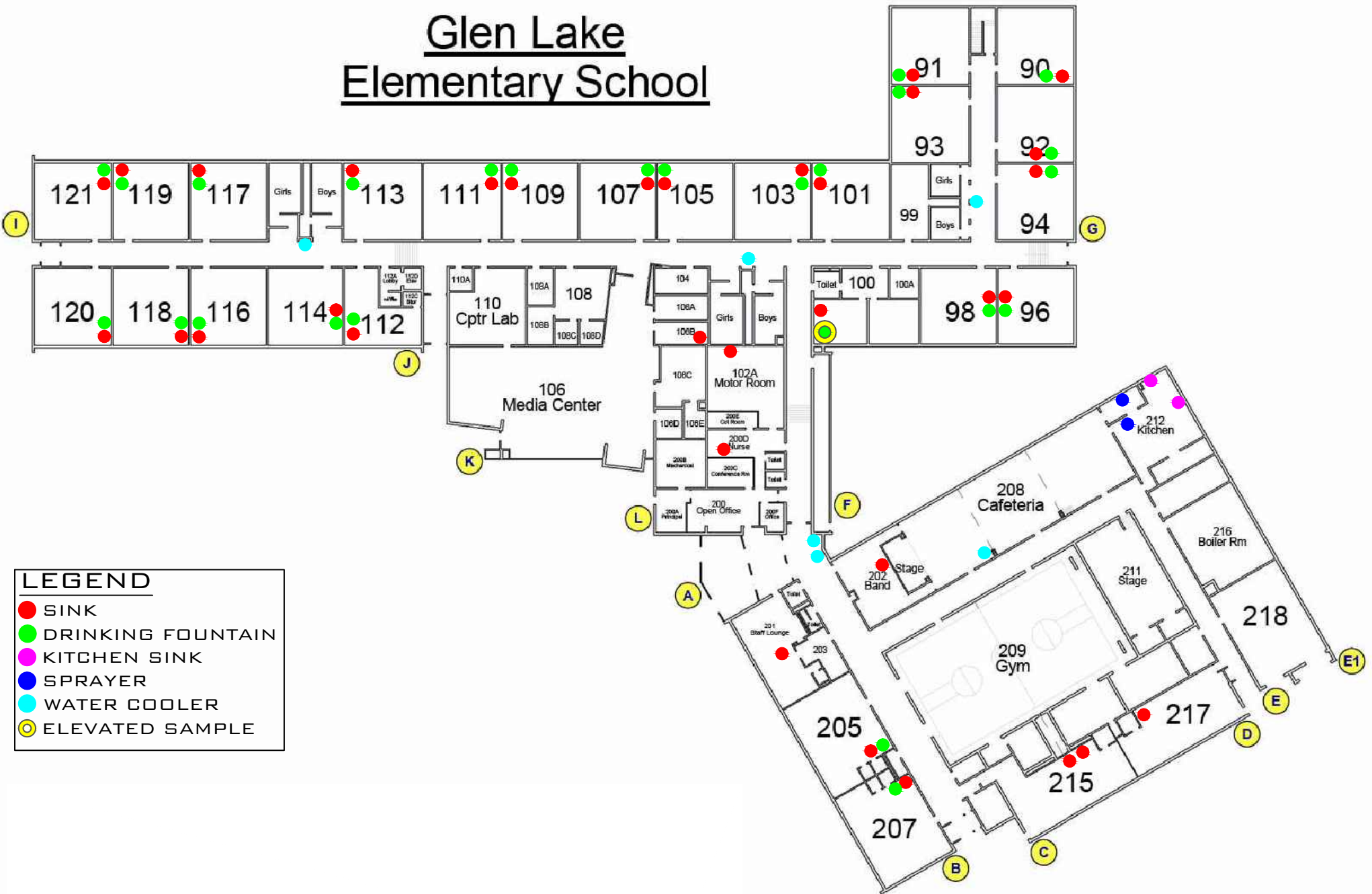


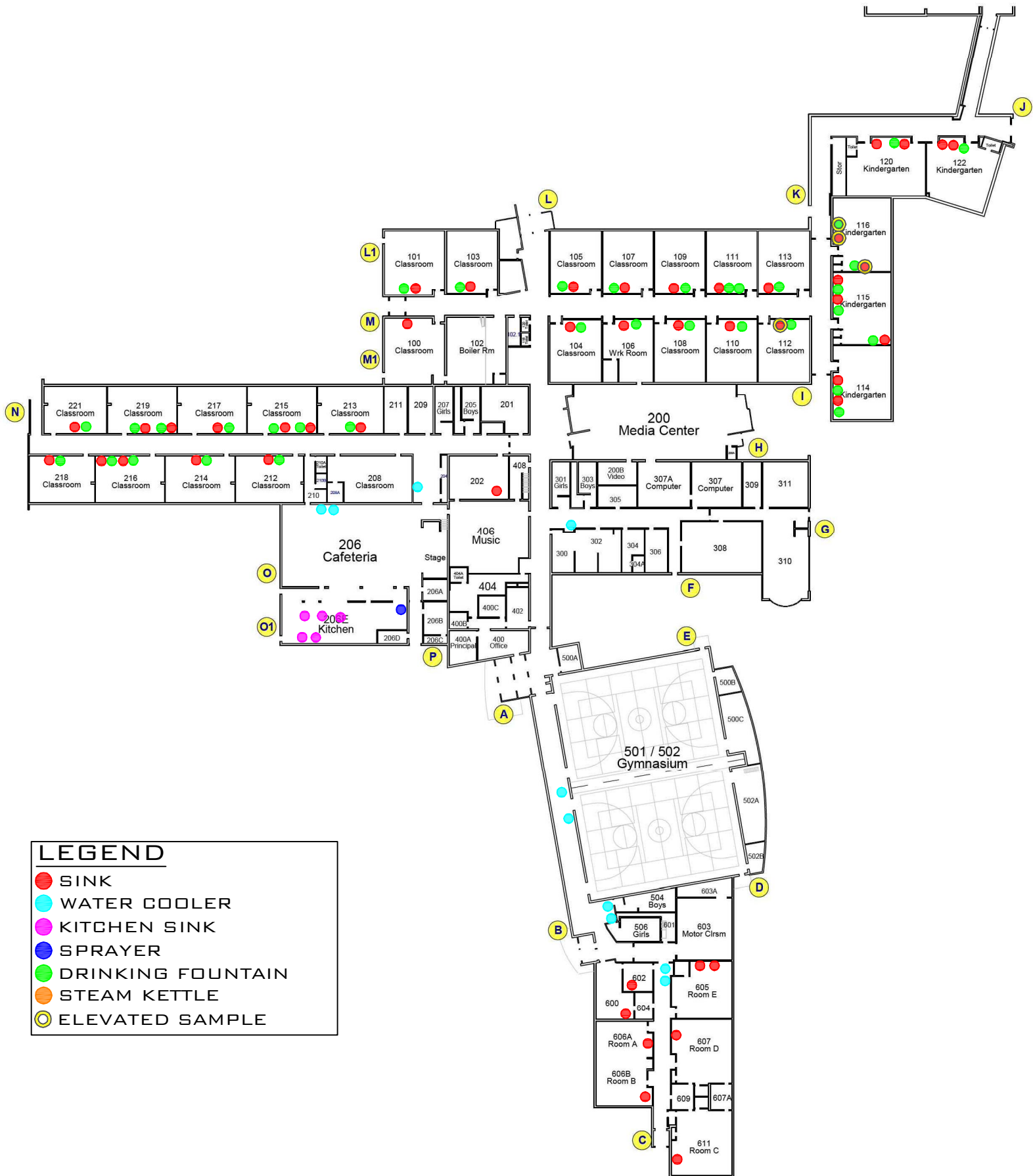
Client Name Hopkins Public Schools			Building Name West Junior High School			Analytical Lab MVTL				
Contact Name Jennifer Theis			Project # 201510511			Project Name Fall 2015 Follow up sampling				
Phone # 763-315-7900			IEA Fax # 763-315-7920			Written Sample Results To Jennifer Theis				
Other Information										
Sampled By Jens Erickson			Date 10/30/15	Time 6:20 AM	Analyzed By (Company)		Analyst		Date & Time	
Shipped By Carole Nelson			Date 10/30/15	Time 12:00 PM	Turnaround Time			Notes		
Received By			Date	Time		Sample Condition			Temperature	
Lab Number	Sample Number	Sample Location	Sample Type			Date Sampled	Time Sampled	Volume/ Bottle Type	Analysis Required	Comments & Observations
			Water	Soil	Other					
	10302015WJ-1	Room 403A East - SNK	X			10/30/2015	6:20 AM	500mL unpreserved	Lead	
Original - Analytical Lab										

# **Appendix B**

## **Building Maps**

# Glen Lake Elementary School





## LEGEND

- SINK
- WATER COOLER
- KITCHEN SINK
- SPRAYER
- DRINKING FOUNTAIN
- STEAM KETTLE
- ELEVATED SAMPLE





# LEGEND

- SINK
- WATER COOLER
- SPRAYER
- KITCHEN SINK
- STEAM KETTLE
- ELEVATED SAMPLE



INSTITUTE FOR  
ENVIRONMENTAL ASSESSMENT

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

NORTH JUNIOR HIGH SCHOOL  
FIRST LEVEL FLOOR PLAN DEC. 2015



LEGEND

SINK

WATER COOLER

KITCHEN SINK

DRINKING FOUNTAIN

SPRAYER

ELEVATED SAMPLE

