Harriet Tubman Middle School environmental background (prepared for Faubion K-8 move-in)

November 6, 2017

Español

Harriet Tubman Middle School exterior.

The following information has been reviewed to date and provides insight into the due diligence and work that was performed at Harriet Tubman Middle School to prepare the building to receive Faubion K-8 students, as well as maintenance and safety testing work completed during the two years that Faubion was housed at the facility. We have also included information on safety assessments that will take place as part of the effort to prepare the building to open as Harriet Tubman Middle School.

Prior to Faubion occupying Tubman:

1. The Office of School Modernization oversaw approximately $1.1 million dollars in preparatory work prior to the Faubion use of the Tubman campus. This work included asbestos abatement, balancing of air handling units, deep cleaning, etc.
   See Attachment No. 1a, No. 1b
2. A DEQ Fact Sheet entitled *"Air Toxics Monitoring at Harriet Tubman Leadership Academy in Portland"*, references and summarizes EPA monitoring from 2009 and 2011 at the school. This fact sheet describes the discovery of cadmium in the air and the subsequent tracing

to the glass manufacturers which no longer exist. Other air toxics measured were noted as *"…below EPA's level of concern…."*

See Attachment No. 2

During Faubion occupying Tubman:

3. A February 2016 test ordered by PPS and conducted by PBS Engineering and Environmental for cadmium and arsenic in the air and soil, stated *"There were no detectable levels of either cadmium or arsenic reported for any of the air and soil samples".*
   See Attachment No. 3
4. An independent OHA report on soils was published in March 2016 and concludes *"…that exposure to levels of metals in soils around Uroboros Glass are too low to harm the health of people in the surrounding community…."*
   See Attachment No. 4
5. The Harriet Tubman building had a series of roof leaks from rain water in the past two years which seriously inconvenienced the staff. Most leaks occurred repeatedly in the main office area and library. Multiple efforts to patch the roof were not successful. Post-repair mold testing indicated no mold growth in the room tested (105). Upon observation last week, room 105 has leaked again and several library skylights are boarded up.
   See Attachment No. 5a, No. 5b
6. Some of Faubion Principal Jennifer McCalley's concerns, such as roof leaks, rodent problems, transients, and direction to not have heavy traffic around the back/above the slope to the freeway, are validated by the Risk Management Department's review of work orders, injury reports, First Response dispatch records, PPB case number listing, sharps container servicing, discussions, etc.
   See Attachment No. 6a, No. 6b, No. 6c, No. 6d
7. A complete asbestos inventory is on file with the Risk Management Department. Initial short-term radon testing was completed in 2016, no radon levels met an action level, no further action is required for 10 years.
   See Attachment No. 7a, No. 7b

Next steps: air quality and soil stability

8. **Background:** A geotechnical preliminary analysis was conducted in 2014. The preliminary analysis document was based on a site walk and review of available historical information about the property. This document includes a review of current conditions/ existing data, possible causes for the settlement/lateral movement that is occurring, potential remedial options/estimate budgets, and additional geotechnical studies required to refine the remedial options.
   June 2017: The contract proposal defining the scope, schedule and fee for the 2-year

geotechnical study is per the recommendations of the preliminary analysis document. This study includes installation of three 50-foot deep inclinometers and 24 survey monitoring points to measure settlement/lateral movement (and water level through the piezometers in the inclinometers) over a 2-year period of time.
Current October 2017: - Inclinometer Initial Reading Update: An initial reading update was requested by the district. The letter provides information about the general subsurface soils and any changes observed in the monitoring instruments between July 9 and September 29, 2017. **See Attachment No. 8a, No. 8b, No. 8c**

9. Senior leadership at DEQ has been contacted, and PPS has secured a commitment from the Northwest Regional Administrator to enlist the EPA to partner with PPS in designing and conducting air monitoring related to I-5 emissions, along with analysis of monitoring data. An Action Plan is projected to be complete by December 1, 2017. Once developed, the Action Plan will outline the time table to complete the comprehensive analysis. PPS will conduct this work as expeditiously as possible. PPS also recognizes the need to install a high performing HVAC system throughout the building to improve indoor air quality, as well as perform any deferred maintenance that would be required before students and staff occupy the Harriet Tubman building.

By Month

- May 2022
- April 2022
- March 2022
- February 2022
- January 2022
- December 2021
- November 2021
- October 2021
- September 2021
- August 2021
- July 2021
- June 2021
- May 2021
- April 2021
- March 2021
- February 2021
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May 2016

April 2016

March 2016

February 2016

January 2016

December 2015

June 2015

PORTLAND PUBLIC SCHOOLS

501 N. Dixon St
Portland, OR 97227
(503) 916-2000

Translate

Connect with PPS

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Questions or Feedback?

The District is committed to equal opportunity and nondiscrimination in all its educational and employment activities. The District prohibits discrimination based on race; national or ethnic origin; color; sex; religion; age; sexual orientation; gender expression or identity; pregnancy; marital status; familial status; economic status or source of income; mental or physical disability or perceived disability; or military service.

ADA Accessibility/District 504 Contact: 503-916-5460
ADA Employment Queries Contact: 503-916-3544
Title VI Contact: 503-916-6499
Title IX Contact: 503-916-3340
District Complaint Resolution Process

Commitment Summary - Select Project

Filter By:
Project Name equals **Tubman Swing Site - Bond 2012**

	Company Name	Commitment Number	Commitment Type
Project Name: Tubman Swing Site - Bond			
	2KG Contractors Inc	CAv1 - 00005	Contract
	Apple Computers Inc	CAv1 - 00027	Purchase Order
	Bora Architects Inc	CAv1 - 00010	Other Commitment
	CDW Government Inc	CAv1 - 00028	Purchase Order
	Christenson Electric Inc	CAv1 - 00004	Purchase Order
	Curtis Restaurant Equipment	CAv1 - 00013	Purchase Order
	Curtis Restaurant Equipment	CAv1 - 00012	Purchase Order
	E C Company	CA - 00029	Purchase Order
	Employee Payroll Distribution	CAv1 - 00001	Other Commitment
	Empower Digital Solutions, Inc.	CAv1 - 00024	Purchase Order
	Forensic Analytical Consulting Services	CAv1 - 00011	Contract
	Forensic Analytical Consulting Services	CAv1 - 00002	Contract
	Forensic Analytical Consulting Services	CAv1 - 00019	Contract
	Galt Foundation	CAv1 - 00022	Purchase Order
	GB Manchester, Inc.	CAv1 - 00009	Contract
	Imagination Playground	CAv1 - 00015	Purchase Order
	IRN (Institution Recycling Network)	CAv1 - 00016	Contract
	LILE International Inc	CAv1 - 00008	Other Commitment
	LILE International Inc	CAv1 - 00006	Contract
	LILE International Inc	CAv1 - 00023	N/A
	McDonald & Wetle Inc	CAv1 - 00020	Contract

	Modern Domestic LLC	CA - 00030	Purchase Order
	Point Monitor Corporation	CAv1 - 00007	Contract
	Rose City Moving and Storage	CAv1 - 00018	Contract
	Saxton Bradley Inc	CAv1 - 00014	Purchase Order
	Schaber Roof Consultants	CAv1 - 00003	Contract
	School Specialty Inc	CA - 00031	Purchase Order
	School Specialty Inc	CAv1 - 00025	Purchase Order
	School Specialty Inc	CA - 00032	Purchase Order
	School Specialty Inc	CAv1 - 00017	Purchase Order
	Vernier Software & Technology	CAv1 - 00026	Purchase Order
	WFJ Janitorial Services	CAv1 - 00021	Contract
Grand Totals			

Commitment Description	Commitment Status	Original Commitment Value	Current Commitment Value
		947,235.63	**1,086,519.19**
Tubman School Improvements	Approved	507,000.00	657,524.00
Faubion @ Tubman MakerSpace Apple PO	Approved	4,498.00	4,498.00
Boora Additional Services for Tubman Swing Site	Approved	81,750.00	81,750.00
Faubion @ Tubman MakerSpace CDWG PO	Approved	27,245.64	26,331.24
Tubman Load Study	Approved	1,998.86	206.00
Tubman Milk Cooler	Approved	2,497.00	2,497.00
Tubman Kitchen Storage Shelving	Approved	956.00	956.00
E C Company / Maker space / PPS1J-0000130709	Approved	2,627.00	2,627.00
Swing Site Consultant	Approved	8,000.00	2,303.80
Empower Dig - Add wireless to computer lab and add data to Nurses office area	Approved	4,770.95	4,770.95
Hazmat Consultant - Construction Phase Services	Approved	17,839.50	16,666.35
Hazmat Assessment and Survey	Approved	6,584.50	6,559.50
Faubion Hazmat Assessment, Survey, Design	Void	0.00	0.00
GALT - Tubman Swing - Cleaners	Approved	6,941.76	3,594.88
Asst Tech move to Jefferson from Tubman	Approved	6,903.00	6,903.00
Imagination Playground Blocks	Approved	6,325.00	6,325.00
IRN Surplus	Approved	2,666.00	2,666.00
Moving Services - Faubion to Tubman	Approved	38,662.00	38,606.00
Moving Services	Approved	1,550.00	2,003.00
Moving Services - Faubion to Tubman	Approved	86,338.00	80,039.70
Tubman School Roof Repairs - McDonald & Wetle	Approved	95,975.00	97,415.00

Modern Domestic / FFE Makerspace Faubion @ Tubman - Sewing / PPS1J-0000131276	Approved	1,180.00	1,180.00
Tubman Access Control	Approved	15,594.00	17,947.00
Rose City Moving - IRN	Approved	631.00	867.63
Saxton Bradley Jonti-Craft Steps	Approved	2,215.00	2,215.00
Schaber - Tubman Roof Assessment	Approved	1,870.00	10,545.00
School Specialty / Faubion@Tubman Hot Plate Replacement / PPS1J-0000131272	Approved	426.00	426.00
Faubion/ Tubman Maker Space School Specialty	Approved	3,056.40	3,056.40
School Specialty / Faubion@Tubman Makerspace FFE /	Void	0.00	0.00
Recess Equipment - School Specialty	Approved	5,139.85	4,744.57
Faubion @ Tubman MakerSpace Vernier PO	Approved	1,295.17	1,295.17
Janitorial Services	Approved	4,700.00	0.00
		947,235.63	**1,086,519.19**

Actuals Approved	Remaining to be Paid	Actuals Paid	Commitment Approved Date	Commitment Retainage Released	Notice To Proceed Date	Net Actuals Approved
1,086,519.19	**0**					
657,524.00	0.00	657,524.00	05.28.2015	32,876.20		624,647.80
4,498.00	0.00	4,498.00	02.18.2016	0.00		4,498.00
81,750.00	0.00	81,750.00	07.13.2015	0.00		81,750.00
26,331.24	0.00	26,331.24	02.26.2016	0.00		26,331.24
206.00	0.00	206.00	04.22.2015	0.00		206.00
2,497.00	0.00	2,497.00	07.23.2015	0.00		2,497.00
956.00	0.00	956.00	07.28.2015	0.00		956.00
2,627.00	0.00	2,627.00	05.03.2016	0.00		2,627.00
2,303.80	0.00	2,303.80	03.12.2015	0.00		2,303.80
4,770.95	0.00	4,770.95	11.24.2015	0.00		4,770.95
16,666.35	0.00	16,666.35	06.29.2015	0.00		16,666.35
6,559.50	0.00	6,559.50	04.17.2015	0.00		6,559.50
0.00	0.00	0.00		0.00		0.00
3,594.88	0.00	3,594.88	09.14.2015	0.00		3,594.88
6,903.00	0.00	6,903.00	07.22.2015	0.00		6,903.00
6,325.00	0.00	6,325.00	07.28.2015	0.00		6,325.00
2,666.00	0.00	2,666.00	08.19.2015	0.00		2,666.00
38,606.00	0.00	38,606.00	06.03.2015	0.00		38,606.00
2,003.00	0.00	2,003.00	05.18.2015	0.00		2,003.00
80,039.70	0.00	80,039.70	10.27.2015	0.00		80,039.70
97,415.00	0.00	97,415.00	09.24.2015	4,870.75		92,544.25

1,180.00	0.00	1,180.00	06.13.2016	0.00		1,180.00
17,947.00	0.00	17,947.00	06.29.2015	0.00		17,947.00
867.63	0.00	867.63	09.04.2015	0.00		867.63
2,215.00	0.00	2,215.00	07.23.2015	0.00		2,215.00
10,545.00	0.00	10,545.00	06.02.2015	0.00		10,545.00
426.00	0.00	426.00	06.07.2016	0.00		426.00
3,056.40	0.00	3,056.40	02.08.2016	0.00		3,056.40
0.00	0.00	0.00		0.00		0.00
4,744.57	0.00	4,744.57	09.08.2015	0.00		4,744.57
1,295.17	0.00	1,295.17	02.18.2016	0.00		1,295.17
0.00	0.00	0.00	09.03.2015	0.00		0.00
1,086,519.19	**0**					

Net Actuals Paid	DBE	MBE	SBE	VBE	WBE
657,524.00					
4,498.00					
81,750.00					
26,331.24					
206.00					
2,497.00					
956.00					
2,627.00					
2,303.80					
4,770.95			Yes		
16,666.35					
6,559.50					
0.00					
3,594.88					
6,903.00					
6,325.00					
2,666.00					
38,606.00					
2,003.00					
80,039.70					
97,415.00					

1,180.00					
17,947.00					
867.63					
2,215.00					
10,545.00					
426.00					
3,056.40					
0.00					
4,744.57					
1,295.17					
0.00					Yes

Portland Schools
Tubman

Schedule of Values

		Labor	M & E
Bond & Insurance (contract = 507k)	13,200	-	13,200
General Requirements	37,800	30,000	7,800
Demolition	26,300	18,000	8,300
Asbestos Abatement	34,600	30,000	4,600
Fencing & Gates	3,100	2,000	1,100
Metal Fab & Pipe Railings	40,800	16,000	24,800
Rough Carpentry	17,300	15,000	2,300
Finish Carpentry	34,200	22,000	12,200
Casework	31,500	20,000	11,500
Misc. Div 7	4,000	3,000	1,000
Doors & Hardware	17,500	4,500	13,000
Glass & Window Film	9,000	1,000	8,000
Gypsum & Framing	28,300	20,000	8,300
Tile Repair & Sealing	7,800	7,000	800
Floorcoverings	37,800	10,000	27,800
Acoustical Ceilings	5,500	4,500	1,000
Painting	51,800	11,800	40,000
Visual Display Brds	1,500	400	1,100
Toilet Compartments	17,100	2,000	15,100
Window Shades	27,200	4,200	23,000
Fire Sprinklers	5,200	4,500	700
HVAC	15,200	15,200	-
Plumbing	6,800	5,500	1,300
Electrical/Communications/Fire Alarm	33,500	8,500	25,000
Total	507,000	255,100	251,900

Fact Sheet

Air toxics monitoring at Harriet Tubman Leadership Academy in Portland

In 2009 and 2011, EPA completed two separate air toxics monitoring projects at Harriet Tubman School in North Portland as part of its nationwide school monitoring study.

EPA concluded that monitoring results indicated concentrations of the majority of air toxics measured near the school were below EPA's levels of concern associated with health problems from either short- or long-term exposures. Air toxics measured included acetaldehyde, benzene, cadmium, 1,3-butadiene, manganese and nickel. EPA posted the report at: http://www3.epa.gov/air/sat/HarrietTub.html

EPA's analysis also found that concentrations of cadmium, a toxic metal, are of potential concern for long-term continuous exposure. EPA recommended additional monitoring for cadmium in order to better understand elevated levels observed and to characterize potential exposure to the community.

DEQ studies also show higher cadmium

In 2005, DEQ collected air toxics data at six air toxics monitoring sites located throughout the Portland region. This data showed many areas of Portland are above health-based goals. Monitoring found the highest cadmium levels in north Portland.

DEQ studied cadmium and 18 other air toxics as part of the Portland Air Toxics Solutions (PATS) project. DEQ and its PATS Advisory Committee recommended that DEQ further investigate emissions from industrial metals facilities for a full understanding of their impacts.

DEQ investigates cadmium sources

DEQ has been investigating potential sources of cadmium near Harriet Tubman School since learning of the elevated levels in late 2009.

- DEQ has inventoried all known sources of cadmium, including permitted and non-permitted industrial and commercial sources, transportation and community-wide emissions sources.
- DEQ has analyzed monitoring data to project where the cadmium came from. Results indicate that the source(s) could be to the northwest or south of the monitor, but better wind information would be helpful in producing better results.

Air toxics monitor at Harriet Tubman

- DEQ canvassed businesses the Tubman School neighborhood to locate potential source(s). This effort was inconclusive.
- DEQ air quality permit writers requested cadmium information from several permitted industrial facilities in Northwest and North Portland but did not find one which emits significant amounts of cadmium.
- DEQ's Air Quality program worked with DEQ's Water Quality, Hazardous Waste and Cleanup Programs and the City of Portland Bureau of Environmental Services in the search of additional cadmium sources but did not find any.
- DEQ focused research and analysis on cadmium in Portland from June 2012 through September 2013 and concluded that there were likely multiple sources of cadmium, and recommended additional monitoring to identify specific sources.
- From February 2013 to the present, DEQ and U.S. Forest Service have collaborated to test new air pollution detection methods for urban settings. The agencies developed a project to analyze samples of moss taken from Portland trees, and to compare moss data to monitored and modeled air pollution data in Portland.
- In DEQ's ongoing efforts to identify specific sources of cadmium and arsenic emissions in Portland, DEQ requested that the US Forest Service analyze the moss samples for cadmium, arsenic and other metals.
- In June 2015, DEQ used the screening information from moss samples to identify art glass facilities in southeast and north Portland as potential sources of cadmium and arsenic.

State of Oregon
Department of Environmental Quality

Air Toxics Program
811 SW 6th Ave.
Portland, OR 97204
Phone: 503-229-5186
800-452-4011
Fax: 503-229-5675

Contact:
OregonAirToxics@deq.state.or.us

DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

Last Updated: 2/28/16
By: Marcia Danab

- In October and November 2015, DEQ collected air samples near Bullseye Glass in southeast Portland and analyzed them for cadmium, arsenic and other industrial metals
- In January 2016, DEQ determined that cadmium and arsenic concentrations were about 50 and 150 times above DEQ's health-based goals respectively and informed the community.
- In February 2016, Bullseye Glass in southeast Portland stopped using cadmium, arsenic and chromium. Uroboros Glass near Tubman School in north Portland stopped using cadmium and chromium.
- In February, DEQ began to test the air and soil near these glass facilities to get more information about any potential risks to the community.

Background on EPA's study at schools

As part of an initiative to understand whether outdoor toxic air pollution poses health concerns to schoolchildren, the Environmental Protection Agency performed short term monitoring for air toxics at 63 schools nationwide, including the Harriet Tubman Leadership Academy for Young Women in Portland.

Air toxics are pollutants known, or suspected to cause cancer and other serious health effects. EPA and DEQ regulate emissions of 187 air toxics under the Clean Air Act.

Selecting schools

EPA chose schools that could be affected by pollution from industry, motor vehicles, and other sources. Harriet Tubman Leadership Academy represents a school in an urban environment that is affected by multiple types of emissions. The other Oregon school EPA chose for this effort is Toledo Elementary School in Toledo which represents a rural school located near a large industrial facility.

Air toxics sources

Reducing toxic air pollution is one of the greatest challenges and one of the most pressing issues of our time. USA Today published an article highlighting the results of a study of air toxics near schools brought considerable attention to this issue. However, the study only looked at part of the problem by focusing on one source – large industrial facilities.

While people living near industrial facilities can experience higher exposure to emissions, most of our exposure to toxic air pollution is caused by a variety of other sources that collectively produce up to 90 percent of the toxic air pollution in Oregon's air. These sources include vehicle engines, fuel evaporation, outdoor burning, lawn and garden equipment and a wide variety of chemicals used by businesses and people.

Reducing air toxics in Oregon is a priority of the DEQ Air Quality program.

Both federal and state officials are working to reduce air toxics. Regulations on large and small manufacturers have resulted in considerable reductions of air toxics coming from many types of industrial processes. DEQ inspects facilities to make sure that they follow DEQ rules.

Though much more is needed to address air toxics in all areas of Oregon, DEQ has several long-standing programs that reduce toxic air pollutants:

- Vehicle inspection programs in the Portland and Rogue Valley areas
- Regulating emissions from industry and small businesses
- Assistance to small businesses to reduce the use of toxic chemicals
- Year-round air pollution advisories
- Assistance with diesel engine retrofits and replacement
- Anti-idling initiatives for heavy duty diesel and passenger cars and trucks
- Stricter wood stove requirements and change-out program

These programs have reduced levels of smog, fine particles as well as air toxics.

For more information

To learn more about toxic air pollution in Oregon and DEQ's air toxics reduction efforts go to www.deq.state.or.us/aq/toxics/index.htm.

For more information about monitoring for toxics at Oregon schools contact Madonna Narvaez, EPA Region 10, 206-553-2117, narvaez.madonna@epa.gov.

Alternative formats

DEQ will provide this document in alternative formats (Braille, large type) on request. Contact 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.

PBS | Engineering + Environmental

February 22, 2016

Portland Public Schools
Andy Fridley
501 N. Dixon Street
Portland, Oregon 97227

Re: Air and Soil Sample Report
Harriet Tubman School
Portland, Oregon
PBS Project No. 6500.638

Dear Mr. Fridley:

On Friday, February 12, 2016, PBS Engineering and Environmental, Inc. (PBS) sampled air and soil at the Harriet Tubman Middle School located at 2231 N. Flint Avenue, Portland, Oregon.

Air samples were collected from two separate locations including the main office and room 218 (a science classroom located at the southwest corner of the building). Air samples were collected utilizing high-volume vacuum pumps fitted to 37-millimeter filter cassettes. Samples were collected from a height of approximately 4 feet above ground level. Air samples were collected at a calibrated flow rate of 10 L/minute for a period of approximately 24 hours each. An additional bulk soil sample was taken at the playground at the school as well.

The air and soil samples were submitted to RJ Lee Group Laboratories in Monroeville, Pennsylvania using ICP-MS analysis methods to detect lowest possible concentrations of arsenic and cadmium

There were no detectable levels of either cadmium or arsenic reported for any of the air and soil samples. For more detailed information regarding these lab reports, please refer to the attached laboratory reports.

Sincerely,
PBS Engineering and Environmental Inc.

Douglas Hancock CIH CSP

THE AMERICAN BOARD OF INDUSTRIAL HYGIENE ★ INCORPORATED ★ CERTIFICATION NUMBER 8104 CP EXPIRES 12-1-2016 PENNSYLVANIA-1980 DOUGLAS A. HANCOCK, CIH

Attachment: Laboratory Results
DH:db

4412 SW Corbett Avenue, Portland, OR 97239
503.248.1939 Main
866.727.0140 Fax
888.248.1939 Toll-Free
www.pbsenv.com

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RJ LEE GROUP

RJ Lee Group, Inc.
350 Hochberg Road, Monroeville, PA 15146
Tel: (724) 325-1776 | Fax: (724) 733-1799

LABORATORY REPORT

PBS Engineering & Environmental
4412 Southwest Corbett Ave.
Portland, OR 97239

Attn: Emily Bahus
Phone: 971-334-5339

Email: emily.bahus@pbsenv.com

RJ Lee Group Job No.: PA160220160007
Samples Received: February 16, 2016
Report Date: February 18, 2016
Client Project: 6500.638
Purchase Order No.: N/A
Matrix: Air and Emissions
Prep/Analysis: NIOSH 7300-mod / NIOSH 7300 (ICPMS)-PA

Client Sample ID / RJ Lee Group ID	Sampling Date	Sample Volume (L) / Sampling Time (min.)	Analyte	Sample Concentration (µg/filter)	Minimum Reporting Limit (µg/filter)	Sample Concentration µg/m³	Minimum Reporting Limit (µg/m³)	Analysis Date	Q
Office PA160220160007-001	02/12/2016	14710 L N/A	Arsenic	< 0.025	0.025	< 0.0017	0.0017	02/17/2016	A
Office PA160220160007-001	02/12/2016	14710 L N/A	Cadmium	< 0.025	0.025	< 0.0017	0.0017	02/17/2016	A
218 PA160220160007-002	02/12/2016	14740 L N/A	Arsenic	< 0.025	0.025	< 0.0017	0.0017	02/17/2016	A
218 PA160220160007-002	02/12/2016	14740 L N/A	Cadmium	< 0.025	0.025	< 0.0017	0.0017	02/17/2016	A

Comments:

Report Qualifiers (Q):
H = Holding times for preparation or analysis exceeded
A = AIHA-LAP, LLC Accredited (Lab ID 100364)
E = Value above highest calibration standard
J = Value below lowest calibration standard but above MDL (Method Detection Limit)
L = LCS (Laboratory Control Standard)/SRM (Standard Reference Material) recovery outside accepted recovery limits
B = Analyte detected in the associated Method Blank
S = Spike Recovery outside accepted limits
R = RPD (relative percent difference) outside accepted limits
D = RL (reporting limit verification) outside accepted limits

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of thirty (30) days before discarding. A shipping and handling fee will be assessed for the return of any samples.

This laboratory operates in accord with ISO 17025:2005 guidelines, and holds a limited scope of accreditations under different accrediting agencies; refer to http://www.rjlg.com/about-us/accreditations/ for more information and current status. Unless it is specifically stated otherwise (under the Q column using the appropriate accrediting agency qualifier(s)) the work contained in this report is performed under RJLG's General Quality System requirements and is not part of any scope of accreditations. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or to the sample(s) as received by the laboratory. Any reproduction of this document must be in full for the report to be valid.

Results have not been blank corrected unless otherwise noted. Samples were received in good condition unless otherwise noted. All QC samples are within acceptable established limits unless otherwise noted in the comments section of the report and/or with the appropiate flags under the report qualifiers (Q) column. Quality Control data is available upon request.

Philip Grindle

Philip Grindle
Laboratory Supervisor

RJ Lee Group, Inc.
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LABORATORY REPORT

PBS Engineering & Environmental
4412 Southwest Corbett Ave.
Portland, OR 97239

Attn: Emily Bahus
Phone: 971-334-5339

Email: emily.bahus@pbsenv.com

RJ Lee Group Job No.: PA160220160008
Samples Received: February 16, 2016
Report Date: February 18, 2016
Client Project: 6500.638
Purchase Order No.: N/A
Matrix: Solid
Prep/Analysis: EPA 3050B / EPA 6010C

Client Sample ID	RJ Lee Group ID	Sampling Date	Analyte	Sample Concentration		Minimum Reporting Limit		Analysis Date	Q
				Weight Percent (%)	Parts per Million (PPM) - mg/kg	Weight Percent (%)	Parts per Million (PPM) - mg/kg		
S-001	PA160220160008-001	02/12/2016	Arsenic	< 0.00049	< 4.9	0.00049	4.9	02/17/2016	PCN
S-001	PA160220160008-001	02/12/2016	Cadmium	< 0.00010	< 1.0	0.00010	1.0	02/17/2016	PCN

Comments:

Report Qualifiers (Q):

P *: PA-DEP Accredited (PA DEP Lab ID 02-00396, NELAP)*
N *: NY ELAP Accredited (NY ELAP Lab Code 10884)*
C *: CA ELAP Accredited (CA ELAP Certificate 1970)*
A *: AIHA-LAP, LLC Accredited (Lab ID 100364)*
E = Value above highest calibration standard
J = Value below lowest calibration standard but above MDL (Method Detection Limit)
L = LCS (Laboratory Control Standard)/SRM (Standard Reference Material) recovery outside accepted recovery limits
H = Holding times for preparation or analysis exceeded
B = Analyte detected in the associated Method Blank
S = Spike Recovery outside accepted limits
R = RPD (relative percent difference) outside accepted limits
D = RL (reporting limit verification) outside accepted limits
NP = Not Provided
— : Test (analyte-matrix-preparation-analysis) is performed under RJLG's General Quality System requirements and is not part to any of the above scopes of accreditations

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of thirty (30) days before discarding. A shipping and handling fee will be assessed for the return of any samples.
This laboratory operates in accord with ISO 17025:2005 guidelines, and holds a limited scope of accreditations under different accrediting agencies; refer to http://www.rjlg.com/about-us/accreditations/ for more information and current status. Unless it is specifically stated otherwise (under the Q column using the appropriate accrediting agency qualifier(s)) the work contained in this report is performed under RJLG's General Quality System requirements and is not part of any scope of accreditations. This report may not be used to claim product endorsement by any laboratory accrediting agency. The results contained in this report relate only to the items tested or to the sample(s) as received by the laboratory. Any reproduction of this document must be in full for the report to be valid.

Unless otherwise noted (either in the comments section of the report and/or with the appropiate qualifiers under the report qualifiers (Q) column) the following apply: (a) Samples were received in good condition, (b) All QC samples are within acceptable established limits, (c) All samples designated as NELAP meet the requirements of the NELAC standard; if not applicable qualifiers will be used to designate the non-compliance and (d) Results have not been blank corrected. Quality Control data is available upon request.

Philip Grindle
Laboratory Supervisor

OHA Preliminary Assessment of Health Risk from Exposure to Soils around Uroboros Glass

March 17, 2016

Based on the soil data available, the Oregon Health Authority (OHA) concludes that levels of metals in soil around Uroboros Glass are *too low to harm the health of people in the surrounding community*. The following tables and text describe OHA's process in arriving at this conclusion.

The Department of Environmental Quality (DEQ) collected 27 soil samples and two mulch samples east of the Uroboros Glass facility (2139 N Kerby Ave, Portland, OR 97227). (See DEQ's Uroboros Soil Sampling Report for sampling maps and complete data set). Sampling was limited to this area because of limited availability of soil closer to the facility. DEQ had these samples analyzed for 12 metals including specific forms of chromium called chromium +6 or hexavalent chromium. Tables 1-3 show the complete list of metals tested. DEQ collected additional samples, but OHA focused on soil samples taken at shallow depth (0-6 inches) because they represent what people in the area would likely be exposed to.

DEQ divided the 27 samples into three areas, Lillis Albina Park (10 samples), Grandma's Place Daycare (6 samples), and Albina Community Garden (11 samples). Using area average[1] concentrations, OHA assessed health risks in each area separately. In the case of Grandma's Place Daycare, there were too few samples to calculate an accurate mean, so the maximum detected level for each metal was used for screening and dose calculations. Using child-protective screening levels, a few individual sample results exceeded these levels.

Steps for analyzing data:

1. ***Identification of exposure scenarios***: This involves identifying the age of people that come into contact with soil and in what ways they contact the soil. We identified two exposure scenarios for this assessment:
    a. Children at Grandma's Place Daycare.
    b. Lifelong residents daily exposed to the soil represented by DEQ sampling at Albina Community Gardens.
2. ***Calculation of average metal concentrations for each exposure area***: OHA used EPA's ProUCL 5.0 software to calculate average (90th percentile upper confidence limit around the mean) for each metal for each of the areas. In the case of Grandma's Place Daycare there were too few samples to reliably calculate an average. In this case, we used the maximum detected level for the next step.
3. ***Comparison to screening levels***: Through this step, we identify if we need to conduct a further evaluation. We compared measured levels to three different screening levels (Attachment 1).

[1] Upper 90th percentile confidence limit around the mean (UCL90) – Any calculation of a mean or average involves some uncertainty. The UCL90 is the measured soil level that we can say with 90 percent certainty that the actual mean does not exceed given the number of samples collected.

The section "Comparison to Screening Levels" describes how average measured metals levels for each area compared to screening levels. The screening step is also shown in Tables 1-3. When the average exceeds the Agency for Toxic Substances and Disease Registry (ATSDR) screening level (we reference this as "CDC Guidelines" in the infographics on the web) or the DEQ residential screening level (we reference this as "Oregon Guidelines" in the infographics on the web), we conducted an in-depth analysis.

4. ***In-depth analysis***: In this step, we consider the different ways that people can come into contact with contaminated soil and how much people might come into contact with.

   Daycare children

   Children are sensitive to exposures to contaminants and also swallow more soil than most adults. For these calculations, OHA assumed that a 10 kilogram (22 pound) child would swallow 200 milligrams (1/5 the weight of a paper clip) of soil per day, 5 days per week for 5 years at the daycare. OHA followed guidance in ATSDR's Public Health Assessment Guidance Manual for assumptions about body weights for children and adults and for amounts of soil swallowed per day. Because cancer risk is estimated on a lifetime basis, the period of exposure is divided by the average lifespan. Following guidance from ATSDR, OHA assumed an 80 year lifespan.

   Tubman Elementary School is also nearby. The exposure assumptions outlined here are also protective of Elementary School Students, if not more so, because the body weight we assumed for a daycare child is very small (smaller than an Elementary School aged child) meaning that the calculated dose per body weight will be larger for a smaller child.

   30-Year resident

   For 30-year residents, OHA assumed an 80 kilogram (176 pound) adult would swallow 200 milligrams (1/5 the weight of a paper clip) of soil per day every day for 30 years, while gardening and consuming vegetables grown in the soil. ATSDR's guidance suggests that adults consume 100 milligrams of soil per day, but because this is a community garden, OHA assumed that gardening adults may swallow more soil per day than the average adult referenced in ATSDR guidance.

Comparison to Screening Levels

It is important to note that levels of arsenic in Oregon soils are often naturally higher than DEQ's residential screening level for arsenic. Results for most metals, including arsenic, were below expected background levels for the Portland Basin. Overall, cadmium levels were not above expected background levels except at Grandma's Place Daycare where the maximum detected value was above Portland Basin expected levels. Cadmium levels were below DEQ and ATSDR screening levels in all areas. See Tables 1-3 for details.

Screening level comparison for Lillis Albina Park

In Lillis Albina Park, the average[2] soil levels of arsenic and chromium +6 were higher than DEQ's residential screening levels, and none of the metals were measured at levels higher than ATSDR screening levels. Because arsenic and chromium +6 were higher than the DEQ residential screening levels we conducted an in-depth analysis, included in the next section. Levels of cadmium and all other metals tested were below DEQ and ATSDR screening levels.

Screening levels comparison for Grandma's Place Day Care

At Grandma's Place Day Care, the maximum[3] soil levels of arsenic and chromium +6 levels were higher than DEQ's Residential Screening Levels, and none of the metals were measured at levels higher than ATSDR screening levels. Because arsenic and chromium +6 were higher than the DEQ residential screening levels we conducted an in-depth analysis, included in the next section. Levels of cadmium and all other metals tested were below DEQ and ATSDR screening levels.

Screening level comparison for Albina Community Gardens

At the Albina Community Garden, the average[2] soil levels of arsenic and chromium +6were higher than DEQ's Residential Screening Levels, and no metals were present at levels higher than ATSDR screening levels. Because arsenic and chromium +6 were higher than the DEQ residential screening levels we conducted an in-depth analysis, included in the next section. Levels of cadmium and all other metals tested were below DEQ and ATSDR screening levels.

In-depth analysis for all three sampling areas by contaminant

In-depth analysis includes estimating a dose for the populations most at risk for experiencing harm to health. A dose is the amount of contaminant that gets into a human body.

OHA did not consider every possible exposure scenario. The more comprehensive public health assessment that OHA will complete later in 2016 will include a more complete list of exposure scenarios. In this preliminary and initial analysis, OHA selected scenarios that would include the "worst case but plausible" exposure risks to the most sensitive populations. OHA chose young children as the population for Grandma's Place Day Care center and 30-year residents gardening and eating garden grown food at the Albina Community Garden.

Arsenic

OHA calculated estimated child-specific arsenic doses at Grandma's Place Day Care center based on the maximum[4] arsenic levels detected in that location. The maximum arsenic levels that were higher than DEQ's residential screening levels. Scientific studies indicate that less than 10 percent of total arsenic in ingested soil actually gets absorbed into the body (this is known as "bioavailability"). EPA typically assumes 60 percent bioavailability when calculating arsenic doses from soil, and this is the assumption

[2] Upper 90th percentile confidence limit around the mean (UCL90) – Any calculation of a mean or average involves some uncertainty. The UCL90 is the measured soil level that we can say with 90 percent certainty that the actual mean does not exceed given the number of samples collected.
[3] Because there were too few samples collected at Grandma's Place Day Care to calculate a reliable average, OHA used the maximum detected value for each metal.
[4] Because there were too few samples collected at Grandma's Place Day Care to calculate a reliable average, OHA used the maximum detected value for each metal.

OHA used here[5]. For these calculations, OHA used assumptions mentioned in Step 4 of the Steps for Analyzing Data listed above (See Attachment 2 for calculation details). Given these assumptions, OHA estimated excess risk of lung and bladder cancers to children at Grandma's Place Day Care center from arsenic exposure at 20 in 1 million over an 80 year lifespan. For a 30-year resident, OHA used the average arsenic concentration at Albina Community Garden because people grow food in this soil and consume the vegetables. OHA estimated excess lung and bladder cancer risk for a 30-year resident at 10 in 1 million over an 80 year lifespan. These are very low cancer risks that are indistinguishable from background cancer risk.

Because all metals were measured at levels well below screening levels for health effects other than cancer, OHA did not calculate doses or risks for health effects other than cancer.

Considering all of this information, OHA concludes that soil concentrations of arsenic are too low to harm the health of children at the daycare center or local 30-year residents using the community garden.

Chromium +6

In order to calculate dose and cancer risk for daycare children who may come into contact with chromium +6, OHA used the maximum measured level of chromium +6 at Grandma's Place Day Care (0.56 mg/kg). For 30-year residents, OHA used the average chromium +6 concentration for the Albina Community Garden (0.77 mg/kg). For children exposed to chromium +6 at the daycare center, OHA calculated an estimated excess cancer risk of 0.2 in 1 million over an 80 year lifespan. For 30-year residents, OHA calculated an estimated excess cancer risk at 0.4 in 1 million. These are very low cancer risks that would not be detectable over baseline cancer rates.

Combined cancer risk

For daycare children and 30-year residents OHA added the estimated cancer risks for arsenic and chromium +6. The combined excess cancer risk, over an 80-year lifespan, was 20 in 1 million for daycare children, and 10 in 1 million for 30-year residents. Even combined, these cancer risks would cause no detectable increase in cancer rates over baseline.

Note that estimated cancer risks are always presented to 1 significant digit to avoid implying a degree of precision that does not exist. However, all digits are used in all calculations. This rounding is the reason that the combined risk isn't 20.2, a straight sum of 20 for arsenic and 0.2 for chromium +6.

Conclusions

Overall, OHA concludes that exposure to the levels of metals in soils around Uroboros Glass are too low to harm the health of the community, including children at Grandma's Place Day Care center and 30-year residents using the Albina Community Garden. This conclusion is based on 27 surface soil samples collected by DEQ.

[5] Email communication from EPA reviewers.

When additional soil data become available and DEQ verifies its reliability, OHA will evaluate it for public health significance.

Soil in individual yards and gardens is typically different from the soil in public spaces. See OHA's guidance on self-collected soil data (insert hyperlink) for information about how to understand the results of any yard or garden soil testing you may have had done independently. Healthy Soils: Information about testing your yard or garden.

Table 1. Lillis
Albina Park

METAL	Average* measured (mg/kg)	Portland Basin Background Estimate (mg/kg)	DEQ Residential Screening Levels (mg/kg)	ATSDR£ Screening Levels (mg/kg)	Greater than Background?	Greater than DEQ Residential Screening Levels?	Greater than ATSDR Screening Levels?
Arsenic	5.85	8.8	0.43	15	NO	YES	NO
Cadmium	0.392	0.63	78	5	NO	NO	NO
Chromium (total)	15.57	76	120,000	75,000	NO	NO	NO
Chromium +6	0.976	NA	0.3	45	NA	YES	NO
Cobalt	14.03	33	23	500	NO	NO	NO
Lead	71.6	79	400	NA	NO	NO	NO
Nickel	19.25	47	1,500	1,000	NO	NO	NO
Selenium	0.484	0.71	390	250	NO	NO	NO
Mercury	0.0406	0.23	23	15	NO	NO	NO
Iron	24914	36100	55,000	NA	NO	NO	NA
Manganese	614.6	1800	1,800	2,500	NO	NO	NO
Aluminum	9179	52300	77,000	50,000	NO	NO	NO
Boron	3.4	8	NA	10,000	No	NA	NO

*Upper 90th confidence limit around the mean, ¥Highest detection used instead of average because there were too few detections to calculate an average, £Agency for Toxic Substances and Disease Registry screening levels are a mixture of Environmental Media Evaluation Guideline (EMEGs) and Reference Dose Media Evaluation Guidelines (RMEGs) for children with a preference, when available, for chronic EMEGs, followed by child RMEGs, followed by intermediate child EMEGs. See table 1 for more details about which ATSDR screening levels were used for each metal.

NA = no value available, or no comparison possible because no screening level value available

Table 2.
Grandma's
Place Day Care

METAL	Average* measured (mg/kg)	Portland Basin Background Estimate (mg/kg)	DEQ Residential Screening Level (mg/kg)	ATSDR£ Screening Level (mg/kg)	Greater than Background?	Greater than DEQ Residential Screening Level?	Greater than ATSDR Screening Level?
Arsenic	5.71¥	8.8	0.43	15	NO	YES	NO
Cadmium	1.07¥	0.63	78	5	YES	NO	NO
Chromium (total)	15.7¥	76	120000	75000	NO	NO	NO
Chromium +6	0.56¥	NA	0.3	45	NA	YES	NO
Cobalt	14.1¥	33	23	500	NO	NO	NO
Lead	105¥	79	400	NA	NO	NO	NO
Nickel	14.8¥	47	1500	1000	NO	NO	NO
Selenium	0.6¥	0.71	390	250	NO	NO	NO
Mercury	0.04¥	0.23	23	15	NO	NO	NO
Iron	26100¥	36100	55000	NA	NO	NO	NA
Manganese	655¥	1800	1800	2500	NO	NO	NO
Aluminum	8400¥	53300	77000	50000	NO	NO	NO
Boron	5.6	8	NA	10,000	NO	NA	NO

*Upper 90th confidence limit around the mean, ¥Highest detection used instead of average because there were too few detections to calculate an average, £Agency for Toxic Substances and Disease Registry screening levels are a mixture of Environmental Media Evaluation Guideline (EMEGs) and Reference Dose Media Evaluation Guidelines (RMEGs) for children with a preference, when available, for chronic EMEGs, followed by child RMEGs, followed by intermediate child EMEGs. See table 1 for more details about which ATSDR screening levels were used for each metal.

NA = no value available, or no comparison possible because no screening level value available

Table 3.
Albina Community Garden

METAL	Average* measured (mg/kg)	Portland Basin Background Estimate (mg/kg)	DEQ Residential Screening Level (mg/kg)	ATSDR£ Screening Level (mg/kg)	Greater than Background?	Greater than DEQ Residential Screening Level?	Greater than ATSDR Screening Level?
Arsenic	4.20	8.8	0.43	15	NO	YES	NO
Cadmium	0.33	0.63	78	5	NO	NO	NO
Chromium (total)	55.70	76	120000	75000	NO	NO	NO
Chromium +6	0.77	NA	0.3	45	NA	YES	NO
Cobalt	13.12	33	23	500	NO	NO	NO
Lead	43.08	79	400	NA	NO	NO	NO
Nickel	14.18	47	1500	1000	NO	NO	NO
Selenium	0.42	0.71	390	250	NO	NO	NO
Mercury	0.04	0.23	23	15	NO	NO	NO
Iron	22059	36100	55000	NA	NO	NO	NA
Manganese	818.30	1800	1800	2500	NO	NO	NO
Aluminum	8712	53300	77000	50000	NO	NO	NO
Boron	5.1	8	NA	10,000	NO	NA	NO

*Upper 90th confidence limit around the mean, ¥Highest detection used instead of average because there were too few detections to calculate an average, £Agency for Toxic Substances and Disease Registry screening levels are a mixture of Environmental Media Evaluation Guideline (EMEGs) and Reference Dose Media Evaluation Guidelines (RMEGs) for children with a preference, when available, for chronic EMEGs, followed by child RMEGs, followed by intermediate child EMEGs. See table 1 for more details about which ATSDR screening levels were used for each metal.

NA = no value available, or no comparison possible because no screening level value available

Attachment 1: Soil Screening Levels

Health risks were evaluated by comparing soil sample results against accepted screening levels. Data was evaluated for three areas: the Grandma's Place Day Care, Lillis Albina Park, and the Albina Community Garden

Three screening levels were used for each contaminant.

- **DEQ's estimate of the background level for the Portland Basin**. This comparison provides context for what we would expect to find in soil anywhere in the Portland area. For more information: http://www.deq.state.or.us/lq/pubs/docs/cu/FSbackgroundmetals.pdf
- **DEQ's Residential Screening Level.** These screening numbers establish soil cleanup levels based on proposed reuse for contaminated sites. Residential reuse requires the most stringent cleanup as it assumes children and families will live on the property. For more information: http://www.epa.gov/risk/regional-screening-levels-rsls-users-guide-november-2015
- **ATSDR Screening Level.** Environmental Media Evaluation Guides [EMEGs] and Reference Dose Media Evaluation Guides [RMEGs] from the Agency for Toxic Substances and Disease Registry (ATSDR), which is a part of the Centers for Disease Control and Prevention (CDC). These screening levels are calculated to assess human health risks. For more information: ATSDR's website (section 3 of Appendix F of ATSDR's Public Health Assessment Guidance Manual)

The toxicity-based screening levels from both DEQ and ATSDR were added to give more perspective for both cancer and non-cancer risks. When the screening level numbers vary widely, it is because the level of a substance that causes a non-cancer health effect may be much higher than the amount that would pose a cancer risk. Depending on the metal in question, non-cancer health effects could include kidney damage for cadmium, skin problems or nerve damage for arsenic, and learning deficits for lead.

The screening levels established by DEQ assume that a 33 pound child will consume 200 milligrams (about 1/5th the weight of a paper clip) of the contaminated soil per day for a year or more and that it will all be absorbed into their body. ATSDR uses the same assumptions except that the child is 22 pounds instead of 33 pounds. These assumptions are designed to protect health, because metals in swallowed soil are absorbed at much lower rates (often as low as 1% or less), especially when soil is mixed with organic matter. These assumptions are also very protective of adults because an adult is larger and so would have a smaller dose than a child if the same amount were swallowed.

In summary, substances measured at levels below screening levels are not expected to harm health for children or adults. Substances measured at levels above screening levels require further evaluation before making a conclusion on how health could be affected.

Metal	DEQ Portland Basin Background[1]	DEQ Residential Screening Levels [2]	ATSDR Screening Levels [3]
Aluminum	52,300 [b]	77,000 [a]	50,000
Arsenic	8.8	0.43	15
Cadmium	0.63	78	5
Total Chromium [e]	76	120,000	75,000
Chromium +6	NA	0.3	45
Cobalt	33 [c]	23 [a]	500
Iron	36,100 [b]	55,000 [a]	NA
Lead	79	400	NA
Manganese	1,800	1,800	2,500
Mercury	0.23	23	15
Nickel	47	1,500	1,000
Selenium	0.71	390 [a]	250
Boron	8 [d]	NA	10,000

1- Source DEQ background metals fact sheet, http://www.deq.state.or.us/lq/pubs/docs/cu/FSbackgroundmetals.pdf

2 - Residential Levels are DEQ soil screening levels, where available, or EPA regional screening levels (RSLs) When no DEQ residential level is published.

3 - Agency for Toxic Substances and Disease Registry (ATSDR) Screening Levels. ATSDR levels are environmental media evaluation guides (EMEGS), or reference dose media evaluation guides (RMEGs).

a - Residential levels for these metals are the US EPA Regional Screening Levels (RSLs) for residential use.

b - Background levels shown are from Washington Department of Ecology Pub. No. 94-115

c - No background estimate for cobalt has been published by DEQ. Level shown is average of Willamette Valley soil from DEQ database.

d- Background estimate from Toxicological Profile for Boron, US ATSDR, November 2010.

e- Background level is based on total chromium. Screening Levels are based on trivalent chromium.

NA - Not Available - No estimate of background soil concentration or screening levels are available for these metals and agencies.

Attachment 2. Dose and Risk Calculation

This attachment describes the formulas, methods, and assumptions used to calculate estimated doses and risk for arsenic and chromium +6 for children at Grandma's Place Day Care and 30 year residents using Albina Community Gardens. For soil samples, the upper 90th percent confidence limit (UCL90) around the average concentration was used to calculate dose (Tables 1-3). This is protective of human health because uncertainty about the true mean is added to the concentration. People will likely be exposed to lower concentrations of arsenic and chromium +6.

Doses were calculated as follows:

$$\text{Dose} = \frac{\text{C x IR x C1 x BAF x EF x ED}}{\text{AT x BW}}$$

Risk was calculated as:

$$\text{Cancer Risk} = \text{Dose} \times \text{CSF}$$

Where[6]:

C = Concentration of chemical measured in soil (chemical specific)

IR = Intake rate of soil

C1 = Conversion factor 1

BAF = Bioavailability Factor (chemical specific)

EF = Exposure frequency

ED = Exposure duration

AT = Averaging time

BW = Body weight

CSF = Cancer slope factor (chemical specific)

AT = averaging time for cancer effects over an 80 year lifetime multiplied by 365 days per year. The rationale is that cancer is the result of multiple defects/mutation in genetic material accumulated over an entire lifetime. Therefore, the averaging time is representative of an entire statistical lifetime (80 years) for agents that cause cancer.[7]

[6]See Table 2-1 for more details about terms in the formula and the values used for each with their rationale.

[7] ATSDR Public Health Assessment Guidance Manual, accessible online at http://www.atsdr.cdc.gov/hac/PHAManual/toc.html

Table 2-1. Exposure Factors for Dose Calculations

Term	Description	Child at daycare	Adult 30-year resident	Units	Notes
C	Concentration	Arsenic: 5.71 Chromium +6: 0.56	Arsenic: 4.2 Chromium +6: 0.77	mg/kg	Chemical and location specific from Tables 1-3. UCL90
IR	Intake rate for soil/tailings ingestion	200	200	mg/day	ATSDR Guidance [Public Health Assessment Guidance Manual] assumed higher adult consumption rate than average assuming gardening scenario
C1	Conversion Factor 1	0.000001	0.000001	kg/mg	Converts kilograms of soil to milligrams of soil
BAF	Oral bioavailability factor	Arsenic: 0.6 Chromium +6: 1	Arsenic: 0.6 Chromium +6: 1	No units	Chemical specific
EF	Exposure frequency for ingestion of soil	260	365	days/ year	Assumed 5 days per week for daycare children and 7 days per week for 30-year resident
ED	Exposure Duration	5	30	years	
BW	Body weight	10	80	kg	ATSDR guidance for adults [[Public Health Assessment Guidance Manual]; Conservative assumption for very young children
AT_c	Averaging time for cancer health effects	29200	29200	days	80 year lifetime x 365 days
CSF	Cancer Slope Factor	Arsenic: 5.7 Chromium +6: 0.5	Arsenic: 5.7 Chromium +6: 0.5	Mg/kg-day^{-1}	EPA

Abbreviations: ATSDR – Agency for Toxic Substances and Disease Registry; EPA – Environmental Protection Agency; mg – milligrams; kg – kilograms; w/ – with

Table 2-2. Dose and risk calculation results (cancer) for arsenic and chromium +6

Exposed Group	**Chemical**	**Dose (mg/kg-day)**	**Excess cancer risk (rounded to 1 significant digit)**	**Health Hazard?**
Child at daycare	Arsenic	3.1×10^{-6}	2×10^{-5} (20 in 1 million)	No
	Chromium +6	5.0×10^{-7}	2×10^{-7} (0.2 in 1 million)	No
	Combined cancer risk		2×10^{-5} (20 in 1 million)	No
Adult 30-year resident	Arsenic	2.4×10^{-6}	1×10^{-5} (10 in 1 million)	No
	Chromium +6	7.2×10^{-7}	4×10^{-7} (0.4 in 1 million)	No
	Combined cancer risk		1×10^{-5} (10 in 1 million)	No

Arrow to most problematic roof section (water leaks) above offices.

PBS | Engineering + Environmental

January 25, 2017

Attn: Herb Wagner
Safety Hazmat Coordinator
Portland Public Schools
EHS Coordinator
501 North Dixon Street
Portland, Oregon 97227

Re: Faubion at Tubman School
Portland Public Schools
Indoor Air Quality Report
PBS Project No. 6500.731 Phase 0001

Dear Mr. Wagner:

PBS Engineering and Environmental Inc. (PBS) recently performed indoor air quality testing in the Main Office and the Nurse's Office (Room 105) of the Faubion at Tubman School located at 2231 North Flint in Portland, Oregon.

As part of the indoor air quality testing services, PBS conducted an HVAC review, performed a visual assessment of the interior conditions in the test areas, collected airborne particulate samples and surface dust samples, and checked moisture levels in walls. It is PBS' understanding that the ceiling of Room 105 was damaged after a leaking roof event. As a result of the leak, floor covering materials in the Main Office and in the Nurse's Office were damaged.

VISUAL ASSESSMENT

The building is a multi-story, brick clad, masonry building. The areas tested included the offices within and surrounding the main reception-office area.

PBS observed excess moisture in the walls of the Room 105 and missing ceiling tiles. All tested materials in the front Nurse's Office and the main Reception Office were dry. PBS noted wet building material odors in Room 105. Carpet squares in the Reception Office area that had been impacted by the roof leak had been removed and discarded.

The walls are painted plaster and the ceilings are clad in a 12-inch square ceiling tile. Ventilation of the spaces is provided by a central HVAC system that delivers conditioned air via ceiling diffusers.

AIRBORNE PARTICULATE SAMPLING

PBS collected a total of three airborne particulate samples using Allergenco-D impactor cassettes and a high-volume vacuum pump. Two samples were collected from indoor locations and one was collected from outdoors. The outdoor sample was collected to establish background conditions.

Each sample was collected at a flow rate of 15 liters per minute for five minutes (75 liters) from an elevation of approximately 4 feet above ground level. The samples were submitted to Lab/Cor Inc. in Seattle, Washington, for fungal and non-fungal particulate identification under chain of custody. The weather conditions during PBS' site investigation were clear skies with light breezes; the outdoor temperature was approximately 45°F.

Table 1 summarizes the findings of this phase of the investigation.

4412 SW Corbett Avenue, Portland, OR 97239
503.248.1939 Main
866.727.0140 Fax
888.248.1939 Toll-Free
www.pbsenv.com

Bend | Boise | Coos Bay | Eugene | Portland | Seattle | Tri-Cities | Vancouver | Walla Walla

Table 1. Air Sample Laboratory Results—Fungal

Sample	Location	Fungal Spore Concentration*	Predominant Fungal Type
S1	Outdoors	5,133	Basidiospores
S2	Office 105	1,067	Basidiospores
S3	Reception	1334	Basidiospores

*Spore concentration is presented in spores per cubic meter.

In reviewing airborne fungal (mold) spore data, two main considerations are identified for each sample: the total number of spores, and the relative proportions of the various spore types. These two considerations are then compared for samples collected in a study area and samples collected outdoors. Based upon review of the laboratory data, indoor fugal spore concentrations were significantly lower than the average outdoor fungal concentration. When reviewing the spore types and individual spore type concentrations for the indoor samples, all are nearly identical to the spore types and relative spore type concentrations observed in the outdoor sample.

As a precaution, PBS collected a tape-lift surface dust sample from the top of a book case located along the south wall of the Reception Area. This sample was submitted to Lab/Cor Inc. in Seattle, Washington, for fungal and non-fungal particulate identification under chain of custody. Based upon review of the laboratory report for this sample, there were no elevated levels of spores. The spore types identified in the surface dust sample were nearly identical to the types of spores identified in the outdoor and indoor air samples. It should be noted that there were no Stachbotrys spores identified in either the air sample or the dust sample collected from the east classroom.

For more detailed information regarding the laboratory results of these analyses, please refer to the attached laboratory reports.

FINDINGS & RECOMMENTATIONS

PBS observed no indication of a significant indoor air quality concern in either the Reception Area or the Nurse's Office in the Faubion at Tubman School. There are currently wet wall conditions in Room 105. These wet building materials should be dried as quickly as possible and all sources of water intrusion should be identified and corrected.

LIMITATIONS OF SCOPE

This study was limited to the tests and locations as indicated above. The site as a whole may have other environmental concerns that will not be characterized by this study. The findings and conclusions of this work are not scientific certainties but probabilities based on professional judgment concerning the significance of the data gathered during the course of this investigation. PBS is not able to represent conditions on the site or adjoining sites beyond those conditions detected or observed by PBS.

PBS respectfully submits these results of our indoor air quality investigation. If you have additional concerns, please do not hesitate to contact me directly at 503.417.7597.

Sincerely,
PBS Engineering and Environmental Inc.

Douglas Hancock, CIH, CSP
Senior Project Manager

Attached: Lab Reports

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Analysis Report Cover

Final Report

A Professional Service Corporation in the Northwest

Phone: (206) 781-0155
http://www.labcor.net

Job Number: 161041 **SEA**

Report Number: 161041R01

Report Date: 12/7/2016

Client: PBS Engineering + Environmental

Address: 4412 SW Corbett Ave
Portland, OR 97239

Project Name: Tubman

Project No.: 6500.731

PO Number:

Sub Project:

Reference No.:

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
161041 - S1	1652275 - OA	NV, Air, Fungal ID		12/5/2016
161041 - S2	1652244 - Office 105	NV, Air, Fungal ID		12/5/2016
161041 - S3	1652273 - Reception	NV, Air, Fungal ID		12/5/2016

Nonviable Air Air samples follow preparation and analysis techniques outlined in Method 5 of the laboratory SOP; this method is based on guidelines from the Pan-American Aerobiology Association Standardized Protocol and ASTM Method 7391-09. Samples were collected using either an Air-O-Cell, Cyclex–D, Allergenco-D, or M2 Multi-Mold nonviable air sampling cassette. Characteristic morphologies were observed by optical microscopy at a magnification of 600x. For each individual particle type observed, data was reported in particles per cubic meter of air (m3).

Due to various factors that influence uncertainty (media type, particle loading, staining, instrumentation and other variable aspects of the method), only the first two figures reported are considered to be significant. The area analyzed on each sample is 20%.

Disclaimer The results reported relate only to the samples tested or analyzed; the laboratory is not responsible for data collected by personnel who are not affiliated with the laboratory. Results reported in both structures/cm3 and structures/mm2 are dependent on the sample volume and area. These parameters are measured and recorded by non-laboratory personnel and are not covered by the laboratory's accreditation. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with the analytical services.

Sincerely,

Ashley Tonge
Technician/Analyst

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

Phone: (206) 781-0155
http://www.labcor.net

A Professional Service Corporation in the Northwest

Nonviable Air

Job Number: 161041
Client: PBS Engineering + Environmental
Project Name: Tubman
Project No.: 6500.731
Reference No.:

Report Number: 161041R01
Date Received: 12/5/2016

Lab/Cor ID:	S1	S2
Sample No.:	1652275	1652244
Description:	OA	Office 105
Sample Measure:	75 L	75 L
Media Type:	Fungal-AllergencoD	Fungal-AllergencoD
Analyst - Analysis Date:	AT - 12/7/2016	AT - 12/7/2016
MRL:	67	67
Scope - Magnification:	Olympus BHT-BH2 - 600	Olympus BHT-BH2 - 600
Notes:		

Fungal Identification	Raw Count*	Total Count**	Total/m³	Raw Count*	Total Count**	Total/m³
Ascospores	11	55	733	1	5	67
Aspergillus/ Penicillium-like	7	35	467	5	25	333
Basidiospores	53	265	3533	9	45	600
Cladosporium	4	20	267			
Hyphal Fragments	2	10	133	1	5	67
Stemphylium						
Summary Total:	**77**	**385**	**5133**	**16**	**80**	**1067**

Lab/Cor ID:	S3	
Sample No.:	1652273	
Description:	Reception	
Sample Measure:	75 L	
Media Type:	Fungal-AllergencoD	
Analyst - Analysis Date:	AT - 12/7/2016	
MRL:	67	
Scope - Magnification:	Olympus BHT-BH2 - 600	
Notes:		

Fungal Identification	Raw Count*	Total Count**	Total/m³	Raw Count*	Total Count**	Total/m³
Ascospores	6	30	400			
Aspergillus/ Penicillium-like	3	15	200			
Basidiospores	9	45	600			
Cladosporium						
Hyphal Fragments	1	5	67			
Stemphylium	1	5	67			
Summary Total:	**20**	**100**	**1334**			

* - Raw Counts per 20% of Sample
** - Total Count per Sample

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

Phone: (206) 781-0155
http://www.labcor.net

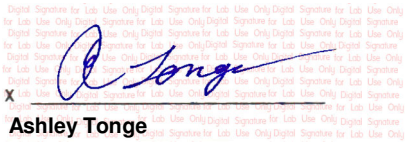
A Professional Service Corporation in the Northwest

Nonviable Air

Job Number: **161041**
Client: **PBS Engineering + Environmental**
Project Name: Tubman
Project No.: 6500.731
Reference No.:

Report Number: 161041R01
Date Received: 12/5/2016

Reviewed by:



X

Ashley Tonge
Technician/Analyst

* - Raw Counts per 20% of Sample
** - Total Count per Sample

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Analysis Report Cover

Final Report

A Professional Service Corporation in the Northwest

Phone: (206) 781-0155
http://www.labcor.net

Job Number: 161041 **SEA**

Report Number: 161041R02

Report Date: 12/7/2016

Client: PBS Engineering + Environmental

Address: 4412 SW Corbett Ave
Portland, OR 97239

Project Name: Tubman

Project No.: 6500.731

PO Number:

Sub Project:

Reference No.:

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
161041 - S4	TL-1 - Top of Book Shelf	NV, Surface, Fungal ID Qual.		12/5/2016

Nonviable Surface

Surface samples (Swab or Tape) follow preparation and analysis techniques outlined in Method 7 and Method 9 of the laboratory SOP; these methods are based on guidelines from the Pan-American Aerobiology Association Standardized Protocol and ASTM Method 7391-09. Swab samples were suspended in a Peptone/ Tween buffered solution and stained using lacto-cotton blue. A 0.05 ml sub-sample of the buffered solution was then examined. Tape samples were mounted on a slide and stained using lacto-cotton blue.

Qualitative Analysis:
Characteristic morphologies were observed using optical microscopy at a magnification of 600x. Fungal and Particulates counts were reported in Relative Abundance (High, Moderate, Low, and Trace). The Minimum Reporting Limit (MRL) is 1 Fungal/ Particulate count (Trace Relative Abundance).

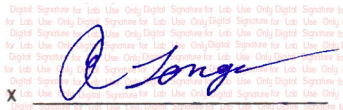
Quantitative Analysis:
Characteristic morphologies were observed using optical microscopy at a magnification of 600x. Fungal and Particulates counts were reported as the Total Concentration for each Fungal and Particulate type. The Minimum Reporting Limit (MRL) is 4 Fungal/ Particulate Counts/ cm2 for Swab Samples and 6 Fungal/ Particulate Counts/ cm2 for Tape Samples.

Disclaimer

The results reported relate only to the samples tested or analyzed; the laboratory is not responsible for data collected by personnel who are not affiliated with the laboratory. Results reported in both structures/cm3 and structures/mm2 are dependent on the sample volume and area. These parameters are measured and recorded by non-laboratory personnel and are not covered by the laboratory's accreditation. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with the analytical services.

Sincerely,



Ashley Tonge
Technician/Analyst

Lab/Cor, Inc.
7619 6th Ave NW
Seattle, WA 98117

Final Report

Phone: (206) 781-0155
http://www.labcor.net

A Professional Service Corporation in the Northwest

Nonviable Surface

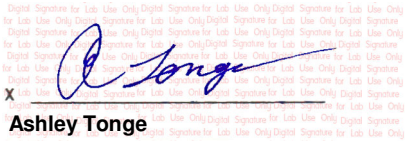
Job Number: 161041
Client: PBS Engineering + Environmental
Project Name: Tubman
Project No.: 6500.731
Reference No.:

Report Number: 161041R02
Date Received: 12/5/2016

Lab/Cor ID:	**S4**	
Sample No.:	TL-1	
Description:	Top of Book Shelf	
Sample Measure:	1 each	
Media Type:	Fungal-BioTape	
Analyst:	AT	
Analysis Date:	12/7/2016	
Notes:		

Fungal Identification	Relative Abundance	Relative Abundance
Alternaria	Trace	
Ascospores	Trace	
Aspergillus/ Penicillium-like	Low	
Aureobasidium	Moderate	
Basidiospores	Moderate	
Bipolaris sp.	Trace	
Cladosporium	Trace	
Epicoccum	Trace	
Ganoderma	Trace	
Hyphal Fragments	Trace	
Oidium/ Peronospora	Trace	
Pithomyces	Trace	
Torula	Trace	

Reviewed by:



Ashley Tonge
Technician/Analyst

Trace = <10 counts in examined area
Low = <30% coverage of examined area
Moderate = 30% - 70% coverage of examined area
High = >70% coverage of examined area

-----Original Message-----
From: Hays, Harold [mailto:Harold.Hays@portlandoregon.gov]
Sent: Tuesday, October 31, 2017 4:11 PM
To: George Weatheroy
Subject: Case numbers-TUBMAN School

Hi George,

Here are the case numbers for all General Offense Reports written in 2017:

17-33224 - Larceny from vehicle
17-901811 - Larceny from vehicle
17-902218 - Larceny from vehicle
17-904604 - Larceny from vehicle
17-905693 - Larceny from vehicle
17-158948 - Found property
17-198044 - Threats/Intimidation
17-346806 -Trespassing

I hope this helps. Please let me know if you need additional info. Thank you.

Hank

Sent from my iPhone

Baseline Start	Assigned Date	Task Status	Assign Status	Task Description
07/11/2016 06:23:20	07/11/2016 06:23:20	Completed	Completed	Tubman the door on the generator can be opened even in the locked position-not secured
07/11/2016 13:10:58	07/11/2016 13:10:58	Completed	Completed	Tubman -graffiti on the south side of the roof and on the chimney stack
07/11/2016 13:10:58	07/11/2016 13:10:58	Completed	Completed	Tubman -graffiti on the south side of the roof and on the chimney stack
07/11/2016 13:10:58	07/11/2016 13:10:58	Completed	Completed	Tubman -graffiti on the south side of the roof and on the chimney stack
07/11/2016 13:55:42	07/11/2016 13:55:42	Completed	Completed	Tubman - exit door on the NW side of the building is not locking all the way (north door)
07/12/2016 13:01:59	07/12/2016 13:02:02	Active	Unassigned	Air flow is too weak in room #101. Complaints of being too hot...90's. All the fan rooms are running.
07/19/2016 14:13:57	07/19/2016 14:14:00	Completed	Completed	Sheetmetal - Fabricate expanded metal for Rick Bailey- Tubman Head Start program Rm 118
07/26/2016 10:58:27	07/26/2016 10:58:30	Completed	Completed	Please inspect the records of the following schools to see if there smoke test is up to date my records show: Todd & Bert - 7/26/2016HOLIDAY ANNEX LAST TEST 6/9 /14TUBMAN 8/11/14MADISON 1/12/14SABIN 8/14SELLWOOD 8/27/15FOSREST PARK 10/13/15
07/26/2016 10:58:27	07/26/2016 10:58:30	Completed	Completed	Please inspect the records of the following schools to see if there smoke test is up to date my records show: Todd & Bert - 7/26/2016HOLIDAY ANNEX LAST TEST 6/9 /14TUBMAN 8/11/14MADISON 1/12/14SABIN 8/14SELLWOOD 8/27/15FOSREST PARK 10/13/15
08/01/2016 07:59:23	08/01/2016 07:59:23	Completed	Completed	Tubman - Boys restroom 200C has a leak coming from the ceiling at the northwest part. Ceiling tiles are falling down.For JS
08/04/2016 13:00:51	08/04/2016 12:50:54	Completed	Completed	Please have the fire alarm guys meet with KONE on 8/16/16 at 8 am at Holiday center annex/div st,then Sabin, Tubman, Sellwood or however order they feel is most efficient:this will ensure we are up to date on these schools this year
08/04/2016 13:00:51	08/04/2016 12:50:54	Completed	Completed	Please have the fire alarm guys meet with KONE on 8/16/16 at 8 am at Holiday center annex/div st,then Sabin, Tubman, Sellwood or however order they feel is most efficient:this will ensure we are up to date on these schools this year
08/16/2016 08:00:46	08/16/2016 07:20:50	Retired	Unassigned	Please have the fire alarm guys meet with KONE on 8/16/16 at 8 am at Holiday center annex/div st,then Sabin, Tubman, Sellwood or however order they feel is most efficient:this will ensure we are up to date on these schools this yearfor billing for KY
08/22/2016 14:37:11	08/22/2016 14:37:11	Completed	Completed	Tubman - breaker is out in closet 228A panel box 2-A, breaker 29. There is also one on the 2nd floor in SE hallway breaker is 4-BJae n Sam 8/26/2016 SM
08/22/2016 14:37:11	08/22/2016 14:37:11	Completed	Completed	Tubman - breaker is out in closet 228A panel box 2-A, breaker 29. There is also one on the 2nd floor in SE hallway breaker is 4-BJae n Sam 8/26/2016 SM
08/23/2016 13:33:26	08/23/2016 13:33:26	Completed	Completed	Tubman - The fan in classroom #224 does not turn on with the wall switch or the pull chain.Jae n Sam 8/26/2016 SM
08/23/2016 13:33:26	08/23/2016 13:33:26	Completed	Completed	Tubman - The fan in classroom #224 does not turn on with the wall switch or the pull chain.Jae n Sam 8/26/2016 SM
08/24/2016 08:25:16	08/24/2016 08:25:16	Completed	Completed	Tubman- the hot water for the sink and dishwasher is not working- water not coming out-trickelingFor MM
08/29/2016 14:12:54	08/29/2016 14:12:54	Completed	Completed	Tubman - girls restroom #213 water comes up through the drain when the toilets are flushed Marty
08/30/2016 11:12:04	08/30/2016 11:12:07	Completed	Completed	Tubman- Repair Ceiling Tile in restroom 200C- Oringional W/O for Mech.Tubman - Boys restroom 200C has a leak coming from the ceiling at the northwest part. Ceiling tiles are falling down.
09/06/2016 08:59:58	09/06/2016 08:59:58	Completed	Completed	Tubman -Main office 103A: The northeast of corner of the ceiling is leaking. The leak is contained. See notes roofer says clog drain.
09/06/2016 08:59:58	09/06/2016 08:59:58	Completed	Completed	Tubman -Main office 103A: The northeast of corner of the ceiling is leaking. The leak is contained. See notes roofer says clog drain.
09/14/2016 14:25:54	09/14/2016 14:25:54	Completed	Completed	Tubman - The drain in the kitchen is not draining. This is a floor drain.Dave D 9/15/2016 JJT
09/15/2016 07:00:00	09/15/2016 06:50:08	Completed	Completed	Tubman - Asst plumber with The drain in the kitchen is not draining. This is a floor drain.Doug, 9/15/2016 JJT
09/19/2016 09:39:33	09/19/2016 09:39:33	Completed	Completed	Tubman - There is graffiti on the basketball court wall on the east side of the court. the surface is concrete.
10/03/2016 07:12:43	10/03/2016 07:12:43	Completed	Completed	Tubman - water is gushing out of a drain pipe in the boiler pit Beach
10/04/2016 09:15:46	10/04/2016 09:15:46	Completed	Completed	Tubman -There is a roof leak in the locker room area by the locker baskets. There is a big bubble of water in the plaster that could burst.
10/04/2016 09:15:46	10/04/2016 09:15:46	Completed	Completed	Tubman -There is a roof leak in the locker room area by the locker baskets. There is a big bubble of water in the plaster that could burst.
10/06/2016 08:13:02	10/06/2016 08:13:02	Completed	Completed	Tubman - Pre-K Classrooms 118 & 115 are to hot. The temperature is over 80 degrees.Brian 10/6/2016 ww
10/10/2016 06:29:19	10/10/2016 06:29:19	Completed	Completed	Tubman - the roof drain needs to be snaked above room 103A- creating flooding inside the building Dave D. 10/10/2016 ww
10/10/2016 08:00:46	10/10/2016 07:45:49	Completed	Completed	Assist the plumber at Tubman - the roof drain needs to be snaked above room 103A- creating flooding inside the building Doug 10/10/2016 ww
10/12/2016 11:41:49	10/12/2016 11:41:51	Completed	Completed	FYI, we have some wet and musty smelling carpet squares in the main office at Tubman which need to be removed as soon as possible. I would suggest waiting to replace the tiles until after we are sure the leak is repaired. Thanks,Joel
10/13/2016 11:43:18	10/13/2016 11:43:18	Completed	Completed	Tubman - roof leak in a classroom in the library on the north side and also in the boy's locker room #162A And in boys restroom 200C located in the NW corner of the restroom
10/13/2016 11:43:18	10/13/2016 11:43:18	Completed	Completed	Tubman - roof leak in a classroom in the library on the north side and also in the boy's locker room #162A And in boys restroom 200C located in the NW corner of the restroom
10/17/2016 10:06:28	10/17/2016 10:06:32	Active	Assigned	Custodial closet door #108-A, plaster crumbling from inside of door. This door has been worked on in the past. Screws were driven in the side paneling to hold in place. Was told would get a new door. High priority
10/17/2016 10:06:28	10/17/2016 10:06:32	Active	Assigned	Custodial closet door #108-A, plaster crumbling from inside of door. This door has been worked on in the past. Screws were driven in the side paneling to hold in place. Was told would get a new door. High priority
10/25/2016 09:50:29	10/25/2016 09:50:32	Active	Assigned	Fix handrail.
10/25/2016 09:50:29	10/25/2016 09:50:32	Active	Assigned	Fix handrail.
10/28/2016 09:28:40	10/28/2016 09:28:40	Completed	Completed	Tubman - ADA exterior door is not working. You can hear it trying to work, but it will not open.I opened the operator and found a broken drive chain. SM
11/01/2016 11:12:23	11/01/2016 11:12:26	Active	Assigned	Please patch/repair plaster hole in ceiling of boiler room, approximately 18" X 9". Tested negative for asbestos.
11/15/2016 08:32:18	11/15/2016 08:32:18	Completed	Completed	Tubman the doors on the elevator will not open Kone called on the 11/15/2016 9:35 AM REQ 12027206 JJT
11/18/2016 14:52:45	11/18/2016 14:52:48	Active	Unassigned	drinking fountain across from hallway custodial closet #177, is coming apart from the wall. Plaster from the right side is coming apart.
11/21/2016 07:59:05	11/21/2016 07:59:05	Completed	Completed	Tubman - shut off valve above the door of classroom 119 is dripping-dark brown syrupy substance (no odor)Cliff 11/22/2016 ww
11/21/2016 10:11:48	11/21/2016 10:11:48	Active	Assigned	Tubman /Faubion- pipe burst inside room 153 in the ceilingJason w , Bill 11/21/2016 JJT
11/30/2016 10:34:08	11/30/2016 10:34:08	Completed	Completed	Tubman- pipe leak in room 153 contained with a bucketBrad 11/30/2016 ww
12/06/2016 07:44:44	12/06/2016 07:44:44	Retired	Unassigned	Tubman -The fans in fan room #2 next to room #153 are not running.

12/06/2016 09:44:45	12/06/2016 09:44:45	Completed	Completed	Tubman - air damper in the loft of the library is stuck open making the library very cold (room 100) Newt 12/12/2016 ww
12/07/2016 08:00:20	12/07/2016 05:45:22	Completed	Completed	Boiler #1 won't turn on.bridger,brooklyn, reike,woodlawn ,tubman Cliff,newt,12/09/2016 JJT
12/07/2016 08:00:20	12/07/2016 05:45:22	Completed	Completed	Boiler #1 won't turn on.bridger,brooklyn, reike,woodlawn ,tubman Cliff,newt,12/09/2016 JJT
12/12/2016 09:01:46	12/12/2016 09:01:46	Retired	Unassigned	Tubman - The fans in the gym keep turning on and off for not known reason.
12/12/2016 09:56:27	12/12/2016 09:56:27	Completed	Completed	Tubman - There is a pipe leak on the right side of boiler #2 Danny 12/14/2016 JJT
12/16/2016 11:30:27	12/16/2016 11:30:29	Active	Unassigned	Need "PPS parking only" sign to be reinforced on concrete pole with black tie reinforcers. This is on the Tubman parking lot across the street from the main building on Flint street.
12/19/2016 10:06:13	12/19/2016 10:06:13	Completed	Completed	Tubman - The outlet to the cooler to the left of the stage in the cafeteria is not working. John 1-5-2017
01/03/2017 09:55:53	01/03/2017 09:55:53	Completed	Completed	Tubman - Pipe leak in room 217 (ceiling tiles fell) - the Custodian has it contained. Shuan 04/26/2017 JJT
01/03/2017 09:55:53	01/03/2017 09:55:53	Completed	Completed	Tubman - Pipe leak in room 217 (ceiling tiles fell) - the Custodian has it contained. Shuan 04/26/2017 JJT
01/04/2017 15:08:20	01/04/2017 15:08:20	Completed	Completed	Tubman - Water is leaking form a hole in the ceiling. The light in classroom 217 has water leaking into it and is not working properly. WO#1176121 was sent to the electricians to address the light issue.
01/04/2017 15:08:20	01/04/2017 15:08:20	Completed	Completed	Tubman - Water is leaking form a hole in the ceiling. The light in classroom 217 has water leaking into it and is not working properly. WO#1176121 was sent to the electricians to address the light issue.
01/04/2017 15:10:55	01/04/2017 15:10:55	Completed	Completed	Tubman - The light in classroom 217 has water leaking into it and is not working properly. The water is leaking form a hole in the ceiling. John 1-5-2017
01/09/2017 13:14:08	01/09/2017 13:14:08	Completed	Completed	Tubman - 105A has ceiling leak in the North East corner. Custodian is able to contain at the moment.
01/09/2017 13:14:08	01/09/2017 13:14:08	Completed	Completed	Tubman - 105A has ceiling leak in the North East corner. Custodian is able to contain at the moment.
01/17/2017 08:00:02	01/17/2017 08:00:04	Active	Assigned	Back paneling by sink #1 as you enter staff room #159-D, is falling apart. Need to be repaired or replaced.
01/17/2017 08:00:02	01/17/2017 08:00:04	Active	Assigned	Back paneling by sink #1 as you enter staff room #159-D, is falling apart. Need to be repaired or replaced.
01/17/2017 09:03:12	01/17/2017 09:03:13	Active	Unassigned	Fan room #2 not working in office space #154. High priority, this feeds to the gym, which is very cold.
01/17/2017 13:55:04	01/17/2017 13:55:05	Active	Unassigned	North hallway by the breezeway and the gym, is too cold. In the 50's.
01/18/2017 10:27:37	01/18/2017 10:27:37	Completed	Completed	Tubman-Roof leak in room 103A (part of the office)- classroom in the library has a ceiling leak, and girls locker room shower area has a ceiling leak (room 164)
01/18/2017 10:27:37	01/18/2017 10:27:37	Completed	Completed	Tubman-Roof leak in room 103A (part of the office)- classroom in the library has a ceiling leak, and girls locker room shower area has a ceiling leak (room 164)
01/18/2017 14:30:00	01/19/2017 14:51:14	Completed	Completed	Tubman:clear rain drain to remove water from roof Eric, jerry 01/18/2017 JJT
01/18/2017 14:30:00	01/19/2017 14:51:14	Completed	Completed	Tubman:clear rain drain to remove water from roof Eric, jerry 01/18/2017 JJT
01/18/2017 14:30:00	01/19/2017 14:51:14	Completed	Completed	Tubman:clear rain drain to remove water from roof Eric, jerry 01/18/2017 JJT
01/26/2017 06:41:30	01/26/2017 06:41:30	Completed	Completed	Tubman - There is a leak coming from the ceiling in the southeast area of the library. The leak is contained.Also, leak in the tech lab in the library. Leak is contained.
01/26/2017 06:41:30	01/26/2017 06:41:30	Completed	Completed	Tubman - There is a leak coming from the ceiling in the southeast area of the library. The leak is contained.Also, leak in the tech lab in the library. Leak is contained.
01/27/2017 13:35:47	01/27/2017 13:35:49	Completed	Completed	Tubman - roof leak in a classroom in the library on the north side and also in the boy's locker room #162A And in boys restroom 200C located in the NW corner of the restroom Eric 1/27/2017 ww
02/06/2017 07:37:12	02/06/2017 07:37:12	Completed	Completed	Tubman - roof leak in room 105A and room 184 of the PIL building
02/06/2017 07:37:12	02/06/2017 07:37:12	Completed	Completed	Tubman - roof leak in room 105A and room 184 of the PIL building
02/06/2017 09:47:36	02/06/2017 09:47:37	Completed	Completed	Graffiti in Tubman parking lot across the street, on Flint street. Approximately 20 feet by 10 feet.
02/07/2017 09:17:16	02/07/2017 09:17:17	Completed	Completed	Tubman:clear rain drain to remove water from roof for D Minch 2/7/17 KY
02/08/2017 08:36:48	02/08/2017 08:36:50	Active	Unassigned	Classroom #120, temperature in the 70's but requesting to have the room re-calibrated to 68 degrees.
02/08/2017 08:39:14	02/08/2017 08:39:15	Active	Unassigned	North hallway by the gym is too cold, in the 50's. Please re-calibrate to about 68 degrees.
02/09/2017 13:59:47	02/09/2017 13:59:47	Completed	Completed	Tubman - roof leaks in the hallway by custodial closet 126, library 100 leaking from skylight, room 132C & the kitchen have water coming in the window
02/09/2017 13:59:47	02/09/2017 13:59:47	Completed	Completed	Tubman - roof leaks in the hallway by custodial closet 126, library 100 leaking from skylight, room 132C & the kitchen have water coming in the window
02/09/2017 13:59:47	02/09/2017 13:59:47	Completed	Completed	Tubman - roof leaks in the hallway by custodial closet 126, library 100 leaking from skylight, room 132C & the kitchen have water coming in the window
02/16/2017 07:34:42	02/16/2017 07:34:42	Completed	Completed	Tubman- sump by the breezeway annex needs to be unplugged
02/16/2017 07:34:42	02/16/2017 07:34:42	Completed	Completed	Tubman- sump by the breezeway annex needs to be unplugged
02/16/2017 13:35:12	02/16/2017 13:35:12	Completed	Completed	Tubman - ceiling leak in the girls locker room 164
02/16/2017 13:35:12	02/16/2017 13:35:12	Completed	Completed	Tubman - ceiling leak in the girls locker room 164
02/28/2017 09:28:09	02/28/2017 09:28:09	Completed	Completed	Tubman- the mechanism (square push button) that opens the handicapped door is broken- only works sporadically- door is by the breezeway- the only handicapped entrance door they have- Timofey 3/3/17 BT + Adam

02/28/2017 09:28:09	02/28/2017 09:28:09	Completed	Completed	Tubman- the mechanism (square push button) that opens the handicapped door is broken- only works sporadically- door is by the breezeway- the only handicapped entrance door they have- Timofey 3/3/17 BT + Adam
03/06/2017 07:19:48	03/06/2017 07:19:48	Closed	Completed	Tubman - The dishwasher is not getting water. Jim 03/06/2017 JJT
03/13/2017 09:39:34	03/13/2017 09:39:35	Active	Unassigned	oil leak from compressor in boiler/custodial room #175. Low on oil. Added oil.
03/14/2017 11:00:00	03/15/2017 14:24:29	Active	Assigned	Asst n.w. gas with gas sizing for new meter set at Tubman,Madison,Alameda,Jefferson,Besc. Chuck,brain 03/15/2017 JJT
03/14/2017 11:00:00	03/15/2017 14:24:29	Active	Assigned	Asst n.w. gas with gas sizing for new meter set at Tubman,Madison,Alameda,Jefferson,Besc. Chuck,brain 03/15/2017 JJT
03/16/2017 08:00:47	03/16/2017 07:58:49	Active	Assigned	6 floor tiles in cafeteria becoming loose. Also, 6 floor tiles loose in hallway by custodial closet #145.
03/17/2017 08:00:06	03/17/2017 06:12:08	Completed	Completed	Tubman- Replace Auto Opener in Breezeway
03/20/2017 08:08:36	03/20/2017 08:08:40	Active	Assigned	Volleyball pole holes missing special bolts to hold metal covers down from the gym floor.
03/20/2017 08:08:36	03/20/2017 08:08:40	Active	Assigned	Volleyball pole holes missing special bolts to hold metal covers down from the gym floor.
03/23/2017 09:17:12	03/23/2017 09:17:13	Completed	Completed	Please re-attach "Unauthorized vehicles will be towed" signage that was ripped off concrete pole from Tubman parking lot on Flint street. the sign is in the custodial/boiler room #175.
03/27/2017 09:31:47	03/27/2017 09:31:47	Completed	Completed	Tubman - There is graffiti on the basket court wall on concrete. (2) AND Flint St parking lot wall and chain post on concrete. (3) AND on a tree by the front entrance.
04/07/2017 07:52:04	04/07/2017 07:52:04	Completed	Completed	Tubman - broken window in the custodial office 175B -exterior dimensions are 45" x 14" EM Culver 4/7/17 Inv 5/17
04/11/2017 08:19:10	04/11/2017 08:19:10	Completed	Completed	Tubman - The pipe in nurse's station room #103 is leaking. Contained Bill 04/10/2017 JJT
04/11/2017 08:23:20	04/11/2017 08:23:20	Completed	Completed	Tubman - The sink in the boy's restroom (#220-C) is leaking from the P-trap underneath it. The water supply has been shut off. Bill 04/10/2017 JJT
04/12/2017 11:22:25	04/12/2017 11:22:25	Completed	Completed	Tubman - The roof in classroom 224 is leaking. Contained.
04/12/2017 11:22:25	04/12/2017 11:22:25	Completed	Completed	Tubman - The roof in classroom 224 is leaking. Contained.
04/14/2017 10:13:37	04/14/2017 10:13:37	Completed	Completed	Tubman - pipe leak in classroom 119 contained- custodian has no idea what the pipe goes to Bill 04/17/2017 JJT
04/14/2017 11:45:08	04/14/2017 11:45:08	Completed	Completed	Tubman - The lock on the exit door near the music room (#144) is loose.
04/18/2017 07:53:05	04/18/2017 07:53:05	Completed	Completed	Tubman -steady roof leak by the entrance between rooms 101 & 103 (main enterance) leaking from a skylight
04/19/2017 12:28:17	04/19/2017 12:28:17	Completed	Completed	Tubman - The overhead pipe in nurses's office (#103) is leaking. Contained. Jason B. 4/20/2017 ww Jason found this to be a hydronic sytem leak Cliff 4/20/2017 ww
04/19/2017 12:28:17	04/19/2017 12:28:17	Completed	Completed	Tubman - The overhead pipe in nurses's office (#103) is leaking. Contained. Jason B. 4/20/2017 ww Jason found this to be a hydronic sytem leak Cliff 4/20/2017 ww
04/20/2017 11:00:00	04/20/2017 10:46:40	Completed	Completed	Tubman Repair R.P. devices Jason B 04/20/2017 JJT
04/26/2017 11:57:30	04/26/2017 11:57:30	Completed	Completed	Tubman - There is a pipe leak on the right side of boiler #2 Dan 4/27/2017 ww
04/27/2017 09:08:48	04/27/2017 09:08:48	Completed	Completed	Tubman - The washing machine in area 130 is broken. It will not drain the water inside of it. Billy 5/5/2017 ww
04/27/2017 09:36:06	04/27/2017 09:36:06	Completed	Completed	Tubman - The p-trap on the sink in the boy's restroom (200-C) is leaking. Contained. Marty, 05/01/2017 JJT
04/28/2017 12:01:29	04/28/2017 12:01:29	Retired	Unassigned	Tubman - There is graffiti on the southwest side of the roof on the wall of the fan room on metal. See #1168714
05/04/2017 16:51:20	05/04/2017 16:51:20	Completed	Completed	Tubman-Dishwasher needs to be repaired in room #155. It's got standing water in the dishwasher and will not run. Stetson reported this. Billy 5/5/2017 ww
05/08/2017 12:31:23	05/08/2017 12:31:23	Completed	Completed	Tubman - The front entrance door is not opening when people use their cards on the card reader. The door can be opened manually. The problem may be with the door? This has been submitted to I.T. BLK
05/09/2017 14:21:14	05/09/2017 14:21:14	Completed	Completed	Tubman - doors not shutting properly (not latching all the way) door B in the front. SE door E and on the West side door I by the custodial closet 125 - all outside doors
05/12/2017 08:29:30	05/12/2017 08:29:32	Active	Assigned	Cabinet door (26.5" X 22.5") broken off from the hinges of the display case in the hall by conference room #104. The door is in Custodial room #175.
05/12/2017 08:29:30	05/12/2017 08:29:32	Active	Assigned	Cabinet door (26.5" X 22.5") broken off from the hinges of the display case in the hall by conference room #104. The door is in Custodial room #175.
05/16/2017 07:46:18	05/16/2017 07:46:18	Completed	Completed	Tubman - graffiti on the basketball court one on the backboard and on on a wall on concrete
05/16/2017 09:38:54	05/16/2017 09:38:54	Completed	Completed	Tubman-pipe leak to the right of boiler #2 -water going down a drain Dan 5/22/2017 ww
05/19/2017 12:40:59	05/19/2017 12:40:59	Completed	Completed	Tubman - POWER OUTAGE reported. Phone and computers were without power.-Tony/Maggie 5/19/17 BT

05/19/2017 12:40:59	05/19/2017 12:40:59	Completed	Completed	Tubman - POWER OUTAGE reported. Phone and computers were without power.-Tony/Maggie 5/19/17 BT
05/19/2017 13:21:26	05/19/2017 13:21:26	Completed	Completed	Tubman - Power outage reported. See notes
05/22/2017 06:37:46	05/22/2017 06:37:46	Active	Assigned	Perform PM on motors. Jay - 5/22/2017 BLK
05/22/2017 08:00:01	05/22/2017 06:32:03	Active	Assigned	Respond to fire alarm beeping after partial power outage.
05/23/2017 07:59:58	05/23/2017 07:59:58	Completed	Completed	Tubman - The fan in room #2 in the counselling area is not working. Dan 5/24/2017 ww
05/24/2017 09:28:57	05/24/2017 09:28:59	Active	Unassigned	Separate bike rack, one of 4 in a row, the first one is bent back and about to break off, needs to be reinforced. The rack is on the NW side of the school building. Update: The rack is completely busted off and the rack is now in the custodial office Room 175.
05/30/2017 07:49:31	05/30/2017 07:49:31	Completed	Completed	Tubman- the handicapped door by room 177 will not close all the way- won't latch unless manually pulled shut
06/02/2017 11:56:51	06/02/2017 11:56:51	Completed	Completed	Tubman - two pipe leaks - one is in the boys restroom 200C in the NW corner (dripping into a urinal) and one in the Boiler room to the left of boiler #1 (contained with a bucket) For MM & BW 6/5/17
06/02/2017 11:56:51	06/02/2017 11:56:51	Completed	Completed	Tubman - two pipe leaks - one is in the boys restroom 200C in the NW corner (dripping into a urinal) and one in the Boiler room to the left of boiler #1 (contained with a bucket) For MM & BW 6/5/17
06/06/2017 08:51:33	06/06/2017 08:51:34	Active	Unassigned	Weed problem. Please pull the weeds around the perimeter of the main building and PIL building.
06/07/2017 08:15:07	06/07/2017 08:15:07	Active	Assigned	leak in Boiler room to the left of boiler #1 (contained with a bucket) Dan 6/21/2017 ww
06/07/2017 08:17:21	06/07/2017 08:17:21	Active	Unassigned	Roof leak in the boys restroom 200C in the NW corner (dripping into a urinal)
06/08/2017 07:38:05	06/08/2017 07:38:05	Completed	Completed	Tubman - The ceiling is leaking coming from the skylight by the main entrance door. The leak is contained.
06/08/2017 07:38:05	06/08/2017 07:38:05	Completed	Completed	Tubman - The ceiling is leaking coming from the skylight by the main entrance door. The leak is contained.
06/08/2017 07:38:05	06/08/2017 07:38:05	Completed	Completed	Tubman - The ceiling is leaking coming from the skylight by the main entrance door. The leak is contained.
06/12/2017 11:55:14	06/12/2017 11:55:14	Completed	Completed	Tubman - The glass on the fire extinguisher box in the hallway near room 221 is broken. EM Culver 6/16/17 Inv
06/13/2017 07:58:44	06/13/2017 07:58:44	Active	Assigned	Tubman - The handicap door is not opening intermittently.
06/14/2017 14:23:50	06/14/2017 14:24:05	Active	Assigned	Perform PM for boiler safety relief valves per ACME CSD 1. This is a preventive maintenance work task.
06/14/2017 14:23:50	06/14/2017 14:24:05	Active	Assigned	Perform PM for boiler safety relief valves per ACME CSD 1. This is a preventive maintenance work task.
06/23/2017 09:35:01	06/23/2017 09:35:01	Completed	Completed	Tubman- main front door on the north side does not close all the way by itself-it can be secured
08/03/2017 09:11:34	08/03/2017 09:11:34	Completed	Completed	Tubman - There is graffiti on the first garbage and dumpsters on the metal front and on the third garbage dumpster on the rubber lid.
08/28/2017 16:32:46	08/28/2017 16:32:46	Retired	Unassigned	Tubman-Repair swipe card reader on the west side next to the boiler room. Called in by Stetson-Created IT request #IR297677 8/29/17 BT
08/30/2017 08:00:03	08/30/2017 06:30:04	Completed	Completed	TUBMAN please R/R the backflow devices For JB 8/30/17 KY
09/08/2017 08:00:21	09/08/2017 07:17:22	Active	Unassigned	Make up water supply line to boiler feed water tank is leaking. The pipe is rotted and needs to be re-piped.
09/20/2017 13:36:44	09/20/2017 13:36:46	Active	Unassigned	Reinstall relief valves and start boilers.
10/02/2017 08:00:25	09/30/2017 07:35:26	Completed	Completed	3 replacement schlage locks for tubman give to kerry
10/02/2017 13:00:26	10/02/2017 12:25:27	Active	Assigned	Need AWP in cafeteria for lighting repair. Contact Brian when delivered at 503-916-3146
10/02/2017 13:00:26	10/02/2017 12:25:27	Active	Assigned	Need AWP in cafeteria for lighting repair. Contact Brian when delivered at 503-916-3146
10/03/2017 14:49:28	10/03/2017 14:49:28	Completed	Completed	Tubman - The electrical box above the PIL building is being vandalised by transients. They are hooking their electronic equipment up to it. Jae - 10/19/2017 BLK
10/18/2017 16:30:19	10/18/2017 16:30:19	Retired	Unassigned	Tubman: Electrical box at the old PIL building has been broken into by transients. Fire marshall has cited us for this electrical box. Called in by Stetson. Duplicate of 1188027. BLK
10/18/2017 16:31:59	10/18/2017 16:32:00	Retired	Unassigned	The upper level outdoor basketball court at Harriet Tubman School has an electrical outlet box that has been broken into. PPS should have it fixed soon because it is attracting homeless individuals to utilize the power. Duplicate of 1188027. BLK
10/20/2017 13:53:02	10/20/2017 13:53:02	Active	Assigned	Tubman - graffiti on the metal doors facing the west side of the building
10/23/2017 08:00:23	10/23/2017 06:56:54	Active	Assigned	check and clear roof drains on the roof above room #110 Jim, Mark 10/23/2017 JJT
10/23/2017 08:00:23	10/23/2017 06:56:54	Active	Assigned	check and clear roof drains on the roof above room #110 Jim, Mark 10/23/2017 JJT
10/24/2017 07:00:36	10/24/2017 07:00:36	Active	Assigned	Tubman - no heat no boiler working Dan 10/24/2017

				Leaking pipe needs to be addressed in the hall by custodians office. Ceiling is ready to fall down. Contact Tony for more details
10/24/2017 09:14:39	10/24/2017 09:14:41	Active	Assigned	Gabe 10/24/2017

	A	B	C	D	E	F	G	H	I
1	**Coverage I**	**Class Code**	**Accident Description**	**Location Level 1**	**Status**	**Injury Date**	**Generic Field 1**	**Generic Field 2**	**Generic Field 5**
2	WC	IND	Left knee multiple injuries	FAUBION (PPS024	Closed	10/29/2015	Nature of Injury: Multiple Physical Injuries Only	Part of Body: Knee	Occupation: Educational Assistant
3	WC	MO	Left foot inflammation/irritation	FAUBION (PPS024	Closed	11/06/2015	Nature of Injury: Sprain	Part of Body: Multiple Lower Extremities	Occupation: Substitute Teacher-Classroom
4	WC	IND	Left Back Strain/Sprain	TUBMAN (PPS019	Closed	11/30/2015	Nature of Injury: Strain	Part of Body: Upper Back Area	Occupation: Custodian
5	WC	IND	High Anxiety	FAUBION (PPS024	Closed	10/12/2015	Nature of Injury: Mental Stress	Part of Body: No Physical Injury	Occupation: Teacher
6	WC	MO	Bruise left toe	FAUBION (PPS024	Closed	05/17/2016	Nature of Injury: Contusion	Part of Body: Toes	Occupation: Therapeutic Interv Coach (190)
7	WC	MO	Inflammation/irritation shoulder/fingers on right side	FAUBION (PPS024	Closed	05/17/2016	Nature of Injury: Inflammation	Part of Body: Multiple Upper Extremities	Occupation: Teacher
8	WC	IND	Right Knee bruising swelling sore muscles	FAUBION (PPS024	Closed	02/26/2016	Nature of Injury: Contusion	Part of Body: Knee	Occupation:
9	WC	MO	Left Knee Swollen - Unsure until I see a Dr	FAUBION (PPS024	Closed	03/01/2016	Nature of Injury: Sprain	Part of Body: Knee	Occupation: Teacher
10	WC	MO	Inflammation/irritation right leg	FAUBION (PPS024	Closed	03/14/2016	Nature of Injury: Contusion	Part of Body: Lower Leg	Occupation: Teacher
11	WC	IND	Right Shoulder, Torn soft tissue, Possible nerve damage	TUBMAN (PPS019	Closed	03/09/2016	Nature of Injury: Strain	Part of Body: Shoulder(s)	Occupation: Teacher
12	WC	IND	Knee, Right/Left. Multiple injuries	TUBMAN (PPS019	Closed	09/29/2015	Nature of Injury: Contusion	Part of Body: Knee	Occupation: Educational Assistant
13	WC	MO	Right arm bite with red vein traveling away from bite towards heart	TUBMAN (PPS019	Closed	10/05/2015	Nature of Injury: Puncture	Part of Body: Upper Arm	Occupation: Teacher
14	WC	MO	Left Hand Strain/Sprain	TUBMAN (PPS019	Closed	08/27/2015	Nature of Injury: Sprain	Part of Body: Hand	Occupation: Custodian
15	WC	MO	Left Ankle Sprain/Strain	TUBMAN (PPS019	Closed	09/01/2015	Nature of Injury: Sprain	Part of Body: Ankle	Occupation: Teacher
16	WC	IND	Employee feels being treated unfairly due to race.	TUBMAN (PPS019	Open	05/23/2017	Nature of Injury: No Physical Injury	Part of Body: No Physical Injury	Occupation: Mentor Teacher
17	WC	IND	Right low back	TUBMAN (PPS019	Closed	08/04/2016	Nature of Injury: Strain	Part of Body: Lower Back Area	Occupation: Custodian
18	WC	MO	Left foot/toes	TUBMAN (PPS019	Closed	08/02/2016	Nature of Injury: Contusion	Part of Body: Foot	Occupation: Custodian
19	WC	IND	IW states was lifting heavy recycling bags, when might have pulled something in upper and lower back area. (IW states was lifting heavy recycling bags, when might have pulled something in upper and lower back area.)	FAUBION (PPS024	Open	09/18/2017	Nature of Injury: Strain	Part of Body: Upper Back Area	Occupation: Custodian
20	WC	MO	IW was performing work duties. (IW states that a student threw a chair at legs and then tried to tackle the IW injuring the IW's left knee.)	FAUBION (PPS024	Open	10/18/2017	Nature of Injury: Strain	Part of Body: Knee	Occupation:
21									

	A	B	C	D	J	K	L	M	N	O
1	**Coverage I**	**Class Code**	**Accident Description**	**Location Level 1**	**Gross Paid**	**Recoveries**	**Net Paid**	**Reserved**	**Gross Incurred**	**Net Incurred**
2	WC	IND	Left knee multiple injuries	FAUBION (PPS024	$9,467.90	$0.00	$9,467.90	$0.00	$9,467.90	$9,467.90
3	WC	MO	Left foot inflammation/irritation	FAUBION (PPS024	$419.08	$0.00	$419.08	$0.00	$419.08	$419.08
4	WC	IND	Left Back Strain/Sprain	TUBMAN (PPS019	$760.69	$0.00	$760.69	$0.00	$760.69	$760.69
5	WC	IND	High Anxiety	FAUBION (PPS024	$12,021.38	$0.00	$12,021.38	$0.00	$12,021.38	$12,021.38
6	WC	MO	Bruise left toe	FAUBION (PPS024	$213.25	$0.00	$213.25	$0.00	$213.25	$213.25
7	WC	MO	Inflammation/irritation shoulder/fingers on right side	FAUBION (PPS024	$9.00	$0.00	$9.00	$0.00	$9.00	$9.00
8	WC	IND	Right Knee bruising swelling sore muscles	FAUBION (PPS024	$1,043.83	$0.00	$1,043.83	$0.00	$1,043.83	$1,043.83
9	WC	MO	Left Knee Swollen - Unsure until I see a Dr	FAUBION (PPS024	$211.95	$0.00	$211.95	$0.00	$211.95	$211.95
10	WC	MO	Inflammation/irritation right leg	FAUBION (PPS024	$211.95	$0.00	$211.95	$0.00	$211.95	$211.95
11	WC	IND	Right Shoulder, Torn soft tissue, Possible nerve damage	TUBMAN (PPS019	$12,543.35	$0.00	$12,543.35	$0.00	$12,543.35	$12,543.35
12	WC	IND	Knee, Right/Left. Multiple injuries	TUBMAN (PPS019	$10,323.84	$0.00	$10,323.84	$0.00	$10,323.84	$10,323.84
13	WC	MO	Right arm bite with red vein traveling away from bite towards heart	TUBMAN (PPS019	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
14	WC	MO	Left Hand Strain/Sprain	TUBMAN (PPS019	$532.10	$0.00	$532.10	$0.00	$532.10	$532.10
15	WC	MO	Left Ankle Sprain/Strain	TUBMAN (PPS019	$2,702.25	$0.00	$2,702.25	$0.00	$2,702.25	$2,702.25
16	WC	IND	Employee feels being treated unfairly due to race.	TUBMAN (PPS019	$5,622.40	$0.00	$5,622.40	$6,827.60	$12,450.00	$12,450.00
17	WC	IND	Right low back	TUBMAN (PPS019	$271.41	$0.00	$271.41	$0.00	$271.41	$271.41
18	WC	MO	Left foot/toes	TUBMAN (PPS019	$281.17	$0.00	$281.17	$0.00	$281.17	$281.17
19	WC	IND	IW states was lifting heavy recycling bags, when might have pulled something in upper and lower back area. (IW states was lifting heavy recycling bags, when might have pulled something in upper and lower back area.)	FAUBION (PPS024	$1,311.73	$0.00	$1,311.73	$3,210.57	$4,522.30	$4,522.30
20	WC	MO	IW was performing work duties. (IW states that a student threw a chair at legs and then tried to tackle the IW injuring the IW's left knee.)	FAUBION (PPS024	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
21					$57,947.28	$0.00	$57,947.28	$10,038.17	$67,985.45	$67,985.45

Multi-purpose Activity Summary (MAS) From 11/01/2016 To 10/31/2017

Included activity: Incident, Response

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Safety/Security Concern**	OFFICER:	**P467 on 13B**	INCIDENT #:	**16-09576**
ARRIVED:	**04:33 on 11/08/2016**	CLEARED:	**04:52 on 11/08/2016**		
BUILDING LOCATION:	**Staff break room exterior door facing north**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Alarm Reset/Armed, Exterior Checked, Interior Checked**				

NARRATIVE: **While conducting a patrol of the school listed above, I found that the exterior staff break room door that faces north was not fully shut. I made entry and checked the interior to find no persons or obvious criminal damage. I secured the door, reset and armed the alarm system upon exit. I found no other unsecured doors onsite. Good closing per Ryan with FRS. CPl. Wohlsein/467**

RESOLUTIONS: **Caused by Unsecured Opening, Secured Property**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Property Damage**	OFFICER:	**P467 on 13B**	INCIDENT #:	**16-09685**
ARRIVED:	**04:51 on 11/12/2016**	CLEARED:	**05:04 on 11/12/2016**		
BUILDING LOCATION:	**West side of the boiler room**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Exterior Checked, Picture(s) Taken**				

NARRATIVE: **While conducting a patrol of the school listed above, I found broken roof bricks on the ground on the west side of the boiler room. I found no persons on the roof of the school or no obvious signs of broken windows. I took a photo of the broken bricks, noted it and continued on with my patrols. Cpl. Wohlsein/467**

RESOLUTIONS: **Other - See Report**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Safety/Security Concern**	OFFICER:	**P627 on 13B**	INCIDENT #:	**16-09929**
ARRIVED:	**03:56 on 11/20/2016**	CLEARED:	**04:23 on 11/20/2016**		
BUILDING LOCATION:	**Room 171 exterior door**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Alarm Reset/Armed, Exterior Checked, Interior Checked**				

NARRATIVE: **While conducting a patrol of the property, i found the extior door behind the gate to room 171 open. There were no signs of forced entry, and it did not appear that anyone had entered the building. I checked the interior hallway, making sure all doors were secure and no criminal activity had taken place. The building was secure. I reset the alarm, and exited the building resuming my patrol of the property. Good closing per Ryan with FRS. OFC Bourgeois 627**

RESOLUTIONS: **Caused by Unsecured Opening, Secured Property**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Safety/Security Concern**	OFFICER:	**P467 on 13B**	INCIDENT #:	**16-10109**
ARRIVED:	**02:57 on 11/26/2016**	CLEARED:	**03:10 on 11/26/2016**		
BUILDING LOCATION:	**NW external gym door facing dumpsters**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Exterior Checked, Interior Checked**				

NARRATIVE: **While conducting a patrol of the school listed above, I found that the NW facing external gym door facing the dumpsters was unlocked. I made entry and checked the immediate area. I found no persons or obvious signs of criminal damage. I secured the door, noted the security concern and continued on with my patrols. Cpl. Wohlsein/467**

RESOLUTIONS: **Caused by Unsecured Opening, Secured Property**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Trespass/Dumping**	OFFICER:	**P467 on 13B**	INCIDENT #:	**16-10150**
ARRIVED:	**02:39 on 11/27/2016**	CLEARED:	**02:50 on 11/27/2016**		
BUILDING LOCATION:	**Main entry breezeway**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Issued Warning**				

NARRATIVE: **While conducting a patrol of the school listed above, I found a black male adult transient sleeping next to the front doors under the breezeway. He refused to identify himself but departed peacefully off property when asked. I found no other security concerns onsite during this patrol. Cpl. Wohlsein/467**

RESOLUTIONS: **Nuisance Abated**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Trespass/Dumping**	OFFICER:	**P467 on 13B**	INCIDENT #:	**16-11065**
ARRIVED:	**03:55 on 12/27/2016**	CLEARED:	**04:12 on 12/27/2016**		
BUILDING LOCATION:	**East side of the school in bark chips**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Issued Warning**				

NARRATIVE: **While conducting a patrol of the school listed above, I found a white male adult transient sleeping in the bark dust on the east side of the school. He refused to identify himself but departed peacefully after I notified him that there was no camping allowed onsite. I found no other security concerns onsite during this patrol. Cpl. Wohlsein/467**

RESOLUTIONS: **Nuisance Abated**
FOLLOW-UP: **No Follow-Up Needed**

RESPONSE REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Unauthorized Open/Close**	OFFICER:	**P490 on 13D**	INCIDENT #:	**17-00826**
RECEIVED:	**08:23 on 01/28/2017**	ARRIVED:	**10:00 on 01/28/2017**	CLEARED:	**10:13 on 01/28/2017**
REPORTING PERSON:	**Joe w/ FRS**	RP PHONE/APT/STE:			
BUILDING LOCATION:	**N/A**				
PEOPLE CONTACTED:	**First Response Dispatch**				
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Interior Checked, Identified Person(s)**				

DISPATCH NARRATIVE: **01/28/2017 08:22:42 - Per Joe FRS Unscheduled Open**

OFFICER NARRATIVE: **Dispatch reported an unauthorized opening at the above location. I responded to the location, and encountered Jonathan Coleman (PPS ID verified) who indicated that he had forgotten to call in when the school was opened. He indicated that he would be in the school until 6pm. I had Jonathan call iWatch to put the system into test before departure. Walker 490**

RESOLUTIONS: **Other - See Report**
FOLLOW-UP: **No Follow-Up Needed**

RESPONSE REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Intrusion/Burglar Alarm**	OFFICER:	**402 on 13B**	INCIDENT #:	**17-00952**
RECEIVED:	**06:00 on 02/02/2017**	ARRIVED:	**06:06 on 02/02/2017**	CLEARED:	**06:22 on 02/02/2017**
REPORTING PERSON:	**I-Watch - Sarah**	RP PHONE/APT/STE:			
BUILDING LOCATION:	**02/02/2017 05:56:54 - Sarah w. FRS- Zone 5 2 Juicers in hall outside office, Zone 1 NW Area Motion in Center NW hall by center N entrance, Zone 3 W entrances motion inside doors J, I, on west side**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Exterior Checked, Interior Checked, Identified Person(s)**				

DISPATCH NARRATIVE: **02/02/2017 05:56:54 - Sarah w. FRS- Zone 5 2 Juicers in hall outside office, Zone 1 NW Area Motion in Center NW hall by center N entrance, Zone 3 W entrances motion inside doors J, I, on west side.**

OFFICER NARRATIVE: **I responded to a burglary alarm from the above listed zones. Prior to arrival I was advised that there were no additional trips to the system. Upon arrival I noted many lights on inside the building and a Chevrolet Cobalt bearing Oregon license 913EVC, parked outside the boiler room door. I checked the perimeter and found it secured with no signs of forced entry or tampering. I made entry and checked the interior. I noted the system was armed with many trips displayed. I contacted Dave Vesci, who I identified via his PPS identification card. He advised that he had not turned off the alarm when he entered. He turned the system off and I thanked him for his time. I exited and then cleared the scene. Officer Saunders #402**

RESOLUTIONS: **No Problem Found, Other - See Report**
FOLLOW-UP: **N/A**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Safety/Security Concern**	OFFICER:	**6841 on 13B**	INCIDENT #:	**17-01507**
ARRIVED:	**01:04 on 02/22/2017**	CLEARED:	**01:23 on 02/22/2017**		
BUILDING LOCATION:	**Room 203**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Alarm Reset/Armed, Exterior Checked, Interior Checked**				

NARRATIVE: **While conducting a patrol of the property I found no unwanted persons on the premises. I found no signs of criminal or suspicious activity. I did however find a window to room 203 open. Though this is a second story window, it was located directly above a ledge that is easily accessible. I entered the building and secured the window. No other issues or unsecured openings were found. Cpl. Solo #6841 Cleared 0123**

RESOLUTIONS: **Caused by Unsecured Opening, Secured Property**
FOLLOW-UP: **No Follow-Up Needed**

RESPONSE REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Unauthorized Open/Close**	OFFICER:	**P7097 on 11D**	INCIDENT #:	**17-01940**
RECEIVED:	**07:50 on 03/11/2017**	ARRIVED:	**08:26 on 03/11/2017**	CLEARED:	**08:43 on 03/11/2017**
REPORTING PERSON:	**Sarah**	RP PHONE/APT/STE:	**FRS**		
BUILDING LOCATION:	**Unauthorized Open**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Exterior Checked, Interior Checked, Identified Person(s)**				
DISPATCH NARRATIVE:	**03/11/2017 07:49:58 - per Sarah w/ FRS unscheduled open w/ no call in**				
OFFICER NARRATIVE:	**Upon arrival at the above location i made contact with custodian Kerri Simmons working on site. Mrs. Simmons forgot to call in upon opening the school. I advised her to do so and she complied. Iwatch confirmed the opening and I cleared at 0845. Cpl. Love 7097.**				
RESOLUTIONS:	**Other - See Report**				
FOLLOW-UP:	**N/A**				

RESPONSE REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Unauthorized Open/Close**	OFFICER:	**7135 on 11D**	INCIDENT #:	**17-02141**
RECEIVED:	**07:30 on 03/19/2017**	ARRIVED:	**08:00 on 03/19/2017**	CLEARED:	**08:31 on 03/19/2017**
REPORTING PERSON:	**Ryan with FRS**	RP PHONE/APT/STE:	**503 207 5303**		
BUILDING LOCATION:	**Unauthorized opening**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Alarm Reset/Armed, Exterior Checked, Interior Checked, Identified Person(s)**				
DISPATCH NARRATIVE:	**03/19/2017 07:30:36 - Ryan with FRS Unauthorized Open.**				
OFFICER NARRATIVE:	**I was dispatched to a unauthorized opening at the main school. I arrived on site and conducted an exterior check. During my check I found a gym door propped open. I made entry into the gym and made contact with Brian Woods who was setting up the gym for a sporting event. Brian did have his PPS ID and access to the school. Brian informed me he put the system in test but he did disarm the system causing an unauthorized opening. I informed Woods he needs to keep the system armed when he puts the system in test. Woods was under the impression he needed to disarm it. Woods rearmed the system. I had Woods call dispatch again to verify that he is putting the system in test. Woods informed me he would be putting the system in test until 1900. Aaron from FRS recieved our closing and put the system in test until 1900. I finished my sweep and found no signs of criminal activity. I exited the property. Torres 7135**				
RESOLUTIONS:	**No Problem Found**				
FOLLOW-UP:	**No Follow-Up Needed**				

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Safety/Security Concern**	OFFICER:	**P467 on 13B**	INCIDENT #:	**17-02910**
ARRIVED:	**04:13 on 04/15/2017**	CLEARED:	**04:26 on 04/15/2017**		
BUILDING LOCATION:	**North side of the school**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Interior Checked, Provided Assistance**				
NARRATIVE:	**While conducting a patrol of the school listed above, I found the door labeled "Q" on the north side of the school that contains basketballs and such. I checked the interior and found no persons or obvious criminal damage. I secured the door. I found no other security concerns onsite during this patrol. Cpl. Wohlsein/467**				
RESOLUTIONS:	**Caused by Unsecured Opening, Secured Property**				
FOLLOW-UP:	**No Follow-Up Needed**				

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Safety/Security Concern**	OFFICER:	**P467 on 13B**	INCIDENT #:	**17-03356**
ARRIVED:	**02:53 on 05/02/2017**	CLEARED:	**03:12 on 05/02/2017**		
BUILDING LOCATION:	**Classroom 132**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Exterior Checked, Interior Checked**				

NARRATIVE: **While conducting a patrol of the school listed above, I found that the exterior door for classroom 132 was unsecured. I found that the door had not been shut all the way and partially ajar. I checked the immediate area inside to find no persons or obvious signs of criminal activity. I secured the door upon exit. I found no other security onsite. Cpl. Wohlsein/467**

RESOLUTIONS: **Caused by Unsecured Opening, Secured Property**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Safety/Security Concern**	OFFICER:	**P467 on 13B**	INCIDENT #:	**17-03641**
ARRIVED:	**02:00 on 05/11/2017**	CLEARED:	**02:20 on 05/11/2017**		
BUILDING LOCATION:	**Staff lounge room door facing North**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Exterior Checked, Interior Checked**				

NARRATIVE: **While conducting a patrol of the school listed above, I found that the door facing north that is the exterior entry to the staff lounge, was ajar. It was not fully shut and I pulled it open. I checked the interior to find no persons or obvious signs of criminal activity. I secured the door. I found no other security concerns onsite during this patrol. Cpl. Wohlsein/467**

RESOLUTIONS: **Caused by Unsecured Opening, Person(s) Trespassed, Secured Property**
FOLLOW-UP: **No Follow-Up Needed**

RESPONSE REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Alarm System - No Close**	OFFICER:	**P484 on 13B**	INCIDENT #:	**17-03996**
RECEIVED:	**23:48 on 05/24/2017**	ARRIVED:	**00:11 on 05/25/2017**	CLEARED:	**00:30 on 05/25/2017**
REPORTING PERSON:	**Sarah FRS**	RP PHONE/APT/STE:			
BUILDING LOCATION:	**N/A**				
PEOPLE CONTACTED:	**First Response Dispatch**				
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Alarm Reset/Armed, Exterior Checked, Interior Checked**				

DISPATCH NARRATIVE: **05/24/2017 23:48:48 - per Sarah w/ FRS late to close**

OFFICER NARRATIVE: **I arrived at location for a late to close. I checked the exterior doors and didnt find any unlocked. I inspected the interior and did not find any faculty working and I did not find any unwanted persons in the building. I examined the alarm panel and confirmed the system was not armed. I entered my code and armed the system and then confirmed a good closing with Angela from FRS. I departed from this location at 00:30. Melton 484**

RESOLUTIONS: **Cause Unknown**
FOLLOW-UP: **No Follow-Up Needed**

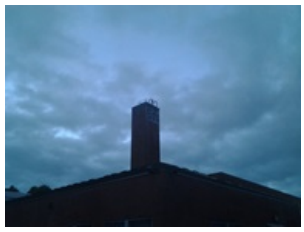
INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Property Damage**	OFFICER:	**P484 on 13B**	INCIDENT #:	**17-04263**
ARRIVED:	**05:14 on 06/02/2017**	CLEARED:	**05:29 on 06/02/2017**		
BUILDING LOCATION:	**The brick chimney near boiler room/custodial office; north west area of main building.**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Picture(s) Taken**				

NARRATIVE: **I arrived at location to conduct a hard check patrol and I physically checked all ground level exterior doors and windows and found them to be locked at this time, with no signs of forced entry. I continued the patrol and saw what appears to be recent vandalism on the chimney near the northwest area of the school, took pictures and did not find any suspicious persons on the property at this time. I I departed from this location at 05:28. Melton 484**

RESOLUTIONS: **Other - See Report**
FOLLOW-UP: **No Follow-Up Needed, Other**



RESPONSE REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Intrusion/Burglar Alarm**	OFFICER:	**P467 on 13B**	INCIDENT #:	**17-04366**
RECEIVED:	**06:01 on 06/05/2017**	ARRIVED:	**06:11 on 06/05/2017**	CLEARED:	**06:21 on 06/05/2017**
REPORTING PERSON:	**Brianna with FRS**	RP PHONE/APT/STE:			
BUILDING LOCATION:	**juicers in hall outside 147 & 157 zone 5, nw area motion in nw hall by cneter n entrance zone 1, 2 juicers in hall outside office zone 5, w entrance motion i/s doors J and I zone 3. - Paul with PPS Maintenance requested dispatch.**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Interior Checked, Identified Person(s)**				

DISPATCH NARRATIVE: **06/05/2017 06:00:10 - Brianna with FRS - 2 juicers in hall outside 147 & 157 zone 5, nw area motion in nw hall by cneter n entrance zone 1, 2 juicers in hall outside office zone 5, w entrance motion i/s doors J and I zone 3. - Paul with PPS Maintenance requested dispatch.**

OFFICER NARRATIVE: **I was dispatched to the school listed above on a multiple trip alarm call. Dispatch advised me of trips of the 2juicers in hall outside 147 & 157 zone 5, nw area motion in nw hall by cneter n entrance zone 1, 2 juicers in hall outside office zone 5, w entrance motion i/s doors J and I zone 3. - Paul with PPS Maintenance requested dispatch. I went enroute and upon arrival I started checking the exterior of the school when I observed someone walking around. I made entry and made contact with them. They were identified as Dave Vecsi (PPS custodian) via his PPS ID badge. He advised me that he forgot to turn off the alarm system. I notified dispatch of my findings and continued on with my patrols. Cpl. Wohlsein/467**

RESOLUTIONS: **Other - See Report**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Trespass/Dumping**	OFFICER:	**P467 on 13B**	INCIDENT #:	**17-04461**
ARRIVED:	**04:28 on 06/08/2017**	CLEARED:	**05:00 on 06/08/2017**		
BUILDING LOCATION:	**Breezeway for PIL building**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Issued Warning**				

NARRATIVE: **While conducting a patrol of the school listed above, I found a white male adult transient sleeping under the breezeway next to the PIL building. I advised him that there was no camping allowed onsite and he needed to leave. The subject refused to identify himself but departed peacefully when asked. I watched him pack up and leave. I found no other security concerns onsite during my patrols. Cpl. Wohlsein/467**

RESOLUTIONS: **Nuisance Abated**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Trespass/Dumping**	OFFICER:	**P467 on 13B**	INCIDENT #:	**17-04592**
ARRIVED:	**03:39 on 06/12/2017**	CLEARED:	**03:53 on 06/12/2017**		
BUILDING LOCATION:	**Breezeway near main doors**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Issued Warning**				

NARRATIVE: **While conducting a patrol of the school listed above, I found a black male adult transient sleeping in front of the main doors of the school under the breezeway. I advised him that there was no camping allowed on PPS property and he needed to leave. The subject refused to identify himself but departed peacefully when asked. I found no other transients or signs of activity onsite. I noted the trespass issue and continued on with my patrols. Cpl. Wohlsein/467**

RESOLUTIONS: **Nuisance Abated**
FOLLOW-UP: **No Follow-Up Needed**

RESPONSE REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Client/Tenant Assist**	OFFICER:	**P646 on 13D**	INCIDENT #:	**17-04645**		
RECEIVED:	**18:05 on 06/14/2017**	ARRIVED:	**18:37 on 06/14/2017**	CLEARED:	**18:56 on 06/14/2017**		
REPORTING PERSON:		RP PHONE/APT/STE:					
BUILDING LOCATION:	**N/A**						
PEOPLE CONTACTED:	**First Response Dispatch**						
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**				
DUTIES COMPLETED:	**Exterior Checked**						

DISPATCH NARRATIVE: **06/14/2017 18:03:28 - per Stetson Jame w/ PPS - approved by FAM Mike Smithey 8-10 kids with skateboards on the roof of the school, when asked to get off the roof they refused to come down. Stetson leaving and would like for us to check make sure they are off the roof.**

OFFICER NARRATIVE: **I responded to the report of 8-10 skateboarders on the roof. On arrival, I found nine teenage males with skateboards near the front doors. They were putting cameras away. I introduced myself and they refused to give any names. They denied being on tbe roof. They stated the only place they were was near the front doors on the steps and te wheelchair ramp. Other than not giving names they were polite and courteous. They advised they had not done any damage. I checked the exterior. No vandalism found. All doors were secure, windows were intact and no one was on the roof. All of the males left north bound on N. Flint on skateboards. Ofcr Bates 645**

RESOLUTIONS: **No Problem Found**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Trespass/Dumping**	OFFICER:	**P484 on 13B**	INCIDENT #:	**17-04688**
ARRIVED:	**04:56 on 06/16/2017**	CLEARED:	**05:17 on 06/16/2017**		
BUILDING LOCATION:	**N/A**				
PEOPLE CONTACTED:	**First Response Dispatch**				
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Exterior Checked**				

NARRATIVE: **I conducted a patrol of the property and found one transient male sleeping near the north doorways. I was unable to get his identification or name because he appeared to be intoxicated and incoherent, but I was able to ask him to leave the premises and he eventually complied. I continued the patrol and found all exterior doors locked and secure at this time. I departed from this location at 05:17. Melton 484**

RESOLUTIONS: **Nuisance Abated**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Safety/Security Concern**	OFFICER:	**P467 on 13B**	INCIDENT #:	**17-04754**
ARRIVED:	**04:20 on 06/18/2017**	CLEARED:	**04:47 on 06/18/2017**		
BUILDING LOCATION:	**Door labeled "Q" near boilerroom**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Exterior Checked, Interior Checked**				

NARRATIVE: **While conducting a patrol of the school listed above, I found that the exterior door labeled "Q" was unlocked. This door is on the north side of the school near the boiler room. I checked the interior to find no persons or obvious criminal activity. I secured the door and found no other security concerns onsite. I noted the unsecured door and continued on with my patrols. Cpl. Wohlsein/467**

RESOLUTIONS: **Caused by Unsecured Opening, Secured Property**
FOLLOW-UP: **No Follow-Up Needed**

RESPONSE REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Intrusion/Burglar Alarm**	OFFICER:	**P646 on 11D**	INCIDENT #:	**17-05318**
RECEIVED:	**08:10 on 07/05/2017**	ARRIVED:	**09:04 on 07/05/2017**	CLEARED:	**09:35 on 07/05/2017**
REPORTING PERSON:		RP PHONE/APT/STE:			
BUILDING LOCATION:	**N/A**				
PEOPLE CONTACTED:	**Alarm Company, First Response Dispatch**				
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Alarm Reset/Armed, Exterior Checked, Interior Checked**				

DISPATCH NARRATIVE: **07/05/2017 08:08:54 - Ed w/FRS received Alarm zone 5 - 2 juicers in hall outside office 147 & 157, Zone 1 - NW Area motion in NW hall by center N entrance. Paul w/maintenance wants security to check it out and Molly w/Security Services authorized dispatch.**

OFFICER NARRATIVE: **I responded at the request of Paul with maintenance to a multi trip alarm. No further trips while enroute. On arrival, I conducted an exterior check. All doors were secure and windows were intact. I made entry and checked the areas that were tripped. no vandalism, suspicious activity or anyone around. I reset the alar and received a good close per Laura at FRS.**

RESOLUTIONS: **No Problem Found, Cause Unknown**
FOLLOW-UP: **No Follow-Up Needed**

RESPONSE REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Intrusion/Burglar Alarm**	OFFICER:	**P7097 on 11D**	INCIDENT #:	**17-07332**
RECEIVED:	**10:24 on 08/31/2017**	ARRIVED:	**10:58 on 08/31/2017**	CLEARED:	**11:31 on 08/31/2017**
REPORTING PERSON:	**Laura**	RP PHONE/APT/STE:	**FRS**		
BUILDING LOCATION:	**Mult. Activation**				
PEOPLE CONTACTED:	**First Response Dispatch**				
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Alarm Reset/Armed, Exterior Checked, Interior Checked, Identified Person(s)**				

DISPATCH NARRATIVE: **08/31/2017 10:15:58 - LAURA WITH FIRST RESPONSE SYSTEMS ZONE 5 2 JUICERS IN HALL OUTSIDE OFFICE 147 AND 157 ZONE 1 NW AREA MOTION IN NW HALL BY CENTER N ENTRANCE ZONE 4 E HALL MOTION - HALL IN OD BUILDING -MOTION BY MAIN E ENTRANCE ZONE 3 W ENTRANCES MOTION INSIDE DOORS J AND I ON WEST SIDE FRED KUEST AUTHORIZED RESPONSE**

OFFICER NARRATIVE: **Upon arrival at the above location I made contact with PPS employee Todd Beatty (per PPS ID) on site. Mr. Beatty explained that a contractor caused the activations prior to his arrival. I advised Mr. Beatty to contact iwatch and he complied. The system was put into test mode until 1300. No other issues to report at this time. Cpl. Love 7097.**

RESOLUTIONS: **Other - See Report**
FOLLOW-UP: **N/A**

RESPONSE REPORT

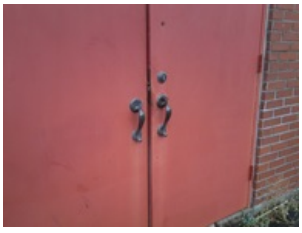
E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Client/Tenant Assist**	OFFICER:	**359 on 13D**	INCIDENT #:	**17-07975**
RECEIVED:	**15:51 on 09/18/2017**	ARRIVED:	**17:03 on 09/18/2017**	CLEARED:	**17:21 on 09/18/2017**
REPORTING PERSON:	**Fam-Stetson**	RP PHONE/APT/STE:	**N/A**		
BUILDING LOCATION:	**homless person by between school and PIL Athletics**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Exterior Checked, Suspect(s) Cited/Warned, Picture(s) Taken**				

DISPATCH NARRATIVE: **09/18/2017 15:47:57 - per Stetson with FAM: there is transients camped by the breezeway between main building and PIR athletic club he would like removed. There is also a grey Subaru parked in the back parking lot by the main school with OR CL00538 that Stetson advised he does not know why is there. It should be the only car in the parking lot**

OFFICER NARRATIVE: **I was dispatched to the above location for an unwanted homeless person. I arrived and found a African maale sitting in a chair by the PIL building. I contacted him and advised him he could not be on the property. He said and walked off. There was bedding and aa shopping cart by the door. I asked him if it was his and he said no it was some ladies but she left along time ago. I said ok and advised him that if caame back he would be arrested. While talking with him a elderly female walked down the hill towards me. I asked her if that was her stuff. She said that one sleeping bag was but not the other it was another females. I advised her not to come back or she would be arrested. I then checked for the vehicle that was also in the parking lot and it was gone. While doing that I found the door ajar to a pump system next to the janitor entrance. I checked and found no one inside. I took picture of the door and then secured it. While typing a report a male female showed up and started to plug things it the power out lets by the PIL building. I advised them that they needed to leave. They left the property. I found no other problems. Sgt. Carlson 359.**

RESOLUTIONS: **Person(s) Trespassed, Other - See Report**
FOLLOW-UP: **N/A**



INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Property Damage**	OFFICER:	**P657 on 13B**	INCIDENT #:	**17-09046**
ARRIVED:	**03:45 on 10/21/2017**	CLEARED:	**04:11 on 10/21/2017**		
BUILDING LOCATION:	**West face at back of property**				
PEOPLE CONTACTED:					
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Suspect(s) Cited/Warned, Picture(s) Taken**				

NARRATIVE: **I conducted an exterior patrol of the property and found all doors secure. I photographed the graffiti as requested by Fred Kuest. Most was located around the west side of the school. There were three well entrenched transient camps on property. I notified thhem that they could not camp on school property and they began packing up. There were no more issues on school property. Cleared at 04110 Stephens 657**

RESOLUTIONS: **Other - See Report**
FOLLOW-UP: **No Follow-Up Needed**

INCIDENT REPORT

E187 Tubman Site - Vacant
2231 N FLINT, PORTLAND, OR

CATEGORY:	**Trespass/Dumping**	OFFICER:	**P657 on 13B**	INCIDENT #:	**17-09097**
ARRIVED:	**23:26 on 10/21/2017**	CLEARED:	**01:21 on 10/22/2017**		
BUILDING LOCATION:	**West side next to PIL building**				
PEOPLE CONTACTED:	**Police Department, First Response Dispatch, Supervisor**				
POLICE DEPARTMENT:	**N/A**	PD CASE #:	**N/A**		
DUTIES COMPLETED:	**Exterior Checked, Issued Warning, Identified Person(s)**				

NARRATIVE: **I arrived on site and conducted an exterior patrol of the property. I found all exterior doors secure. While conducting my patrol i found the transient camp in question and made contact with Mr. Daryl Pattum to confirm his identity. I then had dispatch contact Portland police. After some time i was contacted by Officer Winkle (#51850) and was asked to inform Mr. Pattum that police would be arriving in the next 20 min and if he did not depart the property by then that he would be placed under arrest. Mr. Pattum began moving some of his belongings into the grassy area towards the freeway. I then recieved another call from Officer Winkle who stated that he had made contact with Mr. Pattum and told him his belongings neeed to be off property by 0200 or a graveyard officer would place him under arrest. I viewed Mr. Pattum departing the property shortly after. Officer Winkle informed me that he would be emailing Fred Kuest with an update on the situatuon. There were no further issues on property. Stephens 657**

RESOLUTIONS: **Person(s) Trespassed, Nuisance Abated, Other - See Report**
FOLLOW-UP: **No Follow-Up Needed**

CURRENT SUMMARY: Entire Site

This summary is for general building information regarding known or presumed materials that contain asbestos, materials that have tested negative for asbestos, and the asbestos summary. The information presented is limited to the information currently in the database.

For more detailed information see the current reinspection, bulk sample inventory, drawings and management plan.

ASBESTOS MATERIALS

Materials That Contain Asbestos

The following materials either tested positive, or, based on the experience of field personnel, were not tested and should be considered asbestos-containing. Materials that had mixed results are considered positive. Materials that are presumed positive have not been sampled may contain asbestos and should be tested to verify asbestos content prior to impact through demolition, renovation, etc.
(+) Tested Positive, (M) Mixed Results, (P) Presumed Positive.

TUBMAN - MAIN/FIRST FLOOR (Unit A)

Type	Material	Location	Approx. Quantity
(P)	Asbestos Pipe Insulation 4" - 12" OD	Boiler Room	295 LF
(P)	Asbestos Pipe Insulation 4" - 12" OD	Custodians Office	10 LF
(P)	Asbestos Pipe Insulation 4" - 12" OD	First Floor - Above Ceiling	1000 LF
(P)	Boiler Insulation	Boiler Room	400 SF
(P)	Tank Insulation	Boiler Room	264 SF
(+)	VAT walls	First Floor - Corridor Walls	5000 SF
(P)	Vinyl Floor Tile/Mastic	First Floor	247 SF

TUBMAN - MAIN/SECOND FLOOR (Unit A)

Type	Material	Location	Approx. Quantity
(P)	Asbestos Pipe Insulation 4" - 12" OD	Second Floor Above Ceilings	945 LF
(+)	VAT walls	Second Floor Corridor Walls	2788 SF
(P)	Vinyl Floor Tile/Mastic	Second Floor	1 SF

TUBMAN - MAIN/BASEMENT (Unit A)

Type	Material	Location	Approx. Quantity
(P)	Lagging/Non-asbestos Material	Tunnels	1300 LF

Materials That Tested Negative

The following materials tested negative by qualified laboratories. Although no asbestos was detected, it is possible that further sampling could indicate asbestos content. It may be prudent to test prior to impact through demolition, renovation, etc.

TUBMAN - MAIN/FIRST FLOOR (Unit A)

Material	Location
Ceiling Tile	Main Building / First Floor / Walls and Ceiling
Ceiling Tile	Main Building / First Floor / Walls and Ceiling / Media Center
Fire Door	Main Building / First Floor / Doors
Fireproofing	Main Building / First Floor / Lobby
Fireproofing	Main Building / Roof / Mechanical Room
Fire Door	Main Building / Second Floor / Doors
Fireproofing	Main Building / Second Floor / West Wing
Ceiling Tile	Main Building / Second Floor / Walls and Ceiling

ASBESTOS SUMMARY

On August 11, 2015, PBS conducted an Asbestos Hazard Emergency Response Act (AHERA) 27-year reinspection at Tubman school/site, located at 2231 N FLINT, Portland, OR 97227.

In accordance with federal regulations (40 CFR 763) an AHERA certified inspector inspected all accessible asbestos containing materials as detailed in the Asbestos Containing Materials Report.

Kit Number	Start Date	Start Time	End Date	End Time	Temperature	Facility	Building	Room	Floor	Result	Variance	Analysis Notes	Analysis Date	%Moisture
7741508	3/14/2016	3:00 PM	3/14/2016	3:00 PM	70	TUBMAN	MAIN	BLANK		1 < 0.3	1.3	D	3/28/2016	2.8
7741509	3/14/2016	4:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	105 OFFICE		1	1.2	1 D	3/28/2016	5.1
7741511	3/14/2016	4:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	GIRLS LOCKER		1	1.4	1 D	3/28/2016	5.1
7741512	3/14/2016	4:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	171		1 < 0.3	1.2	D	3/28/2016	5.2
7741513	3/14/2016	4:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	BOYS LOCKER		1 < 0.3	1.1	D	3/28/2016	4.4
7741514	3/14/2016	4:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	159D FAC. LOUNGE		1	2.1	1.1 D	3/28/2016	5.1
7741515	3/14/2016	4:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	157 OFFICES		1	1.9	1 D	3/28/2016	4.4
7741516	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	GYM		1 < 0.3	1.2	D	3/28/2016	5.1
7741517	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	148		1 < 0.3	1.2	D	3/28/2016	4.4
7741518	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	146 MUSIC		1	1	1 D	3/28/2016	4.4
7741519	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	CAFETERIA		1	1.9	1 D	3/28/2016	5.1
7741520	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	KITCHEN		1	1.5	1 D	3/28/2016	5.1
7741521	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	134 OLD FAC DNG		1	1.7	1.1 D	3/28/2016	4.3
7741522	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	132 ART		1	1.6	1.1 D	3/28/2016	5.1
7741523	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	130		1	1.1	1 D	3/28/2016	4.3
7741524	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	119		1	1.3	1 D	3/28/2016	4.4
7741525	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	117		1	1.9	1.1 D	3/28/2016	5.1
7741526	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	124		1	2.1	1.1 D	3/28/2016	5.1
7741527	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	122		1	0.8	1 D	3/28/2016	5.1
7741528	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	115		1	1.9	1.1 D	3/28/2016	5.1
7741529	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	113		1	2.2	1.1 D	3/28/2016	5.2
7741530	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	120		1	1.3	1 D	3/28/2016	5.2
7741531	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	118		1	1.9	1 D	3/28/2016	4.4
7741532	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	111		1 < 0.3	1.2	D	3/28/2016	5.2
7741533	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	114		1	2.6	1.1 D	3/28/2016	5.2
7741534	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	101		1 < 0.3	1.2	D	3/28/2016	4.4
7741535	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	104		1 < 0.3	1.2	D	3/28/2016	5.2
7741536	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	MEDIA CTR		1	1.4	1 D	3/28/2016	4.4
7741537	3/14/2016	5:00 PM	3/17/2016	4:00 PM	70	TUBMAN	MAIN	A.V.		1	1.3	1.1 D	3/28/2016	5.1
7742056	4/18/2016	12:00 PM	4/21/2016	11:00 AM	70	TUBMAN	MAIN	IND. ARTS 182		1	0.6	0.3	4/25/2016	6
7742061	4/18/2016	12:00 PM	4/21/2016	11:00 AM	70	TUBMAN	MAIN	IND.ARTS 181		1	0.9	0.3	4/25/2016	5.3

RhinoOne GEOTECHNICAL

July 08, 2014

Portland Public School
Attn: Mr. Steve Effros
Project Manager, Facilities and Asset Management
501 N. Dixon Street
Portland, Oregon 97227

Re: Report of Geotechnical Engineering Services
Vertical Settlement and Lateral Movement
Tubman School Site for Portland Public Schools
Portland, Oregon
RhinoOne Project No. PPS-2013-003

Dear Mr. Effros:

RhinoOne Geotechnical Engineering is pleased to submit this report of our preliminary analysis of the settlement and lateral movement issues at the Tubman Middle School Site in Portland, Oregon. We conducted a site walk with you on December 30, 2013. You subsequently provided us with a set of documents for review. These documents are referenced below:

- Burns, Bear, McNeil & Schneider, Grading and Roof Plan, Eliot Elementary School For Multnomah County School District Number 1, Sheet 1 of 9, 1952 (BBMS).

- ODOT, Retaining Wall East Bank Freeway Section, Plan & Elevation, Sheet Number 15928 dated 5/5/1960; Standard Retaining Walls, Front Face Vertical, Sheet Number 15552, dated 1/14/1960.

- Kelly Strazer & Associates Geotechnical Investigation and Report, Proposed Additions to Harriet Tubman Middle School, Portland, Oregon dated March 29, 1983 (KSA-1).

- Unthank Seder Poticha Architects, PC, Set of Plans for “Additions and Remodeling”, dated October 1983 (USPA).

- Kelly Strazer & Associates, Slope Failure Problem, Harriet Tubman Middle School Project, Portland, Oregon dated April 15, 1983 (KSA-2).

- Kelly Strazer & Associates, Unstable Soil Area, Harriet Tubman Middle School Project, Portland, Oregon letter dated January 18, 1984 (KSA-3).

- Kelly Strazer & Associates, Observation of Pile Driving during Construction, Harriet Tubman Middle School Project, Portland, Oregon dated March 14, 1984 (KSA-4).

Current Conditions:
We completed a site walk with you and representatives of Oregon Department of Transportation (ODOT) on April 18, 2014. Building settlements were observed at the southwest corner and at the generator room with some additional distress observed between these two points. Distress was observed in the parking lot on the west side of the building as evidenced by various asphalt repairs over the years. Standing water was also observed in a clean-out which indicates that the water is not draining properly. A 2- to 4- inch crack running along the entire height was observed in the ODOT retaining wall downslope from the southwest corner of the building. Figure 1 shows a schematic of observed building movements. The pattern of movement appears to be lateral ground movement which subsequently causes vertical movements.

Review of Existing Data:
We understand that the original school building was constructed in 1952. Figure 2 of the KSA-1 (1983) report (see attachments) indicates the approximate top of pre-fill slope based on 1908 Sanborn Insurance Maps. Review of the contours on the 1952 grading plan (see attachments) indicates that the elevations along the edge of bank were ± 129 feet to ± 136 feet in 1952 and therefore the site was filled sometimes before 1952. The top of the bank has also moved towards the west and south of the 1908 line. Based on this map, most of the 1952 structure was placed on native ground except the southern-most 30 feet and a small portion of the northwest corner of the building. The central area of the site which is indicated as “Play Area and Night Parking” and where the 1983 addition was constructed has significant depth of un-documented fill. The grading plan also indicates the finished elevations for “Play Area and Night Parking” areas on the order of ± 134 feet to ± 138 feet. This indicates that some additional fill was also placed for this addition in 1952. Our review indicates that there are several areas of undocumented fills on this site. Review of the KSA-1 report indicates that the 1952 structure was placed on timber piles.

We understand that ODOT built a retaining wall near the southwest side of the school property in 1960’s. We reviewed sheets 15928 and 15552 (see attachments) provided to us by ODOT and also conducted an on-site meeting on April 18 between the staff of PPS and ODOT. The retaining wall is approximately 200 feet long with a maximum height of 14 feet from base of foundation to the top of wall. The wall was designed for a 2H: 1V slope. Based on the standard plans (Sheet 15552), the base width of the foundation is 8’6” with the section towards the school being 3’3”. We do not have access to as-builds so the limits and type of backfill for the wall could not be determined. A 2- to 4- inch separation along the entire height of the wall was observed between the panels of the retaining wall which indicates that the wall has moved over the years. We also understand that ODOT constructed a viaduct for both the north and south bound lanes of I-5 above a ravine north of the retaining wall. It is possible that un-documented fill has been placed over the years encroaching over the ravine.

Expansion to the school building was planned in 1980’s. KSA was contracted by the School District to complete a geotechnical study (KSA-1). KSA completed five (5) borings in 1980 and an additional eleven (11) borings in 1983. Figure 2 from KSA report shows the location of these borings. KSA also observed shallow surficial sliding, block movements, cracking and previous asphalt patching during this study. These features are also shown on Figure 2 of KSA-1 report. Based on these borings, KSA developed fill depth contour maps as indicated in Figure 14 of the KSA-1 report (attached). The depth of fill is zero near the east side the site to as much as 30 feet or more near the south west portions of the site. The fill has been described as un-documented fill. KSA recommended that the new building addition be

supported on driven timber piles to an ultimate capacity of 25 tons. Review of grading plans indicates that some minor filling was also performed for this addition.

The piles were subsequently driven as summarized in KSA-4 (1984) report dated March 14, 1984. A total of 220 piles were installed for the main building. The lengths of piles were from a low of ± 18 feet to about ± 40 feet. Pile driving was terminated based on the Engineering News Formula. Review of the as-builds indicates that the piles are embedded approximately 4 inches into the pile cap. This indicates that the piles are free head and have potentially lost contact with the cap in areas of large movement. Piles with this condition have limited lateral load capacity.

The new generator room was located on the west side near the northwest side of the building. The generators were mentioned in KSA-3 report. We were not able to establish the foundation conditions for this room, but we postulate that it is placed on shallow foundations. This is because we did not find any pile driving records for the generator room.

Causation:
Based on our observation and discussions with you, it appears that most of the building distress is on the west wall with large settlements noted at the southwest corner. The parking area and the driveways are showing distress as indicated by un-even surface and previous asphalt patching. The generator room is also showing separation from the main building.

The site has undergone several instances of filling. Based on the previous boring logs, it appears that 30 feet or more of fill is placed at some locations. In addition, the subgrade was not prepared for filling with the old topsoil and organics still present. We interpret that the fill slope is moving laterally. This lateral movement is causing large lateral loads on the piles. Timber piles with minimum embedment in the pile caps are not adequate to carry loads of this magnitude. The lateral movement is likely causing the piles to separate from the pile cap. This lateral movement with subsequent vertical settlement is most likely causing distress to the building as observed along the west wall.

The effect of lateral movement is more pronounced in the parking lot area with uneven settlements, several asphalt patches and movement of the generator room. These movements have also changed the drainage patterns which may explain why standing water is observed in the cleanouts.

The ODOT retaining wall was constructed per the standard plans in 1960's. Since we do not have access to as-builds, the limits and types of backfill and drainage systems are not known. The retaining wall has shown distress as evidenced by the wall separation. The retaining wall movement indicates that the slope behind the wall has moved in the past. This wall movement with subsequent slope movements could also explain some of the distress observed in the driveways and parking areas.

Potential Remedial Options:
Based on our review, we have discussed conceptual review options and preliminary budgets. These budgets do not include any internal building work that may be needed as part of this remediation system. The remedial options can be divided into three distinct items.

Building Wall– The west and south wall of the building in the impacted area is recommended to be underpinned using a micropile and grade beam system. The micropiles should be installed in groups of 2 at a spacing of approximately 6 feet on center. The first micropile installed inside the building should be vertical whereas the second micropile installed from outside the building should have a batter of 15 degrees. The micropiles should be a minimum of 8-inches in diameter with an outer casing for lateral loads installed to a minimum depth of 25 feet or possibly more in some areas. The total depth of micropile will be on the order of 45- to 50- feet. A continuous grade beam should be installed below the existing wall with the micropiles connected to it. For preliminary budget estimate, we have assumed a 200 feet length of wall will require remedial measures. The grade beam will most likely be 3 feet thick and 3- to 4- feet wide running along the entire length of the wall.

Soldier Pile Wall for Slope Stabilization – We recommend that a soldier pile wall system be constructed at the edge of the slope upslope from the ODOT retaining wall. The soldier pile wall system consists of steel beams installed in a drilled hole and backfilled with structural concrete. For this site, a soldier pile wall constructed from the top will be the most practical option. The soldier piles will be installed at spacing of 6- feet, with 30- to 36- inch diameter and to a depth of 45 to 50 feet. A steel beam like HP 14x117 will be placed entire depth. For preliminary budget purposes, assume that the length of this wall will be on the order of 200 feet.

Parking Lot Reconstruction – The district should decide on the potential use of the parking lot. If this lot will be used for bus traffic then remedial measures will be required. Most of the parking lot is located on un-documented fill. We recommend that five feet of this fill be removed. The exposed subgrade should then be compacted. A bi-axial geogrid with a geotextile composite should then be installed over the prepared subgrade. Four feet of 3” minus clean rock should then be installed over the geogrid and compacted in layers. The pavement structural section of asphalt concrete over crushed rock should then be installed. The actual design of the section should be done based on the intended use.

Slopes on the North end of the Project: The slopes on the north side of the property in the vicinity of the ODOT viaducts have not shown severe signs of distress and therefore were not considered in this study. We recommend that these slopes be monitored for any future signs of distress before any remedial measures are taken.

Budget Cost Estimate:
We have prepared budget estimates for the items mentioned above. Please note that these are “order of magnitude” numbers only. Additional geotechnical study is required to delineate the lists of stabilization areas. Calculations of building loads, micropile and/or soldier pile wall design and the parking lot design will need to be finalized before the budgets are finalized.

Table 1: Estimated Budgets

Item	Estimated Budget	
	Low	High
Building Underpinning (Micropile Wall with new Foundation - 200 Feet of Wall)		
Number of Micropiles	70 (8" Diameter, 25 Feet Cased, 45- to 50- Feet Long)	
Construction Costs	$525,000	$612,500
New Foundation (200L x 4 W x 3 D)	$36,000	$45,000
Design	$35,000	$45,000
Construction Engineering/Observation	$45,000	$55,000
Sub-Total	**$641,000**	**$757,500**
Soldier Pile Wall for Slope Stabilization		
Number of Soldier Piles	35 (30 Inch Diameter, 50 Feet Deep)	
Construction Costs	$350,000	$437,500
Design	$40,000	$50,000
Construction Engineering/Observation	$30,000	$40,000
Sub-Total	**$420,000**	**$527,500**
Parking Lot Re-construction		
Area	Assume 250 Feet Long by 40 Feet Wide by 5 Feet (1850 Yards)	
Construction Costs	$138,750	$175,750
Design and Construction Observation	$25,000	$35,000
Sub-Total	**$163,750**	**$210,750**
Total Estimate Costs	**$1,224,750**	**$1,495,750**
These are order of magnitude numbers only. More field work, analysis and design is required before refining these estimates		

Additional Geotechnical Studies:

We recommend that additional geotechnical studies be completed to better characterize the slide movement and to refine the remedial options. These studies will include installation of at least three inclinometers with vibrating wire piezometers on the downslope sections. The vibrating wire piezometers can be used to record water levels over time. Initialize these inclinometers and monitor them over the next three years on an annual frequency. We also recommend that you engage a surveyor to install some settlement monitoring points on the building, retaining walls and certain selected locations and monitor these at the same time as the inclinometers. We will select these monitoring locations in conjunction with you and the surveyors. This monitoring data will enable determination of depth, direction and rate of movement over time which will enable us to refine our stabilization approach. The services of a structural engineer will also be required as the project moves forward to design the new foundation and connection details.

Limitations

This letter report has been prepared for the exclusive use of the addressee for preparing budgets for this project. The opinions, comments and conclusions presented in this report were based upon information derived from our review of previous work completed at this site and also a review of previous timber pile installations. Conditions between, or beyond, the previous exploratory borings may vary from those encountered. The budgets are to be used only as an order of magnitude number. Additional field investigation and design is required to refine the remedial measures and budgets.

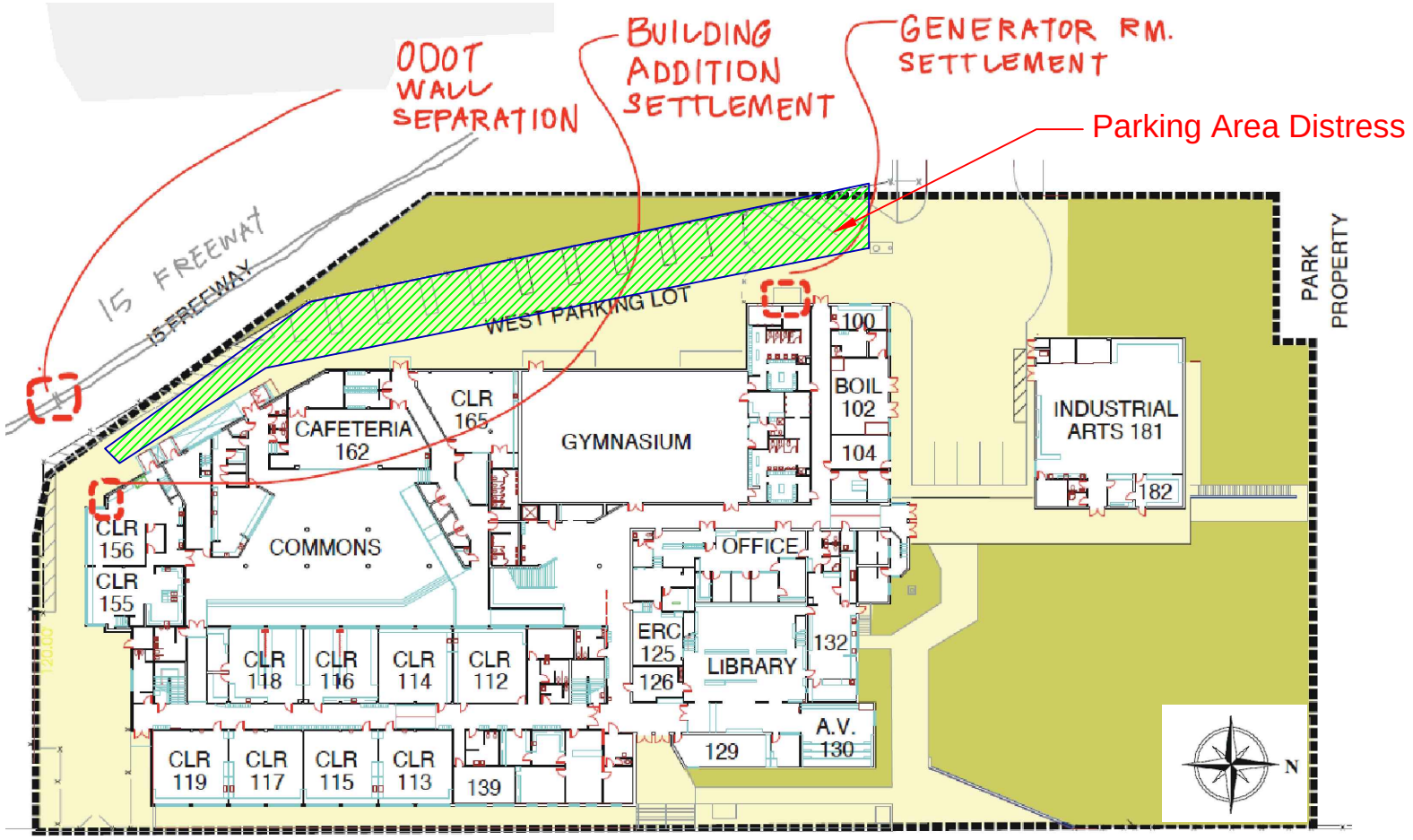
Closure

RhinoOne appreciates this opportunity to provide these services to you and look forward to future involvement in this project. If you have any questions or wish to further discuss this project, please contact me at 360.852.6367.

Sincerely,

Rajiv Ali, PE, GE
Managing Principal
RhinoOne Geotechnical
rajiv@rhinooneeng.com

Attachments:
Figure 1: Site Plan and Current Conditions
Attachments 2: Figure 2 from KSA-1
Attachments 3-5: Sheet 1 of 9 – 1952 Tubman Site Plan
Attachments 6-7: ODOT Sheets 15552 and 15928
Attachments 8: Figure 14 from KSA-1



Legend

Parking Area Distress

Drawing Not to Scale

RhinoOne GEOTECHNICAL
4610 NE 77th Avenue, Suite 126
Vancouver, Washington 98662
360-258-1738

Tubman Middle School 2231 N. Flint Avenue, Portland, OR 97227	Project No: PPS-2014-003	Drawn By: ST
Figure 1 - Current Conditions	Date: June 2014	Reviewed by: RA

LEGEND

K-1 ⊕ EXPLORATORY TEST BORINGS made by KELLY/STRAZER Associates, Inc.

B-1 ⊕ PREVIOUS EXPLORATORY TEST BORINGS made by KELLY/STRAZER Associates, Inc. (refer to report dated July 21, 1980)

BLOCK MOVEMENT

SHALLOW SURFICIAL SLIDING

PHOTOS OF THIS AREA TAKEN 3/2/83

B-4

STRESS CRACKING

SECTION A-A'

SECTION B-B'

K-1 K-2 K-3 K-4 K-5 K-6 K-7 K-8 K-9 K-10 K-11

B-1 B-2 B-3 B-4 B-5

PROPOSED PERFORMING ARTS

PROPOSED

PHYSICAL EDUCATION

mech.

service

EXISTING BUILDING OUTLINE

PROPOSED INDUSTRIAL ARTS

parking

ENTRY

CENTER

ADMIN.

PROPOSED COMMONS

HOME EC.

PROPOSED

flag

courtyard - amphitheater

COMPUTER EDUCATION

MEDIA CENTER

PROPOSED

APPROXIMATE LOCATION OF TOP OF ORIGINAL SLOPE (PRE-FILL) (interpreted from 1908 Sandborn Fire Map)

PARK

entry

shelter

EXISTING BUILDING OUTLINE

bus loading

n. flint ave.

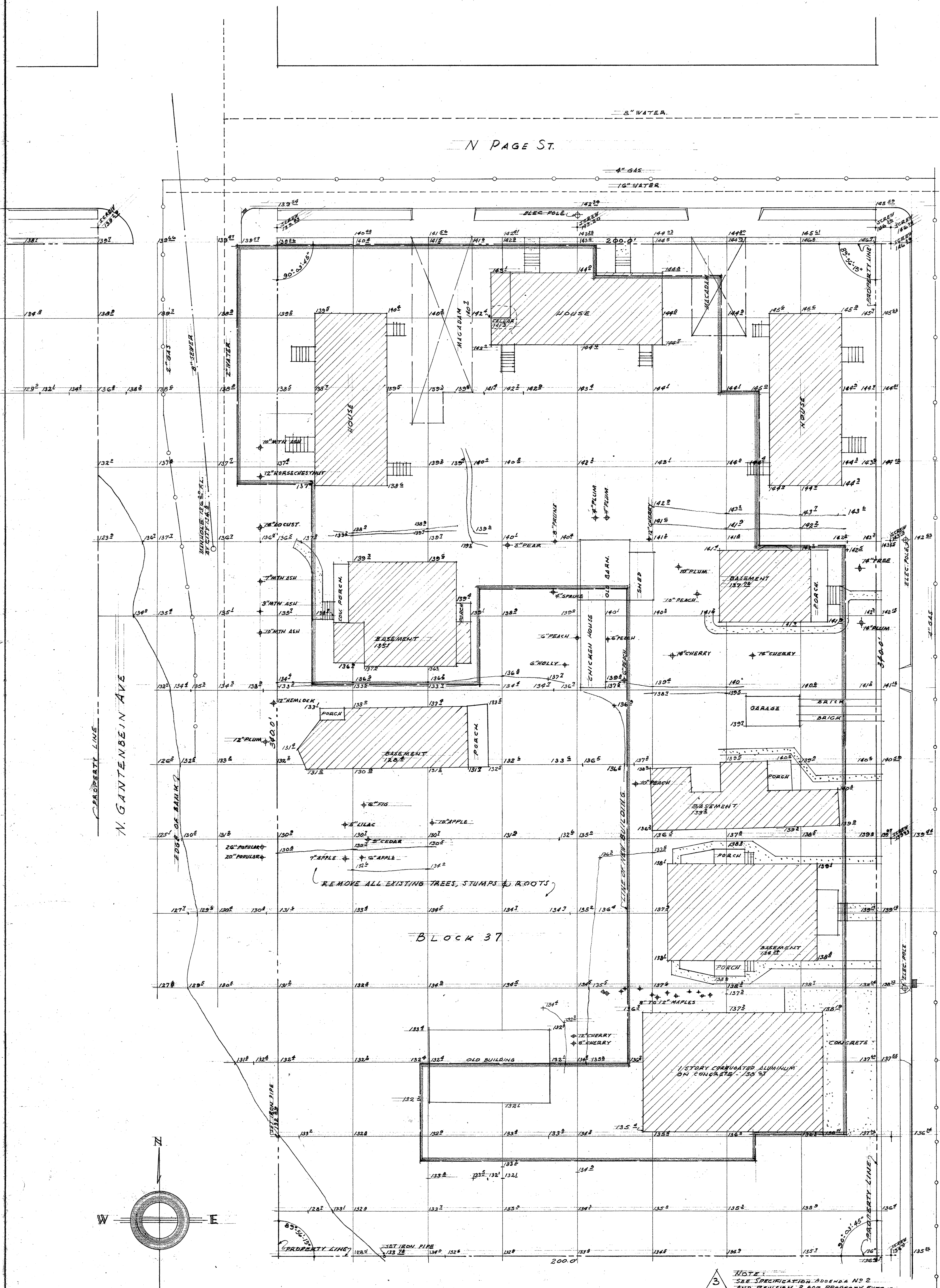
GRAPHIC SCALE

32 0 32 64 FT

1" = 32 FEET

N

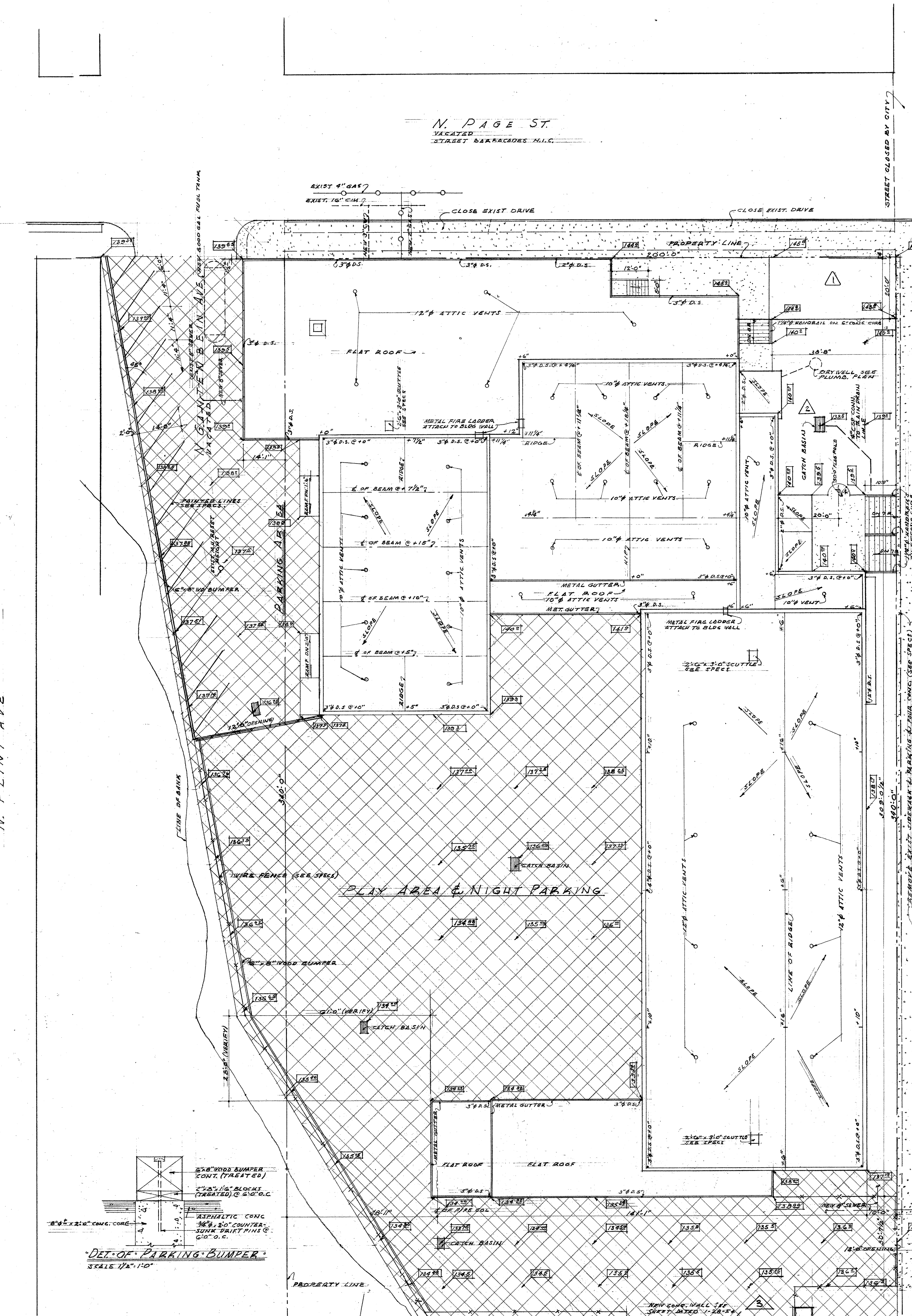
Kelly/Strazer Associates: Geotechnical Consultants	HARRIET TUBMAN MIDDLE SCHOOL PROJECT Portland, Oregon	EXPLORATIONS LOCATION PLAN Mar., 1983 0-192.02	FIGURE 2



3 NOTE:
SEE SPECIFICATION ADDENDA Nº 2
AND REVISION 3 FOR PROPERTY EXTENSION

·PLOT·PLAN·
SCALE 1/16"=1'-0"
SURVEYED BY MARSHALL BROS. PORTLAND, OREG. AUG. 1952

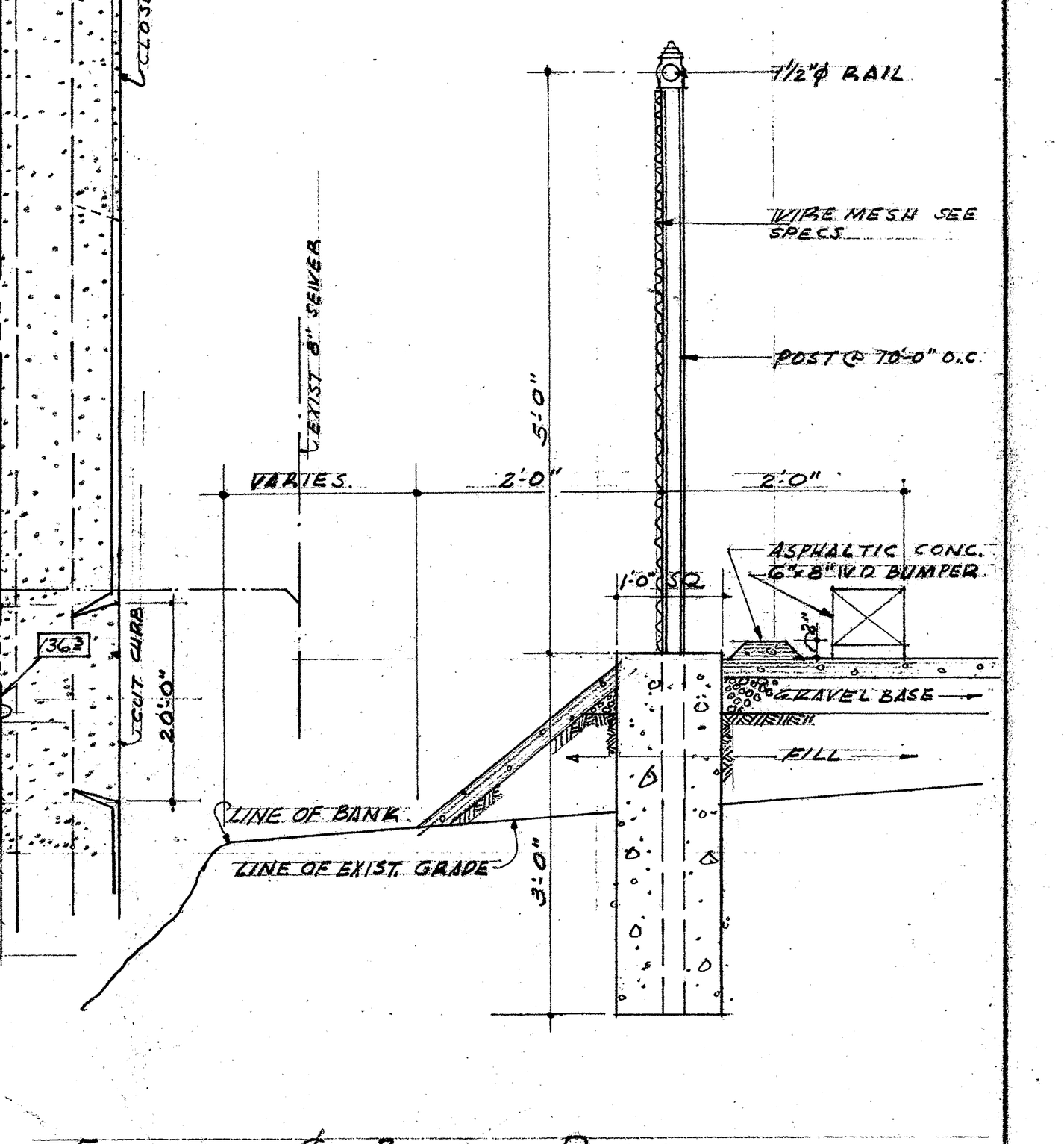
NOTE:
CONTRACTOR TO VISIT SITE TO ASSERTAIN WORK REQUIRED FOR DEMOLITION.
SEE SPECIFICATIONS FOR DISPOSITION OF EXISTING BUILDING ON JOB SITE



·DET·OF·PARKING·BUMPER·
SCALE 1/2"=1'-0"

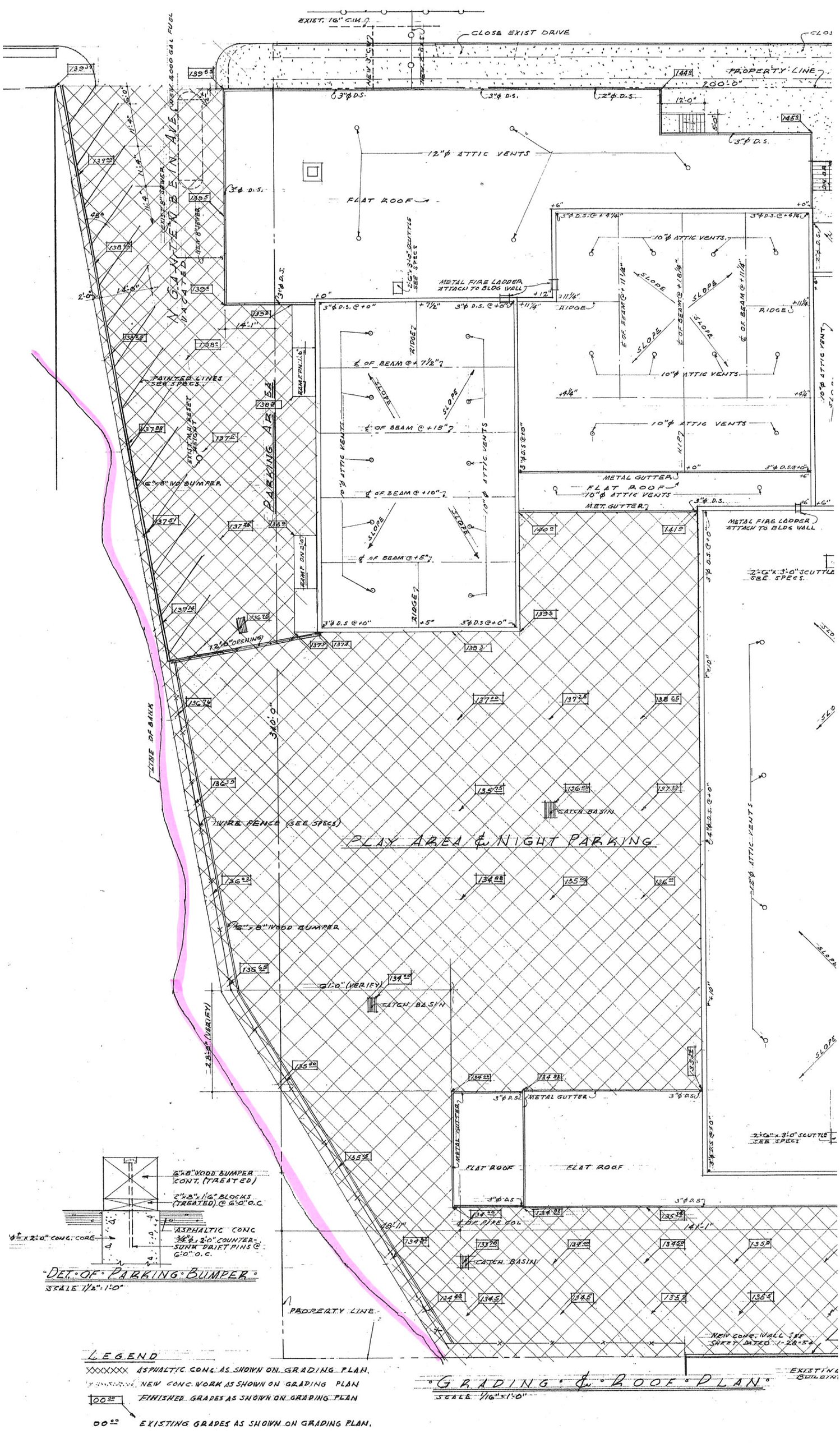
LEGEND
XXXXXXX ASPHALTIC CONC. AS SHOWN ON GRADING PLAN.
NEW CONC. WORK AS SHOWN ON GRADING PLAN
00.00 FINISHED GRADES AS SHOWN ON GRADING PLAN
00.00 EXISTING GRADES AS SHOWN ON GRADING PLAN.

·GRADING·&·ROOF·PLAN·
SCALE 1/16"=1'-0"



·FENCE·&·BERM·DETAIL·
SCALE 3/4"=1'-0"

REVISIONS	PLOT ROOF & GRADING PLANS
1 3-AUG-53- DELETE PARKING AREA & WOOD & CONC. BUMPER SURFACE WITH CONC. IN LIEU OF ASPHALTIC CONC. 2 3-AUG-53- ADD CATCH BASIN. 3 SOUTH PROPERTY LINE REVISED 23-AUG-54	ELIOT ELEMENTARY SCHOOL FOR MULTNOMAH COUNTY SCHOOL DIST. No. 1 LOTS 1 THROUGH 7 & 14 THROUGH 20 - BLOCK 37 - ALBINA ADDITION N. PAGE - FLINT AND GANTENBEIN AVE. - PORTLAND, OREGON
DATE 28 NOV 52 JOB NO. 52-26	BURNS, BEAR, McNEIL & SCHNEIDER ARCHITECTS 2940 S. E. BELMONT ST. - PORTLAND 15, OREGON SHEET NO. 1 OF 19



"DET. OF PARKING BUMPER"
SCALE 1½" = 1'-0"

"GRADING & ROOF PLAN"
SCALE 1/16" = 1'-0"

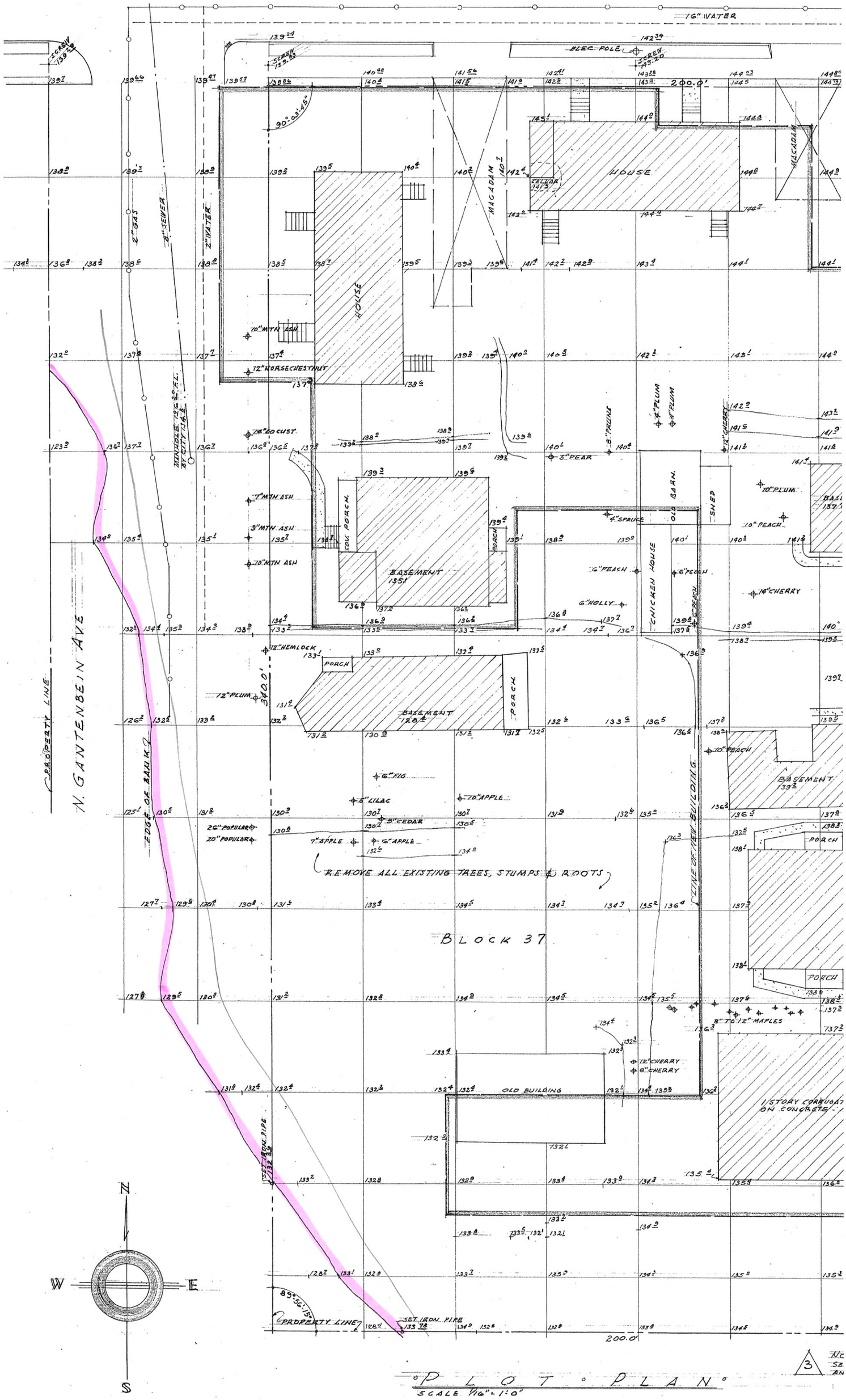
LEGEND

XXXXXXX ASPHALTIC CONC. AS SHOWN ON GRADING PLAN.

NEW CONC. WORK AS SHOWN ON GRADING PLAN

00.00 FINISHED GRADES AS SHOWN ON GRADING PLAN

00.00 EXISTING GRADES AS SHOWN ON GRADING PLAN.



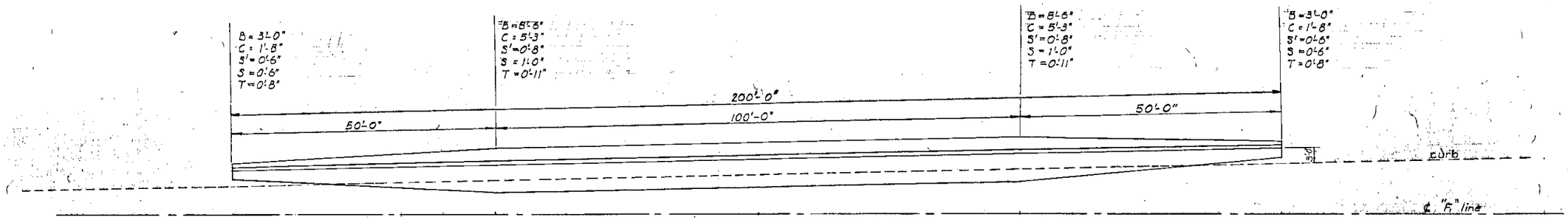
PLOT PLAN

SCALE 1/16" = 1'-0"

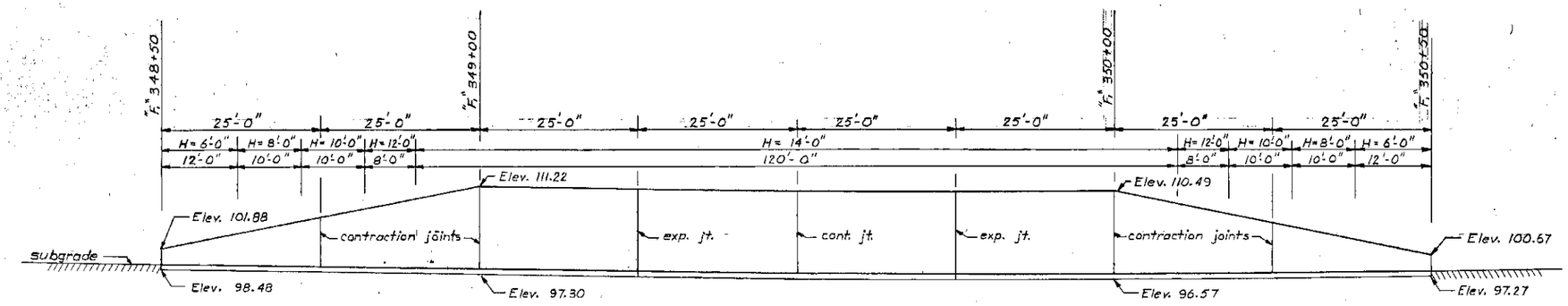
SURVEYED BY MARSHALL BROS. PORTLAND, OREG. AUG. 1932

NOTE:

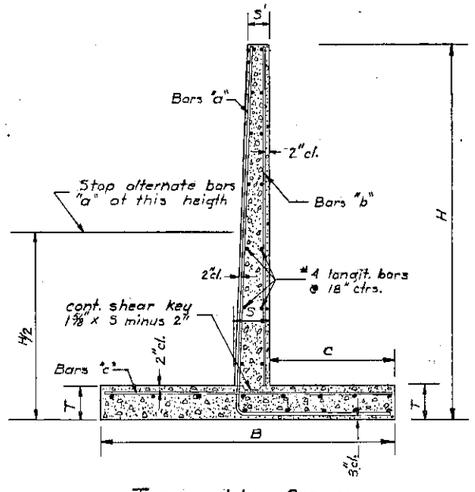
CONTRACTOR TO VISIT SITE TO ASSERTAIN WORK REQUIRED



PLAN VIEW
Scale 1" = 10'-0"



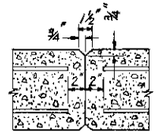
ELEVATION
Scale 1" = 10'-0"



TYPICAL WALL SECTION

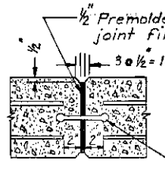
SHEAR KEY DETAIL

Note:
All bars "a" are full height in 4 ft wall. Stop all longit. bars 2" cl. of contraction and expansion joints.



CONTRACTION JOINT

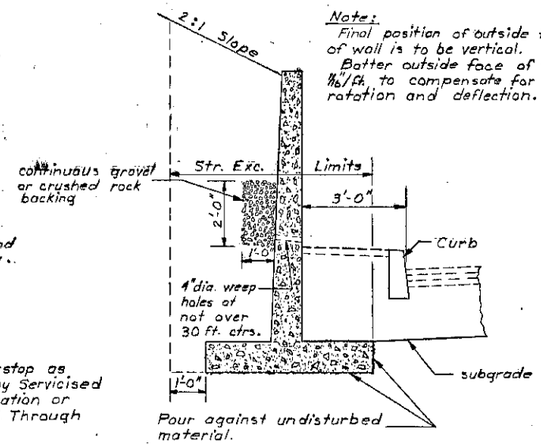
Up outside face, across top and 1'-0" down back of wall.



½" Premolded expansion joint filler thru. wall and footing.

EXPANSION JOINT

6" rubber waterstop as manufactured by Servicised Products Corporation or approved equal. Through wall only.



TYPICAL WALL SECTION

Note:
Final position of outside face of wall is to be vertical.
Batter outside face of wall ⅝"/ft. to compensate for wall rotation and deflection.

Note:
See Dwg. # 15552 for standard retaining wall with 2:1 slope.

DATE	REVISION

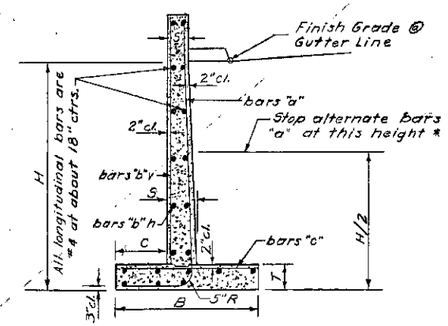
APPROVED: Leon V. Merchant
BRIDGE ENGINEER

DESIGNED: | CHECKED:
DRAWN: PAA. | CALC. BOOK 551

OREGON STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION

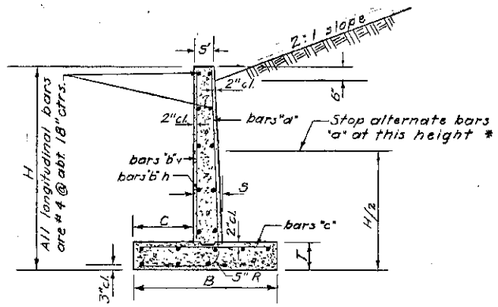
RETAINING WALLS
EAST BANK FREEWAY SECTION
PLAN & ELEVATION & DETAILS

DATE 4-5-60 SHEET 1 OF 2
ACCOMPANIED BY DWG NO. 15552
BRIDGE NO. 8783 DRAWING NO. 15928



H	B	C	S'	S	T	Toe Press lbs/sq.ft	Quan./Lin. ft Conc.	Quan./Lin. ft Steel	Reinforcing Steel in Stem of Wall: Bars "a" Size	Bars "a" Spacing	Bars "b" v + "b" h Size	Bars "b" v + "b" h Spacing	Steel in Ftg: Bars "c" Size	Bars "c" Spacing
4'-0"	4'-0"	2'-8"	6"	6"	8"	451	0.203	14.64	#4	10"	None		#4	12"
6'-0"	6'-0"	3'-6"	7"	8"	8"	525	0.320	20.05	#4	9"	"		#4	12"
8'-0"	7'-6"	4'-9"	8"	9"	9"	585	0.456	34.26	#5	8"	"		#4	12"
10'-0"	9'-0"	4'-10"	8"	10"	10"	733	0.589	64.49	#6	7½"	#4	18"	#4	7"
12'-0"	10'-6"	6'-0"	8"	1'-0"	1'-0"	806	0.785	92.46	#7	7½"	#4	18"	#4	6½"
14'-0"	12'-0"	6'-0"	8"	1'-0"	1'-0"	966	0.902	145.15	#8	7"	#4	18"	#6	7"
16'-0"	13'-6"	7'-4"	8"	1'-2"	1'-2"	1042	1.147	182.87	#8	6"	#4	18"	#6	7"
18'-0"	14'-6"	7'-11"	9"	1'-4"	1'-3"	1176	1.380	229.08	#9	6½"	#4	18"	#7	8"
20'-0"	15'-6"	8'-6"	9"	1'-6"	1'-4"	1260	1.602	298.19	#10	6½"	#4	18"	#8	10"
3 22'-0"	16'-6"	9'-0"	10"	1'-8"	1'-5"	1440	1.832	362.01	#10	6"	#4	18"	#8	10"
3 24'-0"	18'-0"	9'-6"	10"	1'-10"	1'-6"	1640	2.111	456.19	#11	6½"	#4	18"	#9	9½"

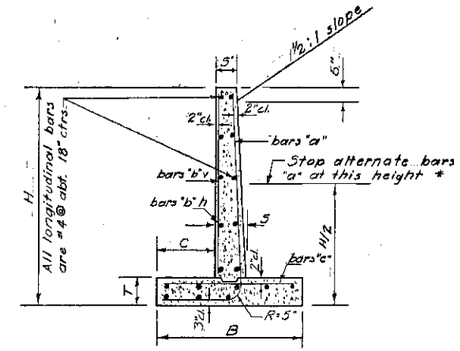
DESIGN OF RETAINING WALL
WITH LEVEL ROADWAY
1 TYPE (A) WALL



H	B	C	S'	S	T	Toe Press lb/sq.ft.	Quan./Lin. ft Conc.	Quan./Lin. ft Steel
4'-0"	3'-0"	1'-8"	6"	6"	8"	556	0.136	9.95
6'-0"	4'-0"	2'-6"	6"	6"	8"	637	0.198	14.38
8'-0"	5'-0"	3'-1"	8"	8"	8"	755	0.305	22.88
10'-0"	6'-3"	3'-10"	8"	9"	9"	824	0.417	38.00
12'-0"	7'-6"	4'-9"	8"	11"	10"	903	0.558	77.68
14'-0"	8'-6"	5'-3"	8"	1'-0"	11"	1062	0.693	92.79
16'-0"	9'-6"	5'-10"	8"	1'-2"	1'-0"	1203	0.863	113.83
18'-0"	10'-6"	6'-5"	9"	1'-4"	1'-2"	1372	1.103	168.00
20'-0"	11'-6"	7'-0"	9"	1'-6"	1'-4"	1545	1.341	207.73
4 22'-0"	14'-6"	9'-0"	9"	1'-9"	1'-6"	1992	1.755	362.85

H	Reinforcing Steel in Stem of Wall: Bars "a"	Bars "b" v & "b" h	Steel in Ftg.: Bars "c"
4'-0"	#4 bars @ 12"	None	#4 bars @ 12"
6'-0"	#4 bars @ 9"	"	"
8'-0"	#5 bars @ 9"	"	"
10'-0"	#6 bars @ 8"	"	"
12'-0"	#7 bars @ 6½"	#4 bars @ 18"	"
14'-0"	#8 bars @ 5"	"	"
16'-0"	#9 bars @ 8"	"	"
18'-0"	#10 bars @ 8"	"	"
20'-0"	#10 bars @ 7"	"	"
4 22'-0"	#11 bars @ 6½"	"	#5 bars @ 12"

DESIGN OF RETAINING WALL
WITH 2:1 SLOPE
1 TYPE (B) WALL

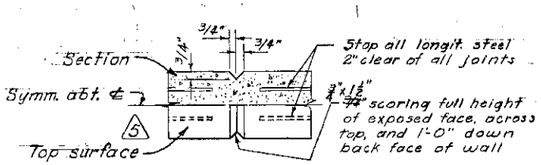


H	B	C	S'	S	T	Toe Press lb/sq.ft.	Quan./Lin. ft Conc.	Quan./Lin. ft Steel
4'-0"	3'-0"	1'-6"	6"	6"	8"	578	0.136	10.52
6'-0"	4'-0"	2'-3"	6"	6"	8"	704	0.197	16.37
8'-0"	5'-0"	2'-10"	8"	8"	8"	875	0.304	27.14
10'-0"	6'-0"	3'-2"	8"	10"	8"	1083	0.407	42.70
12'-0"	7'-3"	3'-9"	8"	1'-0"	10"	1225	0.569	70.13
14'-0"	8'-6"	4'-4"	8"	1'-2"	1'-0"	1423	0.758	107.32
16'-0"	9'-6"	4'-8"	9"	1'-4"	1'-2"	1616	0.982	144.18
18'-0"	10'-10"	5'-4"	9"	1'-6"	1'-2"	1834	1.168	184.43
20'-0"	12'-0"	5'-9"	10"	1'-9"	1'-4"	2049	1.485	230.98

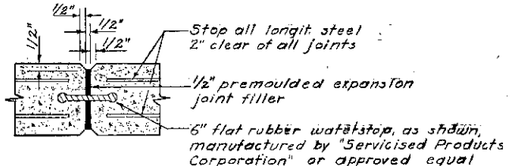
H	Reinforcing Steel in Stem of Wall: Bars "a"	Bars "b" v + "b" h	Steel in Ftg: Bars "c"
4'-0"	#4 bars @ 12"	None	#4 bars @ 12"
6'-0"	#4 bars @ 6½"	"	"
8'-0"	#5 bars @ 6½"	"	"
10'-0"	#6 bars @ 6½"	"	"
12'-0"	#8 bars @ 9"	#4 bars @ 18"	"
14'-0"	#8 bars @ 6½"	"	"
16'-0"	#9 bars @ 6½"	"	"
18'-0"	#10 bars @ 7"	"	"
20'-0"	#10 bars @ 6"	"	"

DESIGN OF RETAINING WALL
WITH 1½:1 SLOPE
1 TYPE (C) WALL

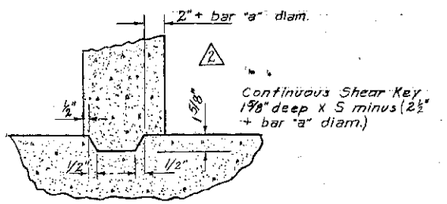
* Note:
All bars "a" are full height in 4'-0" wall.



CONTRACTION JOINT



EXPANSION JOINT

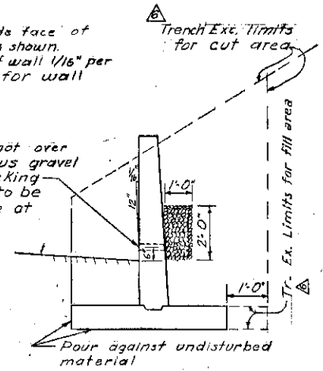


SHEAR KEY DETAIL

FOR INFORMATION ONLY

Final position of outside face of wall to be vertical as shown. Batter outside face of wall 1/16" per foot to compensate for wall rotation and deflection

4" dia. weep holes at not over 30'-0" ctrs. Continuous gravel or crushed rock backing
6 Center of weep hole to be 6" above finish grade at face of wall.



TYPICAL WALL SECTION

General Notes:
These walls designed with resultant of all forces striking at midpoint of base, giving uniform bearing pressure.
All concrete to be class "A" and shall attain a breaking strength of 3300 p.s.i. in 28 days, (f_c = 1320 p.s.i.)
All reinforcing steel shall be intermediate grade deformed bars. Bars from #3 to #11 inclusive shall conform to ASTM Specification A 305 and shall be lapped 20 diameters at all splices unless noted or shown otherwise. All bars shall be placed 2" clear of nearest face of concrete unless noted or shown otherwise. (f_s = 20,000 p.s.i.)
Place expansion joints at approx. 90' ctrs. through wall and footing and contraction joints at approx. 30' ctrs. in wall only. See Plan & Elev. for location.
All workmanship and materials shall conform to the specifications for bridges of the Oregon State Highway Commission.

	DATE	REVISION
1	10-19-60	Added wall types
2	10/19/60	Shear Key Detail
WMT/3	7-10-63	add H=22'& 24', Type "A"
WMT/4	9-30-63	add H=22', Type "B"
5	7-20-64	Revised scoring detail.
CLY 6	11-20-68	Weephole, Title, Trench Exc.

APPROVED: Bruce V. Marchant
BRIDGE ENGINEER

DESIGNED MAC CHECKED
DRAWN MAC CALC. BOOK 525

OREGON STATE HIGHWAY DEPARTMENT
BRIDGE DIVISION

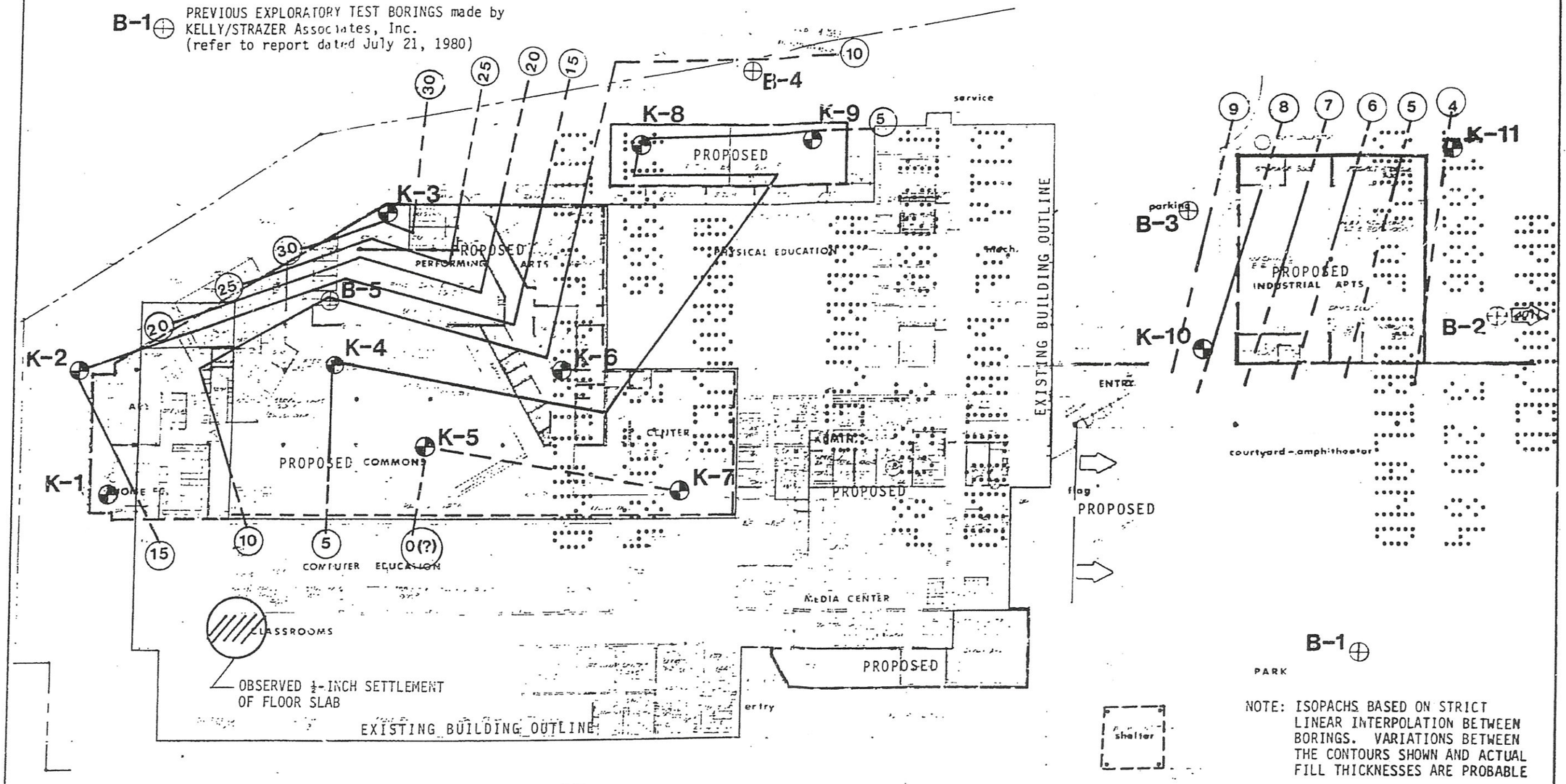
6 STANDARD RETAINING WALLS
FRONT FACE VERTICAL
UNIFORM BEARING

DATE 1-14-60 SHEET OF
BRIDGE NO. STANDARD DRAWING NO. 15552

LEGEND

K-1 ⊕ EXPLORATORY TEST BORINGS made by KELLY/STRAZER Associates, Inc.

B-1 ⊕ PREVIOUS EXPLORATORY TEST BORINGS made by KELLY/STRAZER Associates, Inc. (refer to report dated July 21, 1980)



NOTE: ISOPACHS BASED ON STRICT LINEAR INTERPOLATION BETWEEN BORINGS. VARIATIONS BETWEEN THE CONTOURS SHOWN AND ACTUAL FILL THICKNESSES ARE PROBABLE

GRAPHIC SCALE
32 0 32 64 FT
1" = 32 FEET

N

Kelly/Strazer Associates Geotechnical Consultants	HARRIET TUBMAN MIDDLE SCHOOL PROJECT Portland, Oregon	FILL THICKNESS ISOPACH MAP Mar., 1983 0-192.02	FIGURE 14

RhinoOne GEOTECHNICAL

February 24, 2017

Portland Public School
Attn: Mr. Steve Effros
Project Manager, Facilities and Asset Management
501 N. Dixon Street
Portland, Oregon 97227

Re: Proposal for Continuing Geotechnical Engineering Services
Retaining Wall Settlement and Lateral Movement Monitoring
Harriet Tubman School Site for Portland Public Schools
2231 North Flint Avenue
Portland, Oregon
RhinoOne Project PPS-2013-003 Task 0002

Dear Mr. Effros:

RhinoOne Geotechnical Engineering is pleased to submit this proposal to provide continuing geotechnical engineering services for the monitoring of the settlement and lateral movement issues at the former Harriet Tubman Middle School Site located at 2231 North Flint Avenue in Portland, Oregon. We previously conducted a preliminary analysis of the settlement and lateral movement issues submitted to you on July 8, 2014[1].

We understand the School District is prepared to move forward with what we previously described as Task 2 "Instrumentation and Monitoring" of the settlement and lateral movement issues. Based on this information, we propose the following project approach.

Instrumentation and Monitoring
Install three inclinometers on the downslope sections. The proposed depth of installation is on the order of 50 feet. Install vibrating wire piezometers in two of these three inclinometers to measure water level over time. Initialize these inclinometers and monitor over the next two years on an annual frequency.

We also contacted a surveyor to install settlement monitoring points on the building, retaining wall, and select locations in the parking lot and monitor these at the same time as the inclinometers. We propose to install 24 survey monitoring points, 8 each on the building, retaining wall, and parking lot. We will select these monitoring locations in conjunction with you and the surveyors.

The instrumentation will be initialized at the time of installation. The survey monitoring points will also be installed at this time. This proposal includes two additional monitoring events over the next two years. The monitoring frequency can be modified as needed.

[1] Rhino One Geotechnical (July 8, 2014). *Report of Geotechnical Engineering Services, Vertical Settlement and Lateral Movement, Tubman School Site for Portland Public Schools, Portland, Oregon*, Rhino One Project Number PPS-2013-003, Prepared for Portland Public Schools, Portland, Oregon.

RhinoOne
GEOTECHNICAL

This monitoring data will enable determination of depth, direction, and rate of movement over time which will enable us to refine our stabilization approach.

SCOPE OF SERVICES

We propose the following specific scope of services for the investigation based on the project description and anticipated subsurface conditions.

- Subsurface Exploration: We will identify three locations for the placement of the slope inclinometer. The slope inclinometer will be installed at a depth of 40- to 50- feet by a local drilling sub-contractor in drilled borings. The Standard penetration tests (ASTM D 1557) will be completed at regular 5-foot intervals to the depth of completion. The borings will be logged, groundwater observed, and representative soil samples collected by one of our representatives. The inclinometer casing will be installed in each of the borings. We will also install a vibrating wire piezometer and an automatic data recorder in two of the borings to monitor the groundwater continually. The inclinometer will be initialized before we leave the site. We will collect two more sets of data over the next two years for these inclinometers.

  We have assumed the explorations will be accomplished in one mobilization and will be completed in two days' work for the site. The borings will be drilled using a truck mounted drill rig. We have assumed that access will be available to us during the proposed work period. If these assumptions are not correct, then additional costs or delays may be incurred.

- Laboratory Testing: All samples will be returned to our laboratory and classified by the Unified Soil Classification, Visual-Manual Procedure. Laboratory tests will include natural moisture contents, Atterberg Limit, and sieve analysis on selected soil samples.

- Report Preparation: We will prepare an initial report summarizing our findings and baseline reading. Two additional memorandums will be prepared for the two additional monitoring events. The report will include:

  - Boring logs
  - Laboratory test results
  - Inclinometer and Piezometer Data

- Survey Monitoring: We will identify 24 locations for survey monitoring. Please see the attached proposal from Harper, Houf, Peterson & Righellis, Inc. (HHPR) for survey monitoring.

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COMPENSATION
We propose to perform the scope of services described above on a time-and-material basis. A breakdown of our estimated fees is as follows.

Initial Installation:

Field Work – Installation and Initialization (32 hours at $95/hour)	$3,040
Report	
Staff Engineer (24 hours at $95/hour)	2,280
CAD (8 hours at $75/hour)	600
Senior Review (4 hours at $165/hour)	660
Laboratory Testing	1,250
Subcontractor Fees	
Drilling (Includes 10% Markup)	9,500
2 Piezometer and Data loggers (Includes 10% markup)	2,000
Surveying by HHPR (Includes 10% markup)	10,725
Sub-total (Initial Installation)	**$30,055**

Monitoring Event:

Field Work – Monitoring and Readings (10 hours at $95/hour)	$950
Report	
Staff Engineer (8 hours at $95/hour)	760
CAD (2 hours at $75/hour)	150
Senior Review (2 hours at $165/hour)	330
Subcontractor Fees	
Surveying by HHPR (Includes 10% markup)	4,620
Sub-total (per Event)	**$6,810**
Sub-total (for 2 Events Over 2 Year)	**$13,620**
Total (T&M estimated)	**$43,675**

This compensation estimate is based on previous work experience in the Portland area. Any additional services will be billed at the hourly rates as shown on the attached schedule of charges.

SCHEDULE
We anticipate that our services can start immediately upon receipt of a signed copy of this proposal. We will closely coordinate the schedule with you as the project moves forward.

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APPROVAL
Please indicate acceptance of this Agreement by returning a signed copy of this proposal to our office. If you issue another form of authorizing document, please incorporate/attach this proposal.

RhinoOne appreciates this opportunity to submit our proposal to you and look forward to your favorable consideration. If you have any questions or wish to further discuss the scope of services or compensation, please contact me at 360.852.6367.

Sincerely,

Rajiv Ali, PE, GE
Managing Principal
RhinoOne Geotechnical
rajiv@rhinooneeng.com

ACCEPTED BY:

_____
Signature

_____
Name (Please Print)

_____
Title Date

Attachments: 2017 Schedule of Charges
2017 General Terms and Conditions for Professional Services

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2017 MASTER RATE SCHEDULE

ENGINEERING LABOR RATES			
Labor Category	**Hourly Rate**	**Labor Category**	**Hourly Rate**
Principal Engineer	$180.00	Field / Construction Services	$75.00
Senior Engineer	165.00	CAD/Microstation Design	75.00
Senior Engineering Geologist	125.00	Project Administrator	75.00
Project Engineer	110.00	Writer / Editor	70.00
Staff Engineer	95.00	Clerical	60.00
Staff Geologist	90.00		

Personnel will charge time at 125% of regular hourly rates for time exceeding 8 hours a day or on weekends. On holidays, the charges will be 150% of regular hourly rates. Court and arbitration time will be charged at two times the regular hourly rate.

LABORATORY TESTING RATES			
Asphalt Extraction and Gradation	$228.00	Atterberg Limits (ASTM D4318)	$102.00
Maximum Theoretical Density (rice)	96.00	Soil pH (ASTM 651)	54.00
Specific Gravity (coarse or fine)	90.00	Soil Resistivity	144.00
Particle Size Analysis (fine, P200)	84.00	Hydrometer Analysis	132.00
Particle/Grain Size Analysis (fine & coarse under 2")	132.00	Moisture/Density Relationship (proctor – oversize material).	288.00
Percent Fracture (WSDOT 103)	90.00	Organic Content	60.00
Moisture Content	21.00	Unconfined Compression	54.00
Unit Weight (rings/tubes)	54.00	M-145 Soil/Cement Sample	36.00
California Bearing Ratio (w/ 3-point proctor)	350.00	Mix Design (Custom mix grimms/soil additive lime)	300.00
Moisture/Density Relationship (proctor)	240.00	Sample Preparation (per hour)	60.00

For other tests not listed above like Direct Shear (1-point or 3-point), Consolidation, Permeability (falling head or triaxial), Swell (each point), Resilient Modulus (in-situ or remolded + proctor + prep) - **Call for rates**

DIRECT EXPENSES		EQUIPMENT CHARGES	
Mileage	IRS Rate	Dynamic Cone Penetrometer	$100/day
Truck (full day)	$100.00	Hand Auger	25/day
Photocopies-Black & White	0.15/page	Nuclear Density Gauge	50/day
Photocopies-Color	1.00/page	Water Level Indicator	35/day
Photographs	0.75/photo	Field Supplies	25/day
Plots-Black & White	5.00/plot		
Plots-Color	15.00/plot		

Outside subcontracted services like drill rig, CPT, coring etc. will be charged with a markup of 15%.

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GENERAL TERMS AND CONDITIONS FOR PROFESSIONAL SERVICES

These General Terms and Conditions for Professional Services are a part of RhinoOne' letter proposal outlining specific scope of services. Hereafter the Proposal once signed by both RhinoOne and Client (together the "Parties") and these Terms and Conditions shall be read and interpreted together and referred to together as the "Agreement" between the Parties. If there are any inconsistencies between language in the Proposal and in these Terms and Conditions, the language of these Terms and Conditions shall prevail.

The purpose of these Terms and Conditions is to identify basic contractual obligations of RhinoOne and Client under the Agreement for various professional consulting services, whereby RhinoOne would be acting in the role of Consultant/Owner Representative for Client. Individual projects may require additional detailed descriptions of services and associated Terms and Conditions, to be provided in a subsequent RhinoOne Proposal or as a supplement to the Agreement.

1. RIGHT OF ENTRY: Unless otherwise agreed, the Client will furnish RhinoOne right-of-entry on real property and be responsible for the propriety of the time, place, and manner of RhinoOne' entry upon the real property and any buildings or structures where RhinoOne is to perform its services ("Property"). RhinoOne will take reasonable precautions to minimize damage to the Property from use of equipment, but RhinoOne has not included in the fee the cost of restoration of the Property, unless specifically included in the Proposal. If the Client desires RhinoOne to restore the Property to its approximate former condition, RhinoOne will attempt to accomplish this in a reasonable manner and add the cost plus 15 percent to its fee.

2. BURIED UTILITIES: RhinoOne field personnel are trained to initiate field testing, drilling and/or sampling within a reasonable distance of each designated utility location. RhinoOne field personnel will avoid hazards or utilities that are observed by them at the site. If RhinoOne is advised in writing of the presence or potential presence of underground or aboveground obstructions, such as utilities, RhinoOne will give special instructions to its field personnel. RhinoOne is not responsible for any damage or loss due to undisclosed or unknown surface or subsurface conditions owned by client or third parties. The Client will hold RhinoOne and RhinoOne' subcontractors harmless from any loss resulting from inaccuracy of markings, of plans, or lack of plans, relating to the location of utilities. Note: Utility locates typically require two full working days advance notice.

3. WORKER'S COMPENSATION INSURANCE AND LIABILITY INSURANCE: RhinoOne will provide Worker's Compensation insurance (and/or Employer's Liability insurance) as required by state statutes. RhinoOne carries Comprehensive General Liability insurance which, subject to its terms and limits, may provide protection against liability relating to bodily injury or property damage arising out of RhinoOne operations. RhinoOne makes no representations or warranties concerning the effect, applicability or scope of such insurance. Upon request in writing by Client to RhinoOne, RhinoOne will request its insurer to name Client as an additional insured on such policies and to issue certificates to Client to that effect. RhinoOne makes no representations or warranties regarding any act by its insurer(s) and shall not be responsible for performing any act with respect to such insurance not specifically called for by this paragraph.

4. PROFESSIONAL LIABILITY AND LIMITATION THEREOF: This paragraph relates only to Professional Liability and not General Liability. In performing its professional services, RhinoOne will use that standard of care and skill ordinarily recognized under similar circumstances by members of its profession in the state and region at the time the services are performed. No other warranty, either expressed or implied, is made in connection with its rendering of professional services.

5. CONTRACTED WORK: RhinoOne, including its subconsultants and subcontractors, is retained hereunder for the limited purpose of performing certain services, providing the results of such work to Client, and making recommendations with respect to the data produced by the work. RhinoOne is not

responsible for the health and safety of Client's personnel or other persons present on the Property to be investigated or constructed. RhinoOne is not responsible (a) for the overall status of Client's project, (b) for the property Client owns or leases or may be interested in purchasing or leasing, (c) for the interpretation of the RhinoOne report, design drawings or results by others, (d) for any use of RhinoOne reports by Client or others except as specifically set forth herein, or (e) for any other matter not encompassed in the specific scope of work in this Agreement agreed to by RhinoOne and Client. Any unauthorized use or distribution of RhinoOne work shall be at the Client and recipient's sole risk. If Client desires to release, or for RhinoOne to provide, RhinoOne report(s) to a third party not a party to this Agreement for that party's reliance, RhinoOne will agree to such a release provided RhinoOne receives written acceptance from such third party to be bound by terms and conditions similar to those set forth in this Agreement, in addition to a fee for providing RhinoOne reports to a new party. The Client shall indemnify, defend and hold harmless RhinoOne and its subconsultants and subcontractors from any claims, damages, costs, losses and expenses, including but not limited to attorney fees and costs of arbitrations, mediations, trials, or appeals arising out of unauthorized or third party use of RhinoOne reports.

6. RETENTION OF RECORDS AND SAMPLES: RhinoOne has a Records Retention policy (available upon request). All samples will be discarded 30 days after submission of RhinoOne final report unless other arrangements are made.

7. PAYMENTS TO CONSULTANT: Invoices will be submitted periodically for prior services. An account will become delinquent 30 days after date of billing. It is agreed that a late charge will be added to delinquent accounts at the rate of one-and-one-half percent (1-1/2%) for each thirty days delinquent (provided the rate of such late charge shall not exceed the maximum allowable by the laws of the state in which the RhinoOne office submitting the invoice is located).

8. RATE SCHEDULE: Fees for services are based on the number of hours expended on the project, including travel, by RhinoOne personnel plus any reimbursable expenses. RhinoOne hourly rates will be billed as stated in its proposal or at its current hourly rates (available upon request).

9. REIMBURSABLE EXPENSES:
A. Outside Services. Subcontracted services such as those subconsultants and subcontractors, labor, and technical services will be invoiced at cost plus 15 percent. Examples of services that may be subcontracted include other professional disciplines, soil boring, well installation, heavy and specialty equipment operators, geophysical surveys, commercial data base search providers, and computer programming.
B. Supplies and Equipment. Charges for items not ordinarily furnished by RhinoOne such as expendable equipment, rental equipment, subsistence, travel expenses, tolls, special fees, reproduction, permits, licenses, priority mail fees, and long distance and wireless telephone calls will be invoiced at cost plus 10%. Certain RhinoOne -owned equipment (for sampling, testing, personal protective equipment, vehicle mileage, photocopying, etc.) may be required to complete the project. These will be invoiced at RHINOONE' standard rates without markup (rates available upon request).
C. Laboratory. RhinoOne utilizes both in-house and outside laboratories for sample analysis. RhinoOne maintains a list of standard rates for sample analyses commonly utilized in conjunction with RhinoOne services (available upon request).

10. OTHER PROVISIONS: Neither party shall hold the other responsible for delay in performance caused by acts of God, strikes, lockouts, weather, accidents or other events beyond the control of the other or the other's employees and agents. Waiver by one party of any provision, term, condition or covenant owed to it by the other party is to be made only by providing written notice to the other party and such waiver shall not be construed by the first party as a waiver of a subsequent breach of the same provision, term, condition or covenant by the other party. This Agreement supersedes any contract language which may be issued by Client as a matter of standard purchasing protocol without regard to the unique nature of professional services to be rendered by RhinoOne.

An opinion of construction, remediation and restoration costs prepared by RhinoOne represents its judgment as a professional. Since RhinoOne has no control over the cost of labor and material, or over competitive bidding or market conditions, RhinoOne does not guarantee the accuracy of its opinion as compared to contractor bids of actual cost to the Client.

It is understood and agreed by both parties that RhinoOne, in performing professional services for the Client with respect to hazardous or microbial substances, will make recommendations to the Client but does not have the authority or responsibility to decide where disposal or treatment of such substances takes place, nor to designate how or by whom the hazardous or microbial substances are to be transported for disposal or treatment. It is understood that RhinoOne is not the generator or site operator and does not own nor is it the arranger for disposal of the hazardous waste or other materials discovered, handled or removed from the Property. To the extent required by law, Client agrees to provide timely disclosure to appropriate public agencies of any information regarding the Property (obtained from RhinoOne or from other sources) where such disclosure may be necessary to prevent damage to human health, safety, or the environment.

Client agrees that RhinoOne and its subconsultants and subcontractors are not responsible for the creation of the condition(s) RhinoOne is being asked to investigate and that it would be unfair for RhinoOne to be exposed to claims of injury or damage as a result of the conditions. In addition, Client understands that it is possible that exploration and investigation may fail to reveal the presence, location or source of the condition(s) being investigated even when the condition(s) is assumed or expected to exist. Client understands that RhinoOne failure to discover and/or locate the condition(s) or the spread of the condition(s) through appropriate techniques does not guarantee that the condition(s) does or does not exist. Client agrees that it would be unfair to hold RhinoOne liable for creating the condition(s) or the spread of the condition(s) providing RhinoOne meets a reasonable standard of care in completing the work set out in the RhinoOne Proposal.

Accordingly, Client waives any claims against RhinoOne and its subconsultants and subcontractors, and agrees to defend, indemnify and hold harmless RhinoOne and its subconsultants and subcontractors from any and all claims or liability for injury to person or property or loss arising from the creation of the condition(s) or the unintentional exacerbation of the condition(s) by RhinoOne, the exacerbation of hazardous conditions by others, the discovery of any condition, location of any condition and/or allowing any condition to exist. Client also agrees to fairly compensate RhinoOne and its subconsultants and subcontractors for any time spent and expenses incurred in the defense of any such claim. Notwithstanding any provisions in the Agreement to the contrary, RhinoOne liability for all acts and omissions related to its provision of services to Client under the terms of this Agreement shall be limited to the amount of RhinoOne insurance and in no circumstances shall such liability of RhinoOne include special or consequential damages.

RhinoOne does not provide legal opinions, and recommends client seek legal counsel for advice on issues such as the appropriateness of a particular scope of work to minimize legal liability, reportability of a condition to a public agency, potential cost recovery from responsible parties, and to assess the value of maintaining attorney/client privilege for work conducted under this Agreement.

In the event there is a dispute between RhinoOne and the Client concerning the performance of any provision in this Agreement, the losing party shall pay the prevailing party reasonable attorney's fees and costs in mediation, arbitration, trial or appeal. In addition, Client agrees to pay RhinoOne for all employee time, costs, and witness costs incurred for collection activity. This Agreement can be terminated at any time by either party. If terminated prior to the completion of a scope of work, RhinoOne shall be entitled to its portion of fees for any work performed in accordance with its current rate schedule.

Exhibit E

Harper Houf Peterson Righellis Inc.
ENGINEERS ◆ PLANNERS
LANDSCAPE ARCHITECTS ◆ SURVEYORS

February 23, 2017

Rajiv Ali, PE
Rhino One Geotechnical
4610 NE 77th Avenue, Suite 126
Vancouver, WA 98662

RE: PPS Harriet Tubman School – Portland Oregon
Proposal for Surveying Services

Rajiv:

Harper Houf Peterson Righellis Inc. (HHPR) is pleased to present this Proposal for professional services. We have been providing professional services in the Portland Metro area since 1990 that include the following disciplines: land surveying, civil and structural engineering, landscape architecture, and land use planning.

We believe that our past performance is the best indication of our firm's commitment of satisfying our clients by providing excellent service, solving their problems and meeting their needs. Please do not hesitate to give me a call if you have any questions regarding the scope and/or fee of this proposal. I will be more than happy to clarify any questions that you may have.

If this proposal meets with your approval, please sign on the space provided and return the signed copy to HHPR. If you have any questions please do not hesitate to call me

Thank you for your consideration of HHPR.

HARPER HOUF PETERSON RIGHELLIS INC.

John T. Campbell, PLS
Project Surveyor

Attachments:
- 2017 Standard Terms and Conditions

SCOPE OF SERVICES – PPS Harriet Tubman School

The purpose of the scope of work is to provide surveying services to complete settlement monitoring of the retaining wall, parking lot, and building on the Harriet Tubman School site. Following is a list of tasks to be completed.

Task 1.0: Onsite Meeting, Security Badging, ODOT Right-of-Way Permit

Consultant shall meet onsite with the client to identify locations for the monitoring points to be installed. This meeting will identify locations inside the existing building as well as in the parking lot and on the retaining wall.

Consultant shall complete any necessary security badging required by Portland Public Schools.

Consultant shall request ODOT Right-of-Way permit to obtain access into the ODOT right-of-way and to the top of the existing retaining wall. It is anticipated that access will be taken from the PPS property to avoid traffic control requirements.

Task 2.0: Survey Control Network

Consultant shall establish a survey control network for the purposes of horizontal and vertical monitoring. Survey control will be permanent in nature and located in areas deemed outside of the zone of influence from potential settlement. A survey control network will be established utilizing both a digital level and a 3 second robotic total station. Redundant field measurements will be taken and a Starnet least squares adjustment completed to the 95% confidence level for all horizontal and vertical control. The vertical accuracy of the adjusted survey control network elevations is expected to be within 0.03' at the 95% confidence interval. The horizontal accuracy of the adjusted survey control network coordinates is expected to be within 0.03' at the 95% confidence interval.

Task 3.0: Installation of Monitoring Points

Based upon an onsite meeting with the client, and for the purposes of horizontal and vertical monitoring, the following monitoring points will be installed:

- 8 magnails located in the top of the existing concrete retaining wall adjacent to I-5. The magnails will be spaced approximately 20-25 feet apart.
- 8 magnails located in the asphalt parking lot adjacent to the above-described retaining wall and the existing building. The magnails will be spaced approximately 40-50 feet apart between the generator room and the southwest corner of the building addition.
- 8 magnails, scribes, or sticker targets located on the concrete floor within the existing building. An onsite meeting and site conditions will determine the spacing and specific location of the building monitoring points. It is assumed that the points may be located in the generator room and the building addition.

Task 4.0: Baseline Monitoring Survey

Consultant shall complete horizontal and vertical survey to collect baseline values for the installed monitoring points as follows:

For the vertical monitoring points, complete (2) independent closed level loops utilizing (2) primary offsite vertical benchmarks from Task 2.0 and a digital level. Simultaneously adjust the (2) level loops using Starnet least squares adjustment software. The vertical accuracy of the adjusted monitoring point elevations is expected to be within 0.03' at the 95% confidence interval.

For horizontal monitoring points, complete (2) independent horizontal traverses utilizing the established survey control network from Task 2.0 and a 3 second robotic total station. Simultaneously adjust the (2) traverses using Starnet least squares adjustment software. The

horizontal accuracy of the adjusted monitoring point coordinates is expected to be within 0.06' at the 95% confidence interval.

DELIVERABLES:
Consultant shall provide:

- PDF of monitoring point locations
- Excel spreadsheet of adjusted vertical monitoring points (elevations shown to 2 decimal places)
- Excel spreadsheet of adjusted horizontal monitoring points (coordinates shown to 2 decimal places)

Task 5.0: One Time Monitoring Survey
Consultant shall complete horizontal and vertical monitoring upon request as follows:

For the vertical monitoring points, complete (2) independent closed level loops utilizing (2) primary offsite vertical benchmarks from Task 2.0 and a digital level. Simultaneously adjust the (2) level loops using Starnet least squares adjustment software. The vertical accuracy of the adjusted monitoring point elevations is expected to be within 0.03' at the 95% confidence interval.

For horizontal monitoring points, complete (2) independent horizontal traverses utilizing the established survey control network from Task 2.0 and a 3 second robotic total station. Simultaneously adjust the (2) traverses using Starnet least squares adjustment software. The horizontal accuracy of the adjusted monitoring point coordinates is expected to be within 0.06' at the 95% confidence interval.

DELIVERABLES:
Consultant shall provide:

- Excel spreadsheet of adjusted vertical monitoring points (elevations shown to 2 decimal places)
- Excel spreadsheet of adjusted horizontal monitoring points (coordinates shown to 2 decimal places)

General Notes and Assumptions:

- The site is accessible, including the building interior and access around the existing fence line to reach the retaining wall.
- The fee for Task 5 assumes that Tasks 1-4 have been completed.
- Elevations based upon nearest available City of Portland Benchmark.
- Horizontal datum will be local datum plane ground coordinates based upon the Oregon State Plane Coordinate System – North Zone.
- It is assumed that monitoring points located inside the building will be located just inside of the exterior doorways or within direct line of sight of the exterior doorways.

PROPOSED PROFESSIONAL FEES

Description:	**Fee:**
Tasks 1-4:	$9,750.00
Task 5 (per monitoring survey request):	$4,200.00

AGREEMENT:

Changes to the assumptions or project description that result in significant revisions to our work will be considered additional services. Client and HHPR agree to be bound to the standard terms and conditions observable in "Exhibit A". If this proposal meets with your approval, please sign in the space provided and return a signed copy.

ACCEPTANCE AND AUTHORIZATION

Signature: _____ Date: _____

_____ Date: 2-23-17

John T. Campbell, PLS

HHPR

EXHIBIT A – STANDARD TERMS AND CONDITIONS

Unless otherwise stated (or enclosed) in the contract, the following terms and conditions will apply.

Authorization to Proceed. Any request by Client for HHPR to proceed with work shall constitute an express acceptance to all terms of this agreement, including these general provisions.

Termination and Assignment. Either Client or HHPR may terminate this Agreement by giving 30 days written notice to the other party. In such event, Client shall immediately pay HHPR in full for all work previously authorized and performed prior to effective date of termination. This Agreement is between Client and HHPR and is not transferable without the written consent of the other party.

Fees and Estimates. Charges for services will be billed in accordance with HHPR's standard bill rates. Bill rates are reviewed and may be adjusted annually.

Indemnification, Insurance & Limitation of Liability. Client hereby agrees to indemnify and hold harmless HHPR from any claim, demand, loss or liability, including reasonable attorney's fees that results from for any loss, damage, or liability arising from any acts by the Client, its agents, staff, and/or other consultants or agents that act at the direction of Client.

HHPR is covered by a general liability insurance policy with an aggregate limit of $2 million / $1 million per occurrence and a professional liability with an aggregate limit of $2 million / $2 million per claim. Client agrees that in no case shall HHPR's liability to the Client for any cause or combination of causes, in the aggregate, exceed the amount of HHPR's remaining professional liability coverage.

Professional Standards. HHPR services shall be performed in a manner consistent with that degree of care, skill, and diligence maintained by professionals providing similar services in HHPR's local community at the time that HHPR provides services under this Agreement. HHPR makes no warranties, whether express or implied, with respect to the services rendered hereunder.

Ownership of Documents. It is understood and agreed that the calculations, drawings, and specifications prepared pursuant to this Agreement ("Work Product"), whether in hard copy or electric media including BIM models form, are instruments of professional services intended for one-time use by Client only for this project only. Work Product is and shall remain the property of HHPR. Client shall not obtain the right to use the Work Product, even for one-time use unless all amounts due under this Agreement are paid in full and HHPR agrees in writing. If Client is in possession of any Work Product and has not paid any amount due hereunder, HHPR may demand return of the Work Product, and may specifically enforce Client's obligation to return such Work Product.

Payment Terms & Conditions. Monthly invoices will be issued for all work covered by this agreement. Client agrees that if it disputes any portion of an invoice, Client must notify HHPR of such dispute in writing within 30 days of the invoice date or will otherwise waive any right to dispute the invoice.

Invoices are due and payable on receipt. All amounts more than 30 days past due will be subject to finance charges. Finance charges are computed at a periodic rate of 1.5% per month. Failure to timely pay any amounts is a material breach of this Agreement. In such event, HHPR may suspend service and obligations and may further withhold plans, documents, and other information. HHPR may claim a lien for all materials, labor, and services furnished if any amount due hereunder is not timely paid.

In addition to the principal amount and finance charges due, Client agrees to pay HHPR all collection costs that HHPR incurs, regardless of whether or not litigation is initiated, including but not limited to reasonable attorney's fees, court costs, and charges for HHPR staff time (at HHPR's standard rates).

Notice of Claims. Client shall, and expressly agrees to, provide HHPR immediate written notice of any facts that could potentially result in any potential claim against HHPR, including but not limited to any dispute, any claimed damages, any perceived failure by HHPR, or otherwise. As a condition precedent to any recovery from HHPR, Client shall give HHPR written notice of any such claim or facts that could result in a claim not later than ten (10) days after the date of the occurrence of the event causing the potential claim. Client's failure to provide such notice, for any reason, shall constitute waiver of such claim.

Venue. Any litigation initiated in connection with this agreement shall take place in Multnomah County, Oregon, unless such case involves a lien claim that must be litigated elsewhere as a matter of law. All claims of any nature that relate to this Agreement shall be subject to Oregon law, unless such claims relate to the foreclosure of a lien and are, as a matter of law, subject to the laws of another state.

Enforceability / All Terms Material. All provisions herein are material to HHPR's agreement to provide services, and were expressly negotiated by the parties. In case any one or more of the provisions contained in this agreement shall be held illegal, the enforceability of the remaining provisions contained herein shall not be impaired.

RhinoOne GEOTECHNICAL

October 6, 2017

Portland Public Schools
Attn: Mr. Steve Effros
Project Manager, Facilities and Asset Management
501 North Dixon Street
Portland, Oregon 97227

Re: Instrumentation Installation and Monitoring Report
Retaining Wall Settlement and Lateral Movement Monitoring
Harriet Tubman Middle School Site for Portland Public Schools
2231 North Flint Avenue, Portland, Oregon
Rhino One Project Number: PPS-2017-010

Dear Mr. Effros:

RhinoOne Geotechnical Engineering is pleased to submit this letter regarding the geotechnical exploration and slope movement monitoring system installed at the Tubman School site. We had previously completed a preliminary review of the site in 2014[1]. This study was recommended as a follow up to our previous review to quantify the magnitude, direction and depth of movements at this site. A series of three inclinometers, two piezometers and 24 survey monitoring points were established during this phase of work.

Field Exploration and Subsurface Conditions:

The inclinometers and piezometers were installed on June 20 and 21 by Western States Soil Conservation, Inc. of Hubbard, Oregon. The instruments are located along the western edge of the School's parking lot as shown on Figure 1 attached. Borings B-1 and B-2 were each drilled to a depth of 50 feet, while boring B-3 was drilled to a depth of 40 feet.

The subsurface soils in the area consist of fill material underlain by sandy silt, silty sand, and poorly to well graded sands. The fill material was encountered to a depth of 18 to 20 feet below ground surface (BGS) in borings B-1 and B-2, respectively. In boring B-3, the fill extended to a depth of 7.5 feet BGS. The fill material consisted of very soft (or very loose) to stiff (or loose) layers of silts, sands, and gravels. Brick debris was observed among the gravel to a depth of 18 feet BGS in boring B-1. The drill rig lost circulation frequently in the fill which indicates that there are large voids within the fill.

Below the fill, very soft or soft silt with sand to very loose or loose sand with silt was observed to a depth of approximately 20 to 35 feet below ground surface (BGS). Medium dense silty fine sand was encountered below the silt in borings B-2 and B-3 at depths of approximately 38 feet BGS. Dense to very dense coarse sand with gravel was encountered in each of the borings at a depth of approximately 40 feet BGS, which corresponds to an approximate elevation of 100 feet, and extending to the maximum depth explored of 50 feet BGS. Interpreted boring logs are attached.

[1] RhinoOne Geotechnical, Report of Geotechnical Engineering Services, Vertical Settlement and Lateral Movement, Tubman School Site for Portland Public Schools, Portland Oregon, ROG Project Number PPS-2013-003 dated July 08, 2014.

Groundwater depth could not be measured during installation due to the use of mud-rotary drilling techniques. Information provided by the US Geological Survey (USGS) *Estimated Depth to Groundwater Study of the Portland Metro Area*[2], suggests groundwater in the project area is approximately 65 feet BGS. Vibrating wire piezometers with automatic data recorders were installed at a depth of 30 and 35 feet below ground surface in borings B-1 and B-2.

Slope inclinometer pipes were installed at the termination depth for each of the borings. A survey monitoring system was also established by HHPR on 24 points along the building, parking lot and on top of ODOT retaining wall. The initial readings on these points are attached at the end of this report. The initial inclinometer readings were collected on July 6, 2017 with an additional reading collected on September 29, 2017.

Conclusions:

Based on our exploration for this study and a review of earlier study, the depth of fill varies form 7.5 feet the north / east side the site to as much as 30 feet or more near the south west portions of the site. The fill material consists of very soft (or very loose) to stiff (or loose) layers of silts, sands, and gravels. Brick debris was observed among the gravel to a depth of 18 feet BGS in boring B-1. The drill rig lost circulation frequently in the fill which indicates that there are large voids within the fill. This fill is not suitable for the placement of any improvements. We understand that the existing building was placed on timber piles installed over the fill. It is very likely that some of the piles have terminated in the fill due to obstructions.

The inclinometers have not shown any movement in the three months since their installation. This is expected as there has not been any large rain event in the last few months. We have not conducted a second set of survey monitoring. Our recommendation is to complete a second monitoring event in Feb/March of 2018 during the wet winter months.

RhinoOne appreciates this opportunity to work on this project. If you have any questions, please contact me at 360.852.6367.

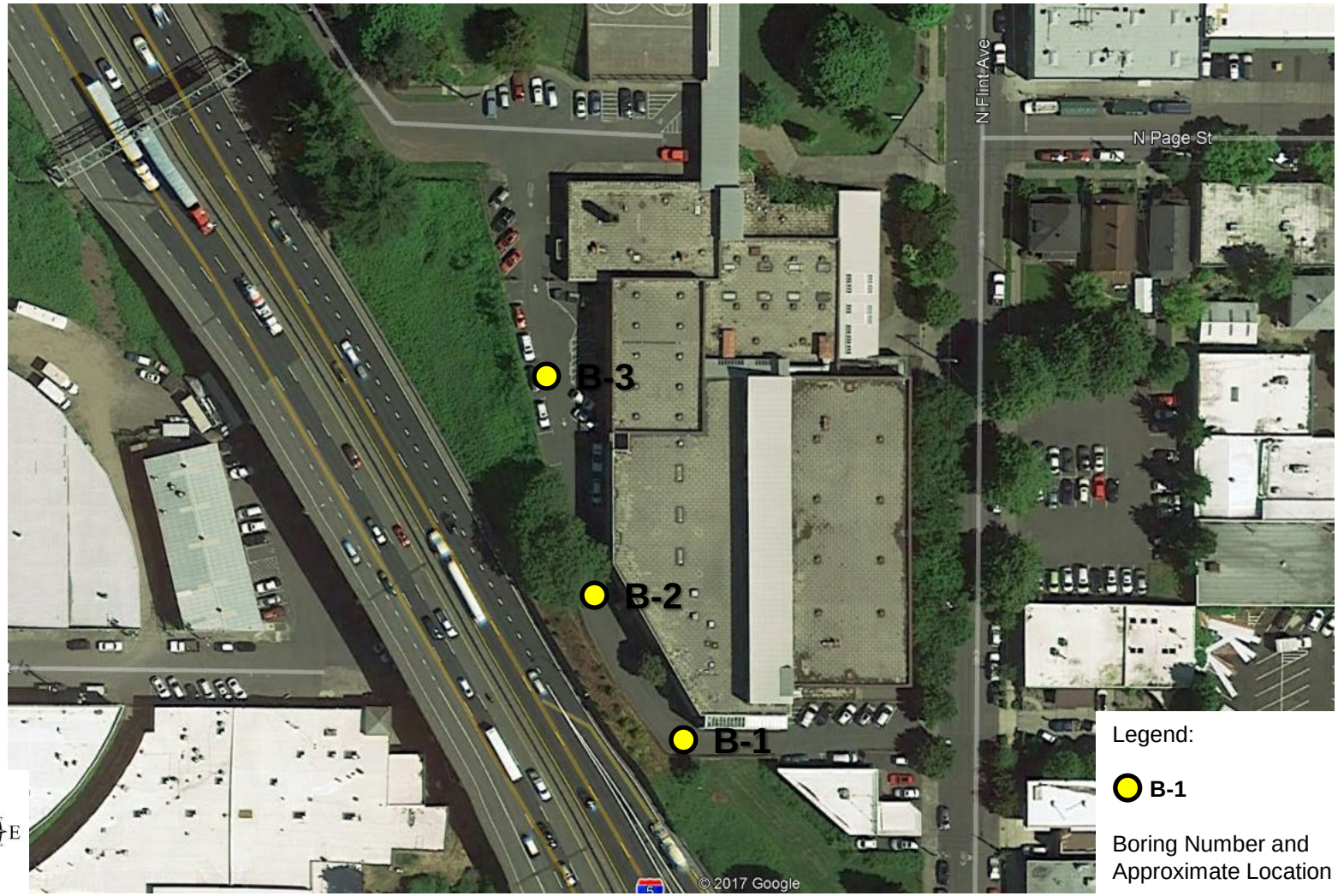
Sincerely,

Rajiv Ali, PE, GE, PhD
Managing Principal
RhinoOne Geotechnical
rajiv@rhinooneeng.com

Attachments:

Figure 1 – Site Exploration Plan
Boring Logs
HHPR Survey Baseline Data and Map

[2] US Geological Survey (USGS). *Estimated Depth to Ground Water in the Portland, Oregon Area*. Accessed from website http://or.water.usgs.gov/projs_dir/puz/ on July 6, 2017.



Legend:

B-1

Boring Number and Approximate Location

RhinoOne GEOTECHNICAL
4610 NE 77th Avenue, Suite 126
Vancouver, Washington 98662
360-258-1738

Harriet Tubman Middle School
2231 North Flint Avenue
Portland, Oregon

Project Number:
PPS-2017-010

Figure 1 – Site Exploration Plan

Date:
October 2017

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Harriet Tubman Middle School
2231 North Flint Avenue
Portland, Oregon

Boring Number:
B-1

Project: Harriet Tubman Middle School	Driller: Western States Soil Conservation
Project Number: PPS-2017-010	Date: June 20, 2017
Drilling Method: Mud Rotary	Elevation: 136 feet AMSL
Diameter: 3-7/8" / Water Level: NA	Logged by: Peter Hughes

Sample No.	Sample Type	Recovery (%)	PID (ppmV)	Blow Count per 6 inches	Blows/Foot (N)	Water Table	Depth (ft BGS)	Graphic Log	Materials Description	Moisture (%)	Remarks
							0		Asphalt Cement Concrete (6-inch)		
								SM	Dense, sandy GRAVEL, base rock Loose, brown, silty SAND [FILL]		
SS1		67		1-2-1	3	GWT not encountered		ML	Soft, brown, sandy SILT with trace organics; moist, low plasticity	28.6	
SS2		100		0-0-0	0		5	SM	Becomes very soft [FILL] Very loose, brown, silty SAND [FILL]	29.8	
SS3		60		0-1-3	4			ML SM	Soft to medium stiff, brown, sandy SILT [FILL] Very loose to loose, brown, silty SAND, occassional gravel (brick) [FILL]	29.0	Some mud circulation lost
SS4		0		4-2-2	4		10		Becomes gray-brown, fine SAND with some silt; moist [FILL]		
SS5		17		1-2-2	4					25.2	Slowly losing mud circulation
SS6		17		2-2-7	9		15	GP	Loose, red-grey, GRAVEL with sandy silt; moist, gravel mostly consists of brick [FILL]	13.3	
								ML	Very soft, brown, sandy SILT; moist, no plasticity		
SS7		100		0-0-0	0		20	SM	Very loose, grey, silty fine SAND; moist	32.5	
SS8		84		0-3-3	6		25		Becomes loose and brown	28.7	
SS9		84		4-3-4	7		30		Becomes grey, fine SAND with some silt; damp to moist	26.7	

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Harriet Tubman Middle School
2231 North Flint Avenue
Portland, Oregon

Boring Number: B-1

Project: Harriet Tubman Middle School	Driller: Western States Soil Conservation
Project Number: PPS-2017-010	Date: June 20, 2017
Drilling Method: Mud Rotary	Elevation: 136 feet AMSL
Diameter: 3-7/8" / Water Level: NA	Logged by: Peter Hughes

Sample No.	Sample Type	Recovery (%)	PID (ppmV)	Blow Count per 6 inches	Blows/Foot (N)	Water Table	Depth (ft BGS)	Graphic Log	Materials Description	Moisture (%)	Remarks
SS10		60		4-4-3	7		35		SP Loose, grey, fine SAND with some silt	33.5	
									SW Very dense, grey, medium to coarse SAND with trace fine gravel; moist, subrounded to subangular		
SS11		78		14-25-35	60		40			14.1	
SS12		84		28-31-30	61		45		Becomes gravelly medium to coarse SAND	11.4	
SS13		63		25-44-48	92		50			11.5	
							55		Boring terminated at 51.5 feet BGS: Slope Inclinometer pipe installed to 50 feet BGS, VW piezometer (S/N 1503026) installed at 30 feet BGS. Boring backfilled with bentonite/grout mix, installed monument set in concrete		
							60				
							65				

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Harriet Tubman Middle School
2231 North Flint Avenue
Portland, Oregon

Boring Number: B-2

Project: Harriet Tubman Middle School	Driller: Western States Soil Conservation
Project Number: PPS-2017-010	Date: June 21, 2017
Drilling Method: Mud Rotary	Elevation: 139 feet AMSL
Diameter: 3-7/8" / Water Level: NA	Logged by: Peter Hughes

Sample No.	Sample Type	Recovery (%)	PID (ppmV)	Blow Count per 6 inches	Blows/Foot (N)	Water Table	Depth (ft BGS)	Graphic Log	Materials Description	Moisture (%)	Remarks
							0		Asphalt Cement Concrete (5-inch) Dense, sandy GRAVEL, base rock		
SS1		78		5-8-8	16	GWT not encountered			ML Very stiff, brown-grey, SILT with some sand; damp, low to medium plasticity [FILL]	23.9	
SS2		78		3-4-4	8		5		ML Medium stiff to stiff, fine sandy SILT; damp [FILL]	24.0	
SS3		46		2-3-3	6				Becomes medium stiff, grey, sandy SILT with some gravel; moist [FILL]	25.3	
SS4		17		1-0-2	2		10		Becomes very soft to soft	17.2	Below 10 to 20 feet slowly loosing mud. Eventually lost all circulation and could not regain. Moved boring approximately 10 feet north in order to complete
SS5		0		7-7-8	15		15		Becomes stiff to very stiff	24.2	
SS6		67		4-4-5	9		20		ML Stiff, brown-grey, sandy SILT; moist	22.7	
SS7		67		4-3-6	9		25			23.7	
SS8		62		4-4-4	8		30		ML Medium stiff to stiff, brown, SILT with some fine sand; moist, low plasticity	27.8	

RhinoOne GEOTECHNICAL

Harriet Tubman Middle School
2231 North Flint Avenue
Portland, Oregon

Boring Number:
B-2

Project: Harriet Tubman Middle School	Driller: Western States Soil Conservation
Project Number: PPS-2017-010	Date: June 21, 2017
Drilling Method: Mud Rotary	Elevation: 139 feet AMSL
Diameter: 3-7/8" / Water Level: NA	Logged by: Peter Hughes

Sample No.	Sample Type	Recovery (%)	PID (ppmV)	Blow Count per 6 inches	Blows/Foot (N)	Water Table	Depth (ft BGS)	Graphic Log	Materials Description	Moisture (%)	Remarks
SS9		67		4-5-6	11		35		SM — Medium dense, grey-brown, silty fine SAND; damp	24.8	
SS10		78		14-15-24	39		40		SP — Dense, grey, medium to coarse SAND; damp, subrounded to subangular	13.5	
SS11		78		19-28-27	55		45		Becomes very dense, medium to coarse SAND with some fine gravel	9.7	
SS12		67		27-34-32	66		50			11.5	
							55		Boring terminated at 51.5 feet BGS: Slope Inclinometer pipe installed to 50 feet BGS, VW piezometer (S/N 38242) installed at 35 feet BGS. Boring backfilled with bentonite/grout mix, installed monument set in concrete		
							60				
							65				

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Harriet Tubman Middle School
2231 North Flint Avenue
Portland, Oregon

Boring Number:
B-3

Project: Harriet Tubman Middle School	Driller: Western States Soil Conservation
Project Number: PPS-2017-010	Date: June 20, 2017
Drilling Method: Mud Rotary	Elevation: 140 feet AMSL
Diameter: 3-7/8" / Water Level: NA	Logged by: Peter Hughes

Sample No.	Sample Type	Recovery (%)	PID (ppmV)	Blow Count per 6 inches	Blows/Foot (N)	Water Table	Depth (ft BGS)	Graphic Log	Materials Description	Moisture (%)	Remarks
							0		Asphalt Cement Concrete (7-inch)		
									Dense, sandy GRAVEL, base rock		
SS1		50		1-1-2	3	GWT not encountered		ML	Soft, brown, fine sandy SILT; moist, low to no plasticity [FILL]	26.0	No mud lost
SS2		62		2-1-1	2		5	SM	Very loose, brown-grey, silty fine SAND; damp [FILL]	30.7	
SS3		50		1-0-1	1			ML	Very soft, brown, SILT with some fine sand; moist, medium plasticity	31.4	
SS4		18		1-3-2	5		10	SM	Loose, grey-brown, silty fine SAND with trace gravel; moist	37.1	
SS5		67		2-2-2	4		15		Becomes very loose to loose, fine SAND with some silt; damp	29.2	
SS6		67		3-6-5	11		20		Becomes medium dense	31.6	
SS7		67		6-7-7	14		25			23.2	
SS8		72		8-7-8	15		30		Becomes silty fine SAND	27.4	

RhinoOne GEOTECHNICAL

Harriet Tubman Middle School
2231 North Flint Avenue
Portland, Oregon

Boring Number:
B-3

Project: Harriet Tubman Middle School	Driller: Western States Soil Conservation
Project Number: PPS-2017-010	Date: June 20, 2017
Drilling Method: Mud Rotary	Elevation: 140 feet AMSL
Diameter: 3-7/8" Water Level: NA	Logged by: Peter Hughes

Sample No.	Sample Type	Recovery (%)	PID (ppmV)	Blow Count per 6 inches	Blows/Foot (N)	Water Table	Depth (ft BGS)	Graphic Log		Materials Description	Moisture (%)	Remarks
SS9		78		5-6-6	12		35		SM	Medium dense, silty fine SAND; moist to wet	30.4	
									SP	Dense, grey, medium to coarse SAND; moist, subrounded to subangular		
SS10		78		14-16-20	36		40				15.2	
										Boring terminated at 41.5 feet BGS: Slope Inclinometer pipe installed to 40 feet BGS. Boring backfilled with bentonite/grout mix, installed monument set in concrete		
							45					
							50					
							55					
							60					
							65					

JOB #: ROG-01

DATE: 20170626

CREW: CLG/MF

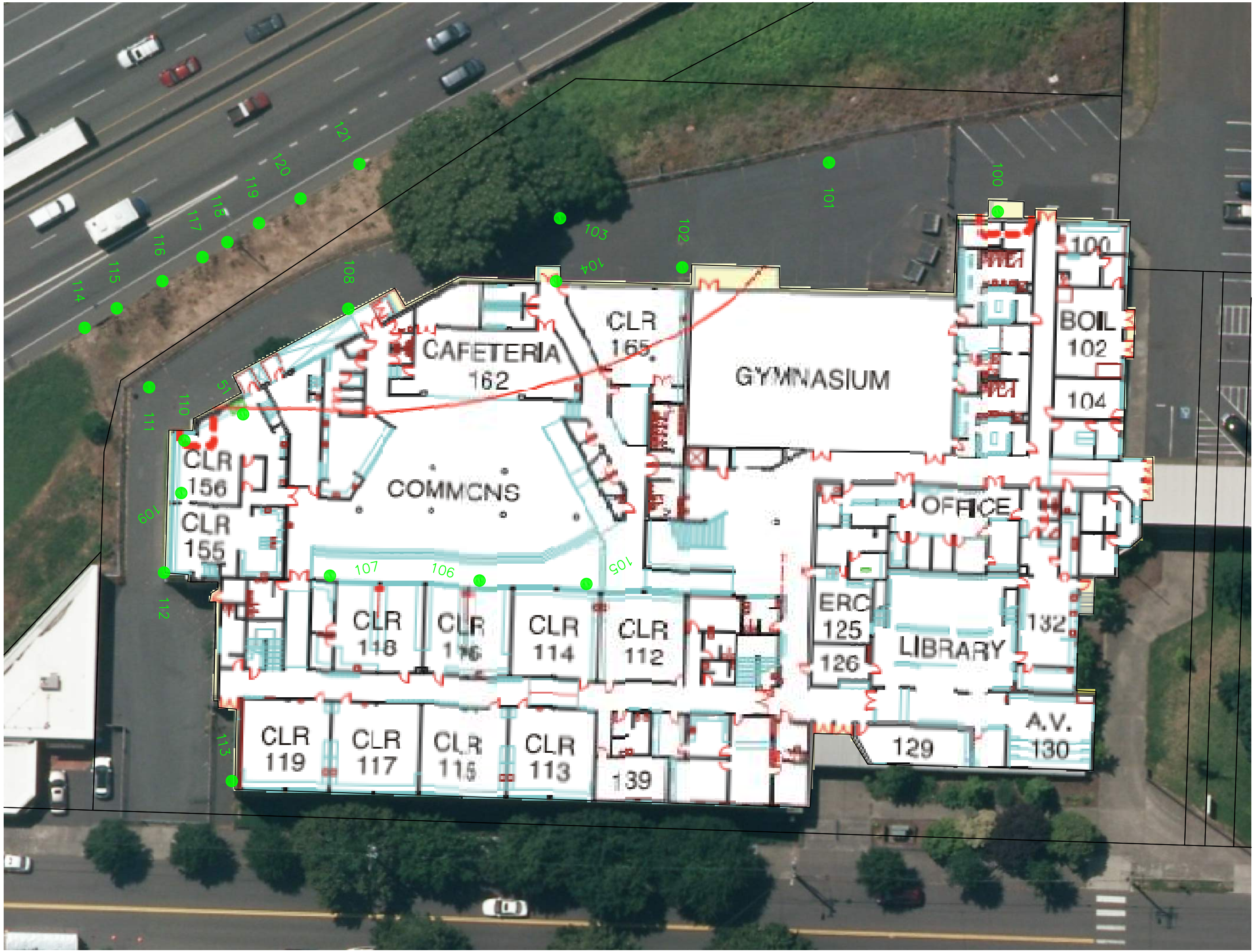
Harper Houf Peterson Righellis Inc.
ENGINEERS ◆ PLANNERS ◆ SURVEYORS

Prepared By: JTC

Checked By: JTC

POINT #	NORTHING	EASTING	ELEV.	DESCRIPTION
	HARRIET TUBMAN SCHOOL			
	BASELINE MONITORING - JUNE 26, 2017			
		MP = MONITORING POINT		
	MW = MONITORING WELL			
51	689953.37	7646312.19	135.44	MP SCRIBE
100	690215.90	7646241.67	140.05	MP SCRIBE
101	690157.18	7646224.62	138.22	MP PUNCH EAST RIM MW
102	690106.14	7646261.10	137.41	MP MAG
103	690063.61	7646243.99	136.75	MP PUNCH EAST RIM MW
104	690062.24	7646265.92	145.41	MP STICKER
105	690072.81	7646371.21	137.47	MP SCRIBE
106	690035.61	7646370.02	137.47	MP SCRIBE
107	689983.59	7646368.34	137.46	MP SCRIBE
108	689989.97	7646275.48	134.89	MP MAG
109	689931.87	7646339.58	135.42	MP SCRIBE
110	689932.94	7646321.33	135.43	MP SCRIBE
111	689920.68	7646302.79	133.54	MP PUNCH EAST RIM MW
112	689925.86	7646367.24	135.03	MP MAG
113	689949.44	7646439.75	137.19	MP MAG
114	689898.27	7646282.11	125.21	MP SCRIBE
115	689909.42	7646275.31	125.91	MP SCRIBE
116	689925.29	7646265.85	126.25	MP SCRIBE
117	689939.27	7646257.52	126.49	MP SCRIBE
118	689947.91	7646252.29	126.73	MP SCRIBE
119	689958.91	7646245.69	126.95	MP SCRIBE
120	689973.34	7646237.14	127.01	MP SCRIBE
121	689993.84	7646225.11	126.05	MP SCRIBE

205 SE Spokane St. Suite 200 Portland, OR 97202 Ph:503-221-1131 Fax:503-221-1171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