



ARCHITECTS

SCHREIBER  
STARLING  
WHITEHEAD



Washington State  
CENTER FOR CHILDHOOD DEAFNESS  
& HEARING LOSS

DES Project # 2018-713 B (2)

# PRE-DEMOLITION STUDY

4 FEBRUARY 2019





## 1.0 INTRODUCTION

### 1.1 PROBLEM STATEMENT

The Center for Childhood Deafness and Hearing Loss (CDHL) has been in the planning and conceptual phase of project to build a new classroom and gymnasium building to serve their students. The scope of this project identified a new building which would be constructed in the central area of the campus which currently houses four existing buildings. It would also replace the existing Devine School and Hunter Gymnasium, both of which being removed in a second phase under the new project. The proposed project identified the demolition of the four existing buildings as being completed under a separate project prior to the start of the new.

The CCDHL was successful in obtaining \$1M funding in the 2017-19 Capital Budget to update the Predesign Study and to fund the “removal five aging and decayed buildings”. In reviewing the previous studies and project work on the campus, it became clear that no specific analysis of the existing buildings identified for removal had been made. cursory review of their condition coupled with the interconnected nature of the campus utilities called into questions the adequacy of the funded amount to cover the intended demolition.



*Aerial of CCDHL Campus with buildings to be demolished highlighted*

Reviewing the site and plans with CCDHL Facilities staff, noted several issues that will impact developing an accurate demolition plan and estimate. These include:

- There are a considerable number of existing active and abandoned utilities (water, sewer, gas, power, telecommunications, signal, etc.) that traverse the site from building to building including utilities that are routed through the buildings to be demolished, that currently serve buildings that remain. These utilities will have to be identified and rerouted out of the subject buildings to allow for their demolition.
- There is known asbestos-containing materials (ACM) in the buildings to be removed. Additionally, there is likely other hazardous materials present such as lead paint, PCB/s, freon, and other industrial waste.



- There is no existing plan or survey of utilities that reflect the full extent of the existing conditions.
- The last record assessment of hazardous materials was over 10-years ago, and it was not complete enough to use in planning the demolition.

The CCDHL has undertaken this pre-demolition study to address the above issues and define the scope, schedule, and cost of a demolition project to proceed the planned new building.

## **1.2 FINDINGS**

The demolition of the subject building can be accomplished by normal mechanical and manual means provided adequate pre-demolition scope is accomplished. This includes:

- Installation of temporary shoring in the Boiler House to make the structure safe for pre-demolition and demolition scope execution.
- Abatement and removal of identified ACM and other identified hazardous materials (Appendix B)
- Removal of the large equipment and structural framing within the Boiler House.
- Installation of new emergency power generator to replace active one adjacent to and in the Boiler House.
- Interception and rerouting of existing "dry" utilities (fire alarms, fiber optic) that are in or directly adjacent to the subject buildings and their attached utility tunnels.
- Interception and rerouting of existing "wet" utilities (domestic and fire protection water, sanitary, stormwater) that are in or directly adjacent to the subject buildings and their attached utility tunnels.

## **1.3 RECOMMENDATIONS**

We recommend that the project be designed and bid as a single project using traditional design-bid-build. This approach will ensure that a responsible General Contractor will be leading the effort with major subcontractors for Abatement, and Site Civil work.

## **1.4 ESTIMATED COST**

For the proposed demolition, we have estimated the construction MACC to be \$4,395,251 and the overall project costs to be \$5,376,000. Both estimates have been escalated to July 2020.

The estimated costs are considerably greater that was anticipated in the initial project request, primarily due to the extent of hazardous materials in the subject buildings and the extent of site utilities which have to be relocated and/or removed prior to building removal.

## **1.5 PROPOSED SCHEDULE**

As the initial funding is not adequate to cover the full or partial cost of the demolition, we recommend that the estimated cost above the current allocation be requested in the 2020 supplemental capital budget. It is desired that the bulk of the work be planned to occur over the summer months when the school is on summer break. The project can be designed and bid prior to 1 July and the execution can be planned for July-September 2020.

This would ensure the Phase-I Demolition is complete prior to the start of construction of the new school in 21-23 Biennium.



## **2.0 SCOPE OF STUDY**

### **2.1 STUDY METHODOLOGY**

The study team conducted a review of the available documentation on the subject buildings and conducted a series of site investigations accompanied by campus facilities staff to accomplish the following

- a. Identify physical constraints and parameters for the physical demolition of the buildings.
- b. Conduct a field survey of the subject buildings and utilities to locate, identify, and quantify asbestos-containing building materials; lead-containing paint and building materials; polychlorinated biphenyl (PCB) containing sealants and light ballasts; mercury-containing thermostats and fluorescent light tubes, chlorofluorocarbon (CFC) or hydrochlorofluorocarbon (HCFC) containing equipment; and tritium containing exit signs prior to impact via demolition activities. The survey is also intended to satisfy Occupational Safety and Health Administration (OSHA) hazard communication requirements as well as Washington Administrative Code (WAC) 296-62 which requires a "Good Faith" inspection prior to demolition and renovation activities.
- c. Inspecting the utilidors affected by the demolition work and locating service connections supplied by piping to be removed during the building demolition.
- d. Inspecting the utilidors affected by the demolition work and locating MEP and Telecommunications services to be removed during the building demolition.

### **2.2 STUDY TEAM**

The study team was composed of the following consulting firms:

- Schreiber Starling Whitehead Architects – Prime Architect
- PBS Environmental – Hazardous Materials Testing and Abatement Planning
- PBS Engineering - Site Civil utilities, location, assessment, and relocation. Site restoration.
- Wood Harbinger, Inc. Site Mechanical, Electrical and Telecommunications systems assessment, and relocation



### 3.0 EXISTING CONDITIONS

#### 3.1 BOILER HOUSE

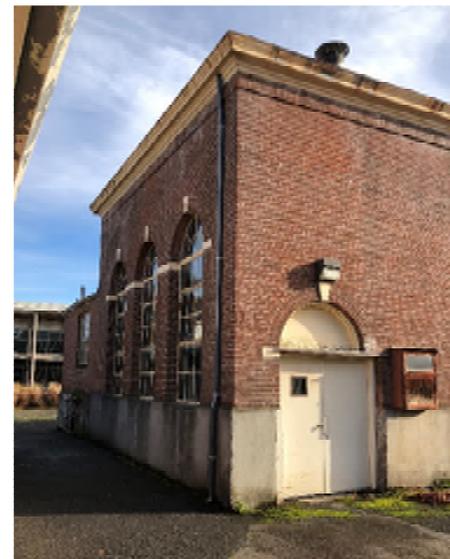
##### General

Built in 1923, the Boiler house is the second oldest existing building on the CCDHL campus. It was designed by the Northwest Engineering Company of Seattle and contains approximately 2,300-gsf of area. Originally housing coal-fired boilers, the heating equipment was changed to natural gas-fired boilers and heat exchangers in the early 1950's. At that time, a large brick smokestack was removed from the southwest corner along with a section of the brick wall to allow for transfer of equipment out and in to the building. This opening was infilled with concrete masonry.

It is difficult to tell from the minimal original drawings available of the building, but it appears that the northern 12-ft of the building may have been a later addition to the original 1923 construction. The change in window type to a square opening and the presence of a low-slope roof support this speculation along with relationship of the steam tunnel to the northwest corner of the building.



*Boiler House from Southwest*



*Boiler House from Northeast*

##### Foundations/Floor Slab

The foundations appear to be continuous cast concrete spread footings at a depth of 3-4 ft below grade with a 12" concrete foundation wall. The wall extends to approximately 3'-6" above exterior grade. The building has a cast-concrete floor slab (assumed 6" thick) on grade with a lower section to the east and sumps and a coal elevators pits that were formed approx. 3-ft below the main floor level. There is a shallow concrete utility trench containing abandoned steam piping running from the building at the northwest corner into the adjacent Cafeteria Building.

Some steel reinforcing is assumed to be present in the cast concrete as was common practice when it was initially constructed.

##### Exterior Wall

The exterior wall is load-bearing and appears to be three-wythe deep brick masonry for a total of 12" thickness. The wall extends approximately 30-ft above adjacent grade. It is assumed that this wall has no or minimal steel reinforcing within. When the equipment was changed out in the 1950's, section of



original masonry on the west wall was removed to create an opening supported by an applied steel channel header bolted through on the interior and exterior. The opening was then infilled with 8" concrete CMU flush to the interior face of the brick. The CMU wall is assumed to have minimal reinforcing, typical to its age.

Windows are steel framed single-glazed with arched tops. There is a double door at the Northwest corner of the building that opens on grade. It was added in an earlier opening that was narrower than the current opening. There is another single door on the south elevation that opens at the lower sump level. This door has a concrete stair well up to the adjacent grade.

The condition of the exterior wall is very poor. Mortar is soft and loose at places and there are several areas where the masonry has cracked, particularly at the building corners. The condition of the windows and doors are equally poor with some of the glass being missing. Plants have grown up and through one of the windows on the south elevation.

### **Roof Structure**

The majority of the roof structure is comprised of large-timber, lower chord-bearing bolted trusses in a pyramidal form with a vent/dormer to the east and a cupola vent at the peak. There are wood joists between the top chords of the trusses and a corrugated metal roof. The north 12-ft has a lower-sloped shed roof.

The condition of the roof wall very poor. As the building has been abandoned, there has been no effort to repair leaking.

### **Interior Wall**

There is one interior wall that appears to be un-reinforced 3-wythe brick masonry atop a cast-concrete stem wall creating a 12x12-ft control room that is elevated approx. 4.5-ft off the floor level. Its construction is similar to the exterior wall which support the finding that the northern 12-ft was a later addition.



*Boiler House interior with plant growth*



*Boiler House equipment and interior structural frame*





### **Interior/Equipment**

The Boiler Building houses three large gas-fired boilers that are circa 1950-1960. These have attached pumps, blowers, piping, heat-exchanges, valves, etc. The piping and equipment are supported by a steel-framed armature surrounding the boilers. This framework appears to be supported on thicker slab areas and raised to a height of approximately 21-ft. There are interior access stairs and service platforms attached to the framework. All the steam/hot water systems in the building have been deactivated.

There is considerable insulation and lagging on the boilers and piping, much of it asbestos-containing. See appendix for locations and quantities.

### **Demolition Issues**

- The condition of the load-bearing walls and the need to do significant abatement followed by deconstruction and removal of the old boilers and their supporting structure will require temporary shoring and bracing of the structure prior to full demolition.
- In addition to usual building demolition of the building, the scope will include removing the shallow utility trench and piping
- The existing generator and transfer switch location in/adjacent to the building will need to be replaced prior to demolition

## **KITCHEN/CAFETERIA**

### **General**

Built in 1927, the Kitchen/Cafeteria building was one of the last buildings designed by Spokane architect Julius Zittle. The design incorporated an existing concrete-framed pump/well room in its northwest corner. It totaled 9,202-sf and housed a commissary, repair room, and storeroom, in addition to the campus kitchen, bakery, and the dining hall. In 1955, a 1,700-sf addition was made to east, expanding the Dining Hall designed by Portland architects Stewart and Richardson. As part of the addition project, the commissary and pump room functions were changed to serve as the campus laundry.



*Kitchen/Cafeteria from the southeast*



### **Foundations/Structure**

The foundations appear to be continuous cast concrete spread footings, 2-ft x 1-ft at a depth of 4'-10" ft below the upper floor line on the perimeter and at load-bearing interior walls. Along the east wall, running north-south and approx. at the center of the dining hall, running east-west a utility tunnel is formed by lowering the foundation to 7'-2" below the floor and casting a slab-on grade turned up 1'-10" to the bottom of the crawlspace excavation. The tunnel turns to the east and connects to the adjacent boiler building. It loops around the perimeter of the addition and once ran south out of the dining hall area to an administration building. This tunnel section was removed and closed-off when the original administration building was demolished.

Foundation walls are typically 14" thick cast-concrete and columns are 12"x12" concrete.

The floor structure is comprised of 12" x 22" reinforced concrete beams spanning 15-18-ft supported by 13" concrete walls or 12" columns. A composite joist/slab with 5-1/2" x 8" joists and 2-1/2" slab, spans 10-12-ft between beams at 5-ft centers.

### **Exterior Wall**

The exterior wall at the old Dining Hall consists of load-bearing 5" thick cast concrete pilasters wrapped in brick masonry and faced on the interior with plaster. The concrete is indicated to be reinforced. At the windows only 2-wythes of brick are used. The concrete thickens to 8" and extends over the head of the windows. The exterior wall at the Kitchen area consists of continuous load-bearing 5" thick cast concrete wall wrapped in brick masonry on both sides and faced on the interior with plaster. The concrete is indicated to be reinforced.

Exterior Windows are steel-framed with single-pane glazing. The glazing is stopped into the frame with putty which has been tested to contain asbestos. This material must be abated in conjunction with demolition of the windows. (see Appendix B).

### **Roof Structure**

The roof structure is comprised of composite steel-reinforced concrete joist with 5" x 10-14" joists and an integral 2-1/2" reinforced slab spanning between interior and exterior bearing walls. Drainage to roof drains is accomplished by adding sloped concrete fill above the 2-1/2" minimum thickness.



*Exterior stair to utility tunnel under building*



*Exterior wall at Dining Room addition.*



### **Interior**

Load-bearing interior walls are 13" thick with 10" cast concrete and plaster facing. Non-load bearing walls are 6" with brick masonry and plaster facing. Ceilings are lay-n acoustic tile. Flooring varies from linoleum to VCT to quarry tile.



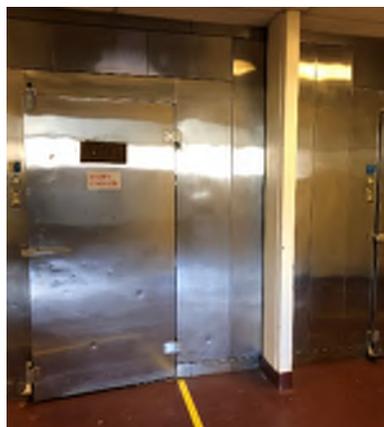
*Interior at old Dining Room, currently serving as a fitness room.*

### **Interior/Equipment**

The Kitchen/Cafeteria houses a large inventory of pre-fabricated refrigeration and kitchen equipment which has been abandoned. There are considerable quantities of pipe runs in the crawlspace/utility tunnels. There is a considerable quantity of hazardous materials which must be abated in order to demolish/remove the equipment and its serving utilities.

### **Demolition Issues**

- In addition to usual building demolition of the building, the scope will include removing the shallow utility trench and piping
- There are several walk-in refrigeration rooms which will need to be cleared of residual freon or other controlled gasses.
- There is a cast-in-place concrete grease separator in the crawlspace below the kitchen which may require special handling.



*Interior kitchen equipment to be removed*



## **MAINTENANCE/STORAGE**

### **General**

Completed in 1911 as the first Vocational Education building on the campus, the Maintenance/Storage Building is the oldest existent campus building. Totalling approximately 9,160-sf, the western third of the building is original construction. There have been two additions to the structure, one in 1914 and the last in 1955.

There are no record drawings of the original building or the 1914 addition however drawings of the 1955 eastern addition exist.



*Maintenance/Storage from the Northwest*

### **Structure/Foundations**

The west portion of the building has a cast concrete basement with concrete foundation walls and a slab on grade approximately 8-ft below the ground floor. The 1955 addition has a 4" concrete floor slab with WWM reinforcing placed over an existing slab on grade.

There is a continuous raised concrete loading dock on the north side of the building.

### **Exterior Wall**

The exterior walls of the original and initial addition are cast-in-place concrete, approximately 8" thick. It is assumed that there is some steel reinforcing in these walls which was typical of construction at the time. The exterior wall of the 1955 addition is 8" concrete block with K-web reinforcing every other course. On the north side, this wall is set atop an existing partial height concrete wall.

### **Roof Structure**

The majority of the roof structure is comprised of a truss of 4x bolted timber trusses with 2x wood joists, ¾" wood sheathing and composition shingle roof. There is a continuous light monitor at the roof peak farmed with 2x wood with glazing to the north and metal siding to the south.

### **Interior Walls**

Interior wall in the original portion of the building are wood framed with plaster finish. There is one interior wall that appears to be reinforced 6" concrete masonry



### **Interior/Equipment**

There is not a significant amount of equipment in the building which would need to be separately removed. Fire alarm circuits from Clarke Hall and the cottages are routed through the Maintenance/Warehouse Fire Alarm Cabinet which needs to be relocated and wires re-pulled prior to demolition.

### **Demolition Issues**

- Relocation of the existing fire alarm junction box in the basement of this building will need to be relocated and reconnected prior to demolition.

## **EPPERSON VOCATIONAL**

### **General**

Constructed in 1961 as the Vocational Education building on the campus, the Epperson Vocational School totals approximately 38,576-sf configured in a "T" plan with the cross part of the tee being a 2-story wing that housed the middle school and the base part being a high-bay vocational trades wing. In 1990, there was a small addition to the southwest corner of the 2-story wing which provided an elevator for ADA access.



*Epperson from the Northwest (2-story Classroom Wing)*



*Epperson from the Southeast (1-story Shop Wing)*



### **Structure**

The building has a concrete frame structure with non-load bearing masonry or curtainwall infill. Vertical loads are carried by 16-in square concrete columns in the shop wing and a variety of sized concrete columns in the two-story classroom wing. The end columns of the classroom wing are 16-in x 10-in concrete with a 8WF48 steel section embedded.

Reinforced-concrete footings measuring 4'-6" x 4'-6" x 13" thick at the classroom wing and 16" thick at the shop wing bear on prepared soil and support the columns. Footings where the wings connect are increased to 5'-9" square. Depth of the footings vary between 4-6-ft depending on location and presence of an adjacent tunnel. The exterior walls and interior block walls in the shop area are supported on continuous concrete footings. Floor slabs are typically 4-in reinforced with 6x6 wire mesh.

The second floor of the classroom wing is comprised of 5-in wide, 10-in deep ribbed reinforced-concrete joist at 25-in on center with an integral 2-1/2-in floor slab. The joist bear on 10-in concrete beams spanning between columns. The roof of the classroom wing is comprised of 5-in wide, 8-in deep ribbed reinforced-concrete joist at 25-in on center with an integral 1-1/2-in floor slab. The joists bear on 10-in concrete beams spanning between columns with the outer beams approx. 3-ft higher than the center columns to provide slope for drainage.

There is a small section of wood-framed mezzanine in the shop wing. All this structure is 2x framing and plywood bearing on 8-in CMU walls.

The roof structure at the shop wing uses nominal 10x26-in glue-laminated beams spanning north-south between concrete columns. The roof decking is 4x6 tongue-groove wood decking spanning E-W between beams and to the 3-3x10 headers at the perimeter walls. The roof slopes to the middle of the span for drainage.

Stairs at the classroom wing are reinforced concrete that act as shear walls in both the N-S and E-W direction.

### **Basement/Tunnels**

There are two small equipment cast-concrete basement areas in the shop wing. One in the north shop serves as an electrical vault. It is accessed from a stair in the northeast of the shop wing and is partially outside (for heat venting) and partially under the shop floor. It has a two-level floor 7-ft and 10-ft below the floor level. The second is an extension of a 6x6-ft utility tunnel that runs along the west side of the shop wing 6.5-ft west of the foundation wall. The tunnel is accessed from a stair at the southwest corner of the shop wing. The utility tunnel continues north under the classroom wing to the north foundation wall. It branches to the east and west and continues along the E-W foundation walls but at a 3-ft width and 3-ft depth. The tunnels typically have 6" thick reinforced walls and 4" floor slabs. Where the tunnel roof serves as the floor above, it is supported by corrugated steel spanning the tunnel width.

### **Exterior Wall**

Classroom wing: The north and south exterior walls are 8" concrete wall/beam turned up at the floor 3-ft and extending down at the roof/floor 1-ft. The wall is faced with an aluminum curtainwall with glass or porcelain panel infill. The east and west facades are non-load-bearing 6-in concrete shear walls with brick veneer except at the center corridor section where the 6-in concrete wall is exposed as a spandrel on the second floor.

Shop wing: The east and west exterior walls are 6" concrete block wall with either brick veneer or aluminum curtainwall over a 3-ft high 4" concrete block veneer. The north wall is an 8-in reinforced concrete shear wall while the south wall is non-load-bearing 6-in CMU with brick veneer.



*Typical Shop interior*



*Typical Classroom interior*

### **Interior Walls**

Classroom Wing: Most interior walls are 2x4 wood framing at 16-in O.C. with  $\frac{3}{4}$ -in lath & plaster on finish facing. The interior wall where the two wings connect is 8-in reinforced concrete.

Shop Wing: Interior walls are 6" CMU except at the 2-story center section where 8-in CMU is used to support the wood-framed mezzanine. In the original portion of the building are wood framed with plaster finish. There is one interior wall that appears to be reinforced 6" concrete masonry.

### **Interior/Equipment**

There is not a significant amount of equipment in the building which would need to be separately removed except for the large transformer in the basement.

### **Demolition Issues**

- Decommissioning the hydraulic fluid in the elevator would also need to precede demolition.



## **4.0 COST**

### **4.1 Estimate of Overall Costs**

As the C-100 form in Appendix A illustrates, the MACC for the recommended project is anticipated to total \$3,687,448 and total project costs to be \$5,376,000 both escalated to mid-point of construction.

Elements of the demolition scope that contribute significantly to the cost exceeding the funding include:

- Extensive quantity of abatement identified in the existing buildings and anticipated in the below-grade structures.
- Extent of utilities that must be relocated prior demolition of the building.



## 5.0 SCHEDULE

### 10.1 Major Milestones

<u>Activity</u>	<u>Start Date</u>	<u>End Date</u>	<u>Duration</u>
Prepare Demolition Bid Documents	February 2020	May 2020	3 Months
Bidding	May 2019	June 2020	2 Months
Demolition Duration	July 2020	September 2020	3 Months
	<i>(note the City Demolition permit for physical removal is limited to 30-days)</i>		
Close-Out	September 2020	October 2020	1 Month

**ATTACHMENT - A**  
C-100 Form and Cost Estimate





**STATE OF WASHINGTON**  
**AGENCY / INSTITUTION PROJECT COST SUMMARY**

Agency	353 - Childhood Deafness & Hearing Loss	
Project Name	Academic and Physical Education Building PHASE-I Demolition	
OFM Project Number	30000036	

**Contact Information**

Name	Shauna Bilyeu	
Phone Number	(360) 418-0402	
Email	<a href="mailto:shauna.bilyeu@cdhl.wa.gov">shauna.bilyeu@cdhl.wa.gov</a>	

**Statistics**

Gross Square Feet	59,160	MACC per Square Foot	\$59
Usable Square Feet	50,250	Escalated MACC per Square Foot	\$62
Space Efficiency	84.9%	A/E Fee Class	B
Construction Type	Schools (primary and se	A/E Fee Percentage	12.06%
Remodel	Yes	Projected Life of Asset (Years)	50

**Additional Project Details**

Alternative Public Works Project	No	Art Requirement Applies	No
Inflation Rate	3.12%	Higher Ed Institution	No
<a href="#">Sales Tax Rate %</a>	8.40%	Location Used for Tax Rate	Vancouver WA
Contingency Rate	10%		
Base Month	June-18		
Project Administered By	DES		

**Schedule**

Pre-design Start	December-18	Pre-design End	February-19
Design Start	January-20	Design End	May-20
Construction Start	July-20	Construction End	October-19
Construction Duration			

Green cells must be filled in by user

**Project Cost Estimate**

Total Project	<b>\$5,083,198</b>	Total Project Escalated	<b>\$5,376,464</b>
		Rounded Escalated Total	<b>\$5,376,000</b>

**STATE OF WASHINGTON**  
**AGENCY / INSTITUTION PROJECT COST SUMMARY**

Agency	353 - Childhood Deafness & Hearing Loss	
Project Name	Academic and Physical Education Building PHASE-I Demolition	
OFM Project Number	30000036	

**Cost Estimate Summary**

Acquisition			
<b>Acquisition Subtotal</b>	<b>\$0</b>	<b>Acquisition Subtotal Escalated</b>	<b>\$0</b>

Consultant Services			
Predesign Services	\$120,974		
A/E Basic Design Services	\$318,937		
Extra Services	\$70,000		
Other Services	\$143,290		
Design Services Contingency	\$65,320		
<b>Consultant Services Subtotal</b>	<b>\$718,521</b>	<b>Consultant Services Subtotal Escalated</b>	<b>\$757,311</b>

Construction			
Construction Contingencies	\$348,430	Construction Contingencies Escalated	\$367,211
Maximum Allowable Construction Cost (MACC)	\$3,484,298	Maximum Allowable Construction Cost (MACC) Escalated	\$3,687,448
Sales Tax	\$321,949	Sales Tax Escalated	\$340,592
<b>Construction Subtotal</b>	<b>\$4,154,677</b>	<b>Construction Subtotal Escalated</b>	<b>\$4,395,251</b>

Equipment			
Equipment	\$0		
Sales Tax	\$0		
Non-Taxable Items	\$0		
<b>Equipment Subtotal</b>	<b>\$0</b>	<b>Equipment Subtotal Escalated</b>	<b>\$0</b>

Artwork			
<b>Artwork Subtotal</b>	<b>\$0</b>	<b>Artwork Subtotal Escalated</b>	<b>\$0</b>

Agency Project Administration			
Agency Project Administration Subtotal	\$0		
DES Additional Services Subtotal	\$0		
Other Project Admin Costs	\$0		
<b>Project Administration Subtotal</b>	<b>\$0</b>	<b>Project Administration Subtotal Escalated</b>	<b>\$0</b>

Other Costs			
<b>Other Costs Subtotal</b>	<b>\$210,000</b>	<b>Other Costs Subtotal Escalated</b>	<b>\$223,902</b>

Project Cost Estimate			
Total Project	<b>\$5,083,198</b>	Total Project Escalated	<b>\$5,376,464</b>
		Rounded Escalated Total	<b>\$5,376,000</b>

## Cost Estimate Details

Consultant Services				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
<b>1) Pre-Schematic Design Services</b>				
Programming/Site Analysis				
Environmental Analysis				
Predesign Study				
Other	\$120,974			
Insert Row Here				
<b>Sub TOTAL</b>	<b>\$120,974</b>	<b>1.0499</b>	<b>\$127,011</b>	Escalated to Design Start
<b>2) Construction Documents</b>				
A/E Basic Design Services	\$318,937			69% of A/E Basic Services
Other				
Insert Row Here				
<b>Sub TOTAL</b>	<b>\$318,937</b>	<b>1.0553</b>	<b>\$336,574</b>	Escalated to Mid-Design
<b>3) Extra Services</b>				
Civil Design (Above Basic Svcs)	\$45,000			
Geotechnical Investigation				
Commissioning				
Site Survey				
Testing	\$0			
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)				
Landscape Consultant	\$25,000			
Other				
Insert Row Here				
<b>Sub TOTAL</b>	<b>\$70,000</b>	<b>1.0553</b>	<b>\$73,871</b>	Escalated to Mid-Design
<b>4) Other Services</b>				
Bid/Construction/Closeout	\$143,290			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Other				
Insert Row Here				
<b>Sub TOTAL</b>	<b>\$143,290</b>	<b>1.0539</b>	<b>\$151,014</b>	Escalated to Mid-Const.
<b>5) Design Services Contingency</b>				
Design Services Contingency	\$65,320			
Other				
Insert Row Here				
<b>Sub TOTAL</b>	<b>\$65,320</b>	<b>1.0539</b>	<b>\$68,841</b>	Escalated to Mid-Const.
<b>CONSULTANT SERVICES TOTAL</b>				
	<b>\$718,521</b>		<b>\$757,311</b>	

Green cells must be filled in by user

## Cost Estimate Details

Construction Contracts				
Item	Base Amount	Escalation Factor	Escalated Cost	Notes
<b>1) Site Work</b>				
G10 - Site Preparation	\$339,375			
G20 - Site Improvements	\$202,500			
G30 - Site Mechanical Utilities	\$430,800			
G40 - Site Electrical Utilities	\$274,850			
G60 - Other Site Construction				
Other				
Insert Row Here				
<b>Sub TOTAL</b>	<b>\$1,247,525</b>	<b>1.0662</b>	<b>\$1,330,112</b>	
<b>2) Related Project Costs</b>				
Offsite Improvements				
City Utilities Relocation				
Parking Mitigation				
Stormwater Retention/Detention				
Other				
Insert Row Here				
<b>Sub TOTAL</b>	<b>\$0</b>	<b>1.0662</b>	<b>\$0</b>	
<b>3) Facility Construction</b>				
A10 - Foundations				
A20 - Basement Construction				
B10 - Superstructure				
B20 - Exterior Closure				
B30 - Roofing				
C10 - Interior Construction				
C20 - Stairs				
C30 - Interior Finishes				
D10 - Conveying				
D20 - Plumbing Systems				
D30 - HVAC Systems				
D40 - Fire Protection Systems				
D50 - Electrical Systems				
F10 - Special Construction				
F20 - Selective Demolition	\$1,564,270			
General Conditions	\$141,000			
General Contractor Overhead & Profit	\$531,503			
Insert Row Here				
<b>Sub TOTAL</b>	<b>\$2,236,773</b>	<b>1.0539</b>	<b>\$2,357,336</b>	
<b>4) Maximum Allowable Construction Cost</b>				
<b>MACC Sub TOTAL</b>	<b>\$3,484,298</b>		<b>\$3,687,448</b>	

This Section is Intentionally Left Blank

**7) Construction Contingency**

Allowance for Change Orders	\$348,430		
Other			
Insert Row Here			
<b>Sub TOTAL</b>	<b>\$348,430</b>	<b>1.0539</b>	<b>\$367,211</b>

**8) Non-Taxable Items**

Other			
Insert Row Here			
<b>Sub TOTAL</b>	<b>\$0</b>	<b>1.0539</b>	<b>\$0</b>

**Sales Tax**

<b>Sub TOTAL</b>	<b>\$321,949</b>		<b>\$340,592</b>
<b>CONSTRUCTION CONTRACTS TOTAL</b>	<b>\$4,154,677</b>		<b>\$4,395,251</b>

Green cells must be filled in by user

## Cost Estimate Details

Other Costs					
Item	Base Amount		Escalation Factor	Escalated Cost	Notes
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation					
Permits	\$30,000				
Unforeseen ACM /Utilities	\$180,000				
<b>OTHER COSTS TOTAL</b>	<b>\$210,000</b>		<b>1.0662</b>	<b>\$223,902</b>	

Green cells must be filled in by user

## ESTIMATE OF PROBABLE CONSTRUCTION COSTS

Date: December 27, 2018  
Project Name: Demolition of Four Buildings  
Center for Childhood Deafness and Hearing Loss  
Project No.: 2018-713 B (1)

---

Building Demolition	\$ 3,484,298
Total Base Estimate	\$ 3,484,298

---

EXCLUSIONS:  
STATE SALES TAX  
TESTING AND INSPECTIONS  
CONSTRUCTION CONTINGENCY  
ARCHITECT/ENGINEERING FEES  
PERMITS  
CONSTRUCTION MANAGEMENT FEES  
EQUIPMENT & FURNISHINGS NOT LISTED  
UTILITY COMPANY CHARGES  
BUILDERS RISK INSURANCE  
ESCALATION

**PROJECT:** DEMOLITION OF FOUR BUILDINGS - CCDHL  
**LOCATION:** VANCOUVER, WA  
**BLDG SF:**  
**EST TYPE:** PREDESIGN

<b>DIVISION</b>	<b>DESCRIPTION</b>		<b>TOTAL</b>	<b>\$/SF</b>
F20	SELECTIVE BUILDING DEMOLITION		1,564,270	
G10	SITE PREPARATION		339,375	
G20	SITE IMPROVEMENTS		202,500	
G30	SITE CIVIL / MECHANICAL UTILITIES		430,800	
G40	SITE ELECTRICAL UTILITIES		274,850	
Z10	GENERAL REQUIREMENTS		141,000	
<b>ESTIMATE SUBTOTAL</b>			<b>2,952,795</b>	
	GENERAL CONTRACTOR'S OH & P @	18.00%	531,503	
	SUBTOTAL		3,484,298	
	ESCALATION TO 1-JULY-19	IN C-100		
<b>TOTAL</b>			<b>3,484,298</b>	

**EXCLUSIONS:**  
SEE ESTIMATE SUMMARY

**PROJECT:** DEMOLITION OF FOUR BUILDINGS - CCDHL  
**LOCATION:** VANCOUVER, WA  
**BLDG SF:**  
**EST TYPE:** PREDESIGN

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL	\$/SF
<b>F20</b>	<b>BUILDING DEMOLITION</b>					
02000	ABATEMENT	1	LS	Per PBS	898,010	
02000	BOILER HOUSE					
02000	- TEMP SHORING	2,300	SFA	2.50	5,750	18
02055	- UTILITY DISCONNECTS,CAPPING,MAKE SAFE	2,300	LS	2.00	4,600	
02000	- MISC. SAWCUT/DEMO/SALVAGE/PROTECT	2,300	LS	1.00	2,300	
02000	- REMOVE ABANDONED EQUIPMENT AND STRUCTURE	2,300	LF	5.00	11,500	
02000	- BUILDING DEMOLITION W/WASTE MANAGEMENT	2,300	LF	7.00	16,100	
02000	KITCHEN/CAFETERIA					
02055	- UTILITY DISCONNECTS,CAPPING,MAKE SAFE	10,740	LS	1.50	16,110	14
02000	- MISC. SAWCUT/DEMO/SALVAGE/PROTECT	10,740	LS	1.00	10,740	
02000	- REMOVE ABANDONED EQUIPMENT AND STRUCTURE	10,740	LF	3.00	32,220	
02000	- BUILDING DEMOLITION W/WASTE MANAGEMENT	10,740	LF	8.00	85,920	
02000	MAINTENANCE/STORAGE					
02055	- UTILITY DISCONNECTS,CAPPING,MAKE SAFE	9,160	LS	1.00	9,160	10
02000	- MISC. SAWCUT/DEMO/SALVAGE/PROTECT	9,160	LS	0.50	4,580	
02000	- REMOVE ELEVATED LOADING DOCK	3,000	LF	3.00	9,000	
02000	- BUILDING DEMOLITION W/WASTE MANAGEMENT	9,160	LF	8.00	73,280	
02000	EPPERSON VOCATIONAL					
02055	- UTILITY DISCONNECTS,CAPPING,MAKE SAFE	38,500	LS	1.00	38,500	10
02000	- MISC. SAWCUT/DEMO/SALVAGE/PROTECT	38,500	LS	0.50	19,250	
02000	- REMOVE ELEVATOR AND ELECT/HVAC EQUIPMENT	38,500	LF	1.50	57,750	
02000	- BUILDING DEMOLITION W/WASTE MANAGEMENT	38,500	LF	7.00	269,500	
<b>F20</b>	<b>BUILDING DEMOLITION</b>			<b>DIVISION TOTAL</b>	<b>1,564,270</b>	
<b>G10</b>	<b>SITE PREPARATION</b>					
02300	MOBILIZATION	1	LS	5,000	5,000	
02300	CONSTRUCTION FENCE/GATES-MAINTAIN,REMOVE	1,250	LF	8.00	10,000	
02300	TEMPORARY EROSION CONTROL	1	LS	10,000	10,000	
02300	REMOVE PAVING			Per PBS	74,000	
02300	REMOVE ABANDONED STEAM LINES	2,500	LF	11.50	28,750	
02300	DISCONNECT AND REMOVE STORMWATER SYSTEMS			Per PBS	14,500	
02300	DISCONNECT AND REMOVE SANITARY SYSTEMS			Per PBS	48,000	
02300	DISCONNECT AND REMOVE WATER SYSTEMS			Per PBS	36,000	
02300	ALLOWANCE FOR UTILITIES NOT PREVIOUSLY KNOWN				113,125	
<b>G10</b>	<b>SITE PREPARATION</b>			<b>DIVISION TOTAL</b>	<b>339,375</b>	
<b>G20</b>	<b>SITE IMPROVEMENTS</b>					
02800	REPLACEMENT CONCRETE SIDEWALK			Per PBS	25,000	
02800	REPLACE ASPHALT PAVEMENT	5,000	SF	8.00	40,000	
02900	FINAL GRADE AND HYDROSEED	110,000	SF	1.25	137,500	
<b>G20</b>	<b>SITE IMPROVEMENTS</b>			<b>DIVISION TOTAL</b>	<b>202,500</b>	

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL	\$/SF
<b>G30</b>	<b>SITE CIVIL / MECHANICAL UTILITIES</b>					
02300	IMPORTED BACKFILL/COMPACT-BASEMENT/TUNNELS	2,232	CY	30.00	66,960	
02630	NEW STORMWATER SYSTEM		Per PBS		53,000	
02630	NEW SANITARY SYSTEM		Per PBS		100,500	
02630	NEW WATER SYSTEM		Per PBS		265,800	
02630	MECHANICAL CAPPING AND PREDEMO	1	LS	11,500	11,500	
<b>G30</b>	<b>SITE CIVIL / MECHANICAL UTILITIES</b>			<b>DIVISION TOTAL</b>	<b>430,800</b>	
<b>G40</b>	<b>SITE ELECTRICAL UTILITIES</b>					
16000	ELECT PRE-DEMOLITION	1.00	LS	17,000	17,000	
16000	NEW 100KW GEN SET	1.00	LS	115,000	115,000	
16000	REFEED FIRE ALARM OUT OF DEMO BUILDINGS	1.00	LS	25,000	25,000	
16000	REFEED GATE	1.00	LS	7,000	7,000	
16000	REFEED SITE LIGHTING	1.00	LS	25,000	25,000	
16000	NEW SITE LIGHTING	1.00	LS	40,000	40,000	
16000	LOW-VOLTAGE/TELECOM REDOUTING	1.00	LS	10,000	10,000	
16000	ELECTRICAL MARK-UPS	1.00	LS	35,850	35,850	
<b>G40</b>	<b>SITE ELECTRICAL UTILITIES</b>			<b>DIVISION TOTAL</b>	<b>274,850</b>	
<b>Z10</b>	<b>GENERAL REQUIREMENTS</b>					
01000	GENERAL CONDITIONS	3	MO	35,000	105,000	
01000	TRAFFIC CONTROL/STREET USE PERMIT/OFFICER	3	MO	6,000	18,000	
02055	ALLOW FOR TEMP UTILITES	1	LS	18,000	18,000	
<b>Z10</b>	<b>GENERAL REQUIREMENTS</b>			<b>DIVISION TOTAL</b>	<b>141,000</b>	
				<b>ESTIMATE SUBTOTAL</b>	<b>2,986,275</b>	



**Schreiber Starling Whitehead Architects**  
**Washington Center for Childhood Deafness and Hearing Loss Demolition**  
**Rough Order of Magnitude Probable Cost Estimate**

Hazardous Materials Abatement  
**Project No. 25570.001, Phase 0001**  
 Prepared by: Joe Lucas  
 Date Prepared: December 21, 2018

Item	Unit	Quantity	Unit Price (USD)	Amount (USD)	Comments
<b>A. Mobilization, Permits &amp; Fees</b>	EA	1	\$ 1,500.00	\$ 1,500.00	
<b>B. Hazardous Material Abatement</b>					
Asbestos Pipe Insulation/ Mudded Hard fittings	LF	13,870	\$ 20.00	\$ 277,400.00	
Asbestos Boiler Components (Gaskets, Caulk, Etc.)	LF	300	\$ 20.00	\$ 6,000.00	
Asbestos Tank Insulation	SF	1,200	\$ 20.00	\$ 24,000.00	
Asbestos Vibration Joint/Mechanical Isolation Cloth	SF	49	\$ 50.00	\$ 2,450.00	
Asbestos Vinyl Floor Tile/ Mastic (Exposed)	SF	15,000	\$ 6.00	\$ 90,000.00	
Asbestos Vinyl Floor Tile/ Mastic (Concealed)	SF	18,000	\$ 7.00	\$ 126,000.00	
Asbestos Window/Door Frame Caulk	LF	4,000	\$ 8.00	\$ 32,000.00	
Asbestos Undercoating on Stainless Steel Sinks	EA	10	\$ 25.00	\$ 250.00	
Asbestos Built-Up Roofing	SF	33,815	\$ 4.00	\$ 135,260.00	
Asbestos Counter Back Splash Mastic	SF	40	\$ 5.00	\$ 200.00	
PCB Caulking with Substrate	LF	1,000	\$ 20.00	\$ 20,000.00	
PCB Light Ballasts	EA	2,500	\$ 20.00	\$ 50,000.00	
Mercury Vapor Fluorescent Light Tubes	EA	5,000	\$ 0.50	\$ 2,500.00	
Tritium-Containing Exit Signs	EA	50	\$ 9.00	\$ 450.00	
<b>Subtotal Estimated Project Costs</b>				<b>\$768,010.00</b>	
Lead-Based Paint Cost Budget Allowance				\$20,000.00	
Less Than (<1%) Asbestos-Containing Materials Training				\$10,000.00	
Concealed and Unidentified Materials Budget Allowance				\$100,000.00	
Contingency - 10%				\$76,801.00	
Design/Consulting/Air Monitoring Fees				\$0.00	
<b>TOTAL PROBABLE COSTS</b>				<b>\$974,811.00</b>	

**Project** WA School for the Deaf  
**Project No.** 25570.003  
**Date** December 2018  
**By** PBS Engineering and Environmental

### Concept Construction Cost Estimate - Utility Demolition and Relocation

Item	Description	Quantity	Unit	Unit Price	Cost
1	Erosion Control and Finish Grading	1	LS	\$ 10,000	\$ 10,000
2	Remove Concrete Sidewalk Outside Buildings	19000	SF	\$ 2	\$ 38,000
3	Remove Asphalt Pavement	3600	SY	\$ 10	\$ 36,000
4	Construct Concrete Sidewalk	5000	SF	\$ 5	\$ 25,000
5	Remove Storm Sewer Pipe	350	LF	\$ 30	\$ 10,500
6	Install 12" Storm Sewer Pipe	400	LF	\$ 85	\$ 34,000
7	Install 6" Storm Sewer Pipe	100	LF	\$ 70	\$ 7,000
8	Remove Sanitary Sewer Pipe	1100	LF	\$ 30	\$ 33,000
9	Install 6" Sanitary Sewer Pipe	700	LF	\$ 70	\$ 49,000
10	Install 4" Sanitary Sewer Pipe	100	LF	\$ 65	\$ 6,500
11	Remove Water Pipe	1200	LF	\$ 30	\$ 36,000
12	Install 8" Water Pipe	2500	LF	\$ 85	\$ 212,500
13	Install 8" Water Valve	8	LS	\$ 2,500	\$ 20,000
14	Install 4" Water Pipe	100	LF	\$ 65	\$ 6,500
15	Install 4" Water Valve	4	EA	\$ 1,200	\$ 4,800
16	Install Fire Hydrant Assembly	3	LS	\$ 4,000	\$ 12,000
17	Install Post Indicator Valve	2	EA	\$ 3,000	\$ 6,000
18	Install Fire Dept. Connection	2	EA	\$ 2,000	\$ 4,000
19	Remove Storm Catch Basin	4	EA	\$ 1,000	\$ 4,000
20	Install Storm Catch Basin	4	EA	\$ 2,000	\$ 8,000
21	Install Storm Area Drain	4	EA	\$ 1,000	\$ 4,000
22	Remove Manhole	15	EA	\$ 1,000	\$ 15,000
23	Install Manhole	10	EA	\$ 4,000	\$ 40,000
24	Install Sanitary Cleanout	10	EA	\$ 500	\$ 5,000
Construction Total					\$626,800
Contingency @ 50%					\$313,400
<b>TOTAL</b>					<b>\$940,000</b>

**Notes:**

- 1) Quantities were based on as-built utility drawings provided by WA School for the Deaf and site inspections.
- 2) Costs do not include demolition, removal or reconstruction of dry utilities (gas, electrical, communication, steam, etc.).
- 3) Costs do not include backfill and compaction of voids resulting from removal of buildings, footings, basements, utility tunnels, or other structural elements beneath buildings.

**ATTACHMENT - B**  
Hazardous Materials Report





# Pre-Demolition Limited Hazardous Building Materials Survey Report

Washington Center for Childhood Deafness and Hearing Loss  
611 Grand Boulevard  
Vancouver, Washington 98661

Prepared for:

Schreiber Starling Whitehead Architects  
901 Fifth Avenue, No. 3100  
Seattle, Washington 98164

General Information	1.1
Inspection Summary	1.2
Hazardous Materials Sample Inventories	2.1
Laboratory Data	Not Numbered
AHERA Certificate	Not Numbered
Survey Drawings	HM1 through HM6

January 2019  
PBS Project 25570.001, Phase 0001



4412 SW CORBETT AVENUE  
PORTLAND, OR 97239  
503.248.1939 MAIN  
866.727.0140 FAX  
PBSUSA.COM

## General Information

### BUILDING DATA

Washington Center for Childhood Deafness and  
Hearing Loss (CCDHL)  
611 Grand Boulevard, Vancouver, Washington 98661

### CLIENT DATA

Schreiber Starling Whitehead Architects  
901 Fifth Avenue, No. 3100  
Seattle, Washington 98164

### SURVEY SCOPE

PBS Engineering and Environmental Inc. (PBS) has performed a pre-demolition limited hazardous building materials survey of accessible areas of Epperson Vocational, Epperson Annex, Maintenance/Warehouse/Industrial, Powerhouse/Boiler, and Kitchen/Cafeteria/Laundry buildings, including the associated mechanical tunnels, and compiled this report with the following information:

- Inspection Summary:
  - Asbestos-containing building materials (ACM)
  - Lead paint and sheet lead
  - Suspect polychlorinated biphenyl (PCB)-containing equipment and building materials
  - Mercury-containing light fixtures and equipment
  - Inventory of possible radioactive sources, chlorofluorocarbon (CFC) and/or hydrochlorofluorocarbon (HCFC) cooling equipment, and fuel oil or hydraulic oil containing equipment and tanks
- Hazardous materials sample inventories including laboratory analytical data of bulk materials sampled
- Floor plan drawings indicating hazardous materials sample locations

With regards to asbestos, PBS endeavored to locate all assessable suspect asbestos-containing materials in the buildings and associated tunnels; however, suspect asbestos-containing materials may be present and concealed inside energized and/or inaccessible equipment and interstitial wall, ceiling, or floor spaces. If suspect materials are uncovered during demolition activities that are not identified in this report, testing should be performed prior to impact. Lead paint sampling is representative of only major components within the buildings. Not all surfaces and paint were sampled.

PBS has conducted a physical inspection of the site, including the appropriate buildings; compiled this report consistent with the survey scope; and certifies that the information is correct and accurate within the standards of professional quality and contractual obligations.

Joe Lucas, CIH  
Project Manager / Prime Inspector  
Accreditation Number IR-19-3527B

---

Signature \_\_\_\_\_ Date \_\_\_\_\_

© 2019 PBS Engineering and Environmental Inc.

## INSPECTION SUMMARY

DATE	SURVEYED BY	ACTIVITY
November 2018–January 2019	Joe Lucas	Inspection, testing, and evaluation
January 2019	Joe Lucas	Report Preparation

## BACKGROUND

Between November 26, 2018 and January 30, 2019, PBS performed a pre-demolition limited hazardous building materials survey of the Epperson Vocational, Epperson Annex, Maintenance/Warehouse/Industrial, Powerhouse/Boiler, and Kitchen/Dining buildings, including the associated mechanical tunnels, at the Washington Center for Childhood Deafness and Hearing Loss (CCDHL) campus, located at 611 Grand Boulevard in Vancouver, Washington.

The purpose of the survey was to determine if asbestos-containing building materials, lead paint, PCB-containing caulking or sealants, mercury containing fluorescent light fixtures and equipment, radioactive materials, and CFC- or HCFC-containing equipment are present within the demolition work areas. Additionally, this survey is provided to the Client to assist the State in removal and handling requirements prior to demolition. If concealed materials are uncovered during demolition activities that are not identified in this report, stop work and contact PBS for additional investigation.

The survey is also intended to satisfy Occupational Safety and Health Administration (OSHA) hazard communication requirements as well as requirements outlined in Washington Administrative Code (WAC) 296-62-07721 requiring that an asbestos inspection be performed prior to demolition activities.

## ASBESTOS SUMMARY

Please refer to the asbestos materials inventory, asbestos bulk sample inventory, laboratory reports, and survey drawings for specific sample test results, descriptions, and locations.

### Asbestos Materials Inventory (spreadsheet)

The materials in the following inventory spreadsheet either tested positive, or, based on historical sampling and the experience of PBS field personnel, were not tested and are to be considered asbestos-containing. Materials that had mixed results are considered positive. Materials not sampled may not contain asbestos and should be tested to verify asbestos content prior to impact through demolition, renovation, etc.

Reference the asbestos bulk sample inventory for materials that tested “negative” for asbestos.

### Asbestos Regulations

PBS recommends that all ACM to be impacted by the project be removed prior to demolition activities. A qualified Washington State licensed asbestos abatement contractor should be employed to removal all such ACM according to all applicable local, state, and federal regulations.

Asbestos was identified in the following materials at a concentration of less than one percent (<1%):

- Plaster associated with the wall and ceiling plaster systems at Epperson Vocational and the Kitchen/Dining buildings;
- Black/brown mastic associated with vinyl covebase in the Kitchen/Dining building;

- Joint compound associated with gypsum wallboard systems at the Maintenance/Warehouse/Industrial building.

Materials containing <1% asbestos are not regulated by the Environmental Protection Agency (EPA), the Washington State Department of Ecology, or the Southwest Clean Air Agency (SWCAA) and may be disposed of as general construction debris. However, workers impacting materials with <1% asbestos must adhere to Occupational Safety and Health Administration (OSHA) and the Washington State Department of Labor and Industries (L&I) regulatory requirements. These requirements are outlined in Washington Administrative Codes (WAC) 296-62-17712 (2), 296-62-07722 (5), and 296-62-0728. These regulations outline training requirements, personal protective equipment, proper work practices and negative exposure assessment completion.

OSHA provides federal regulations governing asbestos (29 CFR Part 1926.1101). These regulations have made significant changes in work procedures and how ACM are removed. OSHA believes that the single biggest concern is for workers who unknowingly or improperly disturb ACM. Hazard communication, training, personal protection, work practices, exposure monitoring, and recordkeeping are all major components of the regulation. Work impacting asbestos is subject to the requirements of various regulations, including, but not limited to: 40 CFR Part 61, NESHAPS; 40 CFR Part 763, AHERA; WAC 296-62 and 296-65; and SWCAA.

### **LEAD PAINT SUMMARY**

Paint was sampled for lead content for the sake of hazard communication. Eighteen paint chip samples were collected from representative building components from painted interior and exterior building components. Samples were submitted under chain of custody to an independent laboratory for analysis of lead content using atomic absorption spectrometry (AAS). Lead analysis results revealed that lead is present in 17 of the 18 submitted samples, with concentrations ranging from 320 to 330,000 parts per million (ppm).

See the lead sample inventory section of this report for representative building components and corresponding results. Also, see the hazardous materials survey drawings for sample locations and additional information.

The paint testing conducted for this survey was limited in scope. The report information and testing results are not to be considered an exhaustive investigation of lead-containing paint on all building surfaces. All painted surfaces not identified in this report should be presumed to contain lead.

It is not the intent to abate lead from painted surfaces prior to renovation or demolition activities. Sample information should be used for site characterization information for development of an OSHA required lead compliance plan for all contractors impacting painted surfaces.

### **Sheet Lead**

Approximately 10 roof vent or drain covers with lead-containing sheeting were identified during the inspection. Additionally, sheet lead may be concealed in various locations including under built-up roofing around drains and vents. Sheet lead requires a hazardous waste determination via Toxicity Characteristic Leaching Procedure (TCLP) prior to disposal or recycling at a licensed reclamation site.

### **Lead-Containing Paint Regulations**

The Consumer Product Safety Commission limit for lead in consumer paint products is 0.009 percent or 90 ppm or greater. The Department of Housing and Urban Development (HUD) and the EPA define lead-based paint as that which contains 0.5 percent or 5,000 ppm. Under OSHA, any lead concentration in paint that may

become airborne during construction operations triggers requirements in the OSHA Lead in Construction Standard 29 CFR 1926.62 to protect employees impacting the paint.

Washington L&I regulations for Lead in Construction (WAC 296-62-155), govern the impact of painted surfaces with detectable concentrations of lead. The WAC standard outlines worker exposure limits, personal protection requirements, and employer responsibility for exposure assessment, training, housekeeping, and recordkeeping. OSHA's Lead in Construction Standard applies to all work where employees may be exposed to lead in construction, alteration, or repair activities. This includes demolition of structures where lead-containing materials are present.

### **Disposal**

Under WAC 173-303 Dangerous Waste Regulations, waste characterization should be performed via TCLP in accordance with EPA Method 1311 for waste streams suspected of containing lead prior to disposal. Refer to the WAC Dangerous Waste Regulations for proper disposal of lead-based painted demolition waste.

### **POLYCHLORINATED BIPHENYLS (PCBS) SUMMARY**

PBS inspected representative light fixture ballasts throughout the buildings and discovered a variety of ballasts including newer electronic ballasts and older magnetic ballasts. Electronic ballasts do not have potential PCB-containing oil, however, magnetic ballasts may. Because of the limited nature of the light fixture ballast investigation, PBS recommends that all light fixture ballasts be inspected prior to demolition activities. Magnetic ballasts lacking "No PCBs" labeling should be presumed to contain PCBs and be properly removed, stored, transported, and disposed of in accordance with applicable regulations. Approximately 600 PCB-containing light fixture ballasts are anticipated to be present throughout the buildings. If there is visual evidence that a ballast is PCB-containing or there is suspicion of a PCB leak or spill, a qualified contractor should handle and dispose of the light ballast and contaminated fixtures.

Exterior caulking and sealants were found on exterior window and door frames and tested for the presence of PCBs. The samples were assigned unique identification numbers and transmitted to an accredited laboratory under chain-of-custody protocols in accordance with EPA Method 8082A. The analysis determined levels below 50 parts per million (less than 50 ppm) in each of the samples with PCBs present above the analytical limit of detection in two of the five samples collected at concentrations of 1.08 and 4.88 ppm. Refer to the attached PCB Bulk Sample Inventory for more information regarding the PCB concentrations, components tested, sample descriptions, and locations.

Three large (greater than 50 gallon) pot transformers were observed in an eastern perimeter mechanical room of the Kitchen/Dining Building. Older transformers often contain PCB oils. If oil is present inside the transformers it should be tested or presumed to contain PCBs prior to disposal.

### **PCB Regulations**

In 1976, Congress banned PCB manufacturing in the United States due to their toxic effects. In July 1979, EPA phased out the processing and use of PCBs, except in totally enclosed equipment. Some sealants installed before the 1976 ban or after 1979 may contain PCBs. EPA prohibits the use or continued use of bulk products that contain 50 ppm or greater PCBs in accordance with 40 Code of Federal Regulations (CFR), Part 761. In addition, EPA requires disposal of these materials in accordance with 40 CFR, section 761.62 - Disposal of PCB Bulk Product Waste.

PBS recommends that all PCB-containing (greater than 50 ppm) materials and equipment be removed and disposed of in accordance with 40 CFR Part 761 and appropriate EPA Guidance documents. All potential PCB

handling and disposal should be performed by trained and experienced hazardous materials remediation professionals using appropriate engineering controls and work practices, in accordance with all applicable local, state and federal regulations pending an initial exposure assessment. See project specifications and drawings regarding the project requirements for PCB handling and disposal.

## **MERCURY SUMMARY**

Fluorescent light tubes and High Intensity Discharge (HID) lights are suspected of containing mercury vapors. Approximately 2,200 fluorescent light tubes and 100 HID lights were inventoried in the buildings. Additionally, mercury-containing thermostats and float switches were observed throughout the buildings and on boiler equipment. PBS inventoried approximately 40 of these devices. Fluorescent light tubes, HID lights, thermostats and float switches should be carefully handled, packaged, and recycled in the appropriate manner.

### **Mercury Regulations**

Please refer to the following documents for requirements for removal and disposal of mercury-containing equipment:

1. US Environmental Protection Agency Toxic Substance Control Act, TSCA, (Code of Federal Regulations Title 40, Part 761)
2. US Department of Labor, Occupational Safety and Health Administration (OSHA)
3. RCRA, Resource Conservation and Recovery Act, 40 CFR Part 2761, Subpart D., 40 CFR 273

## **RADIOACTIVE MATERIALS**

During the limited hazardous materials investigation, PBS did not observe any ionization based smoke detectors. Ionization smoke detectors use a small radioactive source (5 micro Ci) to detect smoke particles. Caution should be exercised during demolition if any ionization smoke detectors are encountered.

Additionally, PBS observed potential tritium-containing exit signs throughout the buildings. The handling and disposal of these materials, while they are intact, are not regulated. It is recommended, however, that all these devices be recycled to keep the waste materials out of landfills. It is recommended that no more than 100 of these devices be stored in any one location. It is possible that there is some older equipment in the buildings that contain stronger radioactive sources. The handling, storage, and disposal of these devices is regulated by the Nuclear Regulatory Commission (NRC). Disposal of these devices in a landfill is prohibited. PBS recommends that the buildings be checked for these older devices and that they be removed and disposed of according to all applicable regulations.

Approximately 50 exit signs were observed within the buildings.

## **CHLOROFLUOROCARBON (CFC) AND HYDROCHLOROFLUOROCARBON (HCFC) COOLING EQUIPMENT**

PBS noted the following cooling equipment at the buildings scheduled for demolition:

- 8 window-mounted air conditioning units
- 2 roof-mounted air conditioning units
- 5 walk-in coolers/freezer units

These devices all have the potential to contain CFC or HCFC refrigerant which contributes to ozone depletion. All CFC or HCFC refrigerants must be recovered from the device by a licensed professional before

the device can be disposed of. PBS recommends that the evacuated devices be sent to a recycling facility where the oils, and metals can be recovered and recycled or disposed of appropriately.

### **FUEL OIL AND HYDRAULIC OIL CONTAINING EQUIPMENT AND TANKS**

PBS observed one hydraulic motion elevator at the west end of the Epperson Building which has the capacity to contain up to 50 gallons of hydraulic oil within the reservoir, hoses, and cylinder of the piston. All oil containing components of the elevator should be completely drained and recycled.

Additionally, PBS observed a 200 gallon above ground tank at the southwest corner of the Boiler Building associated with the nearby backup generator. Care should be taken during demolition to prevent any spills of or exposure to the product. WCCDHL personnel have communicated the presence of two underground storage tanks (USTs) in the footprint of the demolition. It is PBS' understanding that these USTs were properly decommissioned and removed of following all applicable regulations.

This report is not suitable as a bid document or an asbestos abatement design. The purpose of this report is risk hazard communication only.

DRAFT

**Schreiber Starling Whitehead Architects**

**Washington Center for Childhood Deafness and Hearing Loss**

**Epperson Vocational, Epperson Annex, Maintenance/Warehouse/Industrial, Powerhouse/Boiler, and Kitchen/Dining Buildings**

Hazardous Materials Inventory

PBS Project No. 25570.001, Phase 0001

Hazardous Building Materials	Location	Quantity	Unit of Measurement	Comment
Asbestos-Containing Vinyl Floor Tile and Mastic on Concrete (Exposed)	Various Rooms Throughout Epperson, Kitchen/Dining, and Industrial Buildings	6,648	SF	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Vinyl Floor Tile and Mastic on Concrete (Concealed under Carpet)	Various Rooms Throughout Epperson and Industrial Buildings	20,213	SF	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Pipe Insulation (Hard-mudded Fittings, Mag Pipe, Air-Cell Pipe)	Various Locations Throughout Epperson, Kitchen/Dining, Boiler, Industrial Buildings, and Associated Tunnels	13,870	LF	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Mag Tank/Boiler Exhaust Duct Insulation	Various Locations Throughout Boiler Building and Mechanical Tunnels	2,320	SF	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Vibration Joint/Mechanical Isolation Cloth associated with HVAC Duct Work	Various Locations Throughout Boiler Building and Mechanical Tunnels	10	EA	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Black Undercoating Associated With Stainless Steel Sink	Epperson Building, 2nd Floor	1	EA	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Window Glazing Compound	All Windows Throughout Epperson, Kitchen/Dining, Industrial and Boiler Buildings	16,970	LF	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Window and Door Frame Caulk	All Windows and Doors Throughout Epperson, Kitchen/Dining, Industrial and Boiler Buildings	4,563	LF	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Interior Boiler and Piping Components (Gaskets, Sealants, Brick, Etc.)	Various Locations Throughout Boiler Building and Mechanical Equipment	1,100	LF	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Black Mastic Associated with Vinyl Countertops and Backsplashes	Various Locations Throughout Epperson Building, 2nd Floor	40	SF	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Built-up Asphaltic Roofing (Middle Layers)	Throughout Epperson and Kitchen/Dining Roofs and Associated Roof Parapet Walls	34,875	SF	Refer to Drawings for Specific Locations and Additional Information
Asbestos-Containing Pipe Insulation Debris	Various Locations Throughout Epperson, Kitchen/Dining, Boiler, Industrial Buildings, and Associated Tunnels	200	SF	Refer to Project Specifications for Additional Information
Presumed Asbestos-Containing Transite Backer Boards	Assumed Throughout Electrical Equipment Components	300	SF	Refer to Project Specifications for Additional Information
Asbestos-Containing (<1%) Wall and Ceiling Plaster	Various Locations Throughout Epperson Vocational and Kitchen/Dining Buildings	NQ	-	Refer to Survey Report and Drawings for Additional Information
Asbestos-Containing (<1%) Black/Brown Mastic associated with Vinyl Covebase	Various Locations Throughout Kitchen/Dining Building	NQ	-	Refer to Survey Report and Drawings for Additional Information
Asbestos-Containing (<1%) Joint Compound associated with Gypsum Wallboard Systems	Various Locations Throughout Industrial Building	NQ	-	Refer to Survey Report and Drawings for Additional Information
Lead-Containing Sheetting	Boiler Building On, Around, and Under Roof Drains and Plumbing Vents	10	EA	Refer to Drawings for Specific Locations and Additional Information
PCB-Containing Light Fixture Ballasts	Various Locations Throughout Epperson, Kitchen/Dining, Industrial, Boiler Buildings and associated Tunnels	600	EA	Refer to Survey Report and Project Specifications for Additional Information
Potentially PCB-Containing Oil	3 Pot Transformers at Kitchen/Dining Building and Elevator Equipment at Epperson Vocational Building	200	Gallons	Refer to Survey Report and Project Specifications for Additional Information
Mercury-Containing Light Fixtures	Various Locations Throughout Epperson, Kitchen/Dining, Boiler, Industrial Buildings, and Associated Tunnels	2,300	EA	Refer to Survey Report Additional Information
Mercury-Containing Thermostats and Float Switches	Various Locations Throughout Epperson, Kitchen/Dining, Boiler, Industrial Buildings, and Associated Tunnels	40	EA	Refer to Survey Report Additional Information
Potentially Radioactive (Tritium-Containing) Exit Signs	Various Locations Throughout Epperson, Kitchen/Dining, Boiler, Industrial Buildings, and Associated Tunnels	50	EA	Refer to Survey Report Additional Information
Potentially CFC- or HCFC-Containing Window-Mounted Air Conditioning Units	Various Locations Throughout Epperson, Kitchen/Dining, Boiler, Industrial Buildings	8	EA	Refer to Survey Report Additional Information
Potentially CFC- or HCFC-Containing Roof-Mounted Air Conditioning Units	Various Locations Throughout Kitchen/Dining Building Roof	2	EA	Refer to Survey Report Additional Information
Potentially CFC- or HCFC-Containing Walk-In Coolers/Freezer Units	Various Locations Throughout Kitchen/Dining Building Roof	5	EA	Refer to Survey Report Additional Information

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0001	Window Putty	East exterior; boiler building, window putty		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> hard compact material, tan <b>Analysis:</b> No Asbestos Detected	
25570.001-0002	HVAC Duct Insulation	Boiler Building, Main boiler exhaust duct insulation		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> woven fibers, white with paint, gray <b>Analysis:</b> No Asbestos Detected	
		Layer 2	fibrous powder, white 8% Chrysotile, 15% Amosite	
25570.001-0003	Tank insulation	Boiler Building, Aerator tank insulation		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> woven fibers, gray <b>Analysis:</b> No Asbestos Detected	
		Layer 2	fibrous powder, white 10% Chrysotile	
25570.001-0004	Tank insulation	Boiler Building, Hot water tank insulation		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> woven fibers, off-white with paint, gray <b>Analysis:</b> No Asbestos Detected	
		Layer 2	fibrous powder, white 5% Chrysotile, 8% Amosite	
25570.001-0005	Pipe Insulation	Boiler Building, Hot water return pipe insulation		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> woven fibers, off-white with paint, red <b>Analysis:</b> No Asbestos Detected	
		Layer 2	fibrous backing, off-white 55% Chrysotile	
		Layer 3	fibrous backing, brown No Asbestos Detected	
25570.001-0006	Concealed Grid Ceiling Tile	Epperson Vocational; room 113, 12" fissured ceiling tile (splined)		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> compressed fibrous material, light gray <b>Analysis:</b> No Asbestos Detected	
25570.001-0007	HVAC Duct Seam Caulk	Epperson Vocational; room 113, gray caulking on cylindrical HVAC duct		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> rubbery material, gray <b>Analysis:</b> No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0008	Covebase/Mastic	Epperson Vocational; room 113, 4" gray base with cream mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	rubbery material, gray	No Asbestos Detected
		Layer 2	mastic, off-white	No Asbestos Detected
25570.001-0009	Vinyl Floor Tile/Mastic	Epperson Vocational; room 113, 9" beige floor tile with black mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	vinyl, tan	No Asbestos Detected
		Layer 2	mastic, dark brown	<1% Chrysotile
25570.001-0010	Wall Plaster	Epperson Vocational; room 113, plaster wall		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	fine compact powder, off-white with paint, gray	No Asbestos Detected
		Layer 2	compact granular powder, white	No Asbestos Detected
25570.001-0011	Hard Fitting	Epperson Vocational; first floor corridor, hard fittings on 2" water line		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	fibrous powder, gray	No Asbestos Detected
25570.001-0012	Ceramic Tile Grout	Epperson Vocational; room 113, gray grout on window sill		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	fine cementitious material, gray	No Asbestos Detected
25570.001-0013	Vinyl Floor Tile/Mastic	Epperson Vocational; room 112, 12" beige tile with black mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	vinyl, off-white	No Asbestos Detected
		Layer 2	mastic, black	3% Chrysotile
25570.001-0014	Mastic	Epperson Vocational; hallway (main), yellow carpet mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	mastic, yellow	No Asbestos Detected
25570.001-0015	Mastic	Epperson Vocational; room 112, HVAC duct insulation with yellow mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	fibrous material, orange with coating, off-white	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0016	Mastic	Epperson Vocational; first floor corridor, brown and yellow wall panel mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	mastic, brown with paint, off-white	No Asbestos Detected
		Layer 2	paper backing, off-white	No Asbestos Detected
25570.001-0017	Covebase/Mastic	Epperson Vocational; room 110, 4" gray base with brown and cream mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	rubbery material, gray	No Asbestos Detected
		Layer 2	mastic, off-white/dark brown	No Asbestos Detected
25570.001-0018	Lay-in Ceiling Tile	Epperson Vocational; room 112		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	flexible material, white	No Asbestos Detected
		Layer 2	compressed fibers, yellow	No Asbestos Detected
25570.001-0019	Air Cell Pipe Insulation	Epperson Vocational; room 111A, air cell pipe insulation		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	woven fibers off-white with paing, off-white/blue	No Asbestos Detected
		Layer 2	fibrous material, gray	45% Chrysotile
25570.001-0020	Gypsum and Plaster	Epperson Vocational; room 111B, plaster on gypsum wallboard		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	fine compact powder, white with paint, off-white	No Asbestos Detected
		Layer 2	compact chalky material with paper, white	No Asbestos Detected
25570.001-0021	Covebase/Mastic	Epperson Vocational; room 109, 4" brown base with brown mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	rubbery material, brown	No Asbestos Detected
		Layer 2	mastic, brown	No Asbestos Detected
25570.001-0022	Vinyl Floor Tile/Mastic	Epperson Vocational; room 109, 9" brown tile with brown mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	vinyl, brown	No Asbestos Detected
		Layer 2	mastic, light brown	2% Chrysotile

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25570.001-0023	Mastic	Epperson Vocational; room 106,	brown wall panel mastic	Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> mastic, brown with coating, light green		<b>Analysis:</b> No Asbestos Detected
25570.001-0024	Covebase/Mastic	Epperson Vocational; room 106, 4" green base with yellow mastic		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> rubbery material, green		<b>Analysis:</b> No Asbestos Detected
		Layer 2	mastic, yellow		No Asbestos Detected
25570.001-0025	Gypsum and Plaster	Epperson Vocational; first floor corridor, plaster with gypsum wallboard		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> compact chalky material with paper, white with paint, yellow		<b>Analysis:</b> No Asbestos Detected
25570.001-0026	Stair Tread	Epperson Vocational; east stairwell, first floor, brown stair tread with brown mastic		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> rubbery material, brown		<b>Analysis:</b> No Asbestos Detected
		Layer 2	mastic, brown		No Asbestos Detected
25570.001-0027	Vinyl Floor Tile/Mastic	Epperson Vocational; first floor girls restroom, 12" brown tile with black mastic		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> hard vinyl, tan		<b>Analysis:</b> 2% Chrysotile
		Layer 2	mastic, black		3% Chrysotile
25570.001-0028	Ceramic Tile Grout	Epperson Vocational; first floor girls restroom, tan ceramic wall tile with grout		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> ceramic material, white/tan		<b>Analysis:</b> No Asbestos Detected
25570.001-0029	Ceramic Tile Grout	Epperson Vocational; first floor boys restroom, dark ceramic floor tile with grout		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> ceramic material, brown		<b>Analysis:</b> No Asbestos Detected
		Layer 2	fine cementitious material, gray		No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0030	Concealed Grid Ceiling Tile	Epperson Vocational; first floor corridor, 12" fissured ceiling tile (splined)		Lab Cor
	<b>Layer:</b> Layer 1	<b>Description:</b> compressed fibrous material, light gray	<b>Analysis:</b> No Asbestos Detected	
25570.001-0031	Mechanical Isolation Cloth	Epperson Vocational; second floor, 206A, vibration joint cloth on HVAC		Lab Cor
	<b>Layer:</b> Layer 1	<b>Description:</b> woven fibers, off-white/black	<b>Analysis:</b> 65% Chrysotile	
25570.001-0032	Insulation/Mastic	Epperson Vocational; second floor, 206A, HVAC duct insulation with yellow mastic		Lab Cor
	<b>Layer:</b> Layer 1	<b>Description:</b> woven fibers, orange	<b>Analysis:</b> No Asbestos Detected	
	<b>Layer:</b> Layer 2	<b>Description:</b> loose powder, yellow	<b>Analysis:</b> No Asbestos Detected	
25570.001-0033	Vinyl Floor Tile/Mastic	Epperson Vocational; second floor, 210, 12" tan tile with brown mastic		Lab Cor
	<b>Layer:</b> Layer 1	<b>Description:</b> vinyl, tan	<b>Analysis:</b> No Asbestos Detected	
	<b>Layer:</b> Layer 2	<b>Description:</b> mastic, orange	<b>Analysis:</b> No Asbestos Detected	
25570.001-0034	Vinyl Floor Tile/Mastic	Epperson Vocational; second floor, 201, 9" beige tile with brown mastic		Lab Cor
	<b>Layer:</b> Layer 1	<b>Description:</b> vinyl, yellow	<b>Analysis:</b> No Asbestos Detected	
	<b>Layer:</b> Layer 2	<b>Description:</b> mastic, tan	<b>Analysis:</b> No Asbestos Detected	
25570.001-0035	Sink Undercoating	Epperson Vocational; second floor, 201, black sink undercoating on stainless sink		Lab Cor
	<b>Layer:</b> Layer 1	<b>Description:</b> mastic, black	<b>Analysis:</b> 2% Chrysotile	
25570.001-0036	Concealed Grid Ceiling Tile	Epperson Vocational; second floor, 205, 12" fissured ceiling tile (splined)		Lab Cor
	<b>Layer:</b> Layer 1	<b>Description:</b> compressed fibrous material, light gray	<b>Analysis:</b> No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0037	Gypsum Wallboard/Joint Compound	Epperson Vocational; second floor, 214, gypsum wallboard with joint compound		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	fine compact powder, off-white with paint, off-white	No Asbestos Detected
		Layer 2	compact chalky material with paper, off-white	No Asbestos Detected
25570.001-0038	Poured Flooring	Epperson Vocational; second floor, girls restroom, multi-colored granular poured flooring		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	granular vinyl, tan	No Asbestos Detected
		Layer 2	fine cementitious material, gray	No Asbestos Detected
25570.001-0039	Covebase/Mastic	Epperson Vocational; second floor, girls restroom, 6" tan base with brown mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	rubbery material, tan	No Asbestos Detected
		Layer 2	mastic, off-white	No Asbestos Detected
		Layer 3	mastic, brown	No Asbestos Detected
25570.001-0040	Gypsum and Plaster	Epperson Vocational; second floor corridor, plaster on gypsum wallboard		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	compact powder, white with paint, white	No Asbestos Detected
		Layer 2	compact chalky material with paper, white	No Asbestos Detected
25570.001-0041	Tank Insulation	Epperson Vocational; subgrade mechanical room, expansion tank insulation		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	woven fibers, off-white with paint, red	No Asbestos Detected
		Layer 2	fibrous powder, gray	10% Chrysotile, 18% Amosite
25570.001-0042	Tank Insulation	Epperson Vocational; subgrade mechanical room, hot water tank insulation		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	woven fibers, off-white with paint, red	No Asbestos Detected
		Layer 2	fibrous powder, gray	10% Chrysotile, 18% Amosite

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0043	Mechanical Isolation Cloth	Epperson Vocational; subgrade mechanical room		Lab Cor
	<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
	Layer 1	woven fibers, off-white/black	65% Chrysotile	
25570.001-0044	Mag Pipe Insulation	Epperson Vocational; north-south tunnel, 3" HW line, white mag pipe insulation		Lab Cor
	<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
	Layer 1	fibrous material, black	55% Chrysotile	
	Layer 2	fibrous powder, gray	8% Chrysotile, 15% Amosite	
25570.001-0045	Hard Fittings/Mag Pipe	Epperson Vocational; north-south tunnel, 1-1/2" HW line, hard mudded fitting		Lab Cor
	<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
	Layer 1	woven fibers, off-white	No Asbestos Detected	
	Layer 2	fibrous powder, gray	5% Chrysotile, 8% Amosite	
25570.001-0046	Caulk	Epperson Vocational; second floor, 202, white caulking around door		Lab Cor
	<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
	Layer 1	rubbery material, off-white	No Asbestos Detected	
25570.001-0047	Window Glazing Compound	Epperson Vocational; south exterior of 111A, gray window glazing compound		Lab Cor
	<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
	Layer 1	loose brittle material, off-white/gray	No Asbestos Detected	
25570.001-0048	Caulk	Epperson Vocational; south exterior of 111A, gray window caulk		Lab Cor
	<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
	Layer 1	compact brittle material, brown/gray/off-white	15% Chrysotile	
25570.001-0049	Window Glazing Compound	Epperson Vocational; south exterior of 113, white window panel glazing compound		Lab Cor
	<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
	Layer 1	granular powder, off-white/gray	<1% Chrysotile	
25570.001-0050	Mortar	Epperson Vocational; east exterior, red brick and mortar		Lab Cor
	<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
	Layer 1	granular compact powder, red	No Asbestos Detected	
	Layer 2	granular compact powder, tan	No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0051	Caulk	Epperson Vocational; east exterior entry, beige door frame caulk		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> rubbery material, off-white/tan	<b>Analysis:</b> No Asbestos Detected
25570.001-0052	Asbestos Pipe Insulation	Boiler room; fiberglass pipe insulation, 8" steam line, straight can		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> woven fibers, tan with paint, orange	<b>Analysis:</b> No Asbestos Detected
		<b>Layer:</b> Layer 2	<b>Description:</b> fibrous material, gray/tan	<b>Analysis:</b> No Asbestos Detected
25570.001-0053	Gasket	Boiler room; CE vertical boiler, boiler door gasket		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> woven fibers, brown/off-white	<b>Analysis:</b> 90% Chrysotile
25570.001-0054	Insulation	Boiler room; CE vertical boiler, boiler door insulation		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> compact porous powder, brown	<b>Analysis:</b> No Asbestos Detected
25570.001-0055	Brick	Boiler room; CE vertical boiler, boiler refractory brick		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> compact porous powder, tan	<b>Analysis:</b> No Asbestos Detected
25570.001-0056	Caulk	Boiler room; CE vertical boiler, exterior boiler panel seam caulk		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> rubbery material, brown	<b>Analysis:</b> 4% Chrysotile
25570.001-0057	Hard Fittings/Mag Pipe	Epperson Vocational; classroom 113, hard fittings/mag pipe on heater return line		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> woven fibers, off-white with paint, green	<b>Analysis:</b> No Asbestos Detected
		<b>Layer:</b> Layer 2	<b>Description:</b> soft powder, gray	<b>Analysis:</b> No Asbestos Detected
25570.001-0058	Hard Fittings/Mag Pipe	Epperson Vocational; classroom 101, hard fittings/mag pipe on water line		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> woven fibers, off-white	<b>Analysis:</b> No Asbestos Detected
		<b>Layer:</b> Layer 2	<b>Description:</b> soft powder, gray	<b>Analysis:</b> No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0059	Vinyl Floor Tile/Mastic	Epperson Vocational; second floor corridor, 9" brown vinyl floor tile, yellow mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	vinyl, brown	No Asbestos Detected
		Layer 2	mastic, yellow	No Asbestos Detected
25570.001-0060	Vinyl Floor Tile/Mastic	Epperson Vocational; classroom 215, 9" beige vinyl floor tile, yellow mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	vinyl, yellow	No Asbestos Detected
		Layer 2	mastic, tan	2% Chrysotile
25570.001-0061	Vinyl Floor Tile/Mastic	Epperson Vocational; classroom 211, 9" beige vinyl floor tile with colored specks, black and yellow mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	vinyl, beige/tan	No Asbestos Detected
		Layer 2	mastic, dark brown	<1% Chrysotile
25570.001-0062	Mastic	Epperson Vocational; classroom 215, beige pattern countertop with black mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	compressed fibrous tile brown with coating, gray/tan	No Asbestos Detected
		Layer 2	brittle mastic, black	2% Chrysotile
25570.001-0063	Hard Fittings/Mag Pipe	Epperson Vocational; classroom 205, hard fittings/mag pipe on water line		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	woven fibers, off-white	No Asbestos Detected
		Layer 2	soft powder, gray	No Asbestos Detected
25570.001-0064	Mastic	Epperson Vocational; classroom 213, black chalkboard mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	compact powder, white with brittle mastic, brown	No Asbestos Detected
25570.001-0065	Hard Fittings/Mag Pipe	Epperson Annex; print shop, hard fittings/mag pipe on water line		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	woven fibers, off-white with paint, white	No Asbestos Detected
		Layer 2	soft powder, tan	5% Chrysotile, 10% Amosite

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25570.001-0066	Lay-in Ceiling Tile	Epperson Annex; paint room, 2' by 4' white lay-in ceiling		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> compressed fibrous material, tan with paint, white		<b>Analysis:</b> No Asbestos Detected
25570.001-0067	Vinyl Floor Tile/Mastic	Epperson Annex; auto shop, 12" beige vinyl floor tile with brown streaks, black mastic		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> hard vinyl, off-white		<b>Analysis:</b> No Asbestos Detected
		Layer 2	mastic, black		No Asbestos Detected
25570.001-0068	Glued-on Ceiling Tiles	Epperson Annex; paint room, 12" white ACT, brown mastic		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> compressed fibrous material, off-white with paint, off-white		<b>Analysis:</b> No Asbestos Detected
		Layer 2	mastic, brown		No Asbestos Detected
25570.001-0069	Mastic	Epperson Annex; paint room, yellow carpet mastic		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> mastic, yellow		<b>Analysis:</b> No Asbestos Detected
25570.001-0070	Sheet Floor Covering	Epperson Annex; carpentry shop office, light blue mottled sheet floor covering, yellow mastic		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> vinyl, blue		<b>Analysis:</b> No Asbestos Detected
		Layer 2	fibrous backing, gray		No Asbestos Detected
		Layer 3	mastic, yellow		No Asbestos Detected
25570.001-0071	Covebase/Mastic	Epperson Annex; carpentry shop, 4" brown vinyl covebase, brown mastic		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> rubbery material, brown		<b>Analysis:</b> No Asbestos Detected
		Layer 2	mastic, brown		No Asbestos Detected
25570.001-0072	Caulk	Epperson Annex; carpentry shop, interior brown door frame caulk		Lab Cor	
		<b>Layer:</b> Layer 1	<b>Description:</b> putty, gray with paint, off-white		<b>Analysis:</b> <1% Chrysotile

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0073	Window Glazing Compound	Kitchen; east weight room exterior window, window glazing, white, between glass and frame		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> fine compact powder, gray with coating, white	<b>Analysis:</b> <1% Chrysotile
25570.001-0074	Caulk	Kitchen; east weight room exterior window, window caulk, gray, between frame and building		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> fine compact powder, off-white with coating, beige	<b>Analysis:</b> 2% Chrysotile
25570.001-0075	Caulk	Kitchen; east weight room exterior door, door caulk, gray, between door and brick		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> rubbery material, gray with coating, red	<b>Analysis:</b> No Asbestos Detected
25570.001-0076	Caulk	Kitchen; weight room, south exterior window, window caulk, white, on side of window frame		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> hard compact material, brown, with coating, white	<b>Analysis:</b> 10% Chrysotile
25570.001-0077	Window Glazing Compound	Kitchen; east side exterior window, window glazing, black, between glass and frame		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> hard compact material, black	<b>Analysis:</b> No Asbestos Detected
25570.001-0078	Caulk	East side; exterior window, window caulk, gray, between frame and building		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> hard compact powder, gray with coating, white	<b>Analysis:</b> 2% Chrysotile
25570.001-0079	Caulk	Kitchen; west freezer room, interior window, window glazing, gray		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> fine compact powder, off-white with coating, tan/red	<b>Analysis:</b> No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0080	Mortar	Kitchen; northwest freezer room, interior, brick and mortar, red and gray		Lab Cor
		<b>Layer:</b> Layer 1 <b>Description:</b> loose granular material, red/white <b>Analysis:</b> No Asbestos Detected		
25570.001-0081	Sheet Floor Covering	Kitchen; north storage room, vinyl sheet, tan, red, and green		Lab Cor
		<b>Layer:</b> Layer 1 <b>Description:</b> hard vinyl, multicolored <b>Analysis:</b> No Asbestos Detected		
		<b>Layer:</b> Layer 2 <b>Description:</b> woven fibers, off-white <b>Analysis:</b> No Asbestos Detected		
25570.001-0082	Covebase/Mastic	Kitchen; north storage room, covebase, 4-inch, black, mastic, brown		Lab Cor
		<b>Layer:</b> Layer 1 <b>Description:</b> rubbery material, black <b>Analysis:</b> No Asbestos Detected		
		<b>Layer:</b> Layer 2 <b>Description:</b> mastic, orange <b>Analysis:</b> No Asbestos Detected		
25570.001-0083	Window Glazing Compound	Kitchen; north storage room, interior window, window glazing, black and gray		Lab Cor
		<b>Layer:</b> Layer 1 <b>Description:</b> fine compact powder, off-white with coating, brown <b>Analysis:</b> No Asbestos Detected		
25570.001-0084	Gypsum Wallboard/Joint Compound	Kitchen; north storage room, south wall, gypsum and joint compound, white, with coating, tan		Lab Cor
		<b>Layer:</b> Layer 1 <b>Description:</b> fine compact powder, off-white with coating, beige <b>Analysis:</b> No Asbestos Detected		
		<b>Layer:</b> Layer 2 <b>Description:</b> fine compact powder, off-white with beige, beige <b>Analysis:</b> No Asbestos Detected		
		<b>Layer:</b> Layer 3 <b>Description:</b> compact chalky material with paper, white <b>Analysis:</b> No Asbestos Detected		
25570.001-0085	Lay-in Ceiling Tile	Kitchen; north storage room, ceiling, ceiling tile, white, with fiberglass, yellow		Lab Cor
		<b>Layer:</b> Layer 1 <b>Description:</b> coating, white <b>Analysis:</b> No Asbestos Detected		
		<b>Layer:</b> Layer 2 <b>Description:</b> loose fibrous material, yellow <b>Analysis:</b> No Asbestos Detected		

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25570.001-0086	Hard Fittings/Fiberglass	Kitchen; northwest freezer rom, hard fitting, gray, on fiberglass		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	woven fibrous material, off-white/gray		No Asbestos Detected
	Layer 2	compact chalky material, gray	No Asbestos Detected		
25570.001-0087	Vinyl Floor Tile/Mastic	Kitchen; office behind storage room, vinyl tile, gray, with mastic, black, on concrete		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	brittle vinyl, off-white		No Asbestos Detected
	Layer 2	mastic, black	2% Chrysotile		
25570.001-0088	Lay-in Ceiling Tile	Kitchen; office behind storage room, ceiling tile 2' by 4', scars and pinhole pattern		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
	Layer 1	compressed fibrous material, gray/tan, with thin coating, white	No Asbestos Detected		
25570.001-0089	Wall and Ceiling Plaster	Kitchen; central corridor at kitchen, ceiling plaster, gray, with coating, tan		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	fine compact powder, white, with paint, tan		No Asbestos Detected
	Layer 2	granular compact powder, gray	No Asbestos Detected		
25570.001-0090	Hard Fittings/Fiberglass	Kitchen; central corridor at kitchen, hard fitting, gray, on fiberglass		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	woven fibers, off-white/gray		No Asbestos Detected
	Layer 2	compact chalky material, gray	No Asbestos Detected		
25570.001-0091	Sheet Floor Covering	Kitchen; southwest room, next to weight room, vinyl sheet, green wave pattern, under carpet		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	flexible vinyl, green		No Asbestos Detected
	Layer 2	woven fibers, tan	No Asbestos Detected		
25570.001-0092	Covebase/Mastic	Kitchen; southwest room, next to weight room, covebase, 4-inch, black, with mastic, brown and black		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	rubbery material, black		No Asbestos Detected
	Layer 2	mastic, black/gray	<1% Chrysotile		

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25570.001-0093	Vinyl Floor Tile/Mastic	Kitchen; south side, weight room, vinyl tile, tan, with mastic, black		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	vinyl, tan		No Asbestos Detected
		Layer 2	mastic, black	4% Chrysotile	
25570.001-0094	Ceramic Tile/Grout	Kitchen; south side, weight room, ceramic tile, black, with grout, gray, and mastic on mortar base, brown		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	hard compact powder, tan/black		No Asbestos Detected
		Layer 2	granular compact powder, gray/tan		No Asbestos Detected
		Layer 3	fine compact powder, gray/off-white, with coating, black		<1% Chrysotile
		Layer 4	hard compact powder, gray	No Asbestos Detected	
25570.001-0095	Sheet Floor Covering	Kitchen; weight room, men's restroom, vinyl sheet, gray, with felt, gray, mastic, yellow		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	vinyl, tan/off-white		No Asbestos Detected
		Layer 2	fibrous backing, gray, with mastic, clear	No Asbestos Detected	
25570.001-0096	Vinyl Floor Tile/Mastic	Kitchen; weight room, storage area, vinyl tile, brown, with mastic, yellow		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	vinyl, off-white/tan, with thin mastic, yellow	No Asbestos Detected	
25570.001-0097	Wall and Ceiling Plaster	Kitchen; west side, interior wall, wall plaster, gray, with coating, tan and white		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>		<b>Analysis:</b>
		Layer 1	paint, tan/pink		No Asbestos Detected
		Layer 2	fine compact powder, white, with paint, gray		No Asbestos Detected
		Layer 3	granular compact powder, gray	No Asbestos Detected	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0098	Wall and Ceiling Plaster	Kitchen; west side of weight room, wall plaster, gray, with coating, gray and off-white		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	thin compact powder, off-white, with paint, off-white	<1% Chrysotile
		Layer 2	fine compact powder, white, with paint, tan	No Asbestos Detected
		Layer 3	granular compact powder, gray	No Asbestos Detected
25570.001-0099	Air Cell Pipe Insulation	Kitchen; dining tunnels, air cell pipe insulation, gray		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	fibrous material, gray, with coating, tan/white	40% Chrysotile
25570.001-0100	Hard Fittings/Mag Pipe	Kitchen; dining tunnels, 1" steam line elbow		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	woven fibers, tan	No Asbestos Detected
		Layer 2	compact chalky material, gray	No Asbestos Detected
25570.001-0101	Ceramic Tile/Grout	Epperson Annex; bakery, 4" green ceramic wall tile, grout, black mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	hard compact powder, white, with coating, tan	No Asbestos Detected
		Layer 2	brittle material, green/black	No Asbestos Detected
		Layer 3	fine compact powder, white, with coating, red/green	No Asbestos Detected
25570.001-0102	Vinyl Floor Tile/Mastic	Epperson Annex; bakery, 9" brown vinyl floor tile, yellow mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	vinyl, tan, with coating, black, and thin mastic, tan	<1% Chrysotile
25570.001-0103	Poured Flooring	Epperson Annex; bakery, brown poured flooring		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	thin powder, off-white, with paint, black/green	No Asbestos Detected
		Layer 2	compact powder, red	No Asbestos Detected
		Layer 3	hard granular powder, gray	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0104	Window Glazing Compound	Kitchen; weight room, south exterior windows, window caulk, white, on bottom window frame		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> brittle compact powder, tan/gray, with coating, tan/off-white	<b>Analysis:</b> 9% Chrysotile
25570.001-0105	Stucco	Cafeteria building; east exterior wall, stucco, gray		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> loose granular material, tan	<b>Analysis:</b> No Asbestos Detected
25570.001-0106	Stucco	Cafeteria building; east exterior wall, stucco, gray		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> loose granular material, tan	<b>Analysis:</b> No Asbestos Detected
25570.001-0107	Covebase/Mastic	Industrial building; southeast entrance area, covebase, 4", black, mastic, brown		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> rubbery material, brown	<b>Analysis:</b> No Asbestos Detected
		Layer 2	mastic, brown	No Asbestos Detected
		Layer 3	compact chalky material with paper, white	No Asbestos Detected
25570.001-0108	Mastic	Industrial building; southeast entrance area, carpet mastic, yellow, on concrete		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> loose mastic, yellow	<b>Analysis:</b> No Asbestos Detected
25570.001-0109	Vinyl Floor Tile/Mastic	Industrial building; south security room, vinyl floor tile, 9" red, mastic, yellow, on concrete		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> hard vinyl, tan	<b>Analysis:</b> No Asbestos Detected
		Layer 2	mastic, brown	<1% Chrysotile
25570.001-0110	Lay-in Ceiling Tile	Industrial building; south security room, nailed-in ceiling tile, 12", fissures and pinholes		Lab Cor
		<b>Layer:</b> Layer 1	<b>Description:</b> coating, white	<b>Analysis:</b> No Asbestos Detected
		Layer 2	compressed fibers, brown	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0111	Window Glazing Compound	Industrial building; south exterior window, window glazing, white, between glass and frame		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	paint, off-white	No Asbestos Detected
		Layer 2	hard compact powder, off-white	No Asbestos Detected
25570.001-0112	Caulk	Industrial building; south exterior window, window caulk, gray, between frame and building		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	paint, white	No Asbestos Detected
		Layer 2	soft compact material, white/gray	No Asbestos Detected
25570.001-0113	Caulk	Industrial building; south exterior door, door caulk, gray, between frame and building		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	soft compact material, white/gray	No Asbestos Detected
		Layer 2	flaky material, off-white/gray	No Asbestos Detected
25570.001-0114	Gypsum Wallboard/Joint Compound	Industrial building; southeast office area, gypsum wallboard, joint compound		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	paint, white with fine compact powder, off-white	No Asbestos Detected
		Layer 2	textured paint, white	No Asbestos Detected
		Layer 3	compact chalky material with paper, pink	No Asbestos Detected
25570.001-0115	Gypsum Wallboard/Joint Compound	Industrial building; west interior wall, gypsum wallboard, joint compound		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	paint, white with fine compact powder, off-white	No Asbestos Detected
		Layer 2	paint, white	No Asbestos Detected
		Layer 3	compact chalky material with paper, white	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>	
25570.001-0116	Gypsum Wallboard/Joint Compound	Industrial building; basement ceiling, gypsum wallboard, joint compound		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
		Layer 1	paint, white with fine compact powder, tan	No Asbestos Detected	
		Layer 2	brittle paint, off-white	No Asbestos Detected	
25570.001-0117	Air Cell Pipe Insulation	Industrial building; south security room, air cell pipe insulation, gray		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
		Layer 1	flaky material, white/green	No Asbestos Detected	
25570.001-0118	Air Cell Pipe Insulation	Industrial building; new south wall, air cell pipe insulation, gray		Lab Cor	
			<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
			Layer 2	woven fibers, tan	No Asbestos Detected
			Layer 3	compressed fibers, brown	No Asbestos Detected
25570.001-0119	Hard Fittings/Fiberglass	Industrial building; basement, by stairs, hard fitting, white, on fiberglass		Lab Cor	
			<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
			Layer 1	loose fine powder, white	2% Chrysotile, 5% Amosite
			Layer 4	compressed fibers, gray	40% Chrysotile
25570.001-0120	Cementitious Roof Shingles	Industrial building; roof, roofing shingles, black		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
		Layer 1	rocky fibrous tar, black	No Asbestos Detected	
25570.001-0121	Vinyl Floor Tile/Mastic	Industrial building; west office restroom, vinyl floor tile, 9", mastic, black, on concrete		Lab Cor	
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>	
		Layer 1	vinyl, tan	2% Chrysotile	
		Layer 2	mastic, black	4% Chrysotile	

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0122	Covebase/Mastic	Industrial building; west office restroom, covebase, 4", black, mastic, brown		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	rubbery material, black	No Asbestos Detected
		Layer 2	mastic, brown	No Asbestos Detected
		Layer 3	compact chalky material with paper, white	No Asbestos Detected
25570.001-0123	Mastic	Industrial building; southwest office, carpet mastic, yellow, on concrete		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	mastic, tan	No Asbestos Detected
		Layer 2	fine compact powder, off-white	<1% Chrysotile
25570.001-0124	Lay-in Ceiling Tile	Industrial building; southwest office, lay-in ceiling tile, 2' by 4', scars and pinholes		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	compressed fibrous material, gray, with thin coating, white	No Asbestos Detected
25570.001-0125	Gypsum Wallboard/Joint Compound	Industrial building; southwest office, gypsum wallboard, joint compound		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	fine compact powder, white, with paint, white	2% Chrysotile
		Layer 2	compact chalky material with paper, off-white	No Asbestos Detected
	<b>Comments:</b>	Gravimetric reduction and point count % asbestos: 0.05		
25570.001-0126	Lay-in Ceiling Tile	Industrial building; southwest office, lay-in ceiling tile, 2' by 4', coarse		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	compressed fibrous material, yellow, with coating, white	No Asbestos Detected
25570.001-0127	Window Putty	Epperson annex; east exterior sheet metal fabrication, window putty/glazing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	hard compact powder, gray	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0128	Caulk	Epperson annex; east exterior sheet metal fabrication, window frame caulk		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	hard compact powder, gray with paint, white	<1% Chrysotile
25570.001-0129	Mastic	Epperson vocation; classroom 214, vinyl counter backsplash with brown mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	fine compact powder, white	No Asbestos Detected
		Layer 2	hard compact material, brown/off-white	No Asbestos Detected
		Layer 3	mastic, brown	No Asbestos Detected
		Layer 4	mastic, red	No Asbestos Detected
25570.001-0130	Mastic	Epperson vocation; classroom 215, vinyl counter backsplash with brown mastic		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	hard compact material, brown/gray	No Asbestos Detected
		Layer 2	compressed fibers, brown with mastic, clear	No Asbestos Detected
25570.001-0131	Wall and Ceiling Plaster	Epperson vocation; classroom 112A, wall plaster		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	paint, white with granular compact powder, white	<1% Chrysotile
		Layer 2	chalky material, white with paper backing, red	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0132	Built-up Roofing	Epperson vocational; northwest area roof, membrane on asphaltic built-up roofing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 01	flexible material with woven fibers, white/blue	No Asbestos Detected
		Layer 02	flexible material with woven fibers, white/blue	No Asbestos Detected
		Layer 03	fibrous tar, black	No Asbestos Detected
		Layer 04	coating, silver	No Asbestos Detected
		Layer 05	fibrous tar, black	No Asbestos Detected
		Layer 06	fibrous tar, black	10% Chrysotile
		Layer 07	fibrous tar, black	10% Chrysotile
		Layer 08	fibrous tar, black	10% Chrysotile
		Layer 09	compressed fibers, brown	No Asbestos Detected
		Layer 10	rocky fibrous tar, black	No Asbestos Detected
		Layer 11	thick tar, black	No Asbestos Detected
25570.001-0133	Built-up Roofing	Epperson vocational; central area roof, membrane on asphaltic built-up roofing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	flexible material with woven fibers, white/blue	No Asbestos Detected
		Layer 2	foam, black	No Asbestos Detected
		Layer 3	coating, silver	No Asbestos Detected
		Layer 4	fibrous tar, black	No Asbestos Detected
		Layer 5	fibrous tar, black	10% Chrysotile
		Layer 6	fibrous tar, black	10% Chrysotile
		Layer 7	fibrous tar, black, with compressed fibers, gray	10% Chrysotile
		Layer 8	rocky fibrous tar, black	No Asbestos Detected
		Layer 9	thick tar, black	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0134	Built-up Roofing	Epperson vocational; southeast area roof, membrane on asphaltic built-up roofing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 01	flexible material, white/blue	No Asbestos Detected
		Layer 02	fibrous tar, black	No Asbestos Detected
		Layer 03	foam, gray	No Asbestos Detected
		Layer 04	coating, silver	No Asbestos Detected
		Layer 05	fibrous tar, black	No Asbestos Detected
		Layer 06	fibrous tar, black	35% Chrysotile
		Layer 07	fibrous tar, black	35% Chrysotile
		Layer 08	fibrous tar, black	35% Chrysotile
		Layer 09	fibrous tar, black	35% Chrysotile
		Layer 10	fibrous tar, black	35% Chrysotile
		Layer 11	fine compact powder, brown	No Asbestos Detected
		Layer 12	fibrous backing, dark gray	No Asbestos Detected
25570.001-0135	Built-up Roofing	Epperson annex; northeast area roof, membrane on asphaltic built-up roofing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 01	flexible material, white/blue	No Asbestos Detected
		Layer 02	fibrous backing, brown	No Asbestos Detected
		Layer 03	fibrous backing, dark gray	No Asbestos Detected
		Layer 04	foam, yellow	No Asbestos Detected
		Layer 05	fibrous backing, dark gray	No Asbestos Detected
		Layer 06	fibrous tar, black	35% Chrysotile
		Layer 07	fibrous tar, black	35% Chrysotile
		Layer 08	fibrous tar, black	35% Chrysotile
		Layer 09	compressed fibers, brown	No Asbestos Detected
		Layer 10	tar, black	No Asbestos Detected
		Layer 11	rocky fibrous tar, black	No Asbestos Detected
		Layer 12	fibrous tar, black	35% Chrysotile

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0136	Built-up Roofing	Epperson annex; west central area roof, membrane on asphaltic built-up roofing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 01	flexible material, white	No Asbestos Detected
		Layer 02	compressed fibers, brown	No Asbestos Detected
		Layer 03	rocky fibrous tar, black	No Asbestos Detected
		Layer 04	fibrous backing, dark gray	No Asbestos Detected
		Layer 05	coating, silver	No Asbestos Detected
		Layer 06	fibrous tar, black	No Asbestos Detected
		Layer 07	fibrous tar, black	35% Chrysotile
		Layer 08	fibrous tar, black	35% Chrysotile
		Layer 09	fibrous tar, black	35% Chrysotile
		Layer 10	fibrous tar, black	35% Chrysotile
		Layer 11	fibrous tar, black	35% Chrysotile
		Layer 12	fibrous backing, dark gray	No Asbestos Detected
		Layer 13	foam, yellow	No Asbestos Detected
		Layer 14	fibrous backing, brown	No Asbestos Detected
25570.001-0137	Built-up Roofing	Epperson annex; southeast area roof, membrane on asphaltic built-up roofing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 01	compressed fibers, tan	No Asbestos Detected
		Layer 02	foam, off-white	No Asbestos Detected
		Layer 03	fibrous material, gray	No Asbestos Detected
		Layer 04	fibrous tar, black with coating, silver	<1% Chrysotile
		Layer 05	fibrous tar, black	35% Chrysotile
		Layer 06	fibrous tar, black	35% Chrysotile
		Layer 07	fibrous tar, black	35% Chrysotile
		Layer 08	tar, black	<1% Chrysotile
		Layer 09	fibrous tar, black	35% Chrysotile
		Layer 10	rocky fibrous tar, black	No Asbestos Detected
		Layer 11	vinyl, white/blue with woven fibers, white	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0138	Built-up Roofing	Kitchen building; , membrane on asphaltic built-up roofing	asphaltic built-up roofing	Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 01	fibrous tar, black	No Asbestos Detected
		Layer 02	fibrous tar, black	No Asbestos Detected
		Layer 03	compressed fibers, gray	No Asbestos Detected
		Layer 04	tar, black with coating, silver	<1% Chrysotile
		Layer 05	fibrous tar, black	35% Chrysotile
		Layer 06	fibrous tar, black	35% Chrysotile
		Layer 07	fibrous tar, black	35% Chrysotile
		Layer 08	fibrous tar, black	35% Chrysotile
		Layer 09	fibrous tar, black	35% Chrysotile
		Layer 10	compressed fibers, brown	No Asbestos Detected
		Layer 11	vinyl, blue/white with woven fibers, white	No Asbestos Detected
		Layer 12	foam, black	No Asbestos Detected
25570.001-0139	Built-up Roofing	Kitchen building; central area roof, membrane on asphaltic built-up roofing	asphaltic built-up roofing	Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 01	foam, black	No Asbestos Detected
		Layer 02	tar, black	No Asbestos Detected
		Layer 03	coating, silver	No Asbestos Detected
		Layer 04	flexible tar, black	No Asbestos Detected
		Layer 05	thick tar, black	No Asbestos Detected
		Layer 06	tar, black	No Asbestos Detected
		Layer 07	fibrous tar, black, with tar, black	30% Chrysotile
		Layer 08	fibrous tar, black, with tar, black	40% Chrysotile
		Layer 09	loose fibrous material, brown	No Asbestos Detected
		Layer 10	tar, black	No Asbestos Detected
		Layer 11	rocky fibrous tar, black	No Asbestos Detected
		Layer 12	fibrous tar, black	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0140	Built-up Roofing	Kitchen building; southwest area roof, membrane on asphaltic built-up roofing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 01	fibrous tar, black	35% Chrysotile
		Layer 02	compressed fibers, brown	No Asbestos Detected
		Layer 03	rocky fibrous tar, black	No Asbestos Detected
		Layer 04	coating, silver	No Asbestos Detected
		Layer 05	fibrous tar, black	No Asbestos Detected
		Layer 06	fibrous tar, black	35% Chrysotile
		Layer 07	fibrous tar, black	35% Chrysotile
		Layer 08	fibrous tar, black	35% Chrysotile
		Layer 09	fibrous tar, black	35% Chrysotile
		Layer 10	fibrous tar, black	35% Chrysotile
		Layer 11	flexible material, white/blue	No Asbestos Detected
		Layer 12	foam, dark gray	No Asbestos Detected
		Layer 13	fibrous backing, dark gray	No Asbestos Detected
25570.001-0141	Built-up Roofing	Kitchen building; addition, northeast area roof, membrane on asphaltic built-up roofing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 01	flexible material, white/blue	No Asbestos Detected
		Layer 02	foam, dark gray	No Asbestos Detected
		Layer 03	fibrous backing, dark gray	No Asbestos Detected
		Layer 04	coating, silver	No Asbestos Detected
		Layer 05	tar, black	No Asbestos Detected
		Layer 06	fibrous tar, black	35% Chrysotile
		Layer 07	fibrous tar, black	35% Chrysotile
		Layer 08	fibrous tar, black	35% Chrysotile
		Layer 09	fibrous tar, black	35% Chrysotile
		Layer 10	compressed fibers, brown	No Asbestos Detected
		Layer 11	rocky fibrous tar, black	No Asbestos Detected

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0142	Built-up Roofing	Kitchen building; addition, southeast area roof, membrane on asphaltic built-up roofing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 01	rubbery material, white/blue	No Asbestos Detected
		Layer 02	paint, silver	No Asbestos Detected
		Layer 03	fibrous tar, black	No Asbestos Detected
		Layer 04	fibrous backing, dark gray	No Asbestos Detected
		Layer 05	fibrous tar, black	35% Chrysotile
		Layer 06	fibrous tar, black	35% Chrysotile
		Layer 07	fibrous tar, black	35% Chrysotile
		Layer 08	fibrous tar, black	35% Chrysotile
		Layer 09	fibrous material, brown	No Asbestos Detected
		Layer 10	fibrous tar, black	No Asbestos Detected
		Layer 11	fibrous tar, black	No Asbestos Detected
25570.001-0143	Caulk	Kitchen building; HVAC gray duct seam caulk		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	rubbery material, gray/black	No Asbestos Detected
25570.001-0144	Built-up Roofing	Kitchen building; southwest parapet wall, membrane on asphaltic built-up roofing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	vinyl, white/green with woven fibers, white	No Asbestos Detected
		Layer 2	fibrous tar, black	No Asbestos Detected
		Layer 3	fibrous tar, black	No Asbestos Detected
		Layer 4	tar, black with coating, silver	2% Chrysotile
25570.001-0145	Built-up Roofing	Maintenance building; southwest area, lower roof, three-tab asphaltic shingle, asphaltic paper vapor barrier		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	rocky fibrous tar, black/red	No Asbestos Detected
25570.001-0146	Built-up Roofing	Maintenance building; central area, upper roof, three-tab asphaltic shingle, asphaltic paper vapor barrier		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	rocky fibrous tar, black/white	No Asbestos Detected
		Layer 2	fibrous tar, black	No Asbestos Detected

---

<u>Code</u>	<u>Material</u>	<u>Location</u>	<u>Results</u>	<u>Lab</u>
25570.001-0147	Built-up Roofing	Maintenance building; northeast area, upper roof, three-tab asphaltic shingle, asphaltic paper vapor barrier		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	rocky fibrous tar, black	No Asbestos Detected
		Layer 2	fibrous material, black	No Asbestos Detected
25570.001-0148	Window Glazing Compound	Maintenance building; north exterior roof, window glazing		Lab Cor
		<b>Layer:</b>	<b>Description:</b>	<b>Analysis:</b>
		Layer 1	hard compact powder, off-white with paint, white	<1% Chrysotile

DRAFT

<b><u>Code</u></b>	<b><u>Material</u></b>	<b><u>Analysis</u></b>	<b><u>Location</u></b>	<b><u>Lab</u></b>
<b>PAINT</b>				
LB25570.001-1001	Paint	260,000 ppm	East exterior; boiler building, window frame, metal, yellow, poor condition	R.J. Lee Group
LB25570.001-1002	Paint	2,300 ppm	North interior; boiler building, wall, brick, light blue, poor condition	R.J. Lee Group
LB25570.001-1003	Paint	1,600 ppm	Epperson Vocational interior; room 106 office, wall, plaster, green, poor condition	R.J. Lee Group
LB25570.001-1004	Paint	3,800 ppm	Epperson Vocational interior; room 113, door, metal, beige/turquoise, good condition	R.J. Lee Group
LB25570.001-1005	Paint	3,000 ppm	Epperson Vocational interior; first floor corridor, heater, metal, beige, black, good condition	R.J. Lee Group
LB25570.001-1006	Paint	34,000 ppm	Epperson Vocational; east exterior, woodshop, louvers, metal, gray/red, poor condition	R.J. Lee Group
LB25570.001-1007	Paint	1,100 ppm	Epperson Vocational; south exterior of 111A, column, concrete, beige, good condition	R.J. Lee Group
LB25570.001-1008	Paint	620 ppm	Epperson Annex; auto shop, wall, CMU, beige and blue, good condition	R.J. Lee Group
LB25570.001-1009	Paint	4,400 ppm	Kitchen; weight room, south exterior window, window, metal, tan, poor condition	R.J. Lee Group
LB25570.001-1010	Paint	190,000 ppm	Kitchen; west side door, door, wood, red, poor condition	R.J. Lee Group
LB25570.001-1011	Paint	200,000 ppm	Kitchen; north side, door frame, wood, white, poor condition	R.J. Lee Group
LB25570.001-1012	Paint	3,400 ppm	Kitchen; northwest office, interior wall, wall, plaster, white, poor condition	R.J. Lee Group
LB25570.001-1013	Paint	330,000 ppm	Kitchen; south weight room interior wall, wall, plaster, white, poor condition	R.J. Lee Group
LB25570.001-1014	Paint	31,000 ppm	Kitchen; women's bathroom, off corridor, door frame, wood, white, poor condition	R.J. Lee Group
LB25570.001-1015	Paint	320 ppm	Industrial building; east exterior wall, CMU block, red, poor condition	R.J. Lee Group
LB25570.001-1016	Paint	<97 ppm	Industrial building; south exterior wall, gutter, metal, beige, poor condition	R.J. Lee Group
LB25570.001-1017	Paint	210,000 ppm	Industrial building; south exterior wall, door frame, wood, tan, poor condition	R.J. Lee Group
LB25570.001-1018	Paint	1,500 ppm	Industrial building; interior wall, CMU block, white, poor condition	R.J. Lee Group

**Bulk Sample Inventory of PCB Sealants and Caulk****Schreiber Starling Whitehead Architects*****Epperson Vocational, Epperson Annex, Maintenance/Warehouse/Industrial, Powerhouse/Boiler, and Kitchen/Dining Buildings***

PBS Project 25570.001, Phase 0001

<b>Sample #</b>	<b>Location</b>	<b>Component</b>	<b>Results</b>
2001	Epperson Vocational, East Exterior	Door Frame Caulk	Aroclor 1242 / 4.88 ppm
2002	Industrial Building, South Exterior	Door Frame Caulk	None Detected
2003	Boiler Building, South Exterior	Door Frame Caulk	None Detected
2004	Kitchen/Dining Building, Southeast Exterior	Door Frame Caulk	None Detected
2005	Epperson Annex, East Exterior	Window Frame Caulk	Aroclor 1242 / 1.08 ppm

ppm = parts per million

DRAFT



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0001	<b>Sample ID:</b> S1	<b>Date Analyzed:</b> 12/03/2018	<b>Analyst:</b> Stephanie Golden			
<b>Client Sample Description:</b>						
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>	
<b>Homogeneous</b>	hard compact material, tan	100 %	-	-	-	<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	-	-	-	-	100 %

<b>Client Sample ID:</b> 25570.001-0002	<b>Sample ID:</b> S2	<b>Date Analyzed:</b> 12/03/2018	<b>Analyst:</b> Stephanie Golden			
<b>Client Sample Description:</b>						
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>	
<b>Layer 01</b>	woven fibers, white with paint, gray	35 %	-	-	-	<b>NAD</b>
<b>Layer 02</b>	fibrous powder, white	65 %	8 %	15 %	-	<b>23 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>	90 %	-	-	-	-	10 %
<b>Layer 02</b>	-	-	-	-	-	77 %

<b>Client Sample ID:</b> 25570.001-0003	<b>Sample ID:</b> S3	<b>Date Analyzed:</b> 12/03/2018	<b>Analyst:</b> Stephanie Golden			
<b>Client Sample Description:</b>						
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>	
<b>Layer 01</b>	woven fibers, gray	50 %	-	-	-	<b>NAD</b>
<b>Layer 02</b>	fibrous powder, white	50 %	10 %	-	-	<b>10 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>	-	90 %	-	-	-	10 %
<b>Layer 02</b>	-	-	-	-	-	90 %

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188609R01  
**Report Date:** 12/04/2018**Job Number:** 188609**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0004</b>		<b>Sample ID:</b>	<b>S4</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>	
<b>Client Sample Description:</b>								
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>			
<b>Layer 01</b>								
woven fibers, off-white with paint, gray	60 %	-	-	-				<b>NAD</b>
<b>Layer 02</b>								
fibrous powder, white	40 %	5 %	8 %	-				<b>13 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	<b>Matrix</b>		
<b>Layer 01</b>	-	90 %	-	-	-			10 %
<b>Layer 02</b>	-	-	-	-	-			87 %

<b>Client Sample ID:</b>	<b>25570.001-0005</b>		<b>Sample ID:</b>	<b>S5</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>	
<b>Client Sample Description:</b>								
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>			
<b>Layer 01</b>								
woven fibers, off-white with paint, red	20 %	-	-	-				<b>NAD</b>
<b>Layer 02</b>								
fibrous backing, off-white	25 %	55 %	-	-				<b>55 %</b>
<b>Layer 03</b>								
fibrous backing, brown	55 %	-	-	-				<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	<b>Matrix</b>		
<b>Layer 01</b>	-	90 %	-	-	-			10 %
<b>Layer 02</b>	-	20 %	-	-	-			25 %
<b>Layer 03</b>	-	100 %	-	-	-			0 %

<b>Client Sample ID:</b>	<b>25570.001-0006</b>		<b>Sample ID:</b>	<b>S6</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>	
<b>Client Sample Description:</b>								
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>			
<b>Homogeneous</b>								
compressed fibrous material, light gray	100 %	-	-	-				<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	<b>Matrix</b>		
	10 %	-	70 %	-	-			20 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	Sample ID:	Date Analyzed:	Analyst:	Percent Asbestos:
<b>25570.001-0007</b>	S7	12/03/2018	Stephanie Golden	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite
<b>Homogeneous</b>	rubbery material, gray	100 %	-	-
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic
	-	-	-	-
			Other	Matrix
			-	100 %
<b>Percent Asbestos: NAD</b>				
<b>25570.001-0008</b>	S8	12/03/2018	Stephanie Golden	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite
<b>Layer 01</b>	rubbery material, gray	98 %	-	-
<b>Layer 02</b>	mastic, off-white	2 %	-	-
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic
<b>Layer 01</b>	-	-	-	-
<b>Layer 02</b>	-	-	-	-
			Other	Matrix
			-	100 %
			-	100 %
<b>Percent Asbestos: NAD</b>				
<b>25570.001-0009</b>	S9	12/03/2018	Stephanie Golden	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite
<b>Layer 01</b>	vinyl, tan	92 %	-	-
<b>Layer 02</b>	mastic, dark brown	8 %	Trace	-
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic
<b>Layer 01</b>	-	-	-	-
<b>Layer 02</b>	-	-	-	-
			Other	Matrix
			-	100 %
			-	100 %
<b>Percent Asbestos: &lt; 1 %</b>				

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188609R01  
**Report Date:** 12/04/2018**Job Number:** 188609**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0010</b>		<b>Sample ID:</b>	<b>S10</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Layer 01</b>												
fine compact powder, off-white with paint, gray	25 %	-	-	-								<b>NAD</b>
<b>Layer 02</b>												
compact granular powder, white	75 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other						Matrix	
<b>Layer 01</b>	-	-	-	-	-						100 %	
<b>Layer 02</b>	-	-	-	-	-						100 %	

<b>Client Sample ID:</b>	<b>25570.001-0011</b>		<b>Sample ID:</b>	<b>S11</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Homogeneous</b>												
fibrous powder, gray	100 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other						Matrix	
	5 %	2 %	5 %	-	-						88 %	

<b>Client Sample ID:</b>	<b>25570.001-0012</b>		<b>Sample ID:</b>	<b>S12</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Homogeneous</b>												
fine cementitious material, gray	100 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other						Matrix	
	-	-	-	-	-						100 %	



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0013		<u>Sample ID:</u>	S13		<u>Date Analyzed:</u>	12/03/2018		<u>Analyst:</u>	Stephanie Golden		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							<u>Percent Asbestos:</u>
<b>Layer 01</b>												
vinyl, off-white		97 %	-	-	-							<b>NAD</b>
<b>Layer 02</b>												
mastic, black		3 %	3 %	-	-							<b>3 %</b>
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							
<b>Layer 01</b>	-	-	-	-	-	-	-	-	-	-	-	Matrix 100 %
<b>Layer 02</b>	-	-	-	-	-	-	-	-	-	-	-	97 %

<u>Client Sample ID:</u>	25570.001-0014		<u>Sample ID:</u>	S14		<u>Date Analyzed:</u>	12/03/2018		<u>Analyst:</u>	Stephanie Golden		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							<u>Percent Asbestos:</u>
<b>Homogeneous</b>												
mastic, yellow		100 %	-	-	-							<b>NAD</b>
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							
	-	-	-	-	-	-	-	-	-	-	-	Matrix 100 %

<u>Client Sample ID:</u>	25570.001-0015		<u>Sample ID:</u>	S15		<u>Date Analyzed:</u>	12/03/2018		<u>Analyst:</u>	Stephanie Golden		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							<u>Percent Asbestos:</u>
<b>Homogeneous</b>												
fibrous material, orange with coating, off-white		100 %	-	-	-							<b>NAD</b>
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							
	95 %	-	-	-	-	-	-	-	-	-	-	Matrix 5 %



**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188609R01  
**Report Date:** 12/04/2018**Job Number:** 188609**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0016</b>		<b>Sample ID:</b>	<b>S16</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>	
<b>Client Sample Description:</b>											
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite				<b>Percent Asbestos:</b>			
<b>Layer 01</b>											
mastic, brown with paint, off-white	35 %	-	-	-				<b>NAD</b>			
<b>Layer 02</b>											
paper backing, off-white	65 %	-	-	-				<b>NAD</b>			
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix			
<b>Layer 01</b>	-	-	-	-	-	-	-	100 %			
<b>Layer 02</b>	-	100 %	-	-	-	-	-	0 %			
<b>Client Sample ID:</b>	<b>25570.001-0017</b>		<b>Sample ID:</b>	<b>S17</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>	
<b>Client Sample Description:</b>											
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite				<b>Percent Asbestos:</b>			
<b>Layer 01</b>											
rubbery material, gray	98 %	-	-	-				<b>NAD</b>			
<b>Layer 02</b>											
mastic, off-white/dark brown	2 %	-	-	-				<b>NAD</b>			
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix			
<b>Layer 01</b>	-	-	-	-	-	-	-	100 %			
<b>Layer 02</b>	-	-	-	-	2 %	-	-	98 %			
<b>Client Sample ID:</b>	<b>25570.001-0018</b>		<b>Sample ID:</b>	<b>S18</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>	
<b>Client Sample Description:</b>											
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite				<b>Percent Asbestos:</b>			
<b>Layer 01</b>											
flexible material, white	5 %	-	-	-				<b>NAD</b>			
<b>Layer 02</b>											
compressed fibers, yellow	95 %	-	-	-				<b>NAD</b>			
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix			
<b>Layer 01</b>	-	-	-	-	-	-	-	100 %			
<b>Layer 02</b>	100 %	-	-	-	-	-	-	0 %			

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188609R01  
**Report Date:** 12/04/2018**Job Number:** 188609**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0019</b>		<b>Sample ID:</b>	<b>S19</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Layer 01</b>												
woven fibers off-white with paing, off-white/blue	25 %	-	-	-								<b>NAD</b>
<b>Layer 02</b>												
fibrous material, gray	75 %	45 %	-	-								<b>45 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other						Matrix	
<b>Layer 01</b>	-	90 %	-	-	-	-	-	-	-	-	10 %	
<b>Layer 02</b>	-	25 %	-	-	-	-	-	-	-	-	30 %	

<b>Client Sample ID:</b>	<b>25570.001-0020</b>		<b>Sample ID:</b>	<b>S20</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Layer 01</b>												
fine compact powder, white with paint, off-white	10 %	-	-	-								<b>NAD</b>
<b>Layer 02</b>												
compact chalky material with paper, white	90 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other						Matrix	
<b>Layer 01</b>	-	-	-	-	-	-	-	-	-	-	100 %	
<b>Layer 02</b>	-	3 %	-	-	-	-	-	-	-	-	97 %	



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0021	<b>Sample ID:</b> S21	<b>Date Analyzed:</b> 12/03/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Stephanie Golden	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Layer 01</b> rubbery material, brown	92 % - - -		<b>NAD</b>
<b>Layer 02</b> mastic, brown	8 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
<b>Layer 01</b>	- - - - -	-	100 %
<b>Layer 02</b>	- - - Talc 2 %	-	98 %

Comments: Potential anthophyllite detected, but concentration may be too low for PLM confirmation. TEM confirmation and quantification is recommended.

<b>Client Sample ID:</b> 25570.001-0022	<b>Sample ID:</b> S22	<b>Date Analyzed:</b> 12/03/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Stephanie Golden	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Layer 01</b> vinyl, brown	98 % - - -		<b>NAD</b>
<b>Layer 02</b> mastic, light brown	2 % 2 % - -		<b>2 %</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
<b>Layer 01</b>	- - - - -	-	100 %
<b>Layer 02</b>	- - - - -	-	98 %

<b>Client Sample ID:</b> 25570.001-0023	<b>Sample ID:</b> S23	<b>Date Analyzed:</b> 12/03/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Stephanie Golden	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b> mastic, brown with coating, light green	100 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
	- - - - -	-	100 %



**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188609R01  
**Report Date:** 12/04/2018**Job Number:** 188609**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	25570.001-0024		<b>Sample ID:</b>	S24		<b>Date Analyzed:</b>	12/03/2018		<b>Analyst:</b>	Stephanie Golden		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							<b>Percent Asbestos:</b>
<b>Layer 01</b>	rubbery material, green	80 %	-	-	-							<b>NAD</b>
<b>Layer 02</b>	mastic, yellow	20 %	-	-	-							<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							
<b>Layer 01</b>	-	-	-	-	-	-	-	-	-	-	Matrix 100 %	
<b>Layer 02</b>	-	-	-	-	Talc	Trace	-	-	-	-	Matrix 100 %	

<b>Client Sample ID:</b>	25570.001-0025		<b>Sample ID:</b>	S25		<b>Date Analyzed:</b>	12/03/2018		<b>Analyst:</b>	Stephanie Golden		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							<b>Percent Asbestos:</b>
<b>Homogeneous</b>	compact chalky material with paper, white with paint, yellow	100 %	-	-	-							<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							
	-	4 %	-	-	-	-	-	-	-	-	Matrix 96 %	

<b>Client Sample ID:</b>	25570.001-0026		<b>Sample ID:</b>	S26		<b>Date Analyzed:</b>	12/03/2018		<b>Analyst:</b>	Stephanie Golden		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							<b>Percent Asbestos:</b>
<b>Layer 01</b>	rubbery material, brown	98 %	-	-	-							<b>NAD</b>
<b>Layer 02</b>	mastic, brown	2 %	-	-	-							<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							
<b>Layer 01</b>	-	-	-	-	-	-	-	-	-	-	Matrix 100 %	
<b>Layer 02</b>	-	-	-	-	Talc	2 %	-	-	-	-	Matrix 98 %	



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	25570.001-0027	Sample ID:	S27	Date Analyzed:	12/03/2018	Analyst:	Stephanie Golden	Percent Asbestos:
<b>Client Sample Description:</b>								
<b>Asbestos Mineral Fibers</b>								
	Layer Percent:	Chrysotile	Amosite	Crocidolite				
<b>Layer 01</b>								
hard vinyl, tan	97 %	2 %	-	-				2 %
<b>Layer 02</b>								
mastic, black	3 %	3 %	-	-				3 %
<b>Other Fibers</b>								
	Fibrous Glass	Cellulose	Mineral Wool	Synthetic		Other		Matrix
<b>Layer 01</b>	-	-	-	-	-	-		98 %
<b>Layer 02</b>	-	-	-	-	-	-		97 %

Client Sample ID:	25570.001-0028	Sample ID:	S28	Date Analyzed:	12/03/2018	Analyst:	Stephanie Golden	Percent Asbestos:
<b>Client Sample Description:</b>								
<b>Asbestos Mineral Fibers</b>								
	Layer Percent:	Chrysotile	Amosite	Crocidolite				
<b>Homogeneous</b>								
ceramic material, white/tan	100 %	-	-	-				NAD
<b>Other Fibers</b>								
	Fibrous Glass	Cellulose	Mineral Wool	Synthetic		Other		Matrix
<b>Layer 01</b>	-	-	-	-	-	-		100 %

Client Sample ID:	25570.001-0029	Sample ID:	S29	Date Analyzed:	12/03/2018	Analyst:	Stephanie Golden	Percent Asbestos:
<b>Client Sample Description:</b>								
<b>Asbestos Mineral Fibers</b>								
	Layer Percent:	Chrysotile	Amosite	Crocidolite				
<b>Layer 01</b>								
ceramic material, brown	50 %	-	-	-				NAD
<b>Layer 02</b>								
fine cementitious material, gray	50 %	-	-	-				NAD
<b>Other Fibers</b>								
	Fibrous Glass	Cellulose	Mineral Wool	Synthetic		Other		Matrix
<b>Layer 01</b>	-	-	-	-	-	-		100 %
<b>Layer 02</b>	-	-	-	-	-	-		100 %

Comments: Very little material submitted. All available material processed for analysis.



**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188609R01  
**Report Date:** 12/04/2018**Job Number:** 188609**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0030</b>		<b>Sample ID:</b>	<b>S30</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Homogeneous</b>												
compressed fibrous material, light gray	100 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
	-	10 %	55 %	-	-							35 %
<b>Client Sample ID:</b>	<b>25570.001-0031</b>		<b>Sample ID:</b>	<b>S31</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Homogeneous</b>												
woven fibers, off-white/black	100 %	65 %	-	-								<b>65 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
	-	15 %	-	-	-							20 %
<b>Client Sample ID:</b>	<b>25570.001-0032</b>		<b>Sample ID:</b>	<b>S32</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Layer 01</b>												
woven fibers, orange	98 %	-	-	-								<b>NAD</b>
<b>Layer 02</b>												
loose powder, yellow	2 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
<b>Layer 01</b>	100 %	-	-	-	-							0 %
<b>Layer 02</b>	-	-	-	-	-							100 %



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0033		<u>Sample ID:</u>	S33		<u>Date Analyzed:</u>	12/03/2018		
<u>Client Sample Description:</u>							<u>Analyst:</u>	Stephanie Golden	
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite			<u>Percent Asbestos:</u>	
<b>Layer 01</b>	vinyl, tan	99 %	-	-	-			<b>NAD</b>	
<b>Layer 02</b>	mastic, orange	1 %	-	-	-			<b>NAD</b>	
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix	
<b>Layer 01</b>	-	-	-	-	-			100 %	
<b>Layer 02</b>	-	-	-	-	-			100 %	

<u>Client Sample ID:</u>	25570.001-0034		<u>Sample ID:</u>	S34		<u>Date Analyzed:</u>	12/03/2018		
<u>Client Sample Description:</u>							<u>Analyst:</u>	Stephanie Golden	
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite			<u>Percent Asbestos:</u>	
<b>Layer 01</b>	vinyl, yellow	99 %	-	-	-			<b>NAD</b>	
<b>Layer 02</b>	mastic, tan	1 %	-	-	-			<b>NAD</b>	
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix	
<b>Layer 01</b>	-	-	-	-	-			100 %	
<b>Layer 02</b>	-	-	-	-	-			100 %	

<u>Client Sample ID:</u>	25570.001-0035		<u>Sample ID:</u>	S35		<u>Date Analyzed:</u>	12/03/2018		
<u>Client Sample Description:</u>							<u>Analyst:</u>	Stephanie Golden	
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite			<u>Percent Asbestos:</u>	
<b>Homogeneous</b>	mastic, black	100 %	2 %	-	-			<b>2 %</b>	
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix	
	-	-	-	-	-			98 %	





# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	Sample ID:	Date Analyzed:	Analyst:	Percent Asbestos:
<b>25570.001-0036</b>	S36	12/03/2018	Stephanie Golden	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
compressed fibrous material, light gray	100 %	-	-	NAD
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	10 %	-	65 %	-
				Matrix 25 %
<b>25570.001-0037</b>	S37	12/03/2018	Stephanie Golden	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Layer 01</b>				
fine compact powder, off-white with paint, off-white	10 %	-	-	NAD
<b>Layer 02</b>				
compact chalky material with paper, off-white	90 %	-	-	NAD
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	-	-	-	-
Layer 01				Matrix 100 %
Layer 02	5 %	-	-	95 %
<b>25570.001-0038</b>	S38	12/03/2018	Stephanie Golden	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Layer 01</b>				
granular vinyl, tan	95 %	-	-	NAD
<b>Layer 02</b>				
fine cementitious material, gray	5 %	-	-	NAD
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	-	-	-	-
Layer 01				Matrix 100 %
Layer 02				100 %



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0039</b>		<b>Sample ID:</b>	<b>S39</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>	
<b>Client Sample Description:</b>					<b>Analyst:</b>	<b>Stephanie Golden</b>		
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite			<b>Percent Asbestos:</b>	
<b>Layer 01</b>								
rubbery material, tan	90 %	-	-	-				<b>NAD</b>
<b>Layer 02</b>								
mastic, off-white	2 %	-	-	-				<b>NAD</b>
<b>Layer 03</b>								
mastic, brown	8 %	-	-	-				<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix
<b>Layer 01</b>	-	-	-	-	-	-	-	100 %
<b>Layer 02</b>	-	-	-	-	-	-	-	100 %
<b>Layer 03</b>	-	-	-	-	Talc	2 %	-	98 %
Comments: Potential anthophyllite detected, but concentration may be too low for PLM confirmation. TEM confirmation and quantification is recommended.								

<b>Client Sample ID:</b>	<b>25570.001-0040</b>		<b>Sample ID:</b>	<b>S40</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>	
<b>Client Sample Description:</b>					<b>Analyst:</b>	<b>Stephanie Golden</b>		
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite			<b>Percent Asbestos:</b>	
<b>Layer 01</b>								
compact powder, white with paint, white	50 %	-	-	-				<b>NAD</b>
<b>Layer 02</b>								
compact chalky material with paper, white	50 %	-	-	-				<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix
<b>Layer 01</b>	-	-	-	-	-	-	-	100 %
<b>Layer 02</b>	-	5 %	-	-	-	-	-	95 %





# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	Sample ID:	Date Analyzed:	Analyst:	Percent Asbestos:	
<b>25570.001-0041</b>	S41	12/03/2018	Stephanie Golden		
<b>Client Sample Description:</b>					
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Layer 01</b>	woven fibers, off-white with paint, red	10 %	-	-	<b>NAD</b>
<b>Layer 02</b>	fibrous powder, gray	90 %	10 %	18 %	<b>28 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
<b>Layer 01</b>	-	90 %	-	-	-
<b>Layer 02</b>	-	-	-	-	-
					Matrix
					10 %
					72 %
<b>25570.001-0042</b>	S42	12/03/2018	Stephanie Golden		
<b>Client Sample Description:</b>					
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Layer 01</b>	woven fibers, off-white with paint, red	10 %	-	-	<b>NAD</b>
<b>Layer 02</b>	fibrous powder, gray	90 %	10 %	18 %	<b>28 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
<b>Layer 01</b>	-	90 %	-	-	-
<b>Layer 02</b>	-	-	-	-	-
					Matrix
					10 %
					72 %
<b>25570.001-0043</b>	S43	12/03/2018	Stephanie Golden		
<b>Client Sample Description:</b>					
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>	woven fibers, off-white/black	100 %	65 %	-	<b>65 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
	-	15 %	-	-	-
					Matrix
					20 %



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0044</b>		<b>Sample ID:</b>	<b>S44</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Layer 01</b>												
fibrous material, black	20 %	55 %	-	-								<b>55 %</b>
<b>Layer 02</b>												
fibrous powder, gray	80 %	8 %	15 %	-								<b>23 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other						Matrix	
<b>Layer 01</b>	-	15 %	-	-	-						30 %	
<b>Layer 02</b>	-	-	-	-	-						77 %	

<b>Client Sample ID:</b>	<b>25570.001-0045</b>		<b>Sample ID:</b>	<b>S45</b>		<b>Date Analyzed:</b>	<b>12/03/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Layer 01</b>												
woven fibers, off-white	25 %	-	-	-								<b>NAD</b>
<b>Layer 02</b>												
fibrous powder, gray	75 %	5 %	8 %	-								<b>13 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other						Matrix	
<b>Layer 01</b>	-	90 %	-	-	-						10 %	
<b>Layer 02</b>	-	-	-	-	-						87 %	

<b>Client Sample ID:</b>	<b>25570.001-0046</b>		<b>Sample ID:</b>	<b>S46</b>		<b>Date Analyzed:</b>	<b>12/04/2018</b>		<b>Analyst:</b>	<b>Tim Cammann</b>		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<b>Percent Asbestos:</b>
<b>Homogeneous</b>												
rubbery material, off-white	100 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other						Matrix	
	-	-	-	-	-						100 %	





# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0047	<b>Sample ID:</b> S47	<b>Date Analyzed:</b> 12/04/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b>			
loose brittle material, off-white/gray	100 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
	- Trace - - - -		

<b>Client Sample ID:</b> 25570.001-0048	<b>Sample ID:</b> S48	<b>Date Analyzed:</b> 12/04/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b>			
compact brittle material, brown/gray/off-white	100 % 15 % - -		<b>15 %</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 85 %
	- - - - -		

<b>Client Sample ID:</b> 25570.001-0049	<b>Sample ID:</b> S49	<b>Date Analyzed:</b> 12/04/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b>			
granular powder, off-white/gray	100 % Trace - -		<b>&lt; 1 %</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
	- - - - -		





**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0050		<u>Sample ID:</u>	S50		<u>Date Analyzed:</u>	12/04/2018		<u>Analyst:</u>	Tim Cammann	
<u>Client Sample Description:</u>											
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite				<u>Percent Asbestos:</u>			
<b>Layer 01</b>											
granular compact powder, red	50 %	-	-	-							<b>NAD</b>
<b>Layer 02</b>											
granular compact powder, tan	50 %	-	-	-							<b>NAD</b>
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			<u>Matrix</u>			
<b>Layer 01</b>	-	-	-	-	-	-	-	100 %			
<b>Layer 02</b>	-	-	-	-	-	-	-	100 %			

<u>Client Sample ID:</u>	25570.001-0051		<u>Sample ID:</u>	S51		<u>Date Analyzed:</u>	12/04/2018		<u>Analyst:</u>	Tim Cammann	
<u>Client Sample Description:</u>											
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite				<u>Percent Asbestos:</u>			
<b>Homogeneous</b>											
rubbery material, off-white/tan	100 %	-	-	-							<b>NAD</b>
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			<u>Matrix</u>			
	-	-	-	-	-	-	-	100 %			



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188609R01  
**Report Date:** 12/04/2018

**Job Number:** 188609

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per 40 CFR 763 Subpart E, Appendix E, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at < or = to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:  
1% asbestos: 0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

**Reviewed by:**

  
 x  
**Tim Cammann**  
 Analyst

257 4 103881



18209 p1/3

**TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES**

**Project No.:** 25570.001      **Phase** 0001

*Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.*

**SENDER**

**Date Sent:** November 30, 2018

**PBS Engineering and Environmental Inc.**  
**4412 SW Corbett Avenue**  
**Portland, OR 97239**  
**503.248.1939, Fax: 866.727.0140**

Alex Johnson  
Name

A. Johnson      11/30/18      10:00  
Authorized Signature      Date      Time

**RECEIVER**

**Date Received:** 11/20/18

**Company:** Lab Cor  
**Address:** 4321 SW Corbett Ave Ste A  
Portland, OR 97239  
503-224-5055

Mark Donovan  
Name

[Signature]      11/20      10:00  
Authorized Signature      Date      Time

Sender's ID No.	Brief Description
25570.001-0001	_____
25570.001-0002	_____
25570.001-0003	_____
25570.001-0004	_____
25570.001-0005	_____
25570.001-0006	_____
25570.001-0007	_____
25570.001-0008	_____
25570.001-0009	_____
25570.001-0010	_____
25570.001-0011	_____
25570.001-0012	_____
25570.001-0013	_____
25570.001-0014	_____

Receiver's ID No.
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

2/14 703791



188609 p 2/3

**TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES**

25570.001-0015		
25570.001-0016		
25570.001-0017		
25570.001-0018		
25570.001-0019		
25570.001-0020		
25570.001-0021		
25570.001-0022		
25570.001-0023		
25570.001-0024		
25570.001-0025		
25570.001-0026		
25570.001-0027		
25570.001-0028		
25570.001-0029		
25570.001-0030		
25570.001-0031		
25570.001-0032		
25570.001-0033		
25570.001-0034		
25570.001-0035		
25570.001-0036		
25570.001-0037		
25570.001-0038		
25570.001-0039		



188609 p 3/3

**TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES**

25570.001-0040	_____	_____
25570.001-0041	_____	_____
25570.001-0042	_____	_____
25570.001-0043	_____	_____
25570.001-0044	_____	_____
25570.001-0045	_____	_____
25570.001-0046	_____	_____
25570.001-0047	_____	_____
25570.001-0048	_____	_____
25570.001-0049	_____	_____
25570.001-0050	_____	_____
25570.001-0051	_____	_____

Please analyze the enclosed 51 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: \_\_\_\_\_ AM/PM \_\_\_\_\_ Date.

Please fax and mail the results to the above address.

**TURNAROUND DESIRED:**

**48 Hour**

**SPECIAL INSTRUCTIONS:**

*JL*



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188729R01  
**Report Date:** 12/11/2018

**Job Number:** 188729

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0052	<b>Sample ID:</b> S1			<b>Date Analyzed:</b> 12/11/2018	<b>Analyst:</b> Stephanie Golden
<b>Client Sample Description:</b>					
<b>Asbestos Mineral Fibers</b>					
	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>
<b>Layer 01</b>					
woven fibers, tan with paint, orange	50 %	-	-	-	<b>NAD</b>
<b>Layer 02</b>					
fibrous material, gray/tan	50 %	-	-	-	<b>NAD</b>
<b>Other Fibers</b>					
	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
					Matrix
<b>Layer 01</b>	-	80 %	-	-	-
<b>Layer 02</b>	25 %	-	-	-	-
					20 %
					75 %

<b>Client Sample ID:</b> 25570.001-0053	<b>Sample ID:</b> S2			<b>Date Analyzed:</b> 12/11/2018	<b>Analyst:</b> Stephanie Golden
<b>Client Sample Description:</b>					
<b>Asbestos Mineral Fibers</b>					
	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>
<b>Homogeneous</b>					
woven fibers, brown/off-white	100 %	90 %	-	-	<b>90 %</b>
<b>Other Fibers</b>					
	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
					Matrix
	-	-	-	-	-
					10 %

<b>Client Sample ID:</b> 25570.001-0054	<b>Sample ID:</b> S3			<b>Date Analyzed:</b> 12/11/2018	<b>Analyst:</b> Stephanie Golden
<b>Client Sample Description:</b>					
<b>Asbestos Mineral Fibers</b>					
	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>
<b>Homogeneous</b>					
compact porous powder, brown	100 %	-	-	-	<b>NAD</b>
<b>Other Fibers</b>					
	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
					Matrix
	-	-	-	-	-
					100 %





# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188729R01  
**Report Date:** 12/11/2018

**Job Number:** 188729

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	Sample ID:	Date Analyzed:	Analyst:	Percent Asbestos:
<b>25570.001-0055</b>	S4	12/11/2018	Stephanie Golden	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
compact porous powder, tan	100 %	-	-	<b>NAD</b>
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	-	-	-	-
				Matrix 100 %
<b>25570.001-0056</b>	S5	12/11/2018	Stephanie Golden	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
rubbery material, brown	100 %	4 %	-	<b>4 %</b>
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	-	-	-	-
				Matrix 96 %
<b>25570.001-0057</b>	S6	12/11/2018	Stephanie Golden	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Layer 01</b>				
woven fibers, off-white with paint, green	10 %	-	-	<b>NAD</b>
<b>Layer 02</b>				
soft powder, gray	90 %	-	-	<b>NAD</b>
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
Layer 01	-	90 %	-	-
Layer 02	-	2 %	10 %	-
				Matrix 10 %
				88 %



**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188729R01  
**Report Date:** 12/11/2018**Job Number:** 188729**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0058		<b>Sample ID:</b> S7			<b>Date Analyzed:</b> 12/11/2018		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>					<b>Analyst:</b> Stephanie Golden		
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite			
<b>Layer 01</b> woven fibers, off-white	8 %	-	-	-	<b>NAD</b>		
<b>Layer 02</b> soft powder, gray	92 %	-	-	-	<b>NAD</b>		
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
<b>Layer 01</b>	-	100 %	-	-	-	0 %	
<b>Layer 02</b>	-	-	10 %	-	-	90 %	

<b>Client Sample ID:</b> 25570.001-0059		<b>Sample ID:</b> S8			<b>Date Analyzed:</b> 12/11/2018		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>					<b>Analyst:</b> Stephanie Golden		
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite			
<b>Layer 01</b> vinyl, brown	98 %	-	-	-	<b>NAD</b>		
<b>Layer 02</b> mastic, yellow	2 %	-	-	-	<b>NAD</b>		
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
<b>Layer 01</b>	-	-	-	-	-	100 %	
<b>Layer 02</b>	-	-	-	-	-	100 %	

<b>Client Sample ID:</b> 25570.001-0060		<b>Sample ID:</b> S9			<b>Date Analyzed:</b> 12/11/2018		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>					<b>Analyst:</b> Stephanie Golden		
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite			
<b>Layer 01</b> vinyl, yellow	99 %	-	-	-	<b>NAD</b>		
<b>Layer 02</b> mastic, tan	1 %	2 %	-	-	<b>2 %</b>		
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
<b>Layer 01</b>	-	-	-	-	-	100 %	
<b>Layer 02</b>	-	-	-	-	-	98 %	

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188729R01  
**Report Date:** 12/11/2018**Job Number:** 188729**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	25570.001-0061		<b>Sample ID:</b>	S10		<b>Date Analyzed:</b>	12/11/2018		<b>Analyst:</b>	Stephanie Golden		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							<b>Percent Asbestos:</b>
<b>Layer 01</b>	vinyl, beige/tan	99 %	-	-	-							<b>NAD</b>
<b>Layer 02</b>	mastic, dark brown	1 %	Trace	-	-							<b>&lt; 1 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
<b>Layer 01</b>	-	-	-	-	-							100 %
<b>Layer 02</b>	-	-	-	-	-							100 %

<b>Client Sample ID:</b>	25570.001-0062		<b>Sample ID:</b>	S11		<b>Date Analyzed:</b>	12/11/2018		<b>Analyst:</b>	Stephanie Golden		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							<b>Percent Asbestos:</b>
<b>Layer 01</b>	compressed fibrous tile brown with coating, gray/tan	95 %	-	-	-							<b>NAD</b>
<b>Layer 02</b>	brittle mastic, black	5 %	2 %	-	-							<b>2 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
<b>Layer 01</b>	-	60 %	-	-	-							40 %
<b>Layer 02</b>	-	-	-	-	-							98 %

<b>Client Sample ID:</b>	25570.001-0063		<b>Sample ID:</b>	S12		<b>Date Analyzed:</b>	12/11/2018		<b>Analyst:</b>	Stephanie Golden		
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							<b>Percent Asbestos:</b>
<b>Layer 01</b>	woven fibers, off-white	5 %	-	-	-							<b>NAD</b>
<b>Layer 02</b>	soft powder, gray	95 %	-	-	-							<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
<b>Layer 01</b>	-	100 %	-	-	-							0 %
<b>Layer 02</b>	-	-	10 %	-	-							90 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188729R01  
**Report Date:** 12/11/2018

**Job Number:** 188729

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0064	<b>Sample ID:</b> S13	<b>Date Analyzed:</b> 12/11/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Stephanie Golden	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b>			
compact powder, white with brittle mastic, brown	100 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
	- - - - -		

<b>Client Sample ID:</b> 25570.001-0065	<b>Sample ID:</b> S14	<b>Date Analyzed:</b> 12/11/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Stephanie Golden	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Layer 01</b>			
woven fibers, off-white with paint, white	10 % - - -		<b>NAD</b>
<b>Layer 02</b>			
soft powder, tan	90 % 5 % 10 % -		<b>15 %</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
<b>Layer 01</b>	- 90 % - - -		10 %
<b>Layer 02</b>	- - 8 % - -		77 %

<b>Client Sample ID:</b> 25570.001-0066	<b>Sample ID:</b> S15	<b>Date Analyzed:</b> 12/11/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Stephanie Golden	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b>			
compressed fibrous material, tan with paint, white	100 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
	5 % 50 % 5 % - -		25 %
			Perlite 15 %



**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188729R01  
**Report Date:** 12/11/2018**Job Number:** 188729**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0067</b>		<b>Sample ID:</b>	<b>S16</b>		<b>Date Analyzed:</b>	<b>12/11/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								
<b>Layer 01</b>												
hard vinyl, off-white	99 %	-	-	-								<b>NAD</b>
<b>Layer 02</b>												
mastic, black	1 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix				
<b>Layer 01</b>	-	-	-	-	-			100 %				
<b>Layer 02</b>	-	-	-	-	-			100 %				

<b>Client Sample ID:</b>	<b>25570.001-0068</b>		<b>Sample ID:</b>	<b>S17</b>		<b>Date Analyzed:</b>	<b>12/11/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								
<b>Layer 01</b>												
compressed fibrous material, off-white with paint, off-white	75 %	-	-	-								<b>NAD</b>
<b>Layer 02</b>												
mastic, brown	25 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix				
<b>Layer 01</b>	-	-	85 %	-	-			15 %				
<b>Layer 02</b>	-	-	-	-	-			100 %				

<b>Client Sample ID:</b>	<b>25570.001-0069</b>		<b>Sample ID:</b>	<b>S18</b>		<b>Date Analyzed:</b>	<b>12/11/2018</b>		<b>Analyst:</b>	<b>Stephanie Golden</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								
<b>Homogeneous</b>												
mastic, yellow	100 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix				
	-	-	-	3 %	-			97 %				



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188729R01  
**Report Date:** 12/11/2018

**Job Number:** 188729

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0070		<b>Sample ID:</b> S19			<b>Date Analyzed:</b> 12/11/2018	
<b>Client Sample Description:</b>					<b>Analyst:</b> Stephanie Golden	
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>	
<b>Layer 01</b>						
vinyl, blue	50 %	-	-	-	<b>NAD</b>	
<b>Layer 02</b>						
fibrous backing, gray	48 %	-	-	-	<b>NAD</b>	
<b>Layer 03</b>						
mastic, yellow	2 %	-	-	-	<b>NAD</b>	
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>	-	-	-	-	-	100 %
<b>Layer 02</b>	-	45 %	-	-	-	55 %
<b>Layer 03</b>	-	5 %	-	-	-	95 %

<b>Client Sample ID:</b> 25570.001-0071		<b>Sample ID:</b> S20			<b>Date Analyzed:</b> 12/11/2018	
<b>Client Sample Description:</b>					<b>Analyst:</b> Stephanie Golden	
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>	
<b>Layer 01</b>						
rubbery material, brown	95 %	-	-	-	<b>NAD</b>	
<b>Layer 02</b>						
mastic, brown	5 %	-	-	-	<b>NAD</b>	
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>	-	-	-	-	-	-
<b>Layer 02</b>	-	-	-	-	Talc	2 %
						98 %

<b>Client Sample ID:</b> 25570.001-0072		<b>Sample ID:</b> S21			<b>Date Analyzed:</b> 12/11/2018	
<b>Client Sample Description:</b>					<b>Analyst:</b> Stephanie Golden	
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>	
<b>Homogeneous</b>						
putty, gray with paint, off-white	100 %	Trace	-	-	<b>&lt; 1 %</b>	
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	-	-	-	-	100 %





**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188729R01  
**Report Date:** 12/11/2018

**Job Number:** 188729

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

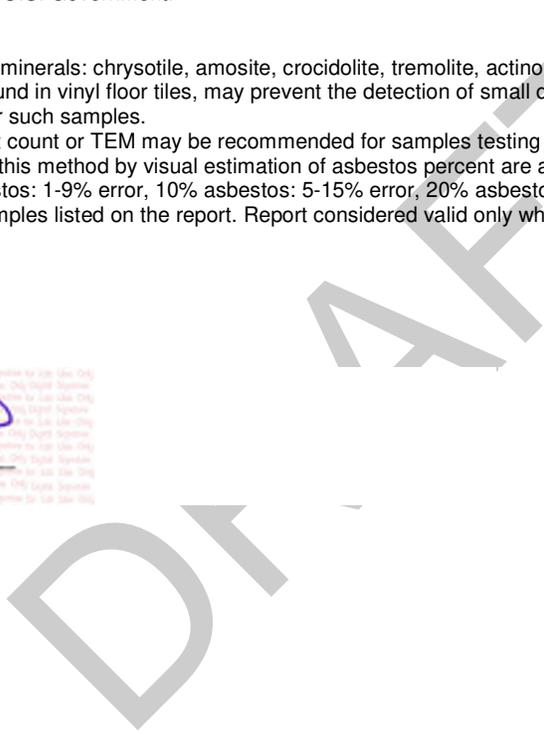
**Project Notes:**

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per 40 CFR 763 Subpart E, Appendix E, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at < or = to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:  
1% asbestos: 0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

**Reviewed by:**

**Stephanie Golden**  
**Senior Analyst**



188729 1/2



**TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES**

Project No.: 25570.001 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

**SENDER**

Date Sent: December 06, 2018

PBS Engineering and Environmental Inc.  
4412 SW Corbett Avenue  
Portland, OR 97239  
503.248.1939, Fax: 866.727.0140

Alex Johnson  
Name  
  
Authorized Signature  
12/6/18 11:00  
Date Time

**RECEIVER**

Date Received: 12/6/18

Company: Lab Cor  
Address: 4321 SW Corbett Ave Ste A  
Portland, OR 97239  
503-224-5055

MARK DONAHUE  
Name  
  
Authorized Signature  
12/6/18 11:00  
Date Time

Sender's ID No.	Brief Description	Receiver's ID No.
25570.001-0052		
25570.001-0053		
25570.001-0054		
25570.001-0055		
25570.001-0056		
25570.001-0057		
25570.001-0058		
25570.001-0059		
25570.001-0060		
25570.001-0061		
25570.001-0062		
25570.001-0063		
25570.001-0064		
25570.001-0065		

188729 7/2



**TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES**

25570.001-0066	_____	_____
25570.001-0067	_____	_____
25570.001-0068	_____	_____
25570.001-0069	_____	_____
25570.001-0070	_____	_____
25570.001-0071	_____	_____
25570.001-0072	_____	_____

Please analyze the enclosed 21 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: \_\_\_\_\_ AM/PM \_\_\_\_\_ Date.

Please fax and mail the results to the above address.

**TURNAROUND DESIRED:** 72 Hour

**SPECIAL INSTRUCTIONS:**

\_\_\_\_\_

*SL*



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0073	<b>Sample ID:</b> S1	<b>Date Analyzed:</b> 12/18/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Joseph Kulm	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b> fine compact powder, gray with coating, white	100 % Trace - -		< 1 %
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %

<b>Client Sample ID:</b> 25570.001-0074	<b>Sample ID:</b> S2	<b>Date Analyzed:</b> 12/18/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Joseph Kulm	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b> fine compact powder, off- white with coating, beige	100 % 2 % - -		2 %
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 98 %

<b>Client Sample ID:</b> 25570.001-0075	<b>Sample ID:</b> S3	<b>Date Analyzed:</b> 12/18/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Joseph Kulm	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b> rubbery material, gray with coating, red	100 % - - -		NAD
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	Sample ID:	Date Analyzed:	Analyst:	Percent Asbestos:
<b>25570.001-0076</b>	S4	12/18/2018	Joseph Kulm	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
hard compact material, brown, with coating, white	100 %	10 %	-	-
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	-	-	-	-
				Matrix 90 %
<b>25570.001-0077</b>	S5	12/18/2018	Joseph Kulm	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
hard compact material, black	100 %	-	-	-
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	4 %	-	-	-
				Matrix 96 %
<b>25570.001-0078</b>	S6	12/18/2018	Joseph Kulm	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
hard compact powder, gray with coating, white	100 %	2 %	-	-
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	-	-	-	-
				Matrix 98 %



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	Sample ID:	Date Analyzed:	Analyst:	Percent Asbestos:
<b>25570.001-0079</b>	S7	12/18/2018	Joseph Kulm	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
fine compact powder, off-white with coating, tan/red	100 %	-	-	-
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	Trace	-	-	-
				Matrix 100 %
<b>25570.001-0080</b>	S8	12/18/2018	Joseph Kulm	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
loose granular material, red/white	100 %	-	-	-
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	-	-	-	-
				Matrix 100 %
<b>25570.001-0081</b>	S9	12/18/2018	Joseph Kulm	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Layer 01</b>				
hard vinyl, multicolored	60 %	-	-	-
<b>Layer 02</b>				
woven fibers, off-white	40 %	-	-	-
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
Layer 01	-	12 %	-	-
Layer 02	-	-	80 %	-
				Matrix 88 %
				20 %



**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188890R01  
**Report Date:** 12/18/2018**Job Number:** 188890**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0082</b>		<b>Sample ID:</b>	<b>S10</b>		<b>Date Analyzed:</b>	<b>12/18/2018</b>		<b>Analyst:</b>	<b>Joseph Kulm</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>												
	Layer	Percent:	Chrysotile	Amosite	Crocidolite							
<b>Layer 01</b>	rubbery material, black	97 %	-	-	-							<b>NAD</b>
<b>Layer 02</b>	mastic, orange	3 %	-	-	-							<b>NAD</b>
<b>Other Fibers</b>												
	Fibrous		Mineral									
	Glass	Cellulose	Wool	Synthetic		Other					Matrix	
<b>Layer 01</b>	-	-	-	-	-	-	-	-	-	-	100 %	
<b>Layer 02</b>	-	2 %	-	4 %	-	-	-	-	-	-	94 %	

<b>Client Sample ID:</b>	<b>25570.001-0083</b>		<b>Sample ID:</b>	<b>S11</b>		<b>Date Analyzed:</b>	<b>12/18/2018</b>		<b>Analyst:</b>	<b>Joseph Kulm</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>												
	Layer	Percent:	Chrysotile	Amosite	Crocidolite							
<b>Homogeneous</b>	fine compact powder, off-white with coating, brown	100 %	-	-	-							<b>NAD</b>
<b>Other Fibers</b>												
	Fibrous		Mineral									
	Glass	Cellulose	Wool	Synthetic		Other					Matrix	
	-	-	-	-	-	-	-	-	-	-	100 %	



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0084		<b>Sample ID:</b> S12			<b>Date Analyzed:</b> 12/18/2018		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>		<b>Analyst:</b> Joseph Kulm					
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite			
<b>Layer 01</b> fine compact powder, off-white with coating, beige	4 %	-	-	-			NAD
<b>Layer 02</b> fine compact powder, off-white with beige, beige	1 %	-	-	-			NAD
<b>Layer 03</b> compact chalky material with paper, white	95 %	-	-	-			NAD
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
<b>Layer 01</b>	-	Trace	-	-	-	100 %	
<b>Layer 02</b>	-	Trace	-	-	-	100 %	
<b>Layer 03</b>	-	2 %	-	-	-	98 %	

<b>Client Sample ID:</b> 25570.001-0085		<b>Sample ID:</b> S13			<b>Date Analyzed:</b> 12/18/2018		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann					
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite			
<b>Layer 01</b> coating, white	10 %	-	-	-			NAD
<b>Layer 02</b> loose fibrous material, yellow	90 %	-	-	-			NAD
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix	
<b>Layer 01</b>	-	-	-	-	-	100 %	
<b>Layer 02</b>	100 %	-	-	-	-	0 %	







# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0089		<u>Sample ID:</u>	S17		<u>Date Analyzed:</u>	12/18/2018		<u>Analyst:</u>	Tim Cammann		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<u>Percent Asbestos:</u>
<b>Layer 01</b>												
fine compact powder, white, with paint, tan	15 %	-	-	-							NAD	
<b>Layer 02</b>												
granular compact powder, gray	85 %	-	-	-							NAD	
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix					
<b>Layer 01</b>	-	-	-	-	-	-	-	-	-	-	100 %	
<b>Layer 02</b>	-	-	-	-	-	-	-	-	-	-	100 %	

<u>Client Sample ID:</u>	25570.001-0090		<u>Sample ID:</u>	S18		<u>Date Analyzed:</u>	12/18/2018		<u>Analyst:</u>	Tim Cammann		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite								<u>Percent Asbestos:</u>
<b>Layer 01</b>												
woven fibers, off-white/gray	8 %	-	-	-							NAD	
<b>Layer 02</b>												
compact chalky material, gray	92 %	-	-	-							NAD	
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix					
<b>Layer 01</b>	-	100 %	-	-	-	-	-	-	-	-	0 %	
<b>Layer 02</b>	3 %	3 %	-	-	-	-	-	-	-	-	94 %	

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188890R01  
**Report Date:** 12/18/2018**Job Number:** 188890**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0091		<b>Sample ID:</b> S19			<b>Date Analyzed:</b> 12/18/2018		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann					
<b>Asbestos Mineral Fibers</b>		Layer Percent:	Chrysotile	Amosite	Crocidolite		
<b>Layer 01</b> flexible vinyl, green		90 %	-	-	-	<b>NAD</b>	
<b>Layer 02</b> woven fibers, tan		10 %	-	-	-	<b>NAD</b>	
<b>Other Fibers</b>		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>		-	60 %	-	-	-	40 %
<b>Layer 02</b>		-	100 %	-	-	-	0 %

<b>Client Sample ID:</b> 25570.001-0092		<b>Sample ID:</b> S20			<b>Date Analyzed:</b> 12/18/2018		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann					
<b>Asbestos Mineral Fibers</b>		Layer Percent:	Chrysotile	Amosite	Crocidolite		
<b>Layer 01</b> rubbery material, black		92 %	-	-	-	<b>NAD</b>	
<b>Layer 02</b> mastic, black/gray		8 %	Trace	-	-	<b>&lt; 1 %</b>	
<b>Other Fibers</b>		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>		-	-	-	-	-	100 %
<b>Layer 02</b>		-	2 %	-	-	-	98 %

<b>Client Sample ID:</b> 25570.001-0093		<b>Sample ID:</b> S21			<b>Date Analyzed:</b> 12/18/2018		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann					
<b>Asbestos Mineral Fibers</b>		Layer Percent:	Chrysotile	Amosite	Crocidolite		
<b>Layer 01</b> vinyl, tan		90 %	-	-	-	<b>NAD</b>	
<b>Layer 02</b> mastic, black		10 %	4 %	-	-	<b>4 %</b>	
<b>Other Fibers</b>		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>		-	-	-	-	-	100 %
<b>Layer 02</b>		-	2 %	-	-	-	94 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

**Client Sample ID:** 25570.001-0094

**Sample ID:** S22

**Date Analyzed:** 12/18/2018

**Client Sample Description:**

**Analyst:** Tim Cammann

**Asbestos Mineral Fibers**

Layer	Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:
<b>Layer 01</b> hard compact powder, tan/black	40 %	-	-	-	NAD
<b>Layer 02</b> granular compact powder, gray/tan	20 %	-	-	-	NAD
<b>Layer 03</b> fine compact powder, gray/off-white, with coating, black	20 %	Trace	-	-	< 1 %
<b>Layer 04</b> hard compact powder, gray	20 %	-	-	-	NAD

Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>	-	-	-	-	-	100 %
<b>Layer 02</b>	-	-	-	-	-	100 %
<b>Layer 03</b>	-	Trace	-	-	-	100 %
<b>Layer 04</b>	-	-	-	-	-	100 %

**Client Sample ID:** 25570.001-0095

**Sample ID:** S23

**Date Analyzed:** 12/18/2018

**Client Sample Description:**

**Analyst:** Tim Cammann

**Asbestos Mineral Fibers**

Layer	Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:
<b>Layer 01</b> vinyl, tan/off-white	60 %	-	-	-	NAD
<b>Layer 02</b> fibrous backing, gray, with mastic, clear	40 %	-	-	-	NAD

Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>	-	-	-	-	-	100 %
<b>Layer 02</b>	-	50 %	-	-	-	50 %





**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0096	<b>Sample ID:</b> S24	<b>Date Analyzed:</b> 12/18/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b> vinyl, off-white/tan, with thin mastic, yellow	100 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
-	- - - - -		

<b>Client Sample ID:</b> 25570.001-0097	<b>Sample ID:</b> S25	<b>Date Analyzed:</b> 12/18/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Layer 01</b> paint, tan/pink	10 % - - -		<b>NAD</b>
<b>Layer 02</b> fine compact powder, white, with paint, gray	30 % - - -		<b>NAD</b>
<b>Layer 03</b> granular compact powder, gray	60 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
<b>Layer 01</b>	- - - - -		100 %
<b>Layer 02</b>	- - - - -		100 %
<b>Layer 03</b>	- - - - -		100 %





# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0098		<u>Sample ID:</u>	S26		<u>Date Analyzed:</u>	12/18/2018		<u>Analyst:</u>	Tim Cammann		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite								Percent Asbestos:
<b>Layer 01</b> thin compact powder, off-white, with paint, off-white	8 %	Trace	-	-								< 1 %
<b>Layer 02</b> fine compact powder, white, with paint, tan	52 %	-	-	-								NAD
<b>Layer 03</b> granular compact powder, gray	40 %	-	-	-								NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other						Matrix	
<b>Layer 01</b>	-	-	-	-	-						100 %	
<b>Layer 02</b>	-	-	-	-	-						100 %	
<b>Layer 03</b>	-	-	-	-	-						100 %	

<u>Client Sample ID:</u>	25570.001-0099		<u>Sample ID:</u>	S27		<u>Date Analyzed:</u>	12/18/2018		<u>Analyst:</u>	Tim Cammann		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite								Percent Asbestos:
<b>Homogeneous</b> fibrous material, gray, with coating, tan/white	100 %	40 %	-	-								40 %
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other						Matrix	
	-	25 %	-	-	-						35 %	



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0100		<u>Sample ID:</u>	S28		<u>Date Analyzed:</u>	12/18/2018		<u>Analyst:</u>	Tim Cammann		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							Percent Asbestos:
<b>Layer 01</b>												
woven fibers, tan		12 %	-	-	-							NAD
<b>Layer 02</b>												
compact chalky material, gray		88 %	-	-	-							NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
<b>Layer 01</b>	-	100 %	-	-	-	-	-	-	-	-	-	0 %
<b>Layer 02</b>	3 %	2 %	-	-	-	-	-	-	-	-	-	95 %

<u>Client Sample ID:</u>	25570.001-0101		<u>Sample ID:</u>	S29		<u>Date Analyzed:</u>	12/18/2018		<u>Analyst:</u>	Tim Cammann		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer	Percent:	Chrysotile	Amosite	Crocidolite							Percent Asbestos:
<b>Layer 01</b>												
hard compact powder, white, with coating, tan		80 %	-	-	-							NAD
<b>Layer 02</b>												
brittle material, green/black		10 %	-	-	-							NAD
<b>Layer 03</b>												
fine compact powder, white, with coating, red/green		10 %	-	-	-							NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							Matrix
<b>Layer 01</b>	-	-	-	-	-	-	-	-	-	-	-	100 %
<b>Layer 02</b>	-	-	-	-	-	-	-	-	-	-	-	100 %
<b>Layer 03</b>	-	-	-	-	-	-	-	-	-	-	-	100 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0102	<b>Sample ID:</b> S30	<b>Date Analyzed:</b> 12/18/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile    Amosite    Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b> vinyl, tan, with coating, black, and thin mastic, tan	100 %    Trace    -    -		< 1 %
<b>Other Fibers</b>	Fibrous Glass    Cellulose    Mineral Wool    Synthetic    Other		Matrix
	-    Trace    -    -    -		100 %
Comments: Chrysotile content could be closer to 1%; recommend gravimetric reduction and point count.			

<b>Client Sample ID:</b> 25570.001-0103	<b>Sample ID:</b> S31	<b>Date Analyzed:</b> 12/18/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile    Amosite    Crocidolite		<b>Percent Asbestos:</b>
<b>Layer 01</b> thin powder, off-white, with paint, black/green	8 %    -    -    -		NAD
<b>Layer 02</b> compact powder, red	10 %    -    -    -		NAD
<b>Layer 03</b> hard granular powder, gray	82 %    -    -    -		NAD
<b>Other Fibers</b>	Fibrous Glass    Cellulose    Mineral Wool    Synthetic    Other		Matrix
<b>Layer 01</b>	-    -    -    -    -		100 %
<b>Layer 02</b>	-    -    -    -    -		100 %
<b>Layer 03</b>	-    -    -    -    -		100 %

<b>Client Sample ID:</b> 25570.001-0104	<b>Sample ID:</b> S32	<b>Date Analyzed:</b> 12/18/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Tim Cammann	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile    Amosite    Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b> brittle compact powder, tan/gray, with coating, tan/off-white	100 %    9 %    -    -		9 %
<b>Other Fibers</b>	Fibrous Glass    Cellulose    Mineral Wool    Synthetic    Other		Matrix
	-    -    -    -    -		91 %





**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188890R01  
**Report Date:** 12/18/2018

**Job Number:** 188890

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per 40 CFR 763 Subpart E, Appendix E, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at < or = to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:  
1% asbestos: 0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

**Reviewed by:**

  
 x \_\_\_\_\_  
**Joseph Kulm**  
 Analyst





188890 p 1/2

**TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES**

Project No.: 25570.001 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

**SENDER**

Date Sent: December 14, 2018

PBS Engineering and Environmental Inc.  
4412 SW Corbett Avenue  
Portland, OR 97239  
503.248.1939, Fax: 866.727.0140

Alex Johnson  
Name

[Signature] 12/14/18 11:50  
Authorized Signature Date Time

**RECEIVER**

Date Received: 12-14-18

Company: Lab Cor  
Address: 4321 SW Corbett Ave Ste A  
Portland, OR 97239  
503-224-5055

William Lambert  
Name

[Signature] 12-14-18 11:50 AM  
Authorized Signature Date Time

Sender's ID No.	Brief Description	Receiver's ID No.
25570.001-0073	_____	_____
25570.001-0074	_____	_____
25570.001-0075	_____	_____
25570.001-0076	_____	_____
25570.001-0077	_____	_____
25570.001-0078	_____	_____
25570.001-0079	_____	_____
25570.001-0080	_____	_____
25570.001-0081	_____	_____
25570.001-0082	_____	_____
25570.001-0083	_____	_____
25570.001-0084	_____	_____
25570.001-0085	_____	_____
25570.001-0086	_____	_____



188890 p 2/2

**TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES**

25570.001-0087	_____	_____
25570.001-0088	_____	_____
25570.001-0089	_____	_____
25570.001-0090	_____	_____
25570.001-0091	_____	_____
25570.001-0092	_____	_____
25570.001-0093	_____	_____
25570.001-0094	_____	_____
25570.001-0095	_____	_____
25570.001-0096	_____	_____
25570.001-0097	_____	_____
25570.001-0098	_____	_____
25570.001-0099	_____	_____
25570.001-0100	_____	_____
25570.001-0101	_____	_____
25570.001-0102	_____	_____
25570.001-0103	_____	_____
25570.001-0104	_____	_____

Please analyze the enclosed 32 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: \_\_\_\_\_ AM/PM \_\_\_\_\_ Date.

Please fax and mail the results to the above address.

**TURNAROUND DESIRED:**

**48 Hour**

**SPECIAL INSTRUCTIONS:**

\_\_\_\_\_

*JL*

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 188939R01  
**Report Date:** 12/21/2018**Job Number:** 188939**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0105	<b>Sample ID:</b> S1	<b>Date Analyzed:</b> 12/21/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Ryan Brown	<b>Percent Asbestos:</b>
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		
<b>Homogeneous</b>			
loose granular material, tan	100 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
	- - - - -		

<b>Client Sample ID:</b> 25570.001-0106	<b>Sample ID:</b> S2	<b>Date Analyzed:</b> 12/21/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Ryan Brown	<b>Percent Asbestos:</b>
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		
<b>Homogeneous</b>			
loose granular material, tan	100 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
	- - - - -		

<b>Client Sample ID:</b> 25570.001-0107	<b>Sample ID:</b> S3	<b>Date Analyzed:</b> 12/21/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Ryan Brown	<b>Percent Asbestos:</b>
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		
<b>Layer 01</b>			
rubbery material, brown	87 % - - -		<b>NAD</b>
<b>Layer 02</b>			
mastic, brown	8 % - - -		<b>NAD</b>
<b>Layer 03</b>			
compact chalky material with paper, white	5 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
<b>Layer 01</b>	- - - - -		100 %
<b>Layer 02</b>	- - - - Wollastonite 3 %		97 %
<b>Layer 03</b>	- - - - -		100 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188939R01  
**Report Date:** 12/21/2018

**Job Number:** 188939

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0108	<b>Sample ID:</b> S4	<b>Date Analyzed:</b> 12/21/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Ryan Brown	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Homogeneous</b>			
loose mastic, yellow	100 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix 100 %
	- - - - -		

<b>Client Sample ID:</b> 25570.001-0109	<b>Sample ID:</b> S5	<b>Date Analyzed:</b> 12/21/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Ryan Brown	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Layer 01</b>			
hard vinyl, tan	90 % - - -		<b>NAD</b>
<b>Layer 02</b>			
mastic, brown	10 % Trace - -		<b>&lt; 1 %</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
<b>Layer 01</b>	- - - - -		100 %
<b>Layer 02</b>	- - - - -		100 %

<b>Client Sample ID:</b> 25570.001-0110	<b>Sample ID:</b> S6	<b>Date Analyzed:</b> 12/21/2018	
<b>Client Sample Description:</b>		<b>Analyst:</b> Ryan Brown	
<b>Asbestos Mineral Fibers</b>	Layer Percent: Chrysotile Amosite Crocidolite		<b>Percent Asbestos:</b>
<b>Layer 01</b>			
coating, white	5 % - - -		<b>NAD</b>
<b>Layer 02</b>			
compressed fibers, brown	95 % - - -		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass Cellulose Mineral Wool Synthetic Other		Matrix
<b>Layer 01</b>	- - - - -		100 %
<b>Layer 02</b>	- 100 % - - -		0 %





# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188939R01  
**Report Date:** 12/21/2018

**Job Number:** 188939

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0111		<u>Sample ID:</u>	S7		<u>Date Analyzed:</u>	12/21/2018		<u>Analyst:</u>	Ryan Brown		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite								Percent Asbestos:
<b>Layer 01</b> paint, off-white	10 %	-	-	-								NAD
<b>Layer 02</b> hard compact powder, off-white	90 %	-	-	-								NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix					
<b>Layer 01</b>	-	-	-	-	-	-	100 %					
<b>Layer 02</b>	-	-	-	-	-	-	100 %					

<u>Client Sample ID:</u>	25570.001-0112		<u>Sample ID:</u>	S8		<u>Date Analyzed:</u>	12/21/2018		<u>Analyst:</u>	Ryan Brown		
<u>Client Sample Description:</u>												
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite								Percent Asbestos:
<b>Layer 01</b> paint, white	60 %	-	-	-								NAD
<b>Layer 02</b> soft compact material, white/gray	40 %	-	-	-								NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix					
<b>Layer 01</b>	-	-	-	-	-	-	100 %					
<b>Layer 02</b>	-	-	-	-	Wollastonite 4 %	Talc 5 %	91 %					

Comments: Potential chrysotile observed, but there was too much matrix interference to allow for confirmation of fibers. A gravimetric reduction and point-count is recommended.



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188939R01  
**Report Date:** 12/21/2018

**Job Number:** 188939

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

**Client Sample ID:** 25570.001-0113

**Sample ID:** S9

**Date Analyzed:** 12/21/2018

**Client Sample Description:**

**Analyst:** Ryan Brown

**Asbestos Mineral Fibers**

Layer	Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:
<b>Layer 01</b> soft compact material, white/gray	99 %	-	-	-	NAD
<b>Layer 02</b> flaky material, off-white/gray	1 %	-	-	-	NAD

**Other Fibers**

Layer	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Talc	Matrix
<b>Layer 01</b>	-	-	-	-	Wollastonite 4 %	5 %	91 %
<b>Layer 02</b>	-	-	-	-	-	-	100 %

Comments: Potential chrysotile observed, but there was too much matrix interference to allow for confirmation of fibers. A gravimetric reduction and point-count is recommended.

**Client Sample ID:** 25570.001-0114

**Sample ID:** S10

**Date Analyzed:** 12/21/2018

**Client Sample Description:**

**Analyst:** Ryan Brown

**Asbestos Mineral Fibers**

Layer	Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:
<b>Layer 01</b> paint, white with fine compact powder, off-white	8 %	-	-	-	NAD
<b>Layer 02</b> textured paint, white	10 %	-	-	-	NAD
<b>Layer 03</b> compact chalky material with paper, pink	82 %	-	-	-	NAD

**Other Fibers**

Layer	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>	-	-	-	-	-	100 %
<b>Layer 02</b>	-	-	-	-	-	100 %
<b>Layer 03</b>	-	-	-	-	-	100 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188939R01  
**Report Date:** 12/21/2018

**Job Number:** 188939

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0115		<b>Sample ID:</b> S11			<b>Date Analyzed:</b> 12/21/2018		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>		<b>Analyst:</b> Ryan Brown					
<b>Asbestos Mineral Fibers</b>		Layer Percent:	Chrysotile	Amosite	Crocidolite		
<b>Layer 01</b> paint, white with fine compact powder, off-white		5 %	-	-	-	<b>NAD</b>	
<b>Layer 02</b> paint, white		8 %	-	-	-	<b>NAD</b>	
<b>Layer 03</b> compact chalky material with paper, white		87 %	-	-	-	<b>NAD</b>	
<b>Other Fibers</b>		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>		-	-	-	-	-	100 %
<b>Layer 02</b>		-	-	-	-	-	100 %
<b>Layer 03</b>		-	-	-	-	-	100 %

<b>Client Sample ID:</b> 25570.001-0116		<b>Sample ID:</b> S12			<b>Date Analyzed:</b> 12/21/2018		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>		<b>Analyst:</b> Ryan Brown					
<b>Asbestos Mineral Fibers</b>		Layer Percent:	Chrysotile	Amosite	Crocidolite		
<b>Layer 01</b> paint, white with fine compact powder, tan		7 %	-	-	-	<b>NAD</b>	
<b>Layer 02</b> brittle paint, off-white		5 %	-	-	-	<b>NAD</b>	
<b>Layer 03</b> compact chalky material with paper, white		88 %	-	-	-	<b>NAD</b>	
<b>Other Fibers</b>		Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>		-	-	-	-	-	100 %
<b>Layer 02</b>		-	-	-	-	-	100 %
<b>Layer 03</b>		-	-	-	-	-	100 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188939R01  
**Report Date:** 12/21/2018

**Job Number:** 188939

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

**Client Sample ID:** 25570.001-0117

**Sample ID:** S13

**Date Analyzed:** 12/21/2018

**Client Sample Description:**

**Analyst:** Ryan Brown

**Asbestos Mineral Fibers**

	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:
<b>Layer 01</b>					
flaky material, white/green	2 %	-	-	-	NAD
<b>Layer 02</b>					
woven fibers, tan	12 %	-	-	-	NAD
<b>Layer 03</b>					
compressed fibers, brown	35 %	-	-	-	NAD
<b>Layer 04</b>					
compressed fibers, gray	51 %	40 %	-	-	40 %

**Other Fibers**

	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>	-	-	-	-	-	100 %
<b>Layer 02</b>	-	100 %	-	-	-	0 %
<b>Layer 03</b>	-	90 %	-	-	-	10 %
<b>Layer 04</b>	-	40 %	-	-	-	20 %

Comments: Potential amosite fibers observed in layer 01, but at levels too low for confirmation by PLM.

**Client Sample ID:** 25570.001-0118

**Sample ID:** S14

**Date Analyzed:** 12/21/2018

**Client Sample Description:**

**Analyst:** Ryan Brown

**Asbestos Mineral Fibers**

	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:
<b>Homogeneous</b>					
fibrous material, light gray	100 %	40 %	-	-	40 %

**Other Fibers**

	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	40 %	-	-	-	20 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188939R01  
**Report Date:** 12/21/2018

**Job Number:** 188939

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	Sample ID:	Date Analyzed:	Analyst:	Percent Asbestos:
<b>25570.001-0119</b>	S15	12/21/2018	Ryan Brown	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
	Layer Percent:	Chrysotile	Amosite	Crocidolite
<b>Homogeneous</b>				
loose fine powder, white	100 %	2 %	5 %	-
				<b>7 %</b>
<b>Other Fibers</b>				
	Fibrous Glass	Cellulose	Mineral Wool	Synthetic
	-	-	-	-
				Other
				-
				Matrix
				93 %
<b>25570.001-0120</b>	S16	12/21/2018	Ryan Brown	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
	Layer Percent:	Chrysotile	Amosite	Crocidolite
<b>Homogeneous</b>				
rocky fibrous tar, black	100 %	-	-	-
				<b>NAD</b>
<b>Other Fibers</b>				
	Fibrous Glass	Cellulose	Mineral Wool	Synthetic
	8 %	-	-	-
				Other
				-
				Matrix
				92 %
<b>25570.001-0121</b>	S17	12/21/2018	Tim Cammann	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
	Layer Percent:	Chrysotile	Amosite	Crocidolite
<b>Layer 01</b>				
vinyl, tan	90 %	2 %	-	-
				<b>2 %</b>
<b>Layer 02</b>				
mastic, black	10 %	4 %	-	-
				<b>4 %</b>
<b>Other Fibers</b>				
	Fibrous Glass	Cellulose	Mineral Wool	Synthetic
<b>Layer 01</b>	-	-	-	-
				Other
				-
				Matrix
				98 %
<b>Layer 02</b>	-	Trace	-	-
				Other
				-
				Matrix
				96 %



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188939R01  
**Report Date:** 12/21/2018

**Job Number:** 188939

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0122		<b>Sample ID:</b> S18				<b>Date Analyzed:</b> 12/21/2018			
<b>Client Sample Description:</b>						<b>Analyst:</b> Tim Cammann			
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite					<b>Percent Asbestos:</b>
<b>Layer 01</b> rubbery material, black	80 %	-	-	-					<b>NAD</b>
<b>Layer 02</b> mastic, brown	10 %	-	-	-					<b>NAD</b>
<b>Layer 03</b> compact chalky material with paper, white	10 %	-	-	-					<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix		
<b>Layer 01</b>	-	-	-	-	-	-	100 %		
<b>Layer 02</b>	-	-	-	-	Talc 2 %	Wollastonite 2 %	96 %		
<b>Layer 03</b>	Trace	4 %	-	-	-	-	96 %		

<b>Client Sample ID:</b> 25570.001-0123		<b>Sample ID:</b> S19				<b>Date Analyzed:</b> 12/21/2018			
<b>Client Sample Description:</b>						<b>Analyst:</b> Tim Cammann			
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite					<b>Percent Asbestos:</b>
<b>Layer 01</b> mastic, tan	95 %	-	-	-					<b>NAD</b>
<b>Layer 02</b> fine compact powder, off-white	5 %	Trace	-	-					<b>&lt; 1 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix		
<b>Layer 01</b>	-	-	-	-	-	-	100 %		
<b>Layer 02</b>	-	Trace	-	-	-	-	100 %		





# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188939R01  
**Report Date:** 12/21/2018

**Job Number:** 188939

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	Sample ID:	Date Analyzed:	Analyst:	Percent Asbestos:
25570.001-0124	S20	12/21/2018	Tim Cammann	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
compressed fibrous material, gray, with thin coating, white	100 %	-	-	NAD
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
40 %	40 %	-	-	Matrix 20 %
25570.001-0125	S21	12/21/2018	Tim Cammann	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Layer 01</b>				
fine compact powder, white, with paint, white	8 %	2 %	-	2 %
<b>Layer 02</b>				
compact chalky material with paper, off-white	92 %	-	-	NAD
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
Layer 01	-	-	-	Matrix 98 %
Layer 02	3 %	-	-	97 %
25570.001-0126	S22	12/21/2018	Tim Cammann	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
compressed fibrous material, yellow, with coating, white	100 %	-	-	NAD
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
95 %	-	-	-	Matrix 5 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 188939R01  
**Report Date:** 12/21/2018

**Job Number:** 188939

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per 40 CFR 763 Subpart E, Appendix E, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at < or = to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:  
1% asbestos: >0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

**Reviewed by:**

Digitally signed by Ryan M. Brown, DN: cn=Ryan M. Brown, o=Lab/Cor Portland, Inc., ou=Lab/Cor Portland, Inc., email=ryan@labcorpdx.net, c=US



x \_\_\_\_\_  
**Ryan Brown**  
**PLM Technical Manager**



188939

1/2

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

Project No.: 25570.001 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: December 18, 2018

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson
Name

Authorized Signature Date Time

RECEIVER

Date Received: 12-18-18

Company: Lab Cor
Address: 4321 SW Corbett Ave Ste A
Portland, OR 97239
503-224-5055

Jillian Lambert
Name

Authorized Signature Date Time 12-18 11:15 AM

Table with 3 columns: Sender's ID No., Brief Description, Receiver's ID No. Rows 0105 to 0118.



188939

2/2

TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES

25570.001-0119

\_\_\_\_\_

\_\_\_\_\_

25570.001-0120

\_\_\_\_\_

\_\_\_\_\_

25570.001-0121

\_\_\_\_\_

\_\_\_\_\_

25570.001-0122

\_\_\_\_\_

\_\_\_\_\_

25570.001-0123

\_\_\_\_\_

\_\_\_\_\_

25570.001-0124

\_\_\_\_\_

\_\_\_\_\_

25570.001-0125

\_\_\_\_\_

\_\_\_\_\_

25570.001-0126

\_\_\_\_\_

\_\_\_\_\_

Please analyze the enclosed 22 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: \_\_\_\_\_ AM/PM \_\_\_\_\_ Date.

Please fax and mail the results to the above address.

**TURNAROUND DESIRED:** 72 Hour

**SPECIAL INSTRUCTIONS:**

*[Handwritten signature]*



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 189023R01  
**Report Date:** 12/28/2018

**Job Number:** 189023

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	25570.001-0125	Sample ID:	S1	Date Analyzed:	12/28/2018
Client Sample Description:				Analyst:	Ryan Brown
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite	Percent Asbestos:
<b>Homogeneous</b>					
fine powder, gray	100 %	0.05 %	-	-	0.05 %
<b>Other Fibers</b>	Fibrous Glass	Mineral Cellulose Wool	Synthetic	Other	Matrix
	-	-	-	-	99.95 %

Point Count: 2      Point Count Fields: 400

Comments: Gravimetric reduction performed on sample. GRR value is 0.101

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per 40 CFR 763 Subpart E, Appendix E, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at < or = to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:  
1% asbestos: >0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

**Reviewed by:**

  
 Ryan Brown  
 PLM Technical Manager



189023

# LabCor Portland, Inc.

## PBS Request for Extended/ Additional Analyses

Please use this form for samples that require additional analysis. This should only be used for samples LabCor already has received and reported.

<b>Primary Contact:</b> Alex Johnson <small>(person requesting additional analysis)</small>	<b>Project Manager:</b> Joe Lucas Contact Project Manager?: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

<b>LabCor Report No.:</b> 1 8 8 9 3 9	<b>PBS Project #:</b> 2 5 5 7 0 0 0 1	<b>Ph. #:</b> 0 0 0 1
---------------------------------------	---------------------------------------	-----------------------

Client Sample Numbers to be Analyzed:

Sample Number	Layer (if applicable)
0 1 2 5	
-	
-	
-	
-	
-	

Select One:

Select One:

			Turnaround	Price
<input type="checkbox"/>	<b>Composite Analysis</b>	Percent asbestos is recalculated with regards to the entire sample. The report shows layer percent, and percent asbestos present in the total sample received. There is no charge for this, as we just select a certain option when running a report. This can also be requested along with original analysis, so the report automatically shows the composite results for the requested samples.	Same Day	NA
<input checked="" type="checkbox"/>	<b>Gravimetric/ Composite 400 Point Count</b>	"Composite by weight". The entire sample gravimetrically reduced by ashing and acid dissolution and a 400-field point count is performed on what is left. The percent of asbestos present is calculated based on points counted with the gravimetric reduction ratio applied.	<input type="radio"/> 24 hours <input type="radio"/> 2 days <input checked="" type="radio"/> 3 days <input type="radio"/> 5 days	\$105.00 \$90.00 \$80.00 \$60.00
<input type="checkbox"/>	<b>400 Point Count</b>	A 400-field point count is performed on a single layer within a sample with no gravimetric reduction.	<input type="radio"/> 4 hours <input type="radio"/> 8 hours <input type="radio"/> 24 hours <input type="radio"/> 2 days <input type="radio"/> 3 days	\$85.00 \$75.00 \$55.00 \$40.00 \$38.00

Turnaround times begin only when a Lab/Cor PLM analyst approves this request by initialing below and returns the form to the chain of custody contact. By initialing and dating below Lab/Cor accepts the analysis request and will provide the client with the approved analyses within the stated turnaround time.

Request Authorized by: *A. Johnson* Date Requested: 12/21/2018

Approved Signature: *Wylene Cleverley* Date Approved: 12/21/18 2:40pm  
(lab use only)

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 189071R01  
**Report Date:** 01/07/2019**Job Number:** 189071**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

Client Sample ID:	Sample ID:	Date Analyzed:	Analyst:	Percent Asbestos:
<b>25570.001-0127</b>	<b>S1</b>	01/07/2019	Ryan Brown	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
hard compact powder, gray	100 %	-	-	<b>NAD</b>
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	-	-	-	-
				Matrix 100 %
<b>25570.001-0128</b>	<b>S2</b>	01/07/2019	Ryan Brown	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Homogeneous</b>				
hard compact powder, gray with paint, white	100 %	Trace	-	<b>&lt; 1 %</b>
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
-	-	-	-	-
				Matrix 100 %
<b>25570.001-0129</b>	<b>S3</b>	01/07/2019	Ryan Brown	
<b>Client Sample Description:</b>				
<b>Asbestos Mineral Fibers</b>				
Layer Percent:	Chrysotile	Amosite	Crocidolite	
<b>Layer 01</b>				
fine compact powder, white	2 %	-	-	<b>NAD</b>
<b>Layer 02</b>				
hard compact material, brown/off-white	88 %	-	-	<b>NAD</b>
<b>Layer 03</b>				
mastic, brown	5 %	-	-	<b>NAD</b>
<b>Layer 04</b>				
mastic, red	5 %	-	-	<b>NAD</b>
<b>Other Fibers</b>				
Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
Layer 01	-	-	-	-
Layer 02	-	-	-	-
Layer 03	-	-	-	-
Layer 04	-	-	-	-
				Matrix 100 %



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 189071R01  
**Report Date:** 01/07/2019

**Job Number:** 189071

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0130</b>		<b>Sample ID:</b>	<b>S4</b>		<b>Date Analyzed:</b>	<b>01/07/2019</b>		<b>Analyst:</b>	<b>Ryan Brown</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								
<b>Layer 01</b> hard compact material, brown/gray	98 %	-	-	-								<b>NAD</b>
<b>Layer 02</b> compressed fibers, brown with mastic, clear	2 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							
<b>Layer 01</b>	-	-	-	-	-		Matrix 100 %					
<b>Layer 02</b>	-	99 %	-	-	-		1 %					

<b>Client Sample ID:</b>	<b>25570.001-0131</b>		<b>Sample ID:</b>	<b>S5</b>		<b>Date Analyzed:</b>	<b>01/07/2019</b>		<b>Analyst:</b>	<b>Ryan Brown</b>		<b>Percent Asbestos:</b>
<b>Client Sample Description:</b>												
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite								
<b>Layer 01</b> paint, white with granular compact powder, white	35 %	Trace	-	-								<b>&lt; 1 %</b>
<b>Layer 02</b> chalky material, white with paper backing, red	65 %	-	-	-								<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other							
<b>Layer 01</b>	-	-	-	-	-		Matrix 100 %					
<b>Layer 02</b>	-	1 %	-	-	-		99 %					





**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 189071R01  
**Report Date:** 01/07/2019

**Job Number:** 189071

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per 40 CFR 763 Subpart E, Appendix E, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at < or = to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:  
1% asbestos: >0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

**Reviewed by:**

*Ryan M. Brown*  
 Ryan Brown  
 PLM Technical Manager



189071

**TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES**

Project No.: 25570.001 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

**SENDER**

Date Sent: December 27, 2018

**PBS Engineering and Environmental Inc.**  
4412 SW Corbett Avenue  
Portland, OR 97239  
503.248.1939, Fax: 866.727.0140

Alex Johnson  
Name

Alex Johnson 12/27/18 1:30  
Authorized Signature Date Time

**RECEIVER**

Date Received: 12/27/18

Company: Lab Cor  
Address: 4321 SW Corbett Ave Ste A  
Portland, OR 97239  
503-224-5055

Mark Dominguez  
Name

[Signature] 12/27/18 1:45 PM  
Authorized Signature Date Time

Sender's ID No.	Brief Description	Receiver's ID No.
25570.001-0127	_____	_____
25570.001-0128	_____	_____
25570.001-0129	_____	_____
25570.001-0130	_____	_____
25570.001-0131	_____	_____

Please analyze the enclosed 5 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: \_\_\_\_\_ AM/PM \_\_\_\_\_ Date.

Please fax and mail the results to the above address.

**TURNAROUND DESIRED:** 5 Day

**SPECIAL INSTRUCTIONS:**  
  
  
SL

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 190319R01  
**Report Date:** 01/21/2019**Job Number:** 190319**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0132</b>		<b>Sample ID:</b>	<b>S1</b>		<b>Date Analyzed:</b>	<b>01/18/2019</b>		
<b>Client Sample Description:</b>							<b>Analyst:</b>	<b>Ellie Brown</b>	
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite	Crocidolite			<b>Percent Asbestos:</b>		
<b>Layer 01</b> flexible material with woven fibers, white/blue	10 %	-	-	-			<b>NAD</b>		
<b>Layer 02</b> flexible material with woven fibers, white/blue	10 %	-	-	-			<b>NAD</b>		
<b>Layer 03</b> fibrous tar, black	10 %	-	-	-			<b>NAD</b>		
<b>Layer 04</b> coating, silver	1 %	-	-	-			<b>NAD</b>		
<b>Layer 05</b> fibrous tar, black	10 %	-	-	-			<b>NAD</b>		
<b>Layer 06</b> fibrous tar, black	10 %	10 %	-	-			<b>10 %</b>		
<b>Layer 07</b> fibrous tar, black	10 %	10 %	-	-			<b>10 %</b>		
<b>Layer 08</b> fibrous tar, black	10 %	10 %	-	-			<b>10 %</b>		
<b>Layer 09</b> compressed fibers, brown	16 %	-	-	-			<b>NAD</b>		
<b>Layer 10</b> rocky fibrous tar, black	8 %	-	-	-			<b>NAD</b>		
<b>Layer 11</b> thick tar, black	5 %	-	-	-			<b>NAD</b>		
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix		
<b>Layer 01</b>	-	-	-	10 %	-		90 %		
<b>Layer 02</b>	-	-	-	10 %	-		90 %		
<b>Layer 03</b>	15 %	-	-	-	-		85 %		
<b>Layer 04</b>	-	-	-	-	-		100 %		
<b>Layer 05</b>	10 %	-	-	-	-		90 %		
<b>Layer 06</b>	-	10 %	-	-	-		80 %		
<b>Layer 07</b>	-	10 %	-	-	-		80 %		
<b>Layer 08</b>	-	10 %	-	-	-		80 %		
<b>Layer 09</b>	-	70 %	-	-	-		30 %		



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Layer 10</b>	5 %	5 %	-	-	-	-	90 %
<b>Layer 11</b>	Trace	Trace	-	-	-	-	100 %

**Client Sample ID:** 25570.001-0133

**Sample ID:** S2

**Date Analyzed:** 01/18/2019

**Client Sample Description:**

**Analyst:** Ellie Brown

<b>Asbestos Mineral Fibers</b>	Layer Percent:	Sample ID: S2			<b>Percent Asbestos:</b>
		Chrysotile	Amosite	Crocidolite	
<b>Layer 01</b> flexible material with woven fibers, white/blue	12 %	-	-	-	<b>NAD</b>
<b>Layer 02</b> foam, black	20 %	-	-	-	<b>NAD</b>
<b>Layer 03</b> coating, silver	2 %	-	-	-	<b>NAD</b>
<b>Layer 04</b> fibrous tar, black	10 %	-	-	-	<b>NAD</b>
<b>Layer 05</b> fibrous tar, black	10 %	10 %	-	-	<b>10 %</b>
<b>Layer 06</b> fibrous tar, black	10 %	10 %	-	-	<b>10 %</b>
<b>Layer 07</b> fibrous tar, black, with compressed fibers, gray	10 %	10 %	-	-	<b>10 %</b>
<b>Layer 08</b> rocky fibrous tar, black	10 %	-	-	-	<b>NAD</b>
<b>Layer 09</b> thick tar, black	16 %	-	-	-	<b>NAD</b>

<b>Other Fibers</b>	Fibrous Glass		Mineral Wool		Synthetic	Other	Matrix
	Glass	Cellulose	Wool	Synthetic			
<b>Layer 01</b>	-	-	-	10 %	-	-	90 %
<b>Layer 02</b>	-	-	-	-	-	-	100 %
<b>Layer 03</b>	-	-	-	-	-	-	100 %
<b>Layer 04</b>	10 %	2 %	-	-	-	-	88 %
<b>Layer 05</b>	-	10 %	-	-	-	-	80 %
<b>Layer 06</b>	-	10 %	-	-	-	-	80 %
<b>Layer 07</b>	-	10 %	-	-	-	-	80 %
<b>Layer 08</b>	5 %	5 %	-	-	-	-	90 %
<b>Layer 09</b>	Trace	Trace	-	-	-	-	100 %



**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 190319R01  
**Report Date:** 01/21/2019**Job Number:** 190319**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0134</b>		<b>Sample ID:</b>	<b>S3</b>		<b>Date Analyzed:</b>	<b>01/21/2019</b>	
<b>Client Sample Description:</b>							<b>Analyst:</b>	<b>Ryan Brown</b>
<b>Asbestos Mineral Fibers</b>	<b>Layer Percent:</b>	<b>Chrysotile</b>	<b>Amosite</b>	<b>Crocidolite</b>	<b>Percent Asbestos:</b>			
<b>Layer 01</b> flexible material, white/blue	10 %	-	-	-	<b>NAD</b>			
<b>Layer 02</b> fibrous backing, dark gray	7 %	-	-	-	<b>NAD</b>			
<b>Layer 03</b> foam, gray	11 %	-	-	-	<b>NAD</b>			
<b>Layer 04</b> coating, silver	6 %	-	-	-	<b>NAD</b>			
<b>Layer 05</b> fibrous tar, black	11 %	-	-	-	<b>NAD</b>			
<b>Layer 06</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>			
<b>Layer 07</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>			
<b>Layer 08</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>			
<b>Layer 09</b> fibrous tar, black	10 %	35 %	-	-	<b>35 %</b>			
<b>Layer 10</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>			
<b>Layer 11</b> fine compact powder, brown	5 %	-	-	-	<b>NAD</b>			
<b>Layer 12</b> fibrous tar, black	8 %	-	-	-	<b>NAD</b>			
<b>Other Fibers</b>	<b>Fibrous Glass</b>	<b>Cellulose</b>	<b>Mineral Wool</b>	<b>Synthetic</b>	<b>Other</b>	<b>Matrix</b>		
<b>Layer 01</b>	-	-	-	-	-	<b>100 %</b>		
<b>Layer 02</b>	15 %	15 %	-	-	-	<b>70 %</b>		
<b>Layer 03</b>	-	-	-	-	-	<b>100 %</b>		
<b>Layer 04</b>	-	-	-	-	-	<b>100 %</b>		
<b>Layer 05</b>	5 %	-	-	-	-	<b>95 %</b>		
<b>Layer 06</b>	-	35 %	-	-	-	<b>30 %</b>		



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
<http://www.labcorpdx.net>

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Layer 07	-	35 %	-	-	-	-	30 %
Layer 08	-	35 %	-	-	-	-	30 %
Layer 09	-	35 %	-	-	-	-	30 %
Layer 10	-	35 %	-	-	-	-	30 %
Layer 11	-	15 %	-	-	-	-	85 %
Layer 12	8 %	-	-	-	-	-	92 %

DRAFT



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0135		<u>Sample ID:</u>	S4		<u>Date Analyzed:</u>	01/21/2019	
<u>Client Sample Description:</u>			<u>Analyst:</u>	Ryan Brown				
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>			
<b>Layer 01</b> flexible material, white/blue	6 %	-	-	-	<b>NAD</b>			
<b>Layer 02</b> fibrous tar, black	6 %	35 %	-	-	<b>35 %</b>			
<b>Layer 03</b> fibrous backing, dark gray	2 %	-	-	-	<b>NAD</b>			
<b>Layer 04</b> foam, yellow	26 %	-	-	-	<b>NAD</b>			
<b>Layer 05</b> fibrous backing, dark gray	2 %	-	-	-	<b>NAD</b>			
<b>Layer 06</b> fibrous tar, black	10 %	35 %	-	-	<b>35 %</b>			
<b>Layer 07</b> fibrous tar, black	10 %	35 %	-	-	<b>35 %</b>			
<b>Layer 08</b> fibrous tar, black	10 %	35 %	-	-	<b>35 %</b>			
<b>Layer 09</b> compressed fibers, brown	7 %	-	-	-	<b>NAD</b>			
<b>Layer 10</b> tar, black	8 %	-	-	-	<b>NAD</b>			
<b>Layer 11</b> rocky fibrous tar, black	10 %	-	-	-	<b>NAD</b>			
<b>Layer 12</b> fibrous backing, brown	3 %	-	-	-	<b>NAD</b>			
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	<b>Matrix</b>		
<b>Layer 01</b>	-	-	-	-	-	<b>100 %</b>		
<b>Layer 02</b>	-	35 %	-	-	-	<b>30 %</b>		
<b>Layer 03</b>	15 %	15 %	-	-	-	<b>70 %</b>		
<b>Layer 04</b>	-	-	-	-	-	<b>100 %</b>		
<b>Layer 05</b>	15 %	15 %	-	-	-	<b>70 %</b>		
<b>Layer 06</b>	-	35 %	-	-	-	<b>30 %</b>		





**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
<http://www.labcorpdx.net>

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Layer 07	-	35 %	-	-	-	-	30 %
Layer 08	-	35 %	-	-	-	-	30 %
Layer 09	-	75 %	-	-	-	-	15 %
						Perlite	10 %
Layer 10	-	-	-	-	-	-	100 %
Layer 11	5 %	-	-	-	-	-	95 %
Layer 12	-	90 %	-	-	-	-	10 %

DRAFT

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 190319R01  
**Report Date:** 01/21/2019**Job Number:** 190319**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<b>Client Sample ID:</b>	<b>25570.001-0136</b>		<b>Sample ID:</b>	<b>S5</b>		<b>Date Analyzed:</b>	<b>01/21/2019</b>	
<b>Client Sample Description:</b>							<b>Analyst:</b>	<b>Ryan Brown</b>
<b>Asbestos Mineral Fibers</b>	<b>Layer Percent:</b>	<b>Chrysotile</b>	<b>Amosite</b>	<b>Crocidolite</b>	<b>Percent Asbestos:</b>			
<b>Layer 01</b> flexible material, white	10 %	-	-	-	<b>NAD</b>			
<b>Layer 02</b> fibrous backing, dark gray	6 %	-	-	-	<b>NAD</b>			
<b>Layer 03</b> foam, yellow	13 %	-	-	-	<b>NAD</b>			
<b>Layer 04</b> fibrous backing, dark gray	6 %	-	-	-	<b>NAD</b>			
<b>Layer 05</b> coating, silver	2 %	-	-	-	<b>NAD</b>			
<b>Layer 06</b> fibrous tar, black	8 %	-	-	-	<b>NAD</b>			
<b>Layer 07</b> fibrous tar, black	6 %	35 %	-	-	<b>35 %</b>			
<b>Layer 08</b> fibrous tar, black	6 %	35 %	-	-	<b>35 %</b>			
<b>Layer 09</b> fibrous tar, black	6 %	35 %	-	-	<b>35 %</b>			
<b>Layer 10</b> fibrous tar, black	6 %	35 %	-	-	<b>35 %</b>			
<b>Layer 11</b> fibrous tar, black	6 %	35 %	-	-	<b>35 %</b>			
<b>Layer 12</b> compressed fibers, brown	11 %	-	-	-	<b>NAD</b>			
<b>Layer 13</b> rocky fibrous tar, black	10 %	-	-	-	<b>NAD</b>			
<b>Layer 14</b> fibrous backing, brown	4 %	-	-	-	<b>NAD</b>			
<b>Other Fibers</b>	<b>Fibrous Glass</b>	<b>Cellulose</b>	<b>Mineral Wool</b>	<b>Synthetic</b>	<b>Other</b>	<b>Matrix</b>		
<b>Layer 01</b>	-	-	-	-	-	<b>100 %</b>		
<b>Layer 02</b>	15 %	15 %	-	-	-	<b>70 %</b>		



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
<http://www.labcorpdx.net>

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Layer 03	-	-	-	-	-	-	100 %
Layer 04	15 %	15 %	-	-	-	-	70 %
Layer 05	-	-	-	-	-	-	100 %
Layer 06	3 %	-	-	-	-	-	97 %
Layer 07	-	35 %	-	-	-	-	30 %
Layer 08	-	35 %	-	-	-	-	30 %
Layer 09	-	35 %	-	-	-	-	30 %
Layer 10	-	35 %	-	-	-	-	30 %
Layer 11	-	35 %	-	-	-	-	30 %
Layer 12	-	75 %	-	-	-	-	15 %
						Perlite	10 %
Layer 13	5 %	-	-	-	-	-	95 %
Layer 14	-	90 %	-	-	-	-	10 %

DRAFT



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0137		<u>Sample ID:</u>	S6		<u>Date Analyzed:</u>	01/21/2019			
<u>Client Sample Description:</u>									<u>Analyst:</u>	Joseph Kulm
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite						Percent Asbestos:
<b>Layer 01</b> vinyl, white/blue with woven fibers, white	10 %	-	-	-						NAD
<b>Layer 02</b> foam, off-white	20 %	-	-	-						NAD
<b>Layer 03</b> fibrous material, gray	6 %	-	-	-						NAD
<b>Layer 04</b> fibrous tar, black with coating, silver	6 %	Trace	-	-						< 1 %
<b>Layer 05</b> fibrous tar, black	8 %	35 %	-	-						35 %
<b>Layer 06</b> fibrous tar, black	8 %	35 %	-	-						35 %
<b>Layer 07</b> fibrous tar, black	8 %	35 %	-	-						35 %
<b>Layer 08</b> tar, black	10 %	Trace	-	-						< 1 %
<b>Layer 09</b> fibrous tar, black	8 %	35 %	-	-						35 %
<b>Layer 10</b> rocky fibrous tar, black	8 %	-	-	-						NAD
<b>Layer 11</b> compressed fibers, tan	8 %	-	-	-						NAD
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other					Matrix
<b>Layer 01</b>	-	-	-	20 %	-					80 %
<b>Layer 02</b>	-	-	-	-	-					100 %
<b>Layer 03</b>	-	60 %	-	-	-					40 %
<b>Layer 04</b>	8 %	-	-	-	-					92 %
<b>Layer 05</b>	-	35 %	-	-	-					30 %
<b>Layer 06</b>	-	35 %	-	-	-					30 %
<b>Layer 07</b>	-	35 %	-	-	-					30 %
<b>Layer 08</b>	-	Trace	-	-	-					100 %
<b>Layer 09</b>	-	35 %	-	-	-					30 %





**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
<http://www.labcorpdx.net>

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Layer 10</b>	2 %	4 %	-	-	-	-	94 %
<b>Layer 11</b>	-	90 %	-	-	-	-	10 %

DRAFT



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0138		<u>Sample ID:</u>	S7		<u>Date Analyzed:</u>	01/21/2019		
<u>Client Sample Description:</u>							<u>Analyst:</u>	Joseph Kulm	
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite					
					<b>Percent Asbestos:</b>				
<b>Layer 01</b>									
vinyl, blue/white with woven fibers, white	10 %	-	-	-				NAD	
<b>Layer 02</b>									
foam, black	20 %	-	-	-				NAD	
<b>Layer 03</b>									
compressed fibers, gray	4 %	-	-	-				NAD	
<b>Layer 04</b>									
tar, black with coating, silver	8 %	Trace	-	-				< 1 %	
<b>Layer 05</b>									
fibrous tar, black	8 %	35 %	-	-				35 %	
<b>Layer 06</b>									
fibrous tar, black	8 %	35 %	-	-				35 %	
<b>Layer 07</b>									
fibrous tar, black	8 %	35 %	-	-				35 %	
<b>Layer 08</b>									
fibrous tar, black	8 %	35 %	-	-				35 %	
<b>Layer 09</b>									
fibrous tar, black	8 %	35 %	-	-				35 %	
<b>Layer 10</b>									
compressed fibers, brown	6 %	-	-	-				NAD	
<b>Layer 11</b>									
fibrous tar, black	8 %	-	-	-				NAD	
<b>Layer 12</b>									
fibrous tar, black	4 %	-	-	-				NAD	
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix			
<b>Layer 01</b>	-	-	-	20 %	-	-	-	80 %	
<b>Layer 02</b>	-	-	-	-	-	-	-	100 %	
<b>Layer 03</b>	-	70 %	-	-	-	-	-	30 %	
<b>Layer 04</b>	Trace	Trace	-	-	-	-	-	100 %	
<b>Layer 05</b>	-	35 %	-	-	-	-	-	30 %	
<b>Layer 06</b>	-	35 %	-	-	-	-	-	30 %	



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
<http://www.labcorpdx.net>

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Layer 07	-	35 %	-	-	-	-	30 %
Layer 08	-	35 %	-	-	-	-	30 %
Layer 09	-	35 %	-	-	-	-	30 %
Layer 10	-	60 %	-	-	-	-	40 %
Layer 11	8 %	-	-	-	-	-	92 %
Layer 12	8 %	4 %	-	-	-	-	88 %

DRAFT



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0139		<u>Sample ID:</u>	S8		<u>Date Analyzed:</u>	01/21/2019		
<u>Client Sample Description:</u>							<u>Analyst:</u>	Tim Cammann	
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite			<u>Percent Asbestos:</u>		
<b>Layer 01</b>									
foam, black	11 %	-	-	-					NAD
<b>Layer 02</b>									
fibrous tar, black	4 %	-	-	-					NAD
<b>Layer 03</b>									
coating, silver	3 %	-	-	-					NAD
<b>Layer 04</b>									
flexible tar, black	8 %	-	-	-					NAD
<b>Layer 05</b>									
thick tar, black	20 %	-	-	-					NAD
<b>Layer 06</b>									
tar, black	8 %	-	-	-					NAD
<b>Layer 07</b>									
fibrous tar, black, with tar, black	9 %	30 %	-	-					30 %
<b>Layer 08</b>									
fibrous tar, black, with tar, black	15 %	40 %	-	-					40 %
<b>Layer 09</b>									
loose fibrous material, brown	5 %	-	-	-					NAD
<b>Layer 10</b>									
tar, black	6 %	-	-	-					NAD
<b>Layer 11</b>									
rocky fibrous tar, black	5 %	-	-	-					NAD
<b>Layer 12</b>									
tar, black	6 %	-	-	-					NAD
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other		Matrix		
<b>Layer 01</b>	-	-	-	-	-	-	100 %		
<b>Layer 02</b>	45 %	45 %	-	-	-	-	10 %		
<b>Layer 03</b>	-	-	-	-	-	-	100 %		
<b>Layer 04</b>	10 %	-	-	-	-	-	90 %		
<b>Layer 05</b>	6 %	5 %	-	-	-	-	89 %		
<b>Layer 06</b>	-	40 %	-	-	-	-	60 %		





**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
<http://www.labcorpdx.net>

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Layer 07	-	35 %	-	-	-	-	35 %
Layer 08	-	35 %	-	-	-	-	25 %
Layer 09	-	85 %	-	-	-	-	15 %
Layer 10	-	-	-	-	-	-	100 %
Layer 11	-	40 %	-	-	-	-	60 %
Layer 12	-	-	-	-	-	-	100 %

DRAFT



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
http://www.labcorpdx.net

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0140		<u>Sample ID:</u>	S9		<u>Date Analyzed:</u>	01/21/2019		
<u>Client Sample Description:</u>							<u>Analyst:</u>	Ryan Brown	
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite					
					<b>Percent Asbestos:</b>				
<b>Layer 01</b> flexible material, white/blue	7 %	-	-	-	<b>NAD</b>				
<b>Layer 02</b> foam, dark gray	9 %	-	-	-	<b>NAD</b>				
<b>Layer 03</b> fibrous backing, dark gray	7 %	-	-	-	<b>NAD</b>				
<b>Layer 04</b> coating, silver	5 %	-	-	-	<b>NAD</b>				
<b>Layer 05</b> fibrous tar, black	7 %	-	-	-	<b>NAD</b>				
<b>Layer 06</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>				
<b>Layer 07</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>				
<b>Layer 08</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>				
<b>Layer 09</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>				
<b>Layer 10</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>				
<b>Layer 11</b> fibrous tar, black	10 %	35 %	-	-	<b>35 %</b>				
<b>Layer 12</b> compressed fibers, brown	5 %	-	-	-	<b>NAD</b>				
<b>Layer 13</b> rocky fibrous tar, black	10 %	-	-	-	<b>NAD</b>				
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix			
<b>Layer 01</b>	-	-	-	-	-	100 %			
<b>Layer 02</b>	-	-	-	-	-	100 %			
<b>Layer 03</b>	15 %	15 %	-	-	-	70 %			
<b>Layer 04</b>	-	-	-	-	-	100 %			





**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
<http://www.labcorpdx.net>

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Layer 05	3 %	-	-	-	-	-	97 %
Layer 06	-	35 %	-	-	-	-	30 %
Layer 07	-	35 %	-	-	-	-	30 %
Layer 08	-	35 %	-	-	-	-	30 %
Layer 09	-	35 %	-	-	-	-	30 %
Layer 10	-	35 %	-	-	-	-	30 %
Layer 11	-	-	-	-	-	-	65 %
Layer 12	-	75 %	-	-	-	-	15 %
						Perlite	10 %
Layer 13	5 %	-	-	-	-	-	95 %

DRAFT



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0141		<u>Sample ID:</u>	S10		<u>Date Analyzed:</u>	01/21/2019	
<u>Client Sample Description:</u>			<u>Analyst:</u>	Ryan Brown				
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>			
<b>Layer 01</b> flexible material, white/blue	8 %	-	-	-	<b>NAD</b>			
<b>Layer 02</b> foam, dark gray	12 %	-	-	-	<b>NAD</b>			
<b>Layer 03</b> fibrous backing, dark gray	4 %	-	-	-	<b>NAD</b>			
<b>Layer 04</b> coating, silver	4 %	-	-	-	<b>NAD</b>			
<b>Layer 05</b> tar, black	6 %	-	-	-	<b>NAD</b>			
<b>Layer 06</b> fibrous tar, black	12 %	35 %	-	-	<b>35 %</b>			
<b>Layer 07</b> fibrous tar, black	12 %	35 %	-	-	<b>35 %</b>			
<b>Layer 08</b> fibrous tar, black	12 %	35 %	-	-	<b>35 %</b>			
<b>Layer 09</b> fibrous tar, black	12 %	35 %	-	-	<b>35 %</b>			
<b>Layer 10</b> compressed fibers, brown	8 %	-	-	-	<b>NAD</b>			
<b>Layer 11</b> rocky fibrous tar, black	10 %	-	-	-	<b>NAD</b>			
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix		
<b>Layer 01</b>	-	-	-	-	-	100 %		
<b>Layer 02</b>	-	-	-	-	-	100 %		
<b>Layer 03</b>	15 %	15 %	-	-	-	70 %		
<b>Layer 04</b>	-	-	-	-	-	100 %		
<b>Layer 05</b>	-	-	-	-	-	100 %		
<b>Layer 06</b>	-	35 %	-	-	-	30 %		
<b>Layer 07</b>	-	35 %	-	-	-	30 %		
<b>Layer 08</b>	-	35 %	-	-	-	30 %		



**Lab/Cor Portland, Inc.**

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

**BULK SAMPLE ASBESTOS ANALYSIS**

Phone: (503) 224-5055  
<http://www.labcorpdx.net>

*Asbestos and Environmental Analysis*

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Layer 09</b>	-	35 %	-	-	-	-	30 %
<b>Layer 10</b>	-	75 %	-	-	-	-	15 %
						Perlite	10 %
<b>Layer 11</b>	5 %	-	-	-	-	-	95 %

DRAFT

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 190319R01  
**Report Date:** 01/21/2019**Job Number:** 190319**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

<u>Client Sample ID:</u>	25570.001-0142		<u>Sample ID:</u>	S11		<u>Date Analyzed:</u>	01/21/2019		
<u>Client Sample Description:</u>							<u>Analyst:</u>	Stephanie Golden	
<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite	<b>Percent Asbestos:</b>				
<b>Layer 01</b> rubbery material, white/blue	15 %	-	-	-	<b>NAD</b>				
<b>Layer 02</b> paint, silver	3 %	-	-	-	<b>NAD</b>				
<b>Layer 03</b> fibrous tar, black	12 %	-	-	-	<b>NAD</b>				
<b>Layer 04</b> fibrous backing, dark gray	8 %	-	-	-	<b>NAD</b>				
<b>Layer 05</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>				
<b>Layer 06</b> fibrous tar, black	8 %	35 %	-	-	<b>35 %</b>				
<b>Layer 07</b> fibrous tar, black	9 %	35 %	-	-	<b>35 %</b>				
<b>Layer 08</b> fibrous tar, black	10 %	35 %	-	-	<b>35 %</b>				
<b>Layer 09</b> fibrous material, brown	6 %	-	-	-	<b>NAD</b>				
<b>Layer 10</b> fibrous tar, black	11 %	-	-	-	<b>NAD</b>				
<b>Layer 11</b> fibrous tar, black	10 %	-	-	-	<b>NAD</b>				
<u>Other Fibers</u>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	<b>Matrix</b>			
<b>Layer 01</b>	-	-	-	10 %	-	<b>90 %</b>			
<b>Layer 02</b>	-	-	-	-	-	<b>100 %</b>			
<b>Layer 03</b>	18 %	-	-	-	-	<b>82 %</b>			
<b>Layer 04</b>	-	90 %	-	-	-	<b>10 %</b>			
<b>Layer 05</b>	-	30 %	-	-	-	<b>35 %</b>			
<b>Layer 06</b>	-	30 %	-	-	-	<b>35 %</b>			
<b>Layer 07</b>	-	30 %	-	-	-	<b>35 %</b>			
<b>Layer 08</b>	-	30 %	-	-	-	<b>35 %</b>			
<b>Layer 09</b>	-	85 %	-	-	-	Perlite	<b>15 %</b>		

**Lab/Cor Portland, Inc.**4321 SW Corbett Ave., Ste A  
Portland, OR 97239**BULK SAMPLE ASBESTOS ANALYSIS**Phone: (503) 224-5055  
http://www.labcorpdx.net*Asbestos and Environmental Analysis***Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239**Report Number:** 190319R01  
**Report Date:** 01/21/2019**Job Number:** 190319**P.O. No:** n/a**Project Name:****Project Number:** 25570.001 Phase 0001**Project Notes:**

Layer 10	12 %	-	-	-	-	-	88 %
Layer 11	-	60 %	-	-	-	-	40 %

**Client Sample ID:** 25570.001-0143      **Sample ID:** S12      **Date Analyzed:** 01/21/2019**Client Sample Description:**      **Analyst:** Joseph Kulm

<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
<b>Homogeneous</b> rubbery material, gray/black	100 %	-	-	-		<b>NAD</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	-	-	-	-	100 %

**Client Sample ID:** 25570.001-0144      **Sample ID:** S13      **Date Analyzed:** 01/21/2019**Client Sample Description:**      **Analyst:** Joseph Kulm

<u>Asbestos Mineral Fibers</u>	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
<b>Layer 01</b> vinyl, white/green with woven fibers, white	20 %	-	-	-		<b>NAD</b>
<b>Layer 02</b> fibrous tar, black	30 %	-	-	-		<b>NAD</b>
<b>Layer 03</b> fibrous tar, black	30 %	-	-	-		<b>NAD</b>
<b>Layer 04</b> tar, black with coating, silver	20 %	2 %	-	-		<b>2 %</b>
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
<b>Layer 01</b>	-	-	-	20 %	-	80 %
<b>Layer 02</b>	-	70 %	-	-	-	30 %
<b>Layer 03</b>	-	70 %	-	-	-	30 %
<b>Layer 04</b>	-	-	-	-	-	98 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

<b>Client Sample ID:</b> 25570.001-0145	<b>Sample ID:</b> S14	<b>Date Analyzed:</b> 01/21/2019	
<b>Client Sample Description:</b>		<b>Analyst:</b> Joseph Kulm	
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite
			Crocidolite
<b>Homogeneous</b>			
rocky fibrous tar, black/red	100 %	-	-
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
	8 %	-	-
			Matrix
			92 %

<b>Client Sample ID:</b> 25570.001-0146	<b>Sample ID:</b> S15	<b>Date Analyzed:</b> 01/21/2019	
<b>Client Sample Description:</b>		<b>Analyst:</b> Joseph Kulm	
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite
			Crocidolite
<b>Layer 01</b>			
rocky fibrous tar, black/white	60 %	-	-
<b>Layer 02</b>			
fibrous tar, black	40 %	-	-
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
<b>Layer 01</b>	8 %	-	-
<b>Layer 02</b>	-	60 %	-
			Matrix
			92 %
			40 %

<b>Client Sample ID:</b> 25570.001-0147	<b>Sample ID:</b> S16	<b>Date Analyzed:</b> 01/21/2019	
<b>Client Sample Description:</b>		<b>Analyst:</b> Ryan Brown	
<b>Asbestos Mineral Fibers</b>	Layer Percent:	Chrysotile	Amosite
			Crocidolite
<b>Layer 01</b>			
rocky fibrous tar, black	55 %	-	-
<b>Layer 02</b>			
fibrous material, black	45 %	-	-
<b>Other Fibers</b>	Fibrous Glass	Cellulose	Mineral Wool
			Synthetic
			Other
<b>Layer 01</b>	8 %	-	-
<b>Layer 02</b>	-	65 %	-
			Matrix
			92 %
			35 %



# Lab/Cor Portland, Inc.

4321 SW Corbett Ave., Ste A  
Portland, OR 97239

## BULK SAMPLE ASBESTOS ANALYSIS

Phone: (503) 224-5055  
http://www.labcorpdx.net

### Asbestos and Environmental Analysis

**Client:** PBS Engineering and Environmental  
4412 SW Corbett Avenue  
Portland, OR 97239

**Report Number:** 190319R01  
**Report Date:** 01/21/2019

**Job Number:** 190319

**P.O. No:** n/a

**Project Name:**

**Project Number:** 25570.001 Phase 0001

**Project Notes:**

Client Sample ID:	25570.001-0148	Sample ID:	S17	Date Analyzed:	01/21/2019	Analyst:	Ryan Brown	Percent Asbestos:
<b>Client Sample Description:</b>								
<b>Asbestos Mineral Fibers</b>								
	Layer	Percent:	Chrysotile	Amosite	Crocidolite			
<b>Homogeneous</b>								
hard compact powder, off-white with paint, white	100 %	Trace	-	-				< 1 %
<b>Other Fibers</b>								
	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other			Matrix 100 %
	-	-	-	-	-			

Comments: A gravimetric preparation and point-count is recommended for this sample.

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP). Testing method is per 40 CFR 763 Subpart E, Appendix E, PLM. This report and the data contained therein cannot be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

- "NAD" is No Asbestos Detected.
- Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
- Material binders, such as those found in vinyl floor tiles, may prevent the detection of small diameter asbestos fibers. A gravimetric preparation and point-count is recommended for such samples.
- Quantitative analysis by PLM point count or TEM may be recommended for samples testing at < or = to 1% asbestos.
- The following estimate of error for this method by visual estimation of asbestos percent are as follows:  
1% asbestos: >0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
- This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

**Reviewed by:**

  
 Ryan Brown  
 PLM Technical Manager





190319 1/2

**TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES**

Project No.: 25570.001 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

**SENDER**

Date Sent: January 16, 2019

PBS Engineering and Environmental Inc.  
4412 SW Corbett Avenue  
Portland, OR 97239  
503.248.1939, Fax: 866.727.0140

Alex Johnson  
Name

A Johnson 1/16/19 10:30  
Authorized Signature Date Time

**RECEIVER**

Date Received: 1/16/19

Company: Lab Cor  
Address: 4321 SW Corbett Ave Ste A  
Portland, OR 97239  
503-224-5055

Mark Donahue  
Name

[Signature] 1/16/19 10:43 am  
Authorized Signature Date Time

Sender's ID No.	Brief Description
25570.001-0132	_____
25570.001-0133	_____
25570.001-0134	_____
25570.001-0135	_____
25570.001-0136	_____
25570.001-0137	_____
25570.001-0138	_____
25570.001-0139	_____
25570.001-0140	_____
25570.001-0141	_____
25570.001-0142	_____
25570.001-0143	_____
25570.001-0144	_____
25570.001-0145	_____

Receiver's ID No.
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

190319 JL



**TRANSMITTAL AND CHAIN OF CUSTODY FOR ASBESTOS BULK SAMPLES**

25570.001-0146 \_\_\_\_\_  
25570.001-0147 \_\_\_\_\_  
25570.001-0148 \_\_\_\_\_

Please analyze the enclosed 17 sample(s) for asbestos content using PLM with dispersion staining. PBS requests prior notification if samples will be disposed.

Request verbal results by: \_\_\_\_\_ AM/PM \_\_\_\_\_ Date.

Please fax and mail the results to the above address.

**TURNAROUND DESIRED:**

**72 Hour**

**SPECIAL INSTRUCTIONS:**

JL

## LABORATORY REPORT

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

Attn: Alex Johnson  
 Phone: 503-248-1939

Email: alex.johnson@pbsusa.com

RJ Lee Group Job No.: PA041220180022  
 Samples Received: December 4, 2018  
 Report Date: December 7, 2018  
 Client Project: 25570.001 Phase 0001  
 Purchase Order No.: N/A  
 Matrix: Solid  
 Prep/ Analysis: EPA 3050B / EPA 7000B-Paint

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		
LB25570.001-1001	PA041220180022-001	NP	Lead	26	260000	0.0097	97	12/5/2018	AN
LB25570.001-1002	PA041220180022-002	NP	Lead	0.23	2300	0.0097	97	12/5/2018	AN
LB25570.001-1003	PA041220180022-003	NP	Lead	0.16	1600	0.0097	97	12/5/2018	AN
LB25570.001-1004	PA041220180022-004	NP	Lead	0.38	3800	0.0054	54	12/5/2018	AN
LB25570.001-1005	PA041220180022-005	NP	Lead	0.30	3000	0.0098	98	12/5/2018	AN
LB25570.001-1006	PA041220180022-006	NP	Lead	3.4	34000	0.0054	54	12/5/2018	AN
LB25570.001-1007	PA041220180022-007	NP	Lead	0.11	1100	0.0097	97	12/5/2018	AN

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)  
 — : Test (analyte-matrix-preparation-analysis) is performed under RJLG's General Quality System requirements and is not part of any of the above scopes of accreditations

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

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 appropriate 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*

Philip Grindle  
 Laboratory Supervisor



TRANSMITTAL AND CHAIN OF CUSTODY FOR LEAD BULK SAMPLES

Project No.: 25570.001 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: November 30, 2018

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson (handwritten signature)

Name

A. Johnson (handwritten signature)
Authorized Signature

11/30/18
Date

RECEIVER

Date Received: 12/04/18

Company: R.J. Lee Group
Address: 350 Hochberg Road
Monroeville, PA 15146
724-325-1776

ELLEN MARTIN (handwritten signature)

Name

Ellen Martin (handwritten signature)
Authorized Signature

12/04/18 @ 10:30AM
Date

Table with 3 columns: Sender's ID No., Brief Description, Receiver's ID No. Rows include LB25570.001-1001 through 1007.

ANALYSIS REQUESTED:

- LEAD: [x] Paint, [ ] Wipe, [ ] Soil/Misc., [ ] Air, [ ] TCLP

Please analyze the enclosed 7 sample(s) for LEAD content using Atomic Absorption Method. PBS requests prior notification if samples will be disposed.

Please fax and mail the results to the above address.

TURNAROUND DESIRED:

72 Hour (circled)

SPECIAL INSTRUCTIONS:

## LABORATORY REPORT

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

Attn: Alex Johnson  
 Phone: 503-248-1939

Email: alex.johnson@pbsusa.com

RJ Lee Group Job No.: PA171220180008  
 Samples Received: December 17, 2018  
 Report Date: December 20, 2018  
 Client Project: 25570.001 Phase 0001  
 Purchase Order No.: N/A  
 Matrix: Solid  
 Prep/ Analysis: EPA 3050B / EPA 7000B-Paint

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		
LB25570.001-1008	PA171220180008-001	NP	Lead	0.062	620	0.0096	96	12/18/2018	AN
LB25570.001-1009	PA171220180008-002	NP	Lead	0.44	4400	0.0100	100	12/18/2018	AN
LB25570.001-1010	PA171220180008-003	NP	Lead	19	190000	0.0096	96	12/18/2018	AN
LB25570.001-1011	PA171220180008-004	NP	Lead	20	200000	0.0096	96	12/18/2018	AN
LB25570.001-1012	PA171220180008-005	NP	Lead	0.34	3400	0.0096	96	12/18/2018	AN
LB25570.001-1013	PA171220180008-006	NP	Lead	33	330000	0.0098	98	12/18/2018	AN
LB25570.001-1014	PA171220180008-007	NP	Lead	3.1	31000	0.0096	96	12/18/2018	AN

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)  
 — : Test (analyte-matrix-preparation-analysis) is performed under RJLG's General Quality System requirements and is not part of any of the above scopes of accreditations

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

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 appropriate 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*

Philip Grindle  
 Laboratory Supervisor


**TRANSMITTAL AND CHAIN OF CUSTODY FOR LEAD BULK SAMPLES**
**Project No.:** 25570.001 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

**SENDER**
**Date Sent:** December 14, 2018

**PBS Engineering and Environmental Inc.**  
 4412 SW Corbett Avenue  
 Portland, OR 97239  
 503.248.1939 Fax: 866.727.0140

 Alex Johnson  
 \_\_\_\_\_  
 Name

 [Signature]  
 \_\_\_\_\_  
 Authorized Signature

 12/14/18  
 \_\_\_\_\_  
 Date

**RECEIVER**
**Date Received:** 12/17/18 10<sup>00</sup>
**Company:** R.J. Lee Group  
**Address:** 350 Hochberg Road  
 Monroeville, PA 15146  
 724-325-1776

 J. OAKLEY  
 \_\_\_\_\_  
 Name

 [Signature]  
 \_\_\_\_\_  
 Authorized Signature

 12/17/18  
 \_\_\_\_\_  
 Date

**Sender's ID No.**
**Brief Description**
**Receiver's ID No.**

LB25570.001-1008

LB25570.001-1009

LB25570.001-1010

LB25570.001-1011

LB25570.001-1012

LB25570.001-1013

LB25570.001-1014

**ANALYSIS REQUESTED:**

- LEAD:**
- Paint
- Wipe
- Soil/Misc.
- Air
- TCLP

Please analyze the enclosed 7 sample(s) for LEAD content using Atomic Absorption Method. PBS requests prior notification if samples will be disposed.

Please fax and mail the results to the above address.

**TURNAROUND DESIRED:**

72 Hour

**SPECIAL INSTRUCTIONS:**

**LABORATORY REPORT**

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

Attn: Alex Johnson  
Phone: 503-248-1939

Email: alex.johnson@pbsusa.com

RJ Lee Group Job No.: PA191220180006  
Samples Received: December 19, 2018  
Report Date: December 25, 2018  
Client Project: 25570.001 Phase 0001  
Purchase Order No.: N/A  
Matrix: Solid  
Prep/Analysis: EPA 3050B / EPA 7000B-Paint

Client Sample ID	RJ Lee Group ID	Sampling Date	Analyte	Sample Concentration			Minimum Reporting Limit			
				Weight Percent (%)	Parts per Million (PPM) - mg/kg	Parts per Million (PPM) - mg/kg	Weight Percent (%)	Parts per Million (PPM) - mg/kg	Analysis Date	
LB25570.001-1015	PA191220180006-001	NP	Lead	0.032	320	98	0.0098	98	12/21/2018	AN
LB25570.001-1016	PA191220180006-002	NP	Lead	< 0.0097	< 97	97	0.0097	97	12/21/2018	AN
LB25570.001-1017	PA191220180006-003	NP	Lead	21	210000	96	0.0096	96	12/21/2018	AN
LB25570.001-1018	PA191220180006-004	NP	Lead	0.15	1500	100	0.0100	100	12/21/2018	AN

**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)

— : Test (analyte-matrix-preparation-analysis) is performed under RJLG's General Quality System requirements and is not part of 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 <https://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 appropriate 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.

- 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



Philip Grindle  
Laboratory Supervisor



TRANSMITTAL AND CHAIN OF CUSTODY FOR LEAD BULK SAMPLES

Project No.: 25570.001 Phase 0001

Individuals signing this form warrant that the information provided is correct and complete. The Sender should keep a copy and send the original. The Receiver should complete the form, keep a copy and return the original to the Sender. Receiver shall report damage of package immediately to Sender.

SENDER

Date Sent: December 18, 2018

PBS Engineering and Environmental Inc.
4412 SW Corbett Avenue
Portland, OR 97239
503.248.1939, Fax: 866.727.0140

Alex Johnson (handwritten signature)

Name

AJoh (handwritten signature) 12/18/18 (handwritten date)
Authorized Signature Date

RECEIVER

Date Received: 12/19/18 1300 (handwritten)

Company: R.J. Lee Group
Address: 350 Hochberg Road
Monroeville, PA 15146
724-325-1776

M. Scully (handwritten signature)

Name

M. Scully (handwritten signature) 12/17/18 (handwritten date)
Authorized Signature Date

Table with 3 columns: Sender's ID No., Brief Description, Receiver's ID No.
Rows: LB25570.001-1015, LB25570.001-1016, LB25570.001-1017, LB25570.001-1018

ANALYSIS REQUESTED:

- LEAD: [x] Paint, [ ] Wipe, [ ] Soil/Misc., [ ] Air, [ ] TCLP

Please analyze the enclosed 4 sample(s) for LEAD content using Atomic Absorption Method. PBS requests prior notification if samples will be disposed.

Please fax and mail the results to the above address.

TURNAROUND DESIRED:

72 Hour (circled in red)

SPECIAL INSTRUCTIONS:



Monday, January 7, 2019

Joe Lucas  
PBS Engineering and Environmental  
4412 SW Corbett Ave  
Portland, OR 97239

RE: A8L0808 - WA School for the Deaf - 25570.001/0001

Thank you for using Apex Laboratories. We greatly appreciate your business and strive to provide the highest quality services to the environmental industry.

Enclosed are the results of analyses for work order A8L0808, which was received by the laboratory on 12/20/2018 at 11:25:00AM.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: [ldomenighini@apex-labs.com](mailto:ldomenighini@apex-labs.com), or by phone at 503-718-2323.

Please note: All samples will be disposed of within 30 days of final reporting, unless prior arrangements have been made.

---

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1      13.2 degC

---

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report. All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.

---



---

Apex Laboratories

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

---

Lisa Domenighini, Client Services Manager



**Apex Laboratories, LLC**

12232 S.W. Garden Place  
Tigard, OR 97223  
503-718-2323  
EPA ID: OR01039

<b><u>PBS Engineering and Environmental</u></b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b><u>WA School for the Deaf</u></b> Project Number: <b>25570.001/0001</b> Project Manager: <b>Joe Lucas</b>	<b>Report ID:</b> <b>A8L0808 - 01 07 19 1506</b>
--	---	---

**ANALYTICAL REPORT FOR SAMPLES**

**SAMPLE INFORMATION**

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
-2001:Epperson East Exterior Door Frame	A8L0808-01	Solid	12/17/18 11:05	12/20/18 11:25
-2002: Industrial Bldg., South Exterior Door Frame	A8L0808-02	Solid	12/17/18 11:10	12/20/18 11:25
-2003: Bolier Blds., South Exterior Door Frame	A8L0808-03	Solid	12/17/18 11:15	12/20/18 11:25
-2004: Cafeteria Bldg., SE Exterior Door Frame	A8L0808-04	Solid	12/17/18 11:20	12/20/18 11:25
-2005: Epperson, East Exterir Window Frame	A8L0808-05	Solid	12/17/18 11:25	12/20/18 11:25

DRAFT

Apex Laboratories

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Lisa Domenighini, Client Services Manager



<b>PBS Engineering and Environmental</b>	Project: <b>WA School for the Deaf</b>	<b>Report ID:</b>
4412 SW Corbett Ave	Project Number: <b>25570.001/0001</b>	<b>A8L0808 - 01 07 19 1506</b>
Portland, OR 97239	Project Manager: <b>Joe Lucas</b>	

**ANALYTICAL SAMPLE RESULTS**

**Polychlorinated Biphenyls by EPA 8082A**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes	
<b>-2001:Epperson East Exterior Door Frame (A8L0808-01)</b>				<b>Matrix: Solid</b>		<b>Batch: 9010381</b>		<b>C-07</b>	
Aroclor 1016	ND	---	0.476	mg/kg	5	01/04/19	EPA 8082A		
Aroclor 1221	ND	---	0.476	mg/kg	5	01/04/19	EPA 8082A		
Aroclor 1232	ND	---	0.476	mg/kg	5	01/04/19	EPA 8082A		
<b>Aroclor 1242</b>	<b>4.88</b>	---	0.476	mg/kg	5	01/04/19	EPA 8082A	<b>P-09</b>	
Aroclor 1248	ND	---	0.476	mg/kg	5	01/04/19	EPA 8082A		
Aroclor 1254	ND	---	0.476	mg/kg	5	01/04/19	EPA 8082A		
Aroclor 1260	ND	---	0.476	mg/kg	5	01/04/19	EPA 8082A		
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 86 %</i>		<i>Limits: 60-125 %</i>		<i>5</i>	<i>01/04/19</i>	<i>EPA 8082A</i>	<i>S-05</i>
<b>-2002: Industrial Bldg., South Exterior Door Frame (A8L0808-02RE2)</b>				<b>Matrix: Solid</b>		<b>Batch: 9010381</b>		<b>C-07, R-04</b>	
Aroclor 1016	ND	---	6.23	mg/kg	20	01/04/19	EPA 8082A	R-02	
Aroclor 1221	ND	---	14.3	mg/kg	20	01/04/19	EPA 8082A	R-02	
Aroclor 1232	ND	---	17.9	mg/kg	20	01/04/19	EPA 8082A	R-02	
Aroclor 1242	ND	---	8.30	mg/kg	20	01/04/19	EPA 8082A	R-02	
Aroclor 1248	ND	---	5.85	mg/kg	20	01/04/19	EPA 8082A	R-02	
Aroclor 1254	ND	---	2.83	mg/kg	20	01/04/19	EPA 8082A	R-02	
Aroclor 1260	ND	---	2.26	mg/kg	20	01/04/19	EPA 8082A	R-02	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 134 %</i>		<i>Limits: 60-125 %</i>		<i>20</i>	<i>01/04/19</i>	<i>EPA 8082A</i>	<i>S-05</i>
<b>-2003: Bolier Blds., South Exterior Door Frame (A8L0808-03)</b>				<b>Matrix: Solid</b>		<b>Batch: 9010381</b>		<b>C-07</b>	
Aroclor 1016	ND	---	2.00	mg/kg	5	01/04/19	EPA 8082A	R-02	
Aroclor 1221	ND	---	0.455	mg/kg	5	01/04/19	EPA 8082A		
Aroclor 1232	ND	---	4.68	mg/kg	5	01/04/19	EPA 8082A	R-02	
Aroclor 1242	ND	---	2.64	mg/kg	5	01/04/19	EPA 8082A	R-02	
Aroclor 1248	ND	---	1.05	mg/kg	5	01/04/19	EPA 8082A	R-02	
Aroclor 1254	ND	---	0.773	mg/kg	5	01/04/19	EPA 8082A	R-02	
Aroclor 1260	ND	---	0.455	mg/kg	5	01/04/19	EPA 8082A		
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 73 %</i>		<i>Limits: 60-125 %</i>		<i>5</i>	<i>01/04/19</i>	<i>EPA 8082A</i>	<i>S-05</i>
<b>-2004: Cafeteria Bldg., SE Exterior Door Frame (A8L0808-04RE2)</b>				<b>Matrix: Solid</b>		<b>Batch: 9010381</b>		<b>C-07</b>	
Aroclor 1016	ND	---	0.0990	mg/kg	1	01/04/19	EPA 8082A		
Aroclor 1221	ND	---	0.0990	mg/kg	1	01/04/19	EPA 8082A		
Aroclor 1232	ND	---	0.139	mg/kg	1	01/04/19	EPA 8082A	R-02	
Aroclor 1242	ND	---	0.0990	mg/kg	1	01/04/19	EPA 8082A		
Aroclor 1248	ND	---	0.0990	mg/kg	1	01/04/19	EPA 8082A		
Aroclor 1254	ND	---	0.0990	mg/kg	1	01/04/19	EPA 8082A		
Aroclor 1260	ND	---	0.0990	mg/kg	1	01/04/19	EPA 8082A		

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Lisa Domenighini, Client Services Manager



<b>PBS Engineering and Environmental</b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b>WA School for the Deaf</b> Project Number: <b>25570.001/0001</b> Project Manager: <b>Joe Lucas</b>	<b>Report ID:</b> <b>A8L0808 - 01 07 19 1506</b>
---	--	---

**ANALYTICAL SAMPLE RESULTS**

**Polychlorinated Biphenyls by EPA 8082A**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
<b>-2004: Cafeteria Bldg., SE Exterior Door Frame (A8L0808-04RE2)</b>				<b>Matrix: Solid</b>		<b>Batch: 9010381</b>		<b>C-07</b>
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 73 %</i>		<i>Limits: 60-125 %</i>		<i>1</i>	<i>01/04/19</i>	<i>EPA 8082A</i>
<b>-2005: Epperson, East Exterir Window Frame (A8L0808-05RE1)</b>				<b>Matrix: Solid</b>		<b>Batch: 9010381</b>		<b>C-07</b>
Aroclor 1016	ND	---	0.481	mg/kg	5	01/04/19	EPA 8082A	
Aroclor 1221	ND	---	0.481	mg/kg	5	01/04/19	EPA 8082A	
Aroclor 1232	ND	---	0.481	mg/kg	5	01/04/19	EPA 8082A	
<b>Aroclor 1242</b>	<b>1.08</b>	---	0.481	mg/kg	5	01/04/19	EPA 8082A	<b>P-10</b>
Aroclor 1248	ND	---	0.481	mg/kg	5	01/04/19	EPA 8082A	
Aroclor 1254	ND	---	0.481	mg/kg	5	01/04/19	EPA 8082A	
Aroclor 1260	ND	---	0.481	mg/kg	5	01/04/19	EPA 8082A	
<i>Surrogate: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 79 %</i>		<i>Limits: 60-125 %</i>		<i>5</i>	<i>01/04/19</i>	<i>EPA 8082A</i>

DRAFT



<b>PBS Engineering and Environmental</b>	Project: <b>WA School for the Deaf</b>	
4412 SW Corbett Ave	Project Number: <b>25570.001/0001</b>	<b>Report ID:</b>
Portland, OR 97239	Project Manager: <b>Joe Lucas</b>	<b>A8L0808 - 01 07 19 1506</b>

**QUALITY CONTROL (QC) SAMPLE RESULTS**

**Polychlorinated Biphenyls by EPA 8082A**

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
<b>Batch 9010381 - EPA 3546</b>						<b>Solid</b>						
<b>Blank (9010381-BLK1)</b>		Prepared: 01/03/19 10:11		Analyzed: 01/04/19 09:04								<b>C-07</b>
<b>EPA 8082A</b>												
Aroclor 1016	ND	---	0.0500	mg/kg	1	---	---	---	---	---	---	
Aroclor 1221	ND	---	0.0500	mg/kg	1	---	---	---	---	---	---	
Aroclor 1232	ND	---	0.0500	mg/kg	1	---	---	---	---	---	---	
Aroclor 1242	ND	---	0.0500	mg/kg	1	---	---	---	---	---	---	
Aroclor 1248	ND	---	0.0500	mg/kg	1	---	---	---	---	---	---	
Aroclor 1254	ND	---	0.0500	mg/kg	1	---	---	---	---	---	---	
Aroclor 1260	ND	---	0.0500	mg/kg	1	---	---	---	---	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 87 %</i>		<i>Limits: 60-125 %</i>		<i>Dilution: 1x</i>						
<hr/>												
<b>LCS (9010381-BS1)</b>		Prepared: 01/03/19 10:11		Analyzed: 01/04/19 09:22								<b>C-07</b>
<b>EPA 8082A</b>												
Aroclor 1016	0.196	---	0.0100	mg/kg	1	0.250	---	78	47-134%	---	---	
Aroclor 1260	0.227	---	0.0100	mg/kg	1	0.250	---	91	53-140%	---	---	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 60-125 %</i>		<i>Dilution: 1x</i>						
<hr/>												
<b>LCS Dup (9010381-BSD1)</b>		Prepared: 01/03/19 10:11		Analyzed: 01/04/19 09:40								<b>C-07, Q-19</b>
<b>EPA 8082A</b>												
Aroclor 1016	0.189	---	0.0100	mg/kg	1	0.250	---	76	47-134%	3	30%	
Aroclor 1260	0.225	---	0.0100	mg/kg	1	0.250	---	90	53-140%	0.9	30%	
<i>Surr: Decachlorobiphenyl (Surr)</i>		<i>Recovery: 89 %</i>		<i>Limits: 60-125 %</i>		<i>Dilution: 1x</i>						



<b>PBS Engineering and Environmental</b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b>WA School for the Deaf</b> Project Number: <b>25570.001/0001</b> Project Manager: <b>Joe Lucas</b>	<b>Report ID:</b> <b>A8L0808 - 01 07 19 1506</b>
---	--	---

**SAMPLE PREPARATION INFORMATION**

**Polychlorinated Biphenyls by EPA 8082A**

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
<u>Batch: 9010381</u>							
A8L0808-01	Solid	EPA 8082A	12/17/18 11:05	01/03/19 10:11	1.05g/5mL	10g/5mL	9.52
A8L0808-02RE2	Solid	EPA 8082A	12/17/18 11:10	01/03/19 10:11	1.06g/5mL	10g/5mL	9.43
A8L0808-03	Solid	EPA 8082A	12/17/18 11:15	01/03/19 10:11	1.1g/5mL	10g/5mL	9.09
A8L0808-04RE2	Solid	EPA 8082A	12/17/18 11:20	01/03/19 10:11	1.01g/5mL	10g/5mL	9.90
A8L0808-05RE1	Solid	EPA 8082A	12/17/18 11:25	01/03/19 10:11	1.04g/5mL	10g/5mL	9.62

DRAFT



**PBS Engineering and Environmental**

4412 SW Corbett Ave  
Portland, OR 97239

Project: **WA School for the Deaf**

Project Number: **25570.001/0001**

Project Manager: **Joe Lucas**

**Report ID:**

**A8L0808 - 01 07 19 1506**

**QUALIFIER DEFINITIONS**

**Client Sample and Quality Control (QC) Sample Qualifier Definitions:**

**Apex Laboratories**

- C-07** Extract has undergone Sulfuric Acid Cleanup by EPA 3665A, Sulfur Cleanup by EPA 3660B, and Florisil Cleanup by EPA 3620B in order to minimize matrix interference.
- P-09** Due to weathering and/or the presence of an unknown mixture of PCB Congeners, the pattern does not match the standard used for calibration. Results are Estimated and based on the closest matching Aroclor.
- P-10** Result estimated due to the presence of multiple PCB Aroclors and/or matrix interference.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- R-02** The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
- S-05** Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

DRAFT

Apex Laboratories

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Lisa Domenighini, Client Services Manager



<b>PBS Engineering and Environmental</b>	Project: <b>WA School for the Deaf</b>	
4412 SW Corbett Ave	Project Number: <b>25570.001/0001</b>	<b>Report ID:</b>
Portland, OR 97239	Project Manager: <b>Joe Lucas</b>	<b>A8L0808 - 01 07 19 1506</b>

**REPORTING NOTES AND CONVENTIONS:**

**Abbreviations:**

- DET Analyte DETECTED at or above the detection or reporting limit.
- ND Analyte NOT DETECTED at or above the detection or reporting limit.
- NR Result Not Reported
- RPD Relative Percent Difference

**Detection Limits: Limit of Detection (LOD)**

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).  
If no value is listed ('----'), then the data has not been evaluated below the Reporting Limit.

**Reporting Limits: Limit of Quantitation (LOQ)**

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

**Reporting Conventions:**

- Basis: Results for soil samples are generally reported on a 100% dry weight basis. The Result Basis is listed following the units as "dry", "wet", or "" (blank) designation.
  - "dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")  
See Percent Solids section for details of dry weight analysis.
  - "wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
  - "" Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

**QC Source:**

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) are not included in this report. Please request a Full QC report if this data is required.

**Miscellaneous Notes:**

- " --- " QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- " \*\*\* " Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

**Blanks:**

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to 1/2 the Reporting Limit (RL).  
-For Blank hits falling between 1/2 the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.  
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.  
For further details, please request a copy of this document.

Apex Laboratories

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Lisa Domenighini, Client Services Manager



<b><u>PBS Engineering and Environmental</u></b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b><u>WA School for the Deaf</u></b> Project Number: <b>25570.001/0001</b> Project Manager: <b>Joe Lucas</b>	<b>Report ID:</b> <b>A8L0808 - 01 07 19 1506</b>
--	---	---

**REPORTING NOTES AND CONVENTIONS (Cont.):**

**Blanks (Cont.):**

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the blank results are less than ten times the level found in the blank for inorganic analyses, or less than five times the level found in the blank for organic analyses.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

**Preparation Notes:**

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

**Sampling and Preservation Notes:**

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*

Lisa Domenighini, Client Services Manager



<b><u>PBS Engineering and Environmental</u></b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b><u>WA School for the Deaf</u></b> Project Number: <b>25570.001/0001</b> Project Manager: <b>Joe Lucas</b>	<b>Report ID:</b> <b>A8L0808 - 01 07 19 1506</b>
--	---	---

**LABORATORY ACCREDITATION INFORMATION**

**TNI Certification ID: OR100062 (Primary Accreditation) - EPA ID: OR01039**

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

**Apex Laboratories**

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

**Secondary Accreditations**

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

**Subcontract Laboratory Accreditations**

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation. Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

**Field Testing Parameters**

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





<b>PBS Engineering and Environmental</b> 4412 SW Corbett Ave Portland, OR 97239	Project: <b>WA School for the Deaf</b> Project Number: 25570.001/0001 Project Manager: Joe Lucas	<b>Report ID:</b> A8L0808 - 01 07 19 1506
---	--	--

**APEX LABS COOLER RECEIPT FORM**

Client: PBS - Portland Element WO#: A8 LD808  
 Project/Project #: WA School for the Deaf / 25570.001 / 0001

**Delivery Info:**  
 Date/time received: 12/20/18 @ 1125 By: OB  
 Delivered by: Apex  Client  ESS  FedEx  UPS  Swift  Senvoy  SDS  Other

**Cooler Inspection** Date/time inspected: 12/20/18 @ 1130 By: OB  
 Chain of Custody included? Yes  No  Custody seals? Yes  No   
 Signed/dated by client? Yes  No   
 Signed/dated by Apex? Yes  No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>13.2</u>						
Received on ice? (Y/N)	<u>N</u>						
Temp. blanks? (Y/N)	<u>N</u>						
Ice type: (Gel/Real/Other)	<u>N/A</u>						
Condition:	<u>Out</u>						

Cooler out of temp? (Y/N) Possible reason why: No cooler / PCBs  
 If some coolers are in temp and some out, were green dots applied to out of temperature samples? Yes/No/NA NA  
 Out of temperature samples form initiated? Yes/No/NA NA

**Samples Inspection:** Date/time inspected: 12/21/18 @ 1155 By: JB  
 All samples intact? Yes  No  Comments: \_\_\_\_\_

Bottle labels/COCs agree? Yes  No  Comments: Sample cont. read - 2001, 2002, 2003, 2004, 2005 NO T/D on cont.  
 COC/container discrepancies form initiated? Yes  No  NA   
 Containers/volumes received appropriate for analysis? Yes  No  Comments: \_\_\_\_\_

Do VOA vials have visible headspace? Yes  No  NA   
 Comments: \_\_\_\_\_  
 Water samples: pH checked: Yes  No  NA  pH appropriate? Yes  No  NA   
 Comments: \_\_\_\_\_

**Additional information:**  
 \_\_\_\_\_  
 \_\_\_\_\_

Labeled by: JB Witness: OB Cooler Inspected by: Client/Owner See Project Contact Form: Y

THIS IS TO CERTIFY THAT

**JOE LUCAS**

HAS SUCCESSFULLY COMPLETED THE TRAINING COURSE

for

**ASBESTOS INSPECTOR REFRESHER**

In accordance with TSCA Title II, Part 763, Subpart E, Appendix C of 40 CFR

Course Date: 01/08/2019

Course Location: Portland, OR

Certificate: IR-19-3527B



4-Hour Online AHERA Asbestos Inspector  
Refresher

Expiration Date: 01/08/2020

For verification of the authenticity of this

certificate contact:

PBS Environmental

4412 SW Corbett Avenue

Portland, OR 97239

(503) 248-1939

A handwritten signature in black ink that reads "Greg M. Baker".

Greg Baker, Instructor

**ATTACHMENT - C**  
Engineering Reports





# Washington State School for the Deaf

## Pre Demolition Study

### Introduction

On November 29<sup>th</sup> 2018, Sean Bollen, Paul Greenwalt and Bob Eastman met with Warren Pratt, the Facilities Manager for the Washington State School for the Deaf. We discussed the potential impact that the demolition of the Epperson Middle School/Vocation Training building, the Maintenance/Warehouse building, the Laundry/Kitchen/Cafeteria building and the Boiler building will have on operations of the remaining buildings. Warren Pratt described his understanding of existing systems and their routing.

After meeting with Warren, we reviewed the available facility record drawings. The available record drawings did not contain many of the mechanical, electrical or ICT system information.

Most of the information in this report is based on our conversation with Warren Pratt and field observations.

### Mechanical Systems

The mechanical systems discussed with Warren Pratt includes:

- Domestic Water
- Irrigation Water
- Natural Gas Service and Piping
- Heating Water and Steam Piping
- Chilled Water Piping
- Fire Protection

The main incoming water service enters the campus from East Evergreen Boulevard near the north Parking lot entrance. This underground service extends south through the campus between the Laundry/Kitchen/Cafeteria and Kastel buildings, then southeast to the west side of Northrup Elementary School, west along the north edge of the three housing cottages and exits campus at the alternate utility service location on North Grand Boulevard. Care will need to be taken to not damage or reroute the section of piping passing between the Commissary and Kastel buildings as this leg may be in the demolition zone.

Landscaping is served by irrigation water from several systems. The latest system is fed from the Kastel building using an evapotranspiration (ET) system. This system serves the northeast area planters and flower beds, the Kastel building plantings, and the landscaped fields north of the cottages. The rest of the campus is on separate systems that should not interfere with the demolition of the buildings in this project.

Natural gas service enters the campus from three points. One service supplies the Kastel building and Northrup Elementary School. The second service runs between cottages B and C, east and then north across the landscaped fields toward the east edge of the Laundry/Kitchen/Cafeteria building. It is reportedly capped near the Boiler building. There is a tee near the southeast end of the Laundry/Kitchen/Cafeteria building where piping continues to the west to serve Clark Hall. The third

service enters the campus from East Evergreen Boulevard and is routed between the Epperson Middle School/Vocational Training and Divine High School buildings to serve Divine High School. Care will need to be taken to not damage or reroute the section of piping passing between the Epperson Middle School/Vocational Training and Divine High School buildings as this leg may be in the demolition zone.



*E Evergreen Boulevard gas service*



*Gas pipe between Divine HS and Epperson*



*Gas service to Divine High School*

Heating water and steam service from the Boiler building has been abandoned. Each building has a standalone heating system.

There are no campus cooling systems. Each building has a standalone cooling system. The Kastel building has an open ground loop with water cooled chiller system. This system is not affected by the demolition project.

Fire protection services are no longer connected to the buildings being demolished.

### **ICT Systems**

The ICT systems discussed with Warren Pratt includes:

- Incoming Telecommunication Services
- Wired Network
- Telephony
- Credentialed – Door Access Control
- Video Surveillance
- Overhead Paging
- Intercom/Clocks

The incoming telecommunication service cables are terminated into the Demarcation room in Clarke Hall. The route of the incoming telecommunication cables was not identified but field observation of the school property identified an aerial cable routing down from a utility pole on North Grand Boulevard and an aerial cable routing down from a utility pole on East Evergreen Boulevard. The cable on North Grand Boulevard appeared to go underground into a hand hole (pull box) and then into/under Clarke Hall.



The cable on East Evergreen Boulevard appeared to go into/under the Epperson Middle School/Vocational Training building. The location of the cable termination and the route of the cable to the termination point were not identified.



It appears that the cable on North Grand Boulevard would not be impacted by building demolition activities. However, it appears that the cable on East Evergreen Boulevard would be impacted by demolition activities and the school would need to contact the telecommunication service provider for coordination and their re-routing of the cable into Clarke Hall.

The campus optical fiber backbone supporting the local area network was recently re-worked and no longer routes thru the buildings being demolished.

Telephony services are provided over the network and will not be impacted by the building being demolished.

The campus credentialed door access control system (CardLock) is being replaced with a system that uses the network for campus connection and will not be impacted by demolishing the building. The replacement system will be deployed before demolition starts.

Many of the analog video surveillance cameras deployed on campus do not work and are no longer being used. Replacement IP based cameras will be deployed before demolition starts.

The campus overhead paging system (Combo) is operational but is not being used.

The campus intercom/clock system (Simplex) is no longer being used.

## Electrical Systems

The electrical system discussed with Warren Pratt includes:

- Medium Voltage Power (12.47kV)
- Low Voltage Power (480Y/277V, 208Y/120V)
- Emergency Power
- Fire Alarm

Electric service to the campus is provided by two campus 12.47kV services into the site and one utility pad mounted transformer for the Kastel building. The medium voltage system is owned and maintained by the Washington State School for the Deaf. There is one medium voltage feeder coming from East Evergreen Boulevard to a pad mounted 12.47 kV switch at the north side of the site. From the west side of the site, the service originates from North Grand Boulevard. The north feeder serves the Epperson Middle School/Vocation Training building and the Divine High School/Hunter Gym building. The west feeder serves Clarke Hall, the three cottages, the Maintenance/Warehouse building, the Laundry/Kitchen/Cafeteria building and the Boiler building. The utility pad mounted transformer on the east side of the site serves the Kastel building and Northrup Elementary School.



*East Evergreen Boulevard 12.47 kV Service*

Emergency power generation for the different buildings on campus is provided from multiple sources. Kastel has its own exterior emergency diesel generator. The cottages and Northrup Elementary School are provided with local emergency battery backed up light fixtures. The rest of the buildings are served by an exterior emergency diesel generator located to the west of the Boiler building which is being torn down. The Boiler building generator appears to be old and past it's useful life.



*Boiler Building Generator*

The campus standard fire alarm system manufacturer is Simplex. There are various different types of Fire Alarm Control Panels located in the different buildings. Fire alarm circuits from Clarke Hall and the cottages are routed through the Maintenance/Warehouse Fire Alarm Cabinet which is being torn down.



*Maintenance/Warehouse Fire Alarm Cabinet*

## **Conclusions**

The existing mechanical systems and ICT systems do not appear to be affected by the demolition of the Epperson Middle School/Vocation Training building, the Maintenance/Warehouse building, the Laundry/Kitchen/Cafeteria building and the Boiler building. However, Mechanical and ICT contractors would be required to make the existing systems “safe” in the buildings prior to demolition so that the demolition crews would not damage utilities in the remaining buildings.

The medium voltage feeder from the north 12.47 kV pad mounted switch to the basement Epperson Middle School/Vocation Training building transformer would be required to be demolished. The 12.47 kV feed from the north pad mounted 12.47 kV switch to the Hunter Gym/Divine High School would need to be maintained/protected throughout demolition. The medium voltage 12.47 kV feeder from the west serving the Laundry/Kitchen/Cafeteria building, Maintenance/Warehouse building and Boiler building and associated service transformers would be required to be demolished.

Emergency power originates from the Boiler building generator. Since this generator is past its useful life, it is not recommended to be relocated. A new emergency power source is required to feed emergency loads in Hunter Gym/Devine High School and Clarke Hall. Either a new exterior diesel generator with weatherproof sound attenuating enclosure and belly tank or battery lighting inverters are required for these two buildings.

Fire alarm circuits for Clarke Hall and the cottages are routed through the Maintenance/Warehouse building fire alarm cabinet to the Kastel building. These fire alarm circuits will need to be re-routed directly to the Kastel building.

There are various other small miscellaneous loads including site lighting and the north powered gate that will need to be re-fed from Kastel.

**ATTACHMENT - D**  
Drawings









**GENERAL NOTES**

- THIS DRAWING IS DIAGRAMMATIC. IT IS FOR GENERAL INFORMATION AND SAMPLE LOCATIONS. GENERAL LOCATIONS OF SOME HAZARDOUS MATERIALS ARE DEPICTED. THE REMAINING MATERIAL LOCATIONS ARE DESCRIBED TEXTUALLY ON THESE DRAWINGS. CONTRACTOR TO VERIFY ALL ITEMS SHOWN, LOCATIONS AND QUANTITIES OF HAZARDOUS MATERIALS, AND DIMENSIONS PRIOR TO REMOVAL. ANY DEVIATIONS FROM THE SPECIFICATIONS THAT ARE DISCOVERED BY THE CONTRACTOR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO REMOVAL. QUANTITIES OF HAZARDOUS MATERIALS LISTED ON THIS SHEET ARE CONSIDERED ACCURATE TO WITHIN +/- 10%. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND PERMITS FOR THE REMOVAL AND DISPOSAL OF THE QUANTITIES OF HAZARDOUS MATERIALS PROVIDED PLUS AN ADDITIONAL 10%. THE CONTRACTOR WILL BE COMPENSATED FOR QUANTITIES WHICH ARE GREATER THAN 110% OF THE TOTAL AND THE OWNER WILL DEDUCT FROM THE CONTRACT SUM QUANTITIES THAT ARE 90% OR LESS OF THE TOTAL.
- SELECTIVE DEMOLITION IS NECESSARY TO COMPLETE THE ABATEMENT OF HAZARDOUS MATERIALS HEREIN. CONTRACTOR RESPONSIBLE FOR SELECTIVE DEMOLITION TO ACCESS IDENTIFIED MATERIALS SUCH AS VINYL FLOOR TILE AND MASTIC RUNNING BELOW WALLS OR CASEWORK, WINDOW/DOOR FRAME SEALANTS AND PUTTY BEHIND FRAMES, CONCEALED PIPE INSULATION IN WALLS, CEILINGS, FLOORS, CHASES, DEMOLITION OF LIGHT FIXTURES TO ACCESS BALLASTS, ETC.
- REMOVAL OF HAZARDOUS MATERIALS MAY COMPROMISE THE SECURITY OF THE SITE. THE CONTRACTOR IS FULLY RESPONSIBLE FOR MAINTAINING SITE SECURITY AND PUBLIC SAFETY THROUGHOUT THE PROJECT. SEE SPECIFICATIONS REGARDING SECURITY AND PUBLIC SAFETY.
- ABATEMENT CONTRACTOR TO COORDINATE ALL ACTIVITIES WITH THE PRIME CONTRACTOR INCLUDING, BUT NOT LIMITED TO: SCHEDULE, ACCESS, ELECTRICAL/UTILITY SHUTDOWNS AND DEMOLITION. PERFORM SELECTIVE DEMOLITION AS NECESSARY TO ACCESS CONCEALED HAZARDOUS AND/OR ASBESTOS-CONTAINING MATERIALS TO BE REMOVED. ABATEMENT CONTRACTOR TO REPORT LOCATIONS AND QUANTITIES OF ALL HAZARDOUS MATERIALS TO BE DEMOLISHED TO THE OWNER'S REPRESENTATIVE PRIOR TO ABATEMENT/DEMOLITION. CONTRACTOR WILL NOT BE COMPENSATED FOR ANY MATERIALS NOT CONFIRMED BY OWNER'S REPRESENTATIVE.
- ALL CONTRACTORS AND SUB-CONTRACTORS PERFORMING DEMOLITION ACTIVITIES ARE TO COMPLY WITH ALL APPLICABLE LEAD PAINT REGULATIONS INCLUDING WAC 296-62-155 AND AS SPECIFIED IN SECTION 028300 OF THE PROJECT SPECIFICATIONS.
- ACCESSIBLE AREAS WERE INSPECTED FOR SUSPECT HAZARDOUS MATERIALS. WHEN OBSERVED, REPRESENTATIVE SAMPLES OF HOMOGENEOUS MATERIALS WERE TAKEN. ONLY POSITIVE OR PRESUMED POSITIVE MATERIALS ARE SHOWN. REFERENCE THE BULK SAMPLE AND MATERIAL INVENTORIES FOR ADDITIONAL INFORMATION.
- INACCESSIBLE AND/OR CONCEALED ASBESTOS-CONTAINING MATERIALS MAY EXIST ABOVE CEILINGS, IN WALLS, AND INTERSTITIAL SPACES THROUGHOUT THESE BUILDINGS. EXTENT AND QUANTITIES ARE UNKNOWN.

**ASBESTOS SAMPLE SYMBOLS**

- ◇ 007 — DRAWING REFERENCE TO BULK SAMPLE FIELD CODE, SEE INVENTORY OF SAMPLES
  - ◇ — MATERIAL SYMBOL
- | NOT TESTED | NEGATIVE | POSITIVE |                           |
|------------|----------|----------|---------------------------|
| ○          | ⊖        | ⊕        | THERMAL SYSTEM INSULATION |
| □          | ⊖        | ⊕        | SURFACING MATERIAL        |
| ◇          | ⊖        | ⊕        | MISCELLANEOUS MATERIAL    |

**INVENTORY OF ASBESTOS SAMPLES**

DRAWING REFERENCE	FIELD CODE	LAB RESULT	MATERIAL SAMPLED
◆ 073	25570.001-0073	(<1%)	WINDOW GLAZING COMPOUND
◆ 074	25570.001-0074	(+)	CAULK
◇ 075	25570.001-0075	(-)	CAULK
◆ 076	25570.001-0076	(+)	CAULK
◇ 077	25570.001-0077	(-)	WINDOW GLAZING COMPOUND
◆ 078	25570.001-0078	(+)	CAULK
◇ 079	25570.001-0079	(-)	CAULK
◇ 080	25570.001-0080	(+)	MORTAR
◇ 081	25570.001-0081	(+/-)	SHEET FLOOR COVERING
◇ 082	25570.001-0082	(+/-)	COVEBASE/MASTIC
◇ 083	25570.001-0083	(-)	WINDOW GLAZING COMPOUND
◇ 084	25570.001-0084	(+/-)	GYPSON WALLBOARD/ JOINT COMPOUND
◇ 085	25570.001-0085	(+/-)	LAY-IN CEILING TILE
○ 086	25570.001-0086	(+/-)	HARD FITTINGS/FIBERGLASS
◆ 087	25570.001-0087	(+/-)	VINYL FLOOR TILE/MASTIC
◇ 088	25570.001-0088	(-)	LAY-IN CEILING TILE
◇ 089	25570.001-0089	(+/-)	WALL AND CEILING PLASTER
○ 090	25570.001-0090	(+/-)	HARD FITTINGS/FIBERGLASS
◇ 091	25570.001-0091	(+/-)	SHEET FLOOR COVERING
◆ 092	25570.001-0092	(<1%)	COVEBASE/MASTIC
◆ 093	25570.001-0093	(+/-)	VINYL FLOOR TILE/MASTIC
◆ 094	25570.001-0094	(+/-<1%/-)	CERAMIC TILE/GROUT
◇ 095	25570.001-0095	(+/-)	SHEET FLOOR COVERING
◇ 096	25570.001-0096	(-)	VINYL FLOOR TILE/MASTIC
◆ 097	25570.001-0097	(+/-)	WALL AND CEILING PLASTER
◆ 098	25570.001-0098	(<1%+/-)	WALL AND CEILING PLASTER
◆ 104	25570.001-0104	(+)	WINDOW GLAZING COMPOUND
◇ 105	25570.001-0105	(-)	STUCCO
◇ 106	25570.001-0106	(-)	STUCCO

**LEAD SAMPLE SYMBOLS**

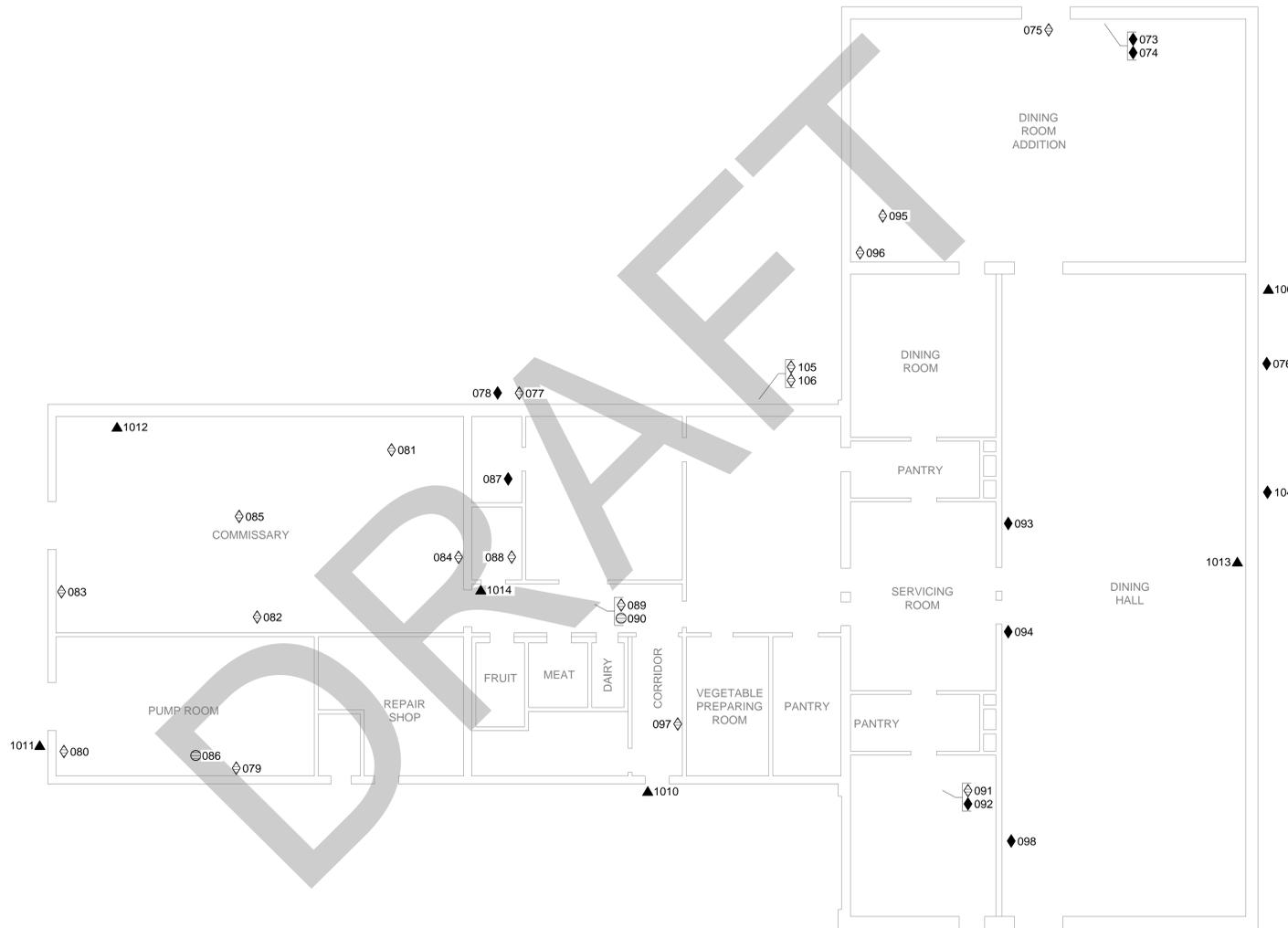
- △ 1007 — DRAWING REFERENCE TO LEAD SAMPLE FIELD CODE, SEE INVENTORY OF SAMPLES
- △ — MATERIAL SYMBOL
- ▲ — LEAD DETECTED
- △ — BELOW THE LIMIT OF DETECTION

**INVENTORY OF AA LEAD SAMPLES**

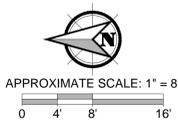
SAMPLE NUMBER	FIELD CODE	LAB RESULT (ppm)	MATERIAL DESCRIPTION
▲ 1009	25570.001-1009	4,400	PAINT ON KITCHEN; WEIGHT ROOM, SOUTH EXTERIOR WINDOW, WINDOW, METAL, TAN, POOR CONDITION
▲ 1010	25570.001-1010	190,000	PAINT ON KITCHEN; WEST SIDE DOOR, DOOR, WOOD, RED, POOR CONDITION
▲ 1011	25570.001-1011	200,000	PAINT ON KITCHEN; NORTH SIDE, DOOR FRAME, WOOD, WHITE, POOR CONDITION

**INVENTORY OF AA LEAD SAMPLES (CONTINUED)**

SAMPLE NUMBER	FIELD CODE	LAB RESULT (ppm)	MATERIAL DESCRIPTION
▲ 1012	25570.001-1012	3,400	PAINT ON KITCHEN; NORTHWEST OFFICE, INTERIOR WALL, WALL, PLASTER, WHITE, POOR CONDITION
▲ 1013	25570.001-1013	330,000	PAINT ON KITCHEN; SOUTH WEIGHT ROOM INTERIOR WALL, WALL, PLASTER, WHITE, POOR CONDITION
▲ 1014	25570.001-1014	31,000	PAINT ON KITCHEN; WOMEN'S BATHROOM, OFF CORRIDOR, DOOR FRAME, WOOD, WHITE, POOR CONDITION



**FIRST FLOOR PLAN**



PREPARED FOR: SCHREIBER STARLING WHITEHEAD ARCHITECTS

**HAZARDOUS MATERIAL SURVEY PLAN - KITCHEN - DINING BUILDING**  
**WASHINGTON CENTER FOR CHILDHOOD DEAFNESS**  
 611 GRAND BOULEVARD, VANCOUVER, WASHINGTON

NO	REVISION	DATE	BY	APPD

DRAWN BY	JAB
CHECKED:	JL
DATE:	JANUARY 2019
PROJECT NUMBER:	25570.001
SHEET DRAWING NO:	<b>HM3</b>
SHEET	<b>3</b> OF <b>6</b>



File name: L:\Projects\25570\25570-001\25570-001 - Washington School District\25570-001 - Epperson Kitchen Boiler Commissary Demo\02\25570-001 - HMB.dwg User: Jim Bianco CAD Plot Date/Time: 1/30/2019 9:51:10 AM Layout Tab: LAYOUT1

FULL SIZE SHEET FORMAT IS 30X42; IF PRINTED SIZE IS NOT 30X42, THEN THIS SHEET FORMAT HAS BEEN MODIFIED & INDICATED DRAWING SCALE IS NOT ACCURATE.

**GENERAL NOTES**

- THIS DRAWING IS DIAGRAMMATIC. IT IS FOR GENERAL INFORMATION AND SAMPLE LOCATIONS. GENERAL LOCATIONS OF SOME HAZARDOUS MATERIALS ARE DEPICTED. THE REMAINING MATERIAL LOCATIONS ARE DESCRIBED TEXTUALLY ON THESE DRAWINGS. CONTRACTOR TO VERIFY ALL ITEMS SHOWN. LOCATIONS AND QUANTITIES OF HAZARDOUS MATERIALS, AND DIMENSIONS PRIOR TO REMOVAL. ANY DEVIATIONS FROM THE SPECIFICATIONS THAT ARE DISCOVERED BY THE CONTRACTOR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO REMOVAL. QUANTITIES OF HAZARDOUS MATERIALS LISTED ON THIS SHEET ARE CONSIDERED ACCURATE TO WITHIN +/- 10%. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND PERMITS FOR THE REMOVAL AND DISPOSAL OF THE QUANTITIES OF HAZARDOUS MATERIALS PROVIDED PLUS AN ADDITIONAL 10%. THE CONTRACTOR WILL BE COMPENSATED FOR QUANTITIES WHICH ARE GREATER THAN 110% OF THE TOTAL AND THE OWNER WILL DEDUCT FROM THE CONTRACT SUM QUANTITIES THAT ARE 90% OR LESS OF THE TOTAL.
- SELECTIVE DEMOLITION IS NECESSARY TO COMPLETE THE ABATEMENT OF HAZARDOUS MATERIALS HEREIN. CONTRACTOR RESPONSIBLE FOR SELECTIVE DEMOLITION TO ACCESS IDENTIFIED MATERIALS SUCH AS VINYL FLOOR TILE AND MASTIC RUNNING BELOW WALLS OR CASEWORK, WINDOW/DOOR FRAME SEALANTS AND PUTTY BEHIND FRAMES, CONCEALED PIPE INSULATION IN WALLS, CEILINGS, FLOORS, CHASES, DEMOLITION OF LIGHT FIXTURES TO ACCESS BALLASTS, ETC.
- REMOVAL OF HAZARDOUS MATERIALS MAY COMPROMISE THE SECURITY OF THE SITE. THE CONTRACTOR IS FULLY RESPONSIBLE FOR MAINTAINING SITE SECURITY AND PUBLIC SAFETY THROUGHOUT THE PROJECT. SEE SPECIFICATIONS REGARDING SECURITY AND PUBLIC SAFETY.
- ABATEMENT CONTRACTOR TO COORDINATE ALL ACTIVITIES WITH THE PRIME CONTRACTOR INCLUDING, BUT NOT LIMITED TO: SCHEDULE, ACCESS, ELECTRICAL/UTILITY SHUTDOWNS AND DEMOLITION. PERFORM SELECTIVE DEMOLITION AS NECESSARY TO ACCESS CONCEALED HAZARDOUS AND/OR ASBESTOS-CONTAINING MATERIALS TO BE REMOVED. ABATEMENT CONTRACTOR TO REPORT LOCATIONS AND QUANTITIES OF ALL HAZARDOUS MATERIALS TO BE DEMOLISHED TO THE OWNER'S REPRESENTATIVE PRIOR TO ABATEMENT/DEMOLITION. CONTRACTOR WILL NOT BE COMPENSATED FOR ANY MATERIALS NOT CONFIRMED BY OWNER'S REPRESENTATIVE.
- ALL CONTRACTORS AND SUB-CRONTACTORS PERFORMING DEMOLITION ACTIVITIES ARE TO COMPLY WITH ALL APPLICABLE LEAD PAINT REGULATIONS INCLUDING WAC 296-62-155 AND AS SPECIFIED IN SECTION 028300 OF THE PROJECT SPECIFICATIONS.
- ACCESSIBLE AREAS WERE INSPECTED FOR SUSPECT HAZARDOUS MATERIALS. WHEN OBSERVED, REPRESENTATIVE SAMPLES OF HOMOGENOUS MATERIALS WERE TAKEN. ONLY POSITIVE OR PRESUMED POSITIVE MATERIALS ARE SHOWN. REFERENCE THE BULK SAMPLE AND MATERIAL INVENTORIES FOR ADDITIONAL INFORMATION.
- INACCESSIBLE AND/OR CONCEALED ASBESTOS-CONTAINING MATERIALS MAY EXIST ABOVE CEILINGS, IN WALLS, AND INTERSTITIAL SPACES THROUGHOUT THESE BUILDINGS. EXTENT AND QUANTITIES ARE UNKNOWN.

**ASBESTOS SAMPLE SYMBOLS**

- ◇ 007 — DRAWING REFERENCE TO BULK SAMPLE FIELD CODE, SEE INVENTORY OF SAMPLES  
 — MATERIAL SYMBOL
- |            |          |          |                             |
|------------|----------|----------|-----------------------------|
| NOT TESTED | NEGATIVE | POSITIVE |                             |
| ○          | ⊖        | ⊕        | ● THERMAL SYSTEM INSULATION |
| □          | ⊖        | ⊕        | ■ SURFACING MATERIAL        |
| ◇          | ⊖        | ⊕        | ◆ MISCELLANEOUS MATERIAL    |

**INVENTORY OF ASBESTOS SAMPLES**

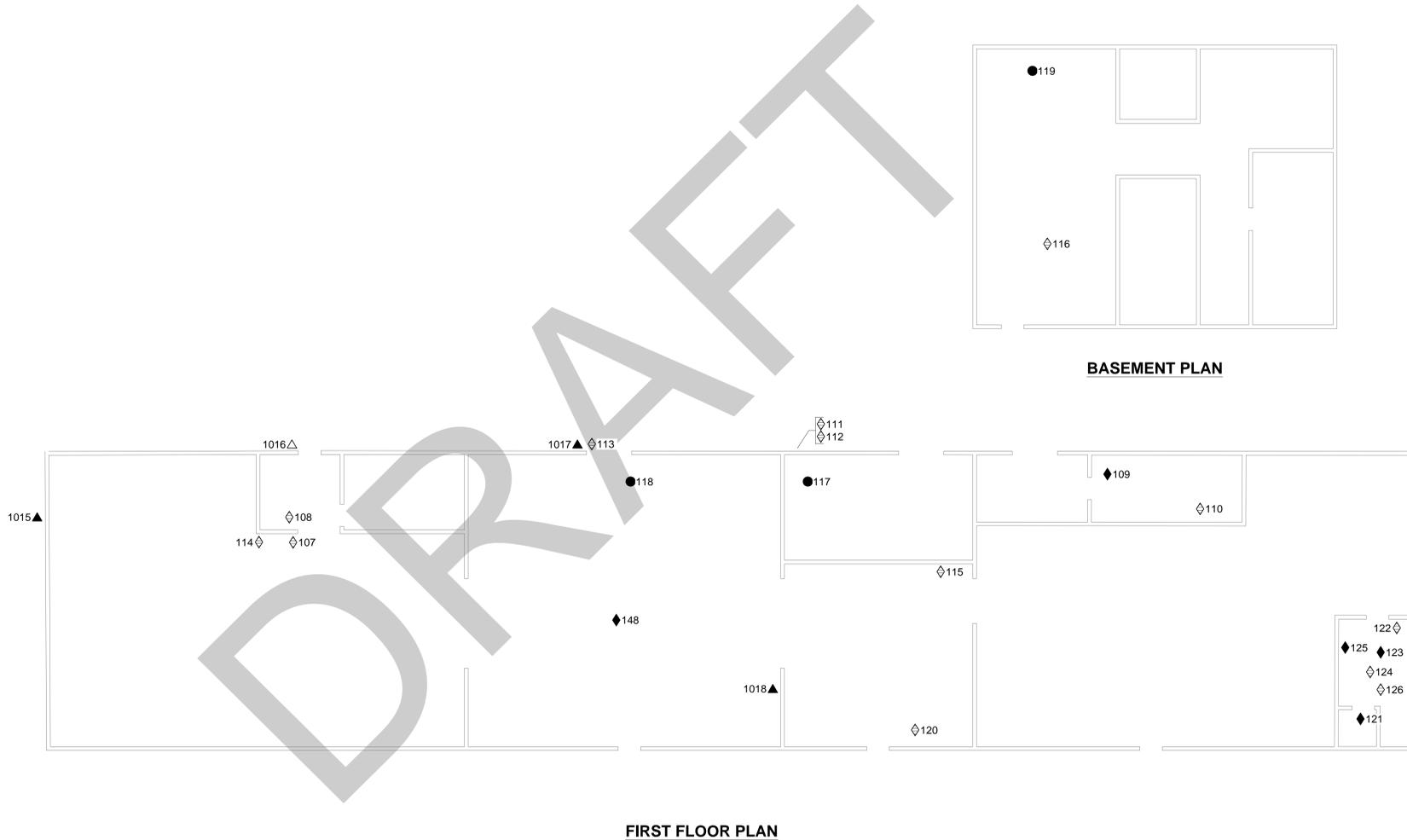
DRAWING REFERENCE	FIELD CODE	LAB RESULT	MATERIAL SAMPLED
◇ 107	25570.001-0107	(-/-)	COVEBASE/MASTIC
◇ 108	25570.001-0108	(-)	MASTIC
◆ 109	25570.001-0109	(-<1%)	VINYL FLOOR TILE/MASTIC
◇ 110	25570.001-0110	(-/-)	LAY-IN CEILING TILE
◇ 111	25570.001-0111	(-/-)	WINDOW GLAZING COMPOUND
◇ 112	25570.001-0112	(-/-)	CAULK
◇ 113	25570.001-0113	(-/-)	CAULK
◇ 114	25570.001-0114	(-/-)	GYPSTUM WALLBOARD/ JOINT COMPOUND
◇ 115	25570.001-0115	(-/-)	GYPSTUM WALLBOARD/ JOINT COMPOUND
◇ 116	25570.001-0116	(-/-)	GYPSTUM WALLBOARD/ JOINT COMPOUND
● 117	25570.001-0117	(-/-/+)	AIR CELL PIPE INSULATION
● 118	25570.001-0118	(+)	AIR CELL PIPE INSULATION
● 119	25570.001-0119	(+)	HARD FITTINGS/FIBERGLASS
◇ 120	25570.001-0120	(-)	CEMENTITIOUS ROOF SHINGLES
◆ 121	25570.001-0121	(+/-)	VINYL FLOOR TILE/MASTIC
◇ 122	25570.001-0122	(-/-)	COVEBASE/MASTIC
◆ 123	25570.001-0123	(-<1%)	MASTIC
◇ 124	25570.001-0124	(-)	LAY-IN CEILING TILE
◆ 125	25570.001-0125	(<1%/-)	GYPSTUM WALLBOARD/ JOINT COMPOUND
◇ 126	25570.001-0126	(-)	LAY-IN CEILING TILE
◆ 148	25570.001-0148	(<1%)	WINDOW GLAZING COMPOUND

**LEAD SAMPLE SYMBOLS**

- △ 1007 — DRAWING REFERENCE TO LEAD SAMPLE FIELD CODE, SEE INVENTORY OF SAMPLES  
 — MATERIAL SYMBOL
- ▲ LEAD DETECTED      △ BELOW THE LIMIT OF DETECTION

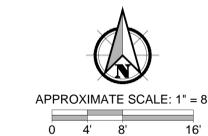
**INVENTORY OF AA LEAD SAMPLES**

SAMPLE NUMBER	FIELD CODE	LAB RESULT (ppm)	MATERIAL DESCRIPTION
▲ 1015	25570.001-1015	320	PAINT ON INDUSTRIAL BUILDING; EAST EXTERIOR WALL, CMU BLOCK, RED, POOR CONDITION
△ 1016	25570.001-1016	<97	PAINT ON INDUSTRIAL BUILDING; SOUTH EXTERIOR WALL, GUTTER, METAL, BEIGE, POOR CONDITION
▲ 1017	25570.001-1017	210,000	PAINT ON INDUSTRIAL BUILDING; SOUTH EXTERIOR WALL, DOOR FRAME, WOOD, TAN, POOR CONDITION
▲ 1018	25570.001-1018	1,500	PAINT ON INDUSTRIAL BUILDING; INTERIOR WALL, CMU BLOCK, WHITE, POOR CONDITION



NO	REVISION	DATE	BY	APPD

DRAWN BY	JAB
CHECKED:	JL
DATE:	JANUARY 2019
PROJECT NUMBER:	25570.001
SHEET DRAWING NO:	<b>HM4</b>
SHEET	4 OF 6



File name: L:\Projects\25570\25570\_25599\25570\_WashingtonSchoolDeafness\25570.dwg User: Jim Bianco CAD Plot Date/Time: 1/30/2019 9:42:53 AM Layout Tab: LAYOUT1

**GENERAL NOTES**

1. THIS DRAWING IS DIAGRAMMATIC. IT IS FOR GENERAL INFORMATION AND SAMPLE LOCATIONS. GENERAL LOCATIONS OF SOME HAZARDOUS MATERIALS ARE DEPICTED. THE REMAINING MATERIAL LOCATIONS ARE DESCRIBED TEXTUALLY ON THESE DRAWINGS. CONTRACTOR TO VERIFY ALL ITEMS SHOWN. LOCATIONS AND QUANTITIES OF HAZARDOUS MATERIALS, AND DIMENSIONS PRIOR TO REMOVAL. ANY DEVIATIONS FROM THE SPECIFICATIONS THAT ARE DISCOVERED BY THE CONTRACTOR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO REMOVAL. QUANTITIES OF HAZARDOUS MATERIALS LISTED ON THIS SHEET ARE CONSIDERED ACCURATE TO WITHIN +/- 10%. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT AND PERMITS FOR THE REMOVAL AND DISPOSAL OF THE QUANTITIES OF HAZARDOUS MATERIALS PROVIDED PLUS AN ADDITIONAL 10%. THE CONTRACTOR WILL BE COMPENSATED FOR QUANTITIES WHICH ARE GREATER THAN 110% OF THE TOTAL AND THE OWNER WILL DEDUCT FROM THE CONTRACT SUM QUANTITIES THAT ARE 90% OR LESS OF THE TOTAL.
2. SELECTIVE DEMOLITION IS NECESSARY TO COMPLETE THE ABATEMENT OF HAZARDOUS MATERIALS HEREIN. CONTRACTOR RESPONSIBLE FOR SELECTIVE DEMOLITION TO ACCESS IDENTIFIED MATERIALS SUCH AS VINYL FLOOR TILE AND MASTIC RUNNING BELOW WALLS OR CASEWORK, WINDOW/DOOR FRAME SEALANTS AND PUTTY BEHIND FRAMES, CONCEALED PIPE INSULATION IN WALLS, CEILINGS, FLOORS, CHASES, DEMOLITION OF LIGHT FIXTURES TO ACCESS BALLASTS, ETC.
3. REMOVAL OF HAZARDOUS MATERIALS MAY COMPROMISE THE SECURITY OF THE SITE. THE CONTRACTOR IS FULLY RESPONSIBLE FOR MAINTAINING SITE SECURITY AND PUBLIC SAFETY THROUGHOUT THE PROJECT. SEE SPECIFICATIONS REGARDING SECURITY AND PUBLIC SAFETY.
4. ABATEMENT CONTRACTOR TO COORDINATE ALL ACTIVITIES WITH THE PRIME CONTRACTOR INCLUDING, BUT NOT LIMITED TO: SCHEDULE, ACCESS, ELECTRICAL/UTILITY SHUTDOWNS AND DEMOLITION. PERFORM SELECTIVE DEMOLITION AS NECESSARY TO ACCESS CONCEALED HAZARDOUS AND/OR ASBESTOS-CONTAINING MATERIALS TO BE REMOVED. ABATEMENT CONTRACTOR TO REPORT LOCATIONS AND QUANTITIES OF ALL HAZARDOUS MATERIALS TO BE DEMOLISHED TO THE OWNER'S REPRESENTATIVE PRIOR TO ABATEMENT/DEMOLITION. CONTRACTOR WILL NOT BE COMPENSATED FOR ANY MATERIALS NOT CONFIRMED BY OWNER'S REPRESENTATIVE.
5. ALL CONTRACTORS AND SUB-CONTRACTORS PERFORMING DEMOLITION ACTIVITIES ARE TO COMPLY WITH ALL APPLICABLE LEAD PAINT REGULATIONS INCLUDING WAC 296-62-155 AND AS SPECIFIED IN SECTION 028300 OF THE PROJECT SPECIFICATIONS.
6. ACCESSIBLE AREAS WERE INSPECTED FOR SUSPECT HAZARDOUS MATERIALS. WHEN OBSERVED, REPRESENTATIVE SAMPLES OF HOMOGENOUS MATERIALS WERE TAKEN. ONLY POSITIVE OR PRESUMED POSITIVE MATERIALS ARE SHOWN. REFERENCE THE BULK SAMPLE AND MATERIAL INVENTORIES FOR ADDITIONAL INFORMATION.
7. INACCESSIBLE AND/OR CONCEALED ASBESTOS-CONTAINING MATERIALS MAY EXIST ABOVE CEILINGS, IN WALLS, AND INTERSTITIAL SPACES THROUGHOUT THESE BUILDINGS. EXTENT AND QUANTITIES ARE UNKNOWN.

**ASBESTOS SAMPLE SYMBOLS**

◇ 007 — DRAWING REFERENCE TO BULK SAMPLE FIELD CODE, SEE INVENTORY OF SAMPLES  
 — MATERIAL SYMBOL

NOT TESTED	NEGATIVE	POSITIVE	
○	⊖	●	THERMAL SYSTEM INSULATION
□	⊞	■	SURFACING MATERIAL
◇	◇	◆	MISCELLANEOUS MATERIAL

**INVENTORY OF ASBESTOS SAMPLES**

DRAWING REFERENCE	FIELD CODE	LAB RESULT	MATERIAL SAMPLED
◇ 001	25570.001-0001	(-)	PUTTY WRAP
◆ 002	25570.001-0002	(+/+)	DUCT FELT WRAP
● 003	25570.001-0003	(+/+)	TANK INSULATION
● 004	25570.001-0004	(+/+)	TANK INSULATION
● 005	25570.001-0005	(+/+/-)	PIPE INSULATION
○ 052	25570.001-0052	(-/-)	ASBESTOS PIPE INSULATION
● 053	25570.001-0053	(+)	GASKET
○ 054	25570.001-0054	(-)	BOILER DOOR INSULATION
◇ 055	25570.001-0055	(-)	BRICK
◆ 056	25570.001-0056	(+)	CAULK
● 099	25570.001-0099	(+)	AIR CELL PIPE INSULATION
○ 100	25570.001-0100	(-/-)	HARD FITTINGS/MAG PIPE

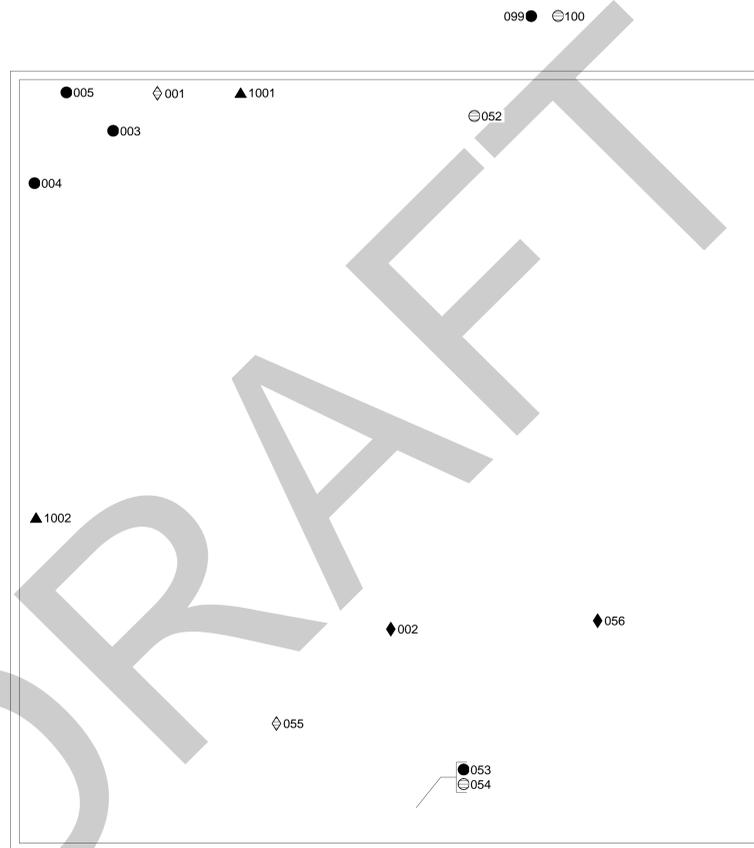
**LEAD SAMPLE SYMBOLS**

△ 1007 — DRAWING REFERENCE TO LEAD SAMPLE FIELD CODE, SEE INVENTORY OF SAMPLES  
 — MATERIAL SYMBOL

▲ LEAD DETECTED      △ BELOW THE LIMIT OF DETECTION

**INVENTORY OF AA LEAD SAMPLES**

SAMPLE NUMBER	FIELD CODE	LAB RESULT (ppm)	MATERIAL DESCRIPTION
▲ 1001	25570.001-1001	260,000	PAINT ON EAST EXTERIOR; BOILER BUILDING, WINDOW FRAME, METAL, YELLOW, POOR CONDITION
▲ 1002	25570.001-1002	2,300	PAINT ON NORTH INTERIOR; BOILER BUILDING, WALL, BRICK, LIGHT BLUE, POOR CONDITION



**BOILER BUILDING PLAN**



APPROXIMATE SCALE: 1" = 8'  
 0 4' 8' 16'

File name: L:\Projects\25500-25599\25570 - Washington School District\25570.001 - Epperson, Khabee\Boiler\Comms\25570.001 - HME.dwg User: Jim Bianco CAD Plot Date/Time: 1/30/2019 10:06:38 AM Layout Tab: LAYOUT1

FULL SIZE SHEET FORMAT IS 30X42; IF PRINTED SIZE IS NOT 30X42, THEN THIS SHEET FORMAT HAS BEEN MODIFIED & INDICATED DRAWING SCALE IS NOT ACCURATE.



**HAZARDOUS MATERIAL SURVEY PLAN - EPPERSON BUILDING**  
**WASHINGTON CENTER FOR CHILDHOOD DEAFNESS**  
 611 GRAND BOULEVARD, VANCOUVER, WASHINGTON

NO	REVISION	DATE	BY	APPD

DRAWN BY: JAB  
 CHECKED: JL  
 DATE: JANUARY 2019  
 PROJECT NUMBER: 25570.001

SHEET DRAWING NO: **HM5**  
 SHEET 5 OF 6

PREPARED FOR: SCHREIBER STARLING WHITEHEAD ARCHITECTS



**GENERAL NOTES**

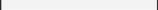
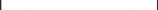
- ALL MATERIALS AND METHODS OF CONSTRUCTION AND INSTALLATION FOR WATER, SEWER AND STORM FACILITIES SHALL CONFORM TO THE CITY OF VANCOUVER ENGINEERING SERVICES "GENERAL REQUIREMENTS AND DETAILS FOR THE DESIGN AND CONSTRUCTION OF WATER, SANITARY SEWER, AND SURFACE WATER SYSTEMS" (LATEST REVISION). CONSTRUCTION SHALL BE AS PER THE STANDARD DETAILS CONTAINED THEREIN.
- ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE LATEST STANDARDS AND PRACTICE OF THE CITY OF VANCOUVER AND THE 2016 EDITION OF THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" AS PREPARED BY WSDOT AND APWA.
- EXISTING UTILITIES ARE SHOWN ON THE PLANS ACCORDING TO RECORD AND DESIGN DRAWINGS AND SURFACE LOCATIONS. A MINIMUM OF TWO FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CALL 1-800-424-5555 (NORTHWEST UTILITY NOTIFICATION CENTER) FOR LOCATION MARK-UP OF EXISTING UTILITIES.
- THE LIMITS OF CONSTRUCTION SHALL BE THE AREA WITHIN THE PROPERTY OR AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. ALL DISTURBED AREAS SHALL BE RESEEDDED OR RESTORED ACCORDING TO SPECIFICATIONS.
- AT THE END OF EACH WORKDAY THE CONTRACTOR SHALL CLEAN THE PROJECT AREA AND LEAVE IT IN A NEAT AND SECURED MANNER. UPON COMPLETION, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL.
- CONTRACTOR SHALL NOTIFY OTHER PUBLIC UTILITIES (GAS, PHONE, ELECTRIC, CABLE TV, ETC.) TO MAKE ALL NECESSARY ADJUSTMENTS TO RESPECTIVE FACILITIES.
- STRIPING AND SIGNING WORK, UNLESS OTHERWISE NOTED, SHALL BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH THE ENGINEER. TEMPORARY SIGNING SHALL BE INSTALLED BY THE CONTRACTOR, AS REQUIRED AND DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL MAKE EVERY REASONABLE EFFORT TO MINIMIZE THE LIMITS OF DEMOLITION AND PROTECT THE EXISTING IMPROVEMENTS TO REMAIN.
- THE CONTRACTOR SHALL PERFORM ALL EROSION CONTROL WORK IN ACCORDANCE TO THE CITY OF VANCOUVER EROSION CONTROL ORDINANCE, SECTION 14.24.
- ALL MATERIAL SHALL BE PROVIDED BY CONTRACTOR UNLESS OTHERWISE SPECIFIED.
- ANY SIGNIFICANT DEVIATIONS FROM THE PLANS WILL REQUIRE A REQUEST TO THE ENGINEER.
- COMPACTION TESTING OF MATERIAL SHALL MEET THE REQUIREMENTS OF ASTM D 1557.
- THE APPLICANT MAY BE REQUIRED TO PROVIDE FLAGGING, SIGNS, AND OTHER TRAFFIC CONTROL DEVICES FOR SAFE TRUCK ACCESS ONTO PUBLIC STREETS. ALL SUCH DEVICES SHALL CONFORM TO THE STANDARDS ESTABLISHED IN THE LATEST ADOPTED EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION AND THE MODIFICATIONS TO THE MUTCD FOR STREETS AND HIGHWAYS FOR THE STATE OF WASHINGTON.
- TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES ON THE ADJACENT PUBLIC STREETS.
- ANY PUBLIC OR PRIVATE CURB, GUTTER, SIDEWALK OR ASPHALT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE CITY OF VANCOUVER STANDARDS AT THE CONTRACTOR'S EXPENSE.
- PAVING WILL NOT BE ALLOWED DURING WET OR COLD WEATHER, PER W.S.D.O.T. SPECIFICATIONS.
- SHOULD ANY ITEM OF ARCHAEOLOGICAL INTEREST (VMC 20.710.090) BE FOUND DURING DEVELOPMENT, YOU ARE REQUIRED TO STOP WORK AND NOTIFY THE PLANNING CASE MANAGER IN DEVELOPMENT REVIEW SERVICES AT (360) 487-7800, AND THE WASHINGTON STATE OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION AT (360) 753-4011 IMMEDIATELY. FAILURE TO DO SO COULD RESULT IN A FELONY CONVICTION.

**WATER CONSTRUCTION NOTES**

- MATERIALS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH THE MOST CURRENT VERSION OF THE "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE & MUNICIPAL CONSTRUCTION" AS PREPARED BY WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND THE WASHINGTON STATE CHAPTER OF THE APWA, AND AS AMENDED BY THE CITY OF VANCOUVER AMENDMENTS TO THE MOST RECENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION EXCEPT AS NOTED HEREIN. ALL REFERENCES TO AMERICAN WATER WORKS ASSOCIATION (AWWA) SPECIFICATIONS SHALL MEAN THEIR LATEST REVISION. OPERATION OF, OR CONNECTION TO EXISTING CITY WATER FACILITIES SHALL ONLY BE PERFORMED UNDER THE OBSERVATION OF AUTHORIZED CITY PERSONNEL.
- ALL WATER PIPE SHALL BE NEW DR18 AWWA C900 PVC OR CL-52 DUCTILE IRON PIPE CONFORMING TO THE REQUIREMENTS OF AWWA C151 UNLESS OTHERWISE NOTED. ALL PIPE SHALL BE FURNISHED IN 18 TO 20 FOOT LENGTHS. ALL RUBBER GASKET JOINTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F477 OR AWWA C111.
- ALL FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF AWWA C110 OR C153. FITTINGS SHALL BE OF THE SIZE, TYPE AND TYPE OF JOINT AS CALLED FOR ON THE PLANS. ALL FITTINGS SHALL HAVE A PRESSURE RATING 250 PSI MINIMUM. ALL FITTINGS SHALL BE DUCTILE IRON. ALL DUCTILE IRON FITTINGS SHALL BE CEMENT LINED. ALL COMPACT FITTINGS SHALL BE DI, CEMENT LINED, AND HAVE A PRESSURE RATING OF 350 PSI. ALL RUBBER GASKET JOINTS FOR DUCTILE IRON FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF AWWA C111.
- ALLOWABLE JOINT RESTRAINT SYSTEMS FOR PUSH-ON PIPE SHALL BE PER THE PIPE MANUFACTURER'S RECOMMENDATION AND AS FOLLOWS:
  - U.S. PIPE'S FIELD-LOK 350 GASKETS, OR
  - TR FLEX BY U.S. PIPE, OR
  - AMERICAN FAST-GRIP, OR
  - SNAP-LOK BY GRIFFIN PIPE, OR
  - AN APPROVED EQUAL.

RESTRAINED PIPE JOINTS SHALL BE EXTENDED AFTER THEY ARE ASSEMBLED TO MINIMIZE FURTHER TAKE-UP AND SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.
- ALLOWABLE JOINT RESTRAINT SYSTEMS FOR MECHANICAL JOINTS ARE AS FOLLOWS:
  - MEGALUG BY EBAA IRON, OR
  - STARGRIP SERIES 3000 BY STAR PIPE PRODUCTS, OR
  - SIGMA ONE-LOK, OR
  - AN APPROVED EQUAL.
- MINIMUM WORKING PRESSURE RATING OF RESTRAINT JOINT SYSTEMS SHALL BE 350 PSI.
- THRUST BLOCKS ARE ONLY ALLOWED AT 'LIVE TAPS' AND WHERE CONNECTIONS ARE MADE TO THE END OF AN EXISTING MAIN.
- TIE RODS FOR JOINT RESTRAINT SHALL NOT BE ALLOWED.
- ALL SIZES OF PIPE SHALL BE TESTED HYDROSTATICALLY AT 150 PSI FOR 15 MINUTES WITH NO PRESSURE DROP. A PASSING BACTERIOLOGICAL TEST RESULT MUST BE RECEIVED PRIOR TO CONDUCTING PRESSURE TESTING.
- PIPELINES THAT HAVE NOT BEEN DISINFECTED MAY BE CONNECTED TO THE EXISTING DISTRIBUTION SYSTEM WITH A DISINFECTED PRE-TESTED CLOSED INLINE VALVE AND ONLY AT POINTS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL SUPPLY DOCUMENTATION FROM THE VALVE SUPPLIER CERTIFYING THAT THE VALVE HAS BEEN PRE-TESTED.
- FOLLOWING CHLORINATION, TREATED WATER SHALL BE FLUSHED FROM THE WATER MAIN UNTIL THE REPLACEMENT WATER CHLORINE RESIDUAL DOES NOT EXCEED THE CITY OF VANCOUVER WATER SUPPLY RESIDUAL THROUGHOUT THE LENGTH OF THE NEW MAIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER CHLORINE NEUTRALIZATION PRIOR TO DISPOSAL.
- BEDDING AND BACKFILL FOR WATER TRENCHES SHALL BE SHALL MEET THE REQUIREMENTS STATED IN CITY OF VANCOUVER STANDARD PLAN W-13 (SHEET C603 - Water Details). ALL EXCESS MATERIAL NOT USED FOR TRENCH BACKFILL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. PLACEMENT OF BACKFILL SHALL BE BROUGHT UP AT SUBSTANTIALLY THE SAME RATE ON BOTH SIDES OF THE PIPE AND CARE SHALL BE TAKEN SO THAT THE PIPE IS NOT FLOATED OR DISPLACED.
- THE CONTRACTOR SHALL FILL ALL OPEN TRENCHES AT THE COMPLETION OF EACH DAY'S WORK. OPEN TRENCHES OVER NIGHT SHALL NOT BE ALLOWED. TRENCHES FILLED BUT NOT COMPACTED SHALL BE RE-EXCAVATED THE FOLLOWING WORKING DAY AND COMPACTED ACCORDING TO THESE SPECIFICATIONS.
- MINIMUM PIPE CLEARANCE AT WATER AND SEWER CROSSINGS SHALL COMPLY WITH CITY OF VANCOUVER STANDARD PLAN W-17 (SHEET C603 - Water Details).

**LEGEND**

WATER PIPE	
STORM PIPE	
SANITARY SEWER PIPE	
SWALE FLOW LINE	
SAWCUT LINE	
CHAIN LINK FENCE	
EROSION CONTROL SEDIMENT FENCE	
INLET PROTECTION	
TREE PROTECTION FENCE	
FLOW ARROW	
STORM MANHOLE	
STORM CATCH BASIN	
CONCRETE	
ASPHALT PAVEMENT	
EROSION CONTROL SEEDING	
ROCK CONSTRUCTION ENTRANCE	
COV	CITY OF VANCOUVER
EG	EXISTING GRADE
FG	FINISH GRADE
GR	GRATE ELEVATION
IE	INVERT ELEVATION
POC	POINT OF CONNECTION
SD	STORM DRAIN
TC	TOP OF CONCRETE
TP	TOP OF PAVEMENT
TW	TOP OF WALL
WL	WATER

User: Allen Westersund CAD Plot Date/Time: 1/28/2019 3:11:20 PM  
 Layout Tab: C001  
 File name: L:\Projects\25000\25500-25599\25570\_WashingtonSchoolforDeaf\Detail\25570.003\_Center for Childhood Deafness\Civil\CAD\Working\Sheets\25570.003\_C001.dwg

A	PRELIMINARY - ISSUED FOR REVIEW			
No.	Revision	Date	By	App'd

  
**SCHREIBER STARLING WHITEHEAD**  
 901 FIFTH AVE. #3100  
 SEATTLE, WA 98164  
 206-682-8300  
 SSWARCHITECTS.COM

  
 PBS Engineering and Environmental Inc.  
 415 W 6th Street, Suite 601  
 Vancouver, WA 98660  
 360.695.3488  
 pbsusa.com



**CCDHL Pre-Demolition Study**

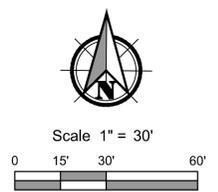
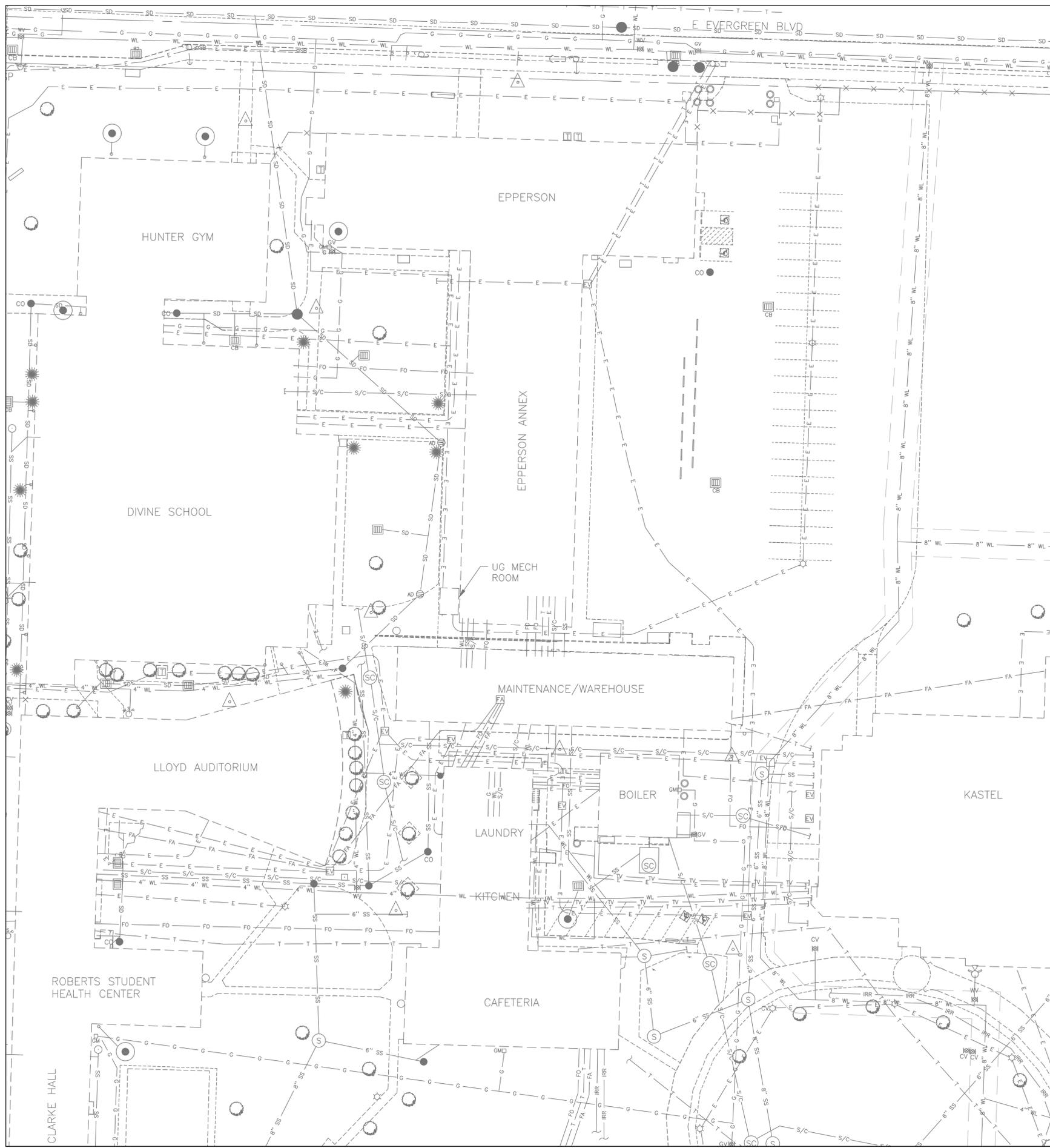
**Contract Documents**

General Notes and Legend

Client Project No.: 2018-713  
 SSW Architects Project No.: 18036.1  
 Date: JAN 2019

**C001**

Filepath: L:\Projects\25000\25000-25599\25570\_WashingtonSchodlerDeal\25570.003\_Center for Childhood Deafness\Civil\CAD\WorkingSheets\25570.003\_C101.dwg  
 User: Allen Wiestersund  
 Layout Tab: C101  
 CAD Plot Date/Time: 12/28/2019 3:11:38 PM



EXISTING UTILITY LEGEND	
EXTG SANITARY SEWER (SIZE AS NOTED)	SS
EXTG STORM SEWER (SIZE AS NOTED)	SD
EXTG WATER (SIZE AS NOTED)	WL
EXTG CABLE TV	TV
EXTG UG ELECTRIC	E
EXTG GAS	G
EXTG TELEPHONE	T
EXTG STEAM / CONDENSATE	S/C
EXTG JOINT UTILITIES	UTL
EXTG FIBER OPTIC	FO
EXTG FIRE ALARM SIGNAL	FA
EXTG UTILITY EASEMENT	FA
EXTG ELECTRICAL VAULT	EV
EXTG ELEC TRANSFORMER	T
EXTG UTILITY POLE	U
EXTG MAIN FIRE ALARM PANEL	FA
EXTG VALVE	V
EXTG SANITARY SEWER MANHOLE	S
STORM / SANITARY SEWER CLEANOUT	SC
EXTG STEAM MANHOLE	GM
EXTG FIRE HYDRANT	GH
EXTG GAS METER	GM
EXTG CATCH BASIN	CB
EXTG DRY WELL	DW

**SSW ARCHITECTS**  
**SCHREIBER STARLING WHITEHEAD**  
 901 FIFTH AVE #0 3100  
 SEATTLE, WA 98164  
 206-682-8300  
 SSWARCHITECTS.COM

**PBS**  
 PBS Engineering and Environmental Inc.  
 415 W 6th Street, Suite 601  
 Vancouver, WA 98660  
 360.695.3488  
 pbsusa.com



**CCDHL**  
**Pre-Demolition**  
**Study**

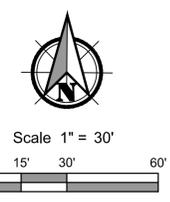
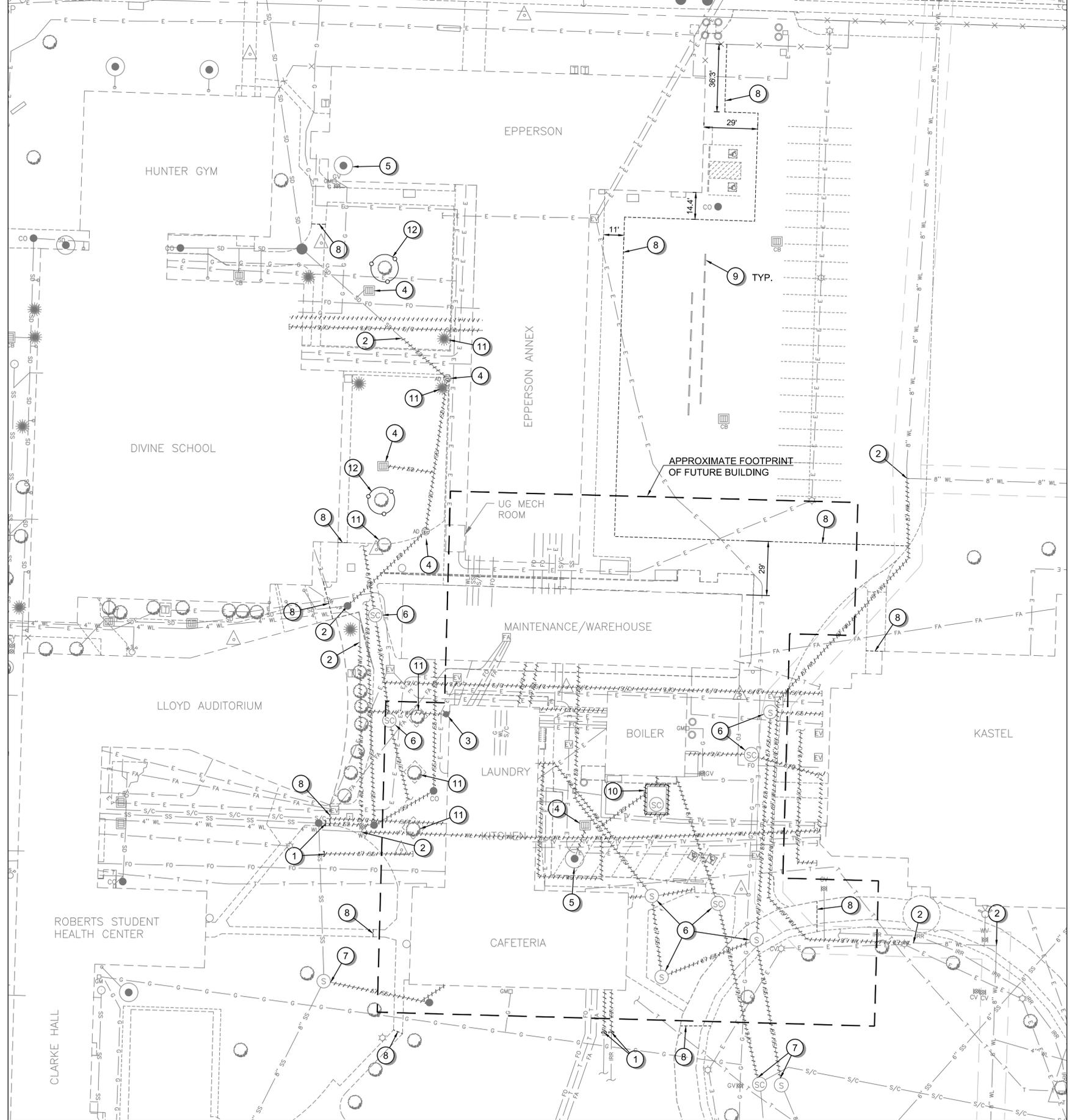
**Contract Documents**

Existing Conditions  
 Plan

Client Project No.: 2018-713  
 SSW Architects  
 Project No.: 18036.1  
 Date: JAN 2019

**C101**

File name: L:\Projects\25000\25500-25599\25570\_WashingtonSchodler\Detail\25570.003\_Center for Childhood Deafness\CAD\Working\Sheets\25570.003\_C201.dwg  
 User: Allen Wiestersund  
 CAD Plot Date/Time: 1/28/2019 3:12:09 PM  
 Layout Tab: C201



**GENERAL NOTES**

1. EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND ARE BASED ON TOPOGRAPHIC SURVEY AND AS-BUILT DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING UTILITY LOCATIONS AND SHALL NOTIFY ENGINEER IMMEDIATELY OF DISCREPANCIES THAT AFFECT THE SCOPE OF WORK. VERIFY LOCATIONS OF POC AS FIRST ORDER OF WORK.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY PIPE REROUTING, TEMPORARY SERVICE CONNECTIONS, VALVES, BLOWOFFS, AND ALL OTHER APPURTENANCES NECESSARY TO MAINTAIN UTILITY SERVICE TO BUILDINGS TO REMAIN, UNTIL PERMANENT RELOCATIONS ARE CONSTRUCTED.
3. THE CONTRACTOR SHALL SEQUENCE DEMOLITION AND PERMANENT UTILITY RELOCATIONS TO MINIMIZE INTERRUPTION OF UTILITY SERVICE TO REMAINING BUILDINGS. COORDINATE SCHEDULE WITH ENGINEER PRIOR TO START OF WORK.
4. THE CONTRACTOR SHALL REMOVE ALL TREES, LANDSCAPING, CONCRETE, ASPHALT, AND OTHER IMPROVEMENTS AS NECESSARY TO PERFORM DEMOLITION. HARDSCAPE TO REMAIN SHALL BE SAWCUT AT THE NEAREST JOINT.
5. UTILITIES MARKED FOR DEMOLITION SHALL BE EXCAVATED AND REMOVED AND SHALL NOT BE ABANDONED IN PLACE UNLESS AUTHORIZED BY THE ENGINEER. TRENCHES AND EXCAVATIONS SHALL BE BACKFILLED AND COMPACTED PER THE DETAILS AND SPECIFICATIONS.
6. SAWCUT LOCATIONS ARE APPROXIMATE AND SHALL BE ADJUSTED BY THE CONTRACTOR AS NECESSARY TO MATCH ACTUAL LIMITS OF HARDSCAPE REMOVAL.
7. SEE SHEET C001 FOR ADDITIONAL CONSTRUCTION NOTES.

**DEMOLITION NOTES**

1. CUT AND CAP PIPE TO REMAIN AT LIMITS OF REMOVAL
2. POINT OF CONNECTION TO PROPOSED RELOCATED UTILITIES, SEE RELOCATION PLAN
3. REMOVE FIRE HYDRANT ASSEMBLY
4. REMOVE CATCH BASIN / AREA DRAIN
5. REMOVE DRYWELL
6. REMOVE MANHOLE
7. REMOVE PIPE AND PATCH HOLE OR CUT AND CAP PIPE AT MANHOLE TO REMAIN
8. SAWCUT PAVEMENT
9. REMOVE WHEEL STOPS AND ANCHORS
10. REMOVE STEAM FLASH VAULT
11. REMOVE TREE AND GRIND STUMP
12. TREE PROTECTION FENCE PER COV STD DETAIL T03-20, SHEET C604

DEMOLITION LEGEND	
EXTG PIPE TO BE REMOVED	+++++
SAWCUT	-----
TREE PROTECTION FENCE	○
CUT AND CAP EXTG PIPE TO REMAIN	○

**SSW ARCHITECTS**  
**SCHREIBER STARLING WHITEHEAD**  
 901 FIFTH AVE. #3100  
 SEATTLE, WA 98164  
 206-682-8300  
 SSWARCHITECTS.COM

**PBS**  
 PBS Engineering and Environmental Inc.  
 415 W 6th Street, Suite 601  
 Vancouver, WA 98660  
 360.695.3488  
 pbsusa.com



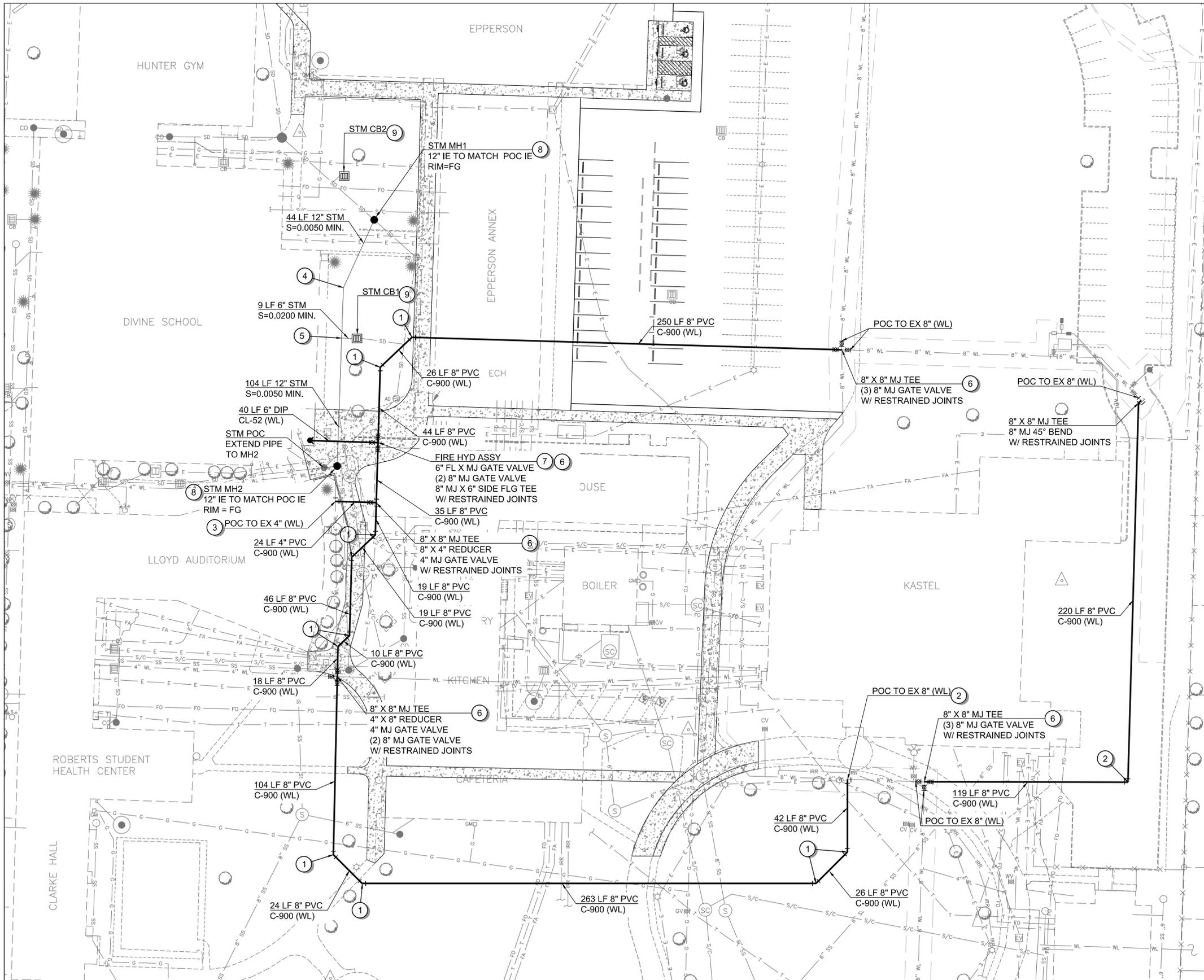
**CCDHL Pre-Demolition Study**

**Contract Documents**  
Demolition Plan

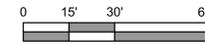
Client Project No.: 2018-713  
 SSW Architects  
 Project No.: 18036.1  
 Date: JAN 2019

**C201**

Filepath: L:\Projects\25000\25500-25509\25570\_WashingtonSchodlerDeal\25570\_003\_Center for Childhood Deafness\Civil\CAD\Working\Sheets\25570\_003\_C301.dwg  
 User: Allen Westersund  
 Layout: Tab\_C301  
 CAD Plot Date/Time: 1/28/2019 3:12:37 PM



Scale 1" = 30'



### GENERAL NOTES

- EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND ARE BASED ON TOPOGRAPHIC SURVEY AND AS-BUILT DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING UTILITY LOCATIONS AND SHALL NOTIFY ENGINEER IMMEDIATELY OF DISCREPANCIES THAT AFFECT THE SCOPE OF WORK. VERIFY LOCATIONS OF POC AS FIRST ORDER OF WORK.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY PIPE REROUTING, TEMPORARY SERVICE CONNECTIONS, VALVES, BLOWOFFS, AND ALL OTHER APPURTENANCES NECESSARY TO MAINTAIN UTILITY SERVICE TO BUILDINGS TO REMAIN, UNTIL PERMANENT RELOCATIONS ARE CONSTRUCTED.
- THE CONTRACTOR SHALL SEQUENCE DEMOLITION AND PERMANENT UTILITY RELOCATIONS TO MINIMIZE INTERRUPTION OF UTILITY SERVICE TO REMAINING BUILDINGS. COORDINATE SCHEDULE WITH ENGINEER PRIOR TO START OF WORK.
- THE CONTRACTOR SHALL REMOVE ALL TREES, LANDSCAPING, CONCRETE, ASPHALT, AND OTHER IMPROVEMENTS AS NECESSARY TO PERFORM DEMOLITION. HARDSCAPE TO REMAIN SHALL BE SAWCUT AT THE NEAREST JOINT.
- BED AND BACKFILL SEWER LINES PER SHEET C602.
- BED AND BACKFILL WATER LINES PER SHEET C603.
- SEE DRY UTILITY RELOCATION SHEETS FOR WORK NOT SHOWN ON THIS PLAN.
- MAINTAIN MIN. CLEARANCE BETWEEN WATER AND SEWER PER COV STD DETAIL W-17, SHEET C603
- ADJUST ALL LIDS, VAULTS, VALVE BOXES TO REMAIN TO FINISH GRADE.
- SEE SHEET C001 FOR ADDITIONAL CONSTRUCTION NOTES.

### UTILITY NOTES

- 8" MJ 45° BEND W/ RESTRAINED JOINTS (WL)
- 8" MJ 90° BEND W/ RESTRAINED JOINTS (WL)
- 4" MJ 90° BEND W/ RESTRAINED JOINTS (WL)
- 12" 22.5° BEND (SD)
- 12" X 6" TEE (SD)
- WATER VALVE BOX AND COVER PER COV STD DETAIL W-12, SHEET C603
- FIRE HYDRANT ASSEMBLY PER COV STD DETAIL W-10, SHEET C603
- MANHOLE PER COV STD DETAIL D-2.0, SHEET C601
- CATCH BASIN PER COV STD DETAIL D-1.1, SHEET C601, SEE GRADING SHEET C401

**SSW ARCHITECTS**  
**SCHREIBER STARLING WHITEHEAD**  
 901 FIFTH AVE NO 3100  
 SEATTLE, WA 98164  
 206-682-8300  
 SSWARCHITECTS.COM

**PBS**  
 PBS Engineering and Environmental Inc.  
 415 W 6th Street, Suite 601  
 Vancouver, WA 98660  
 360.695.3488  
 pbsusa.com



## CCDHL Pre-Demolition Study

### Contract Documents

Utility Relocation Plan

Client Project No.: 2018-713

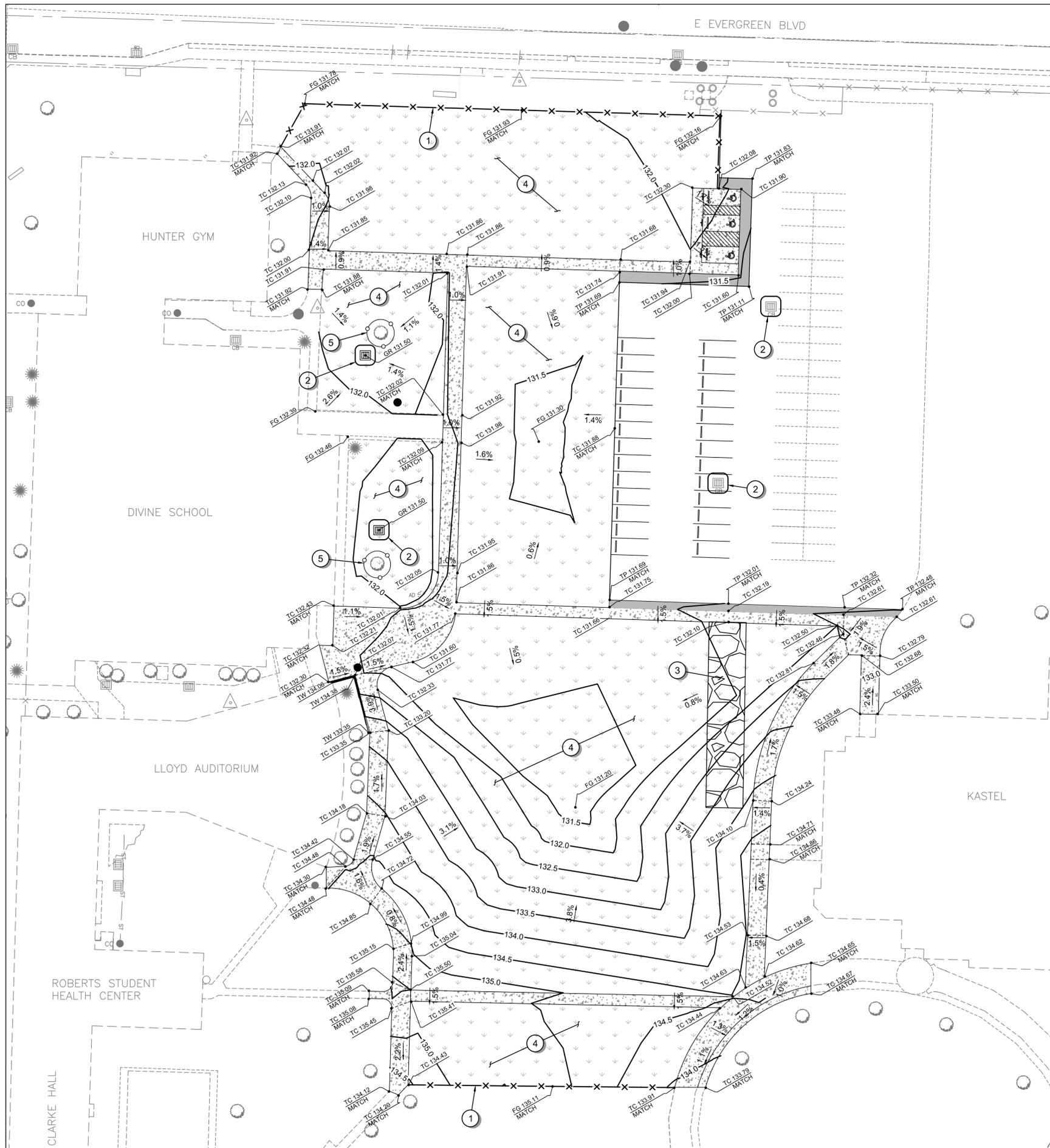
SSW Architects 18036.1

Project No.:

Date: JAN 2019

# C301

File name: L:\Projects\25000\25500-25509\25570\_WashingtonSchodler\Deal\25570.003\_Center for Childhood Deafness\Civil\CAD\Working\Sheets\25570.003\_C401.dwg User: Allen Westersund CAD Plot Date/Time: 1/28/2019 3:13:07 PM



Scale 1" = 30'  
0 15' 30' 60'

### EROSION CONTROL NOTES

- ① SILT FENCE PER COV STD DETAIL E-2.33, SHEET C605
- ② INLET PROTECTION PER COV STD DETAIL E-2.20A, SHEET C605
- ③ CONSTRUCTION ENTRANCE PER COV STD DETAIL E-1.05, SHEET C605
- ④ APPLY GRASS SEED AND MULCH PER COV STD EC NOTES E-100, SHEET C605
- ⑤ TREE PROTECTION FENCE PER COV STD DETAIL T03-20, SHEET C604

**SSW ARCHITECTS**  
**SCHREIBER STARLING WHITEHEAD**  
 901 FIFTH AVE #D 3100  
 SEATTLE, WA 98164  
 206-682-8300  
 SSWARCHITECTS.COM

**PBS**  
 PBS Engineering and Environmental Inc.  
 415 W 6th Street, Suite 601  
 Vancouver, WA 98660  
 360.695.3488  
 pbsusa.com



## CCDHL Pre-Demolition Study

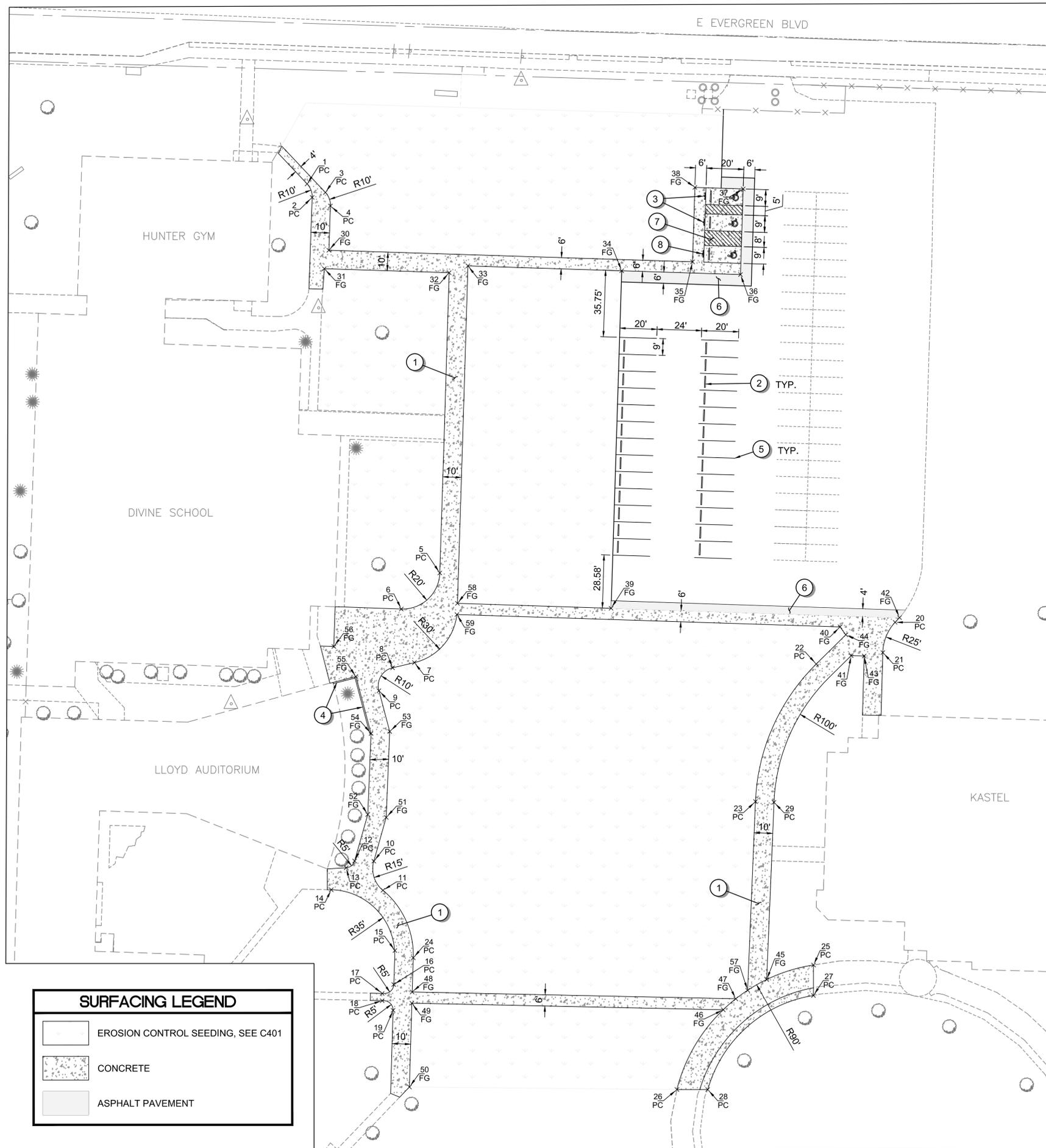
### Contract Documents

Grading and Erosion Control Plan

Client Project No.: 2018-713  
SSW Architects Project No.: 18036.1  
Date: JAN 2019

# C401

File name: L:\Projects\25000\2500-2509\25570\_WashingtonSchoolforDeaf\Detail\25570.003\_C501.dwg  
 User: Allen Wiestersund  
 Layout Tab: C501  
 CAD Plot Date/Time: 1/28/2019 3:13:45 PM



Scale 1" = 30'

**SITE PLAN NOTES**

- ① CONCRETE SIDEWALK PER COV STD DETAIL T02-01A, SHEET C604
- ② CONCRETE WHEEL STOPS PER DETAIL 4/C604
- ③ WSDOT R7-801 ACCESSIBLE PARKING SIGN PER DETAIL 2/C604
- ④ CONCRETE RETAINING CURB PER DETAIL 3/C604
- ⑤ PAINT 4" WIDE WHITE PARKING STRIPING
- ⑥ 6" THICK ASPHALT PLUG PATCH OVER COMPACTED SUBGRADE
- ⑦ ACCESSIBLE PARKING LAYOUT PER DETAIL 1/C604
- ⑧ WSDOT R7-801, R7-801A ACCESSIBLE PARKING SIGNS PER DETAIL 2/C604

**PARKING CALCULATIONS**

TOTAL PARKING STALLS: 73  
 TOTAL ADA STALLS (INCLUDING VAN): 3  
 ADA VAN STALLS: 1

Point Table			
Point #	Raw Description	Northing	Easting
1	PC	114091.0926	1092977.8034
2	PC	114083.8738	1092980.5268
3	PC	114086.4948	1092987.6473
4	PC	114079.2760	1092990.3707
5	PC	113882.1686	1093049.2664
6	PC	113862.8129	1093028.5579
7	PC	113834.0389	1093035.5845
8	PC	113831.2522	1093023.8406
9	PC	113818.9498	1093016.4859
10	PC	113727.4183	1093013.7602
11	PC	113711.7604	1093018.6442
12	PC	113727.5069	1093003.3917
13	PC	113723.8782	1092998.8684
14	PC	113712.0442	1092990.8225
15	PC	113679.4237	1093025.1022
16	PC	113661.1862	1093024.4780
17	PC	113656.3832	1093018.2518
18	PC	113652.4887	1093018.2469
19	PC	113647.3222	1093024.1114
20	PC	113855.6613	1093294.3888
21	PC	113839.4264	1093287.7908
22	PC	113833.3034	1093251.9141
23	PC	113759.4394	1093219.1774
24	PC	113675.5145	1093034.9743
25	PC	113671.6423	1093250.4488
26	PC	113604.8115	1093176.9213
27	PC	113655.2928	1093250.4139
28	PC	113604.7969	1093193.4783
29	PC	113759.0281	1093229.1689
30	FG	114055.4722	1092989.5303

Point Table			
Point #	Raw Description	Northing	Easting
31	FG	114045.5443	1092987.1018
32	FG	114043.4095	1093054.2830
33	FG	114047.0901	1093064.4005
34	FG	114044.4601	1093147.1672
35	FG	114049.2481	1093185.3365
36	FG	114042.4274	1093211.1349
37	FG	114088.4046	1093212.5848
38	FG	114089.2284	1093186.5930
39	FG	113863.2148	1093141.4709
40	FG	113853.2449	1093264.7369
41	FG	113837.7957	1093270.7315
42	FG	113858.2181	1093296.7428
43	FG	113837.6000	1093277.7359
44	FG	113848.9947	1093267.8531
45	FG	113663.8448	1093225.2506
46	FG	113647.6421	1093201.8625
47	FG	113653.5018	1093208.6127
48	FG	113657.1567	1093034.3747
49	FG	113651.1587	1093034.2162
50	FG	113606.1560	1093032.9101
51	FG	113750.9133	1093020.4171
52	FG	113752.5032	1093010.4739
53	FG	113797.0679	1093022.3112
54	FG	113795.9617	1093012.2574
55	FG	113826.5702	1093004.1090
56	FG	113842.7258	1092992.2143
57	FG	113658.0801	1093215.0048
58	FG	113865.8765	1093058.7568
59	FG	113859.8826	1093058.4711

PC = POINT OF CURVATURE  
 FG = FINISH GRADE

**SSW ARCHITECTS**  
**SCHREIBER STARLING WHITEHEAD**  
 901 FIFTH AVE NO 3100  
 SEATTLE, WA 98164  
 206-682-8300  
 SSWARCHITECTS.COM

**PBS**  
 PBS Engineering and Environmental Inc.  
 415 W 6th Street, Suite 601  
 Vancouver, WA 98660  
 360.695.3488  
 pbsusa.com



**CCDHL Pre-Demolition Study**

**Contract Documents**

Site Improvement and Dimension Plan

Client Project No.: 2018-713  
 SSW Architects  
 Project No.: 18036.1  
 Date: JAN 2019

**C501**



**NOTES:**

- BEDDING AND COMPACTION ABOVE THE PIPE ZONE SHALL BE AS SHOWN IN STANDARD DETAIL D-3.2.
- BEDDING MATERIALS SHALL CONFORM TO SECTION 9-03.12(3).
- BEDDING AND BACKFILL MATERIALS IN THE PIPE ZONE SHALL BE COMPACTED TO 95%.
 

DEPTH OF BEDDING MATERIAL BELOW PIPE	
OD	d (MIN)
27" & SMALLER	4"
LARGER THAN 27"	6"
- FOR ROCK AND OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVER EXCAVATED A MINIMUM OF 6 INCHES AND REFILLED WITH GRANULAR MATERIAL AS DIRECTED BY THE ENGINEER.
- NATIVE MATERIAL MAY BE USED IN LIEU OF IMPORTED MATERIAL FOR BEDDING SPECIFIED PROVIDED THAT THE NATIVE MATERIAL CONFORMS TO SECTION 9-03.12(3) OF THE STANDARD SPECIFICATIONS AND IS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE NATIVE MATERIAL TO A GEOTECHNICAL ENGINEER FOR LABORATORY TESTING AND ANALYSIS. THE GEOTECHNICAL ENGINEER SHALL PROVIDE A REPORT OF THE SUITABILITY OF THE NATIVE MATERIAL FOR PIPE BEDDING PRIOR TO USE.
- TRENCH WIDTH SHALL NOT EXCEED 1-1/2 TIMES THE OD OF THE PIPE PLUS 18 INCHES AT THE TOP OF THE PIPE ZONE.
- ALL JOINTS SHALL BE AIR-TIGHT FOR NON-PERFORATED PIPE. THE ENGINEER MAY REQUIRE TESTING OF ANY OR ALL JOINTS AND CONNECTIONS.

N.T.S.

**RIGID PIPE BEDDING DETAIL**

**FLEXIBLE PIPE BEDDING DETAIL**

RIGID & FLEXIBLE PIPE BEDDING DETAIL					STANDARD PLAN NO.
REV. NO.	DATE	BY	APPROVED		
1	11/03/08	YAO	AMG		<b>D-3.1B</b>
2	01/23/15	DR	AMG		

CITY OF VANCOUVER  
DEPARTMENT OF PUBLIC WORKS  
SURFACE WATER MANAGEMENT

**TRENCH BACKFILL DETAIL**

N.T.S.

TRENCH BACKFILL DETAIL					STANDARD PLAN NO.
REV. NO.	DATE	BY	APPROVED		
1	11/03/08	YAO	AMG		<b>D-3.2</b>
2	06/15/09	SN	AMG		
3	01/23/15	DR			

CITY OF VANCOUVER  
DEPARTMENT OF PUBLIC WORKS  
SURFACE WATER MANAGEMENT

**SSW ARCHITECTS**

**SCHREIBER STARLING WHITEHEAD**

901 FIFTH AVE #D 3100  
SEATTLE, WA 98164  
206-682-8300  
SSWARCHITECTS.COM

**PBS**

PBS Engineering and Environmental Inc.  
415 W 6th Street, Suite 601  
Vancouver, WA 98660  
360.695.3488  
pbsusa.com

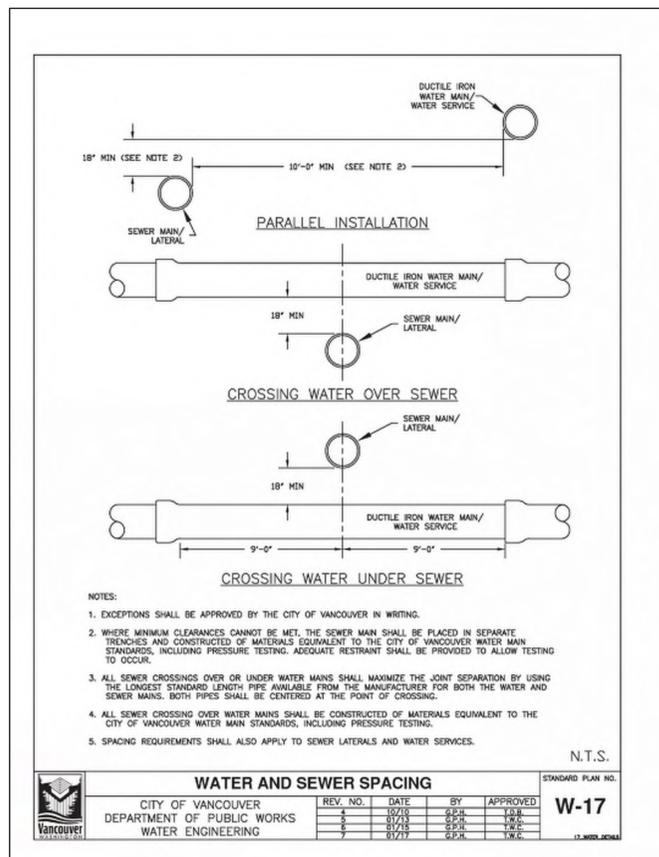
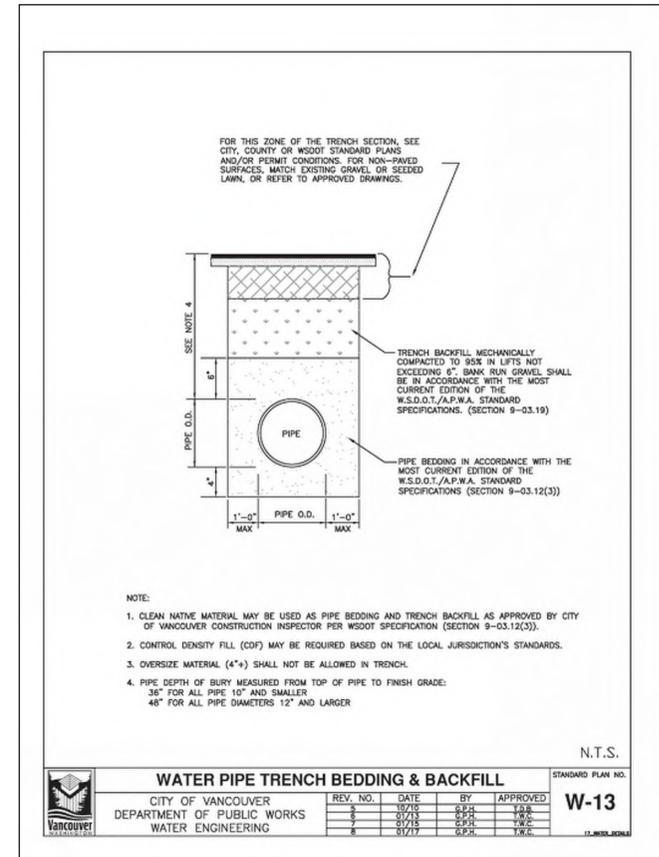
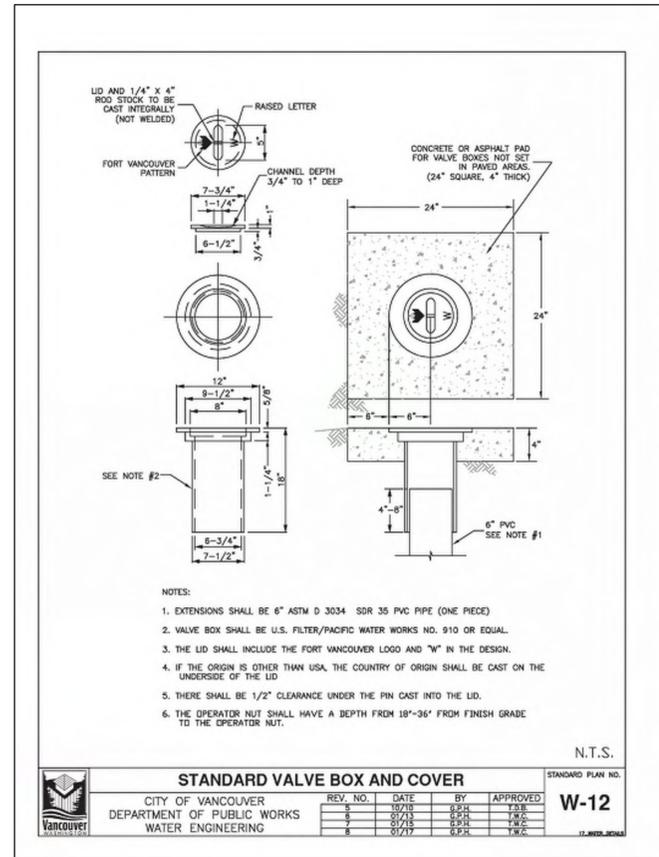
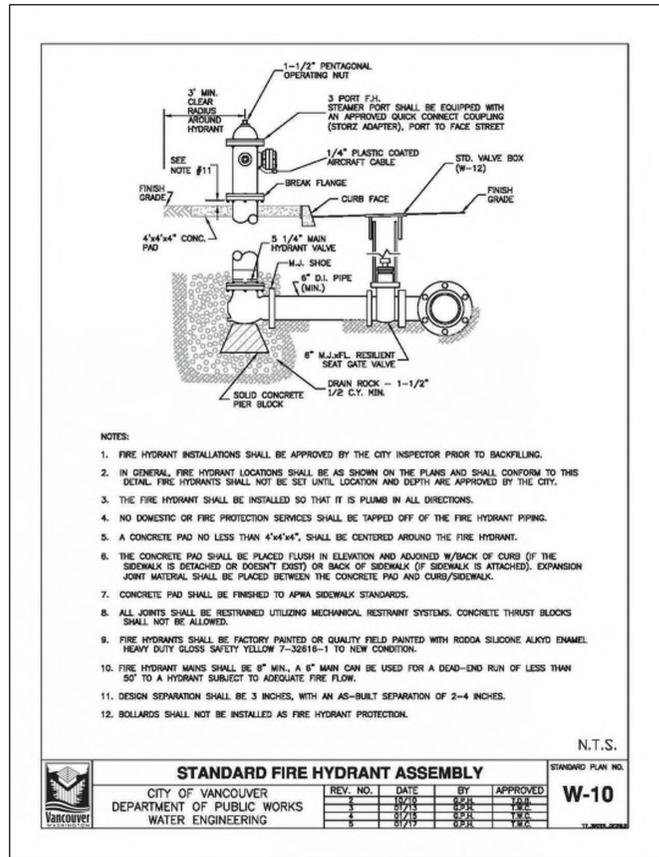


**CCDHL  
Pre-Demolition  
Study**

**Contract Documents**  
Sewer Details

Client Project No.: 2018-713  
SSW Architects  
Project No.: 18036.1  
Date: JAN 2019

**C602**



**SSW ARCHITECTS**  
**SCHREIBER STARLING WHITEHEAD**  
901 FIFTH AVE. #3100  
SEATTLE, WA 98164  
206-682-8300  
SSWARCHITECTS.COM

**PBS**  
PBS Engineering and Environmental Inc.  
415 W 6th Street, Suite 601  
Vancouver, WA 98660  
360.695.3488  
pbsusa.com



**CCDHL  
Pre-Demolition  
Study**

**Contract Documents**  
Water Details

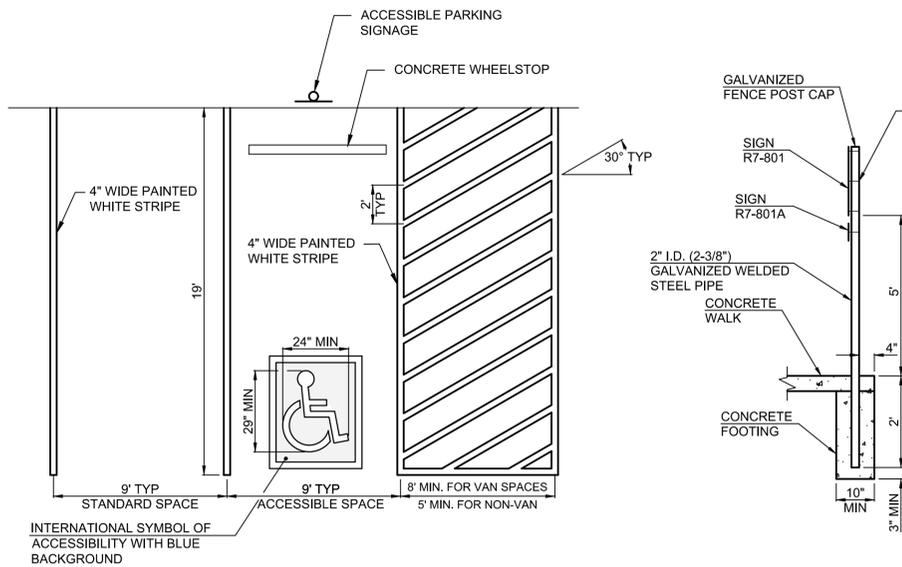
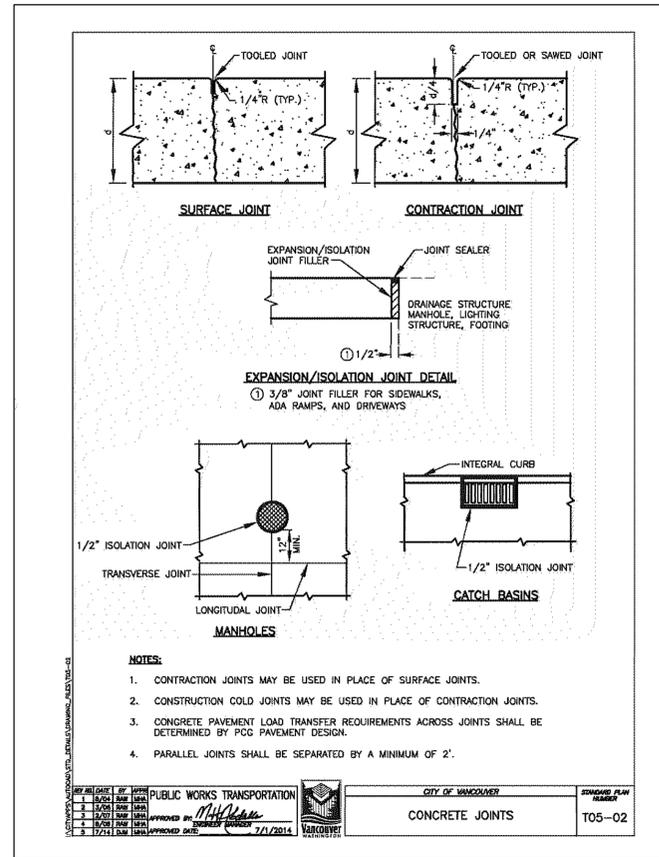
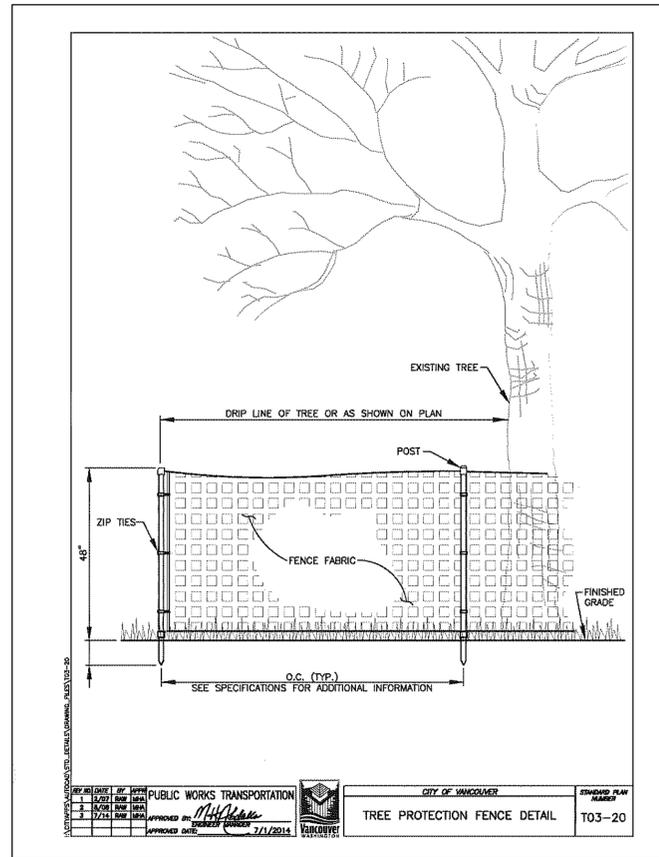
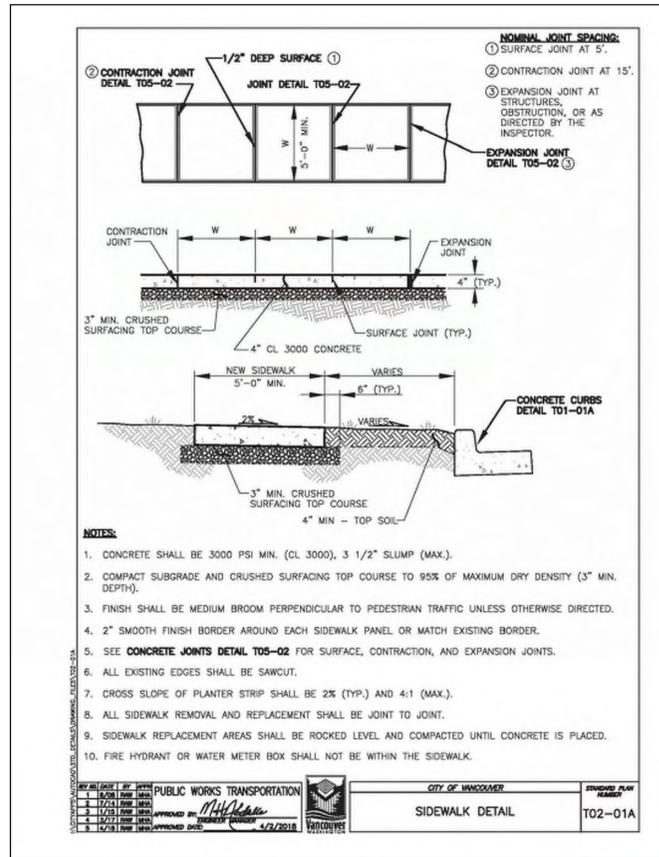
Client Project No.: 2018-713  
SSW Architects  
Project No.: 18036.1  
Date: JAN 2019

**C603**

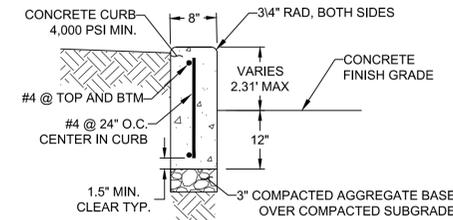
User: Allen Westeraund CAD Plot Date/Time: 1/28/2019 3:14:08 PM

Layout Tab: C604

Filename: L:\Projects\25000\25500-25599\25570\_003\_Center for Childhood Deafness\CAD\Working\Sheets\25570.003\_C601.dwg

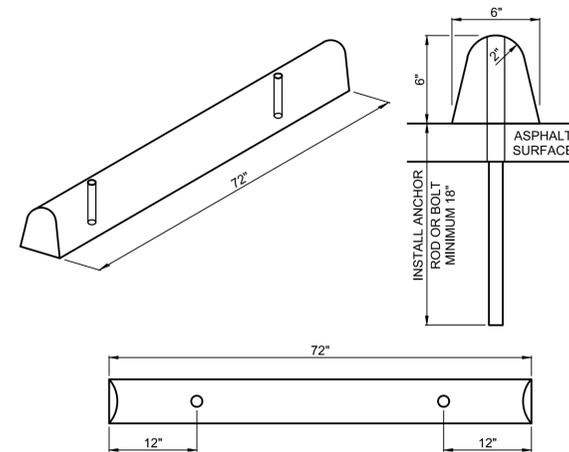


- Notes:**
- See WSDOT sign fabrication manual, details for R7-801 & R7-801A
  - Signs for accessible parking spaces shall be 60" minimum above the floor of the parking space, measured to the bottom of the sign, (per ANSI A117.1 Section 502.7).
  - For signs located in planting areas, substitute 8' poles (install 5' above grade & 3' below grade). Sign shall be located 1' clr. From back of walk. Top of footing shall be level with bottom of bark mulch layer.



- NOTE:**
- REBAR SHALL BE GRADE 40.
  - REINFORCEMENT MAY BE OMITTED WHEN CURB HEIGHT IS LESS THAN 8" ABOVE CONCRETE FINISH GRADE.

3 **CONCRETE RETAINING CURB**  
 C604 SCALE: NONE



- NOTES:**
- INSTALL 36" FROM FRONT OF STALL
  - CENTER IN STALL

4 **PRECAST CONCRETE WHEEL STOP**  
 C604 SCALE: NONE

1 **ACCESSIBLE PARKING DIMENSIONS**  
 C604 SCALE: NONE

2 **ACCESSIBLE PARKING SIGNAGE**  
 C604 SCALE: NONE



**CCDHL Pre-Demolition Study**

**Contract Documents**

Site Work Details

Client Project No.: 2018-713  
 SSW Architects 18036.1  
 Project No.:  
 Date: JAN 2019

**GENERAL EROSION PREVENTION & SEDIMENT CONTROL NOTES**

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND IN WORKING CONDITION PRIOR TO ANY LAND DISTURBING ACTIVITY INCLUDING CLEARING OR GRADING. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE APPROVED BY THE CITY ENGINEER PRIOR TO THE COMMENCEMENT OF WORK. AN ON-SITE INSPECTION SHALL BE REQUESTED WHEN EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND PRIOR TO COMMENCEMENT OF WORK. ONCE APPROVED, THE SITE MUST BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT, AS SHOWN ON THE PLANS. ADDITIONAL MEASURES MAY BE REQUIRED TO MEET THE PROVISIONS OF THE CITY EROSION PREVENTION AND SEDIMENT CONTROL ORDINANCE VMC 14.24.
2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF VANCOUVER'S LATEST VERSION OF GENERAL REQUIREMENTS AND STANDARD DETAILS MANUAL AND THE WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, WHERE THE CITY OF VANCOUVER GENERAL REQUIREMENTS SHALL TAKE PRECEDENCE.
3. THE DEVELOPER AND OWNER IS RESPONSIBLE FOR MARKING EROSION PREVENTION AND SEDIMENT CONTROL BMPs, DURING AND AFTER INSTALLATION OF ALL UTILITY WORK ASSOCIATED WITH UTILITY TRENCHES.
4. PRIOR TO ANY SITE EXCAVATION, ALL STORM DRAIN INLETS SHALL BE PROTECTED FROM ANY DISTURBED OR CONSTRUCTION AREAS PER STANDARD DETAIL 20 TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAINAGE SYSTEM PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREAS. CLEAN INLET FILTERS AS NECESSARY TO MAINTAIN DRAINAGE. REMOVE FILTER AND CLEAN CATCH BASINS FOLLOWING COMPLETION OF SITE WORK.
5. NEWLY CONSTRUCTED OR MODIFIED INLETS AND CATCH BASINS SHALL BE PROTECTED FROM SEDIMENT IMMEDIATELY UPON INSTALLATION.
6. THE CONTRACTOR SHALL NOT ALLOW SEDIMENT OR DEBRIS TO ENTER NEW OR EXISTING PIPES, CATCH BASINS OR INFILTRATION SYSTEMS. IF THIS OCCURS, THE CONTRACTOR SHALL REMOVE ALL ACCUMULATED SEDIMENT FROM THE CATCH BASINS, TRENCHES AND STORM PIPES IMMEDIATELY. FINAL ACCEPTANCE WILL NOT BE ISSUED BY THE CITY UNTIL THIS OCCURS.
7. PRIOR TO LEAVING A CONSTRUCTION SITE OR PRIOR TO DISCHARGING INTO AN INFILTRATION SYSTEM, SEDIMENT-LADEN WATER SHALL PASS THROUGH A SEDIMENT POND, TRAP, OR OTHER APPROVED BMP SYSTEM.
8. ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY THE APPROPRIATE BEST MANAGEMENT PRACTICES (BMPs) FROM OCTOBER 1 TO APRIL 30. NO SOILS SHALL BE EXPOSED AND UNWORKED FOR MORE THAN TWO (2) DAYS. FROM MAY 1 TO SEPTEMBER 30, NO SOILS SHALL BE EXPOSED AND UNWORKED FOR MORE THAN SEVEN (7) DAYS.
9. SOIL STOCKPILES SHALL BE STABILIZED FROM EROSION, PROTECTED WITH SEDIMENT TRAPPING MEASURES, AND WHEN POSSIBLE, BE LOCATED AWAY FROM STORM DRAIN INLETS, WATER PIPES AND DRAINAGE CHANNELS.
10. CONSTRUCTION ROADS AND PARKING AREAS SHALL BE STABILIZED WHEREVER THEY ARE CONSTRUCTED, WHETHER PERMANENT OR TEMPORARY, FOR THE USE OF CONSTRUCTION TRAFFIC.
11. IF THE BMPs APPLIED TO A SITE ARE INSUFFICIENT TO PREVENT SEDIMENT FROM REACHING WATER BODIES, ADJACENT PROPERTIES, STORM FACILITIES OR PUBLIC RIGHT-OF-WAY, THEN THE CITY SHALL REQUIRE ADDITIONAL BMPs.
12. IF THE CITY INSPECTOR OR ENGINEER HAS EVIDENCE OF POOR CONSTRUCTION PRACTICES OR IMPROPER EROSION PREVENTION BMPs, CITATIONS AND/OR A STOP WORK ORDER SHALL BE ISSUED UNTIL PROPER MEASURES HAVE BEEN TAKEN AND APPROVED BY THE CITY OF VANCOUVER.

**PROTECTION OF EXISTING IMPROVED INFILTRATION AND PAVED SURFACES**

13. FRACTION A 12-INCH DEEP PAD OF CRUSHED ROCK FOR A DISTANCE OF 100 FEET INTO THE SITE FOR ALL ACCESS POINTS UTILIZED BY CONSTRUCTION EQUIPMENT AND TRUCKS. PAD WIDTH SHALL BE A MINIMUM OF 30 FEET. ALL VEHICLES LEAVING THE SITE SHALL CROSS ACROSS THE PAD. ACCUMULATED SEDIMENT SHALL BE PERIODICALLY REMOVED. OR ADDITIONAL ROCK SHALL BE PLACED UPON THE PAD SURFACE. ROCK SHALL BE CLEAN 4-INCH TO 8-INCH QUARRY SPALLS. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES INTO PAVED AREAS OR INTO STORM DRAINS SHALL BE REMOVED IMMEDIATELY. MECHANICAL BROOM SWEEPERS ARE NOT ALLOWED.
14. IF SEDIMENT, MUD OR DEBRIS IS TRANSPORTED ONTO A PAVED SURFACE OR ROADWAY, THE PAVED SURFACES SHALL BE THOROUGHLY CLEANED WITH HIGH EFFICIENCY STREET SWEEPERS AT THE END OF EACH WORKDAY, OR MORE OFTEN IF NECESSARY. PUBLICLY TRAVELED PAVED SURFACES NEED TO BE CLEANED IMMEDIATELY. SIGNIFICANT SOIL DEPOSITS SHALL BE REMOVED FROM ROADS BY SHOVELING AND SWEEPING. STREET WASHING IS NOT ALLOWED UNLESS APPROVED BY THE ENGINEER AND ONLY AFTER SEDIMENT IS REMOVED IN THE MANNER DESCRIBED ABOVE. MECHANICAL BROOM SWEEPERS ARE NOT ALLOWED.
15. SLURRY AND CUTTINGS SHALL BE WASHED DURING CUTTING AND SURFACING OPERATIONS. COLLECTED SLURRY AND CUTTINGS SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE ENVIRONMENTAL OR SURFACE WATER QUALITY STANDARDS.
16. A WHEEL WASH MAY BE REQUIRED IF CONSTRUCTION ENTRANCE IS NOT SUFFICIENT IN PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVED WHEEL WASH SHALL BE PER STANDARD PLAN E-1.08 AND THE STORMWATER MANUAL.

**INSTALL SEDIMENT FENCE FOR STANDARD PLAN E-1.33 PRIOR TO BUILDING CONSTRUCTION AND/OR EXCAVATION TO PREVENT SOIL INTRUSION UPON ADJACENT LOTS IF CONSTRUCTION OCCURS SIMULTANEOUSLY ON ADJACENT LOTS AND THE LOTS HAVE THE SAME OWNER DURING CONSTRUCTION. THE SOIL FENCE ALONG THE COMMON LOT LINE MAY BE ELIMINATED.**

18. PROPOSED PERMISSIBLE PAVEMENT AREAS SHALL BE SHOWN ON THE EROSION CONTROL PLAN. PERMISSIBLE PAVEMENT AREAS SHALL BE PROTECTED FROM SEDIMENT DURING AND AFTER INSTALLATION UNTIL THE DEVELOPMENT CONSTRUCTION IS COMPLETED.

**MAINTENANCE OF EROSION PREVENTION AND SEDIMENT CONTROL BMPs**

19. ALL EROSION PREVENTION AND SEDIMENT CONTROL BMPs SHALL BE REGULARLY INSPECTED AND MAINTAINED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
20. THE CONTRACTOR/OWNER SHALL MAINTAIN AND HAVE ON-SITE A WRITTEN LOG OF EROSION PREVENTION AND SEDIMENT CONTROL BMP MAINTENANCE.
21. ALL TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER SITE STABILIZATION IS ACHIEVED OR AFTER TEMPORARY BMPs ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. UNWORKED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED PER THE STORMWATER MANUAL.

**DUST CONTROL**

22. IN AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST, REFER TO THE STORMWATER MANUAL FOR DUST CONTROL BMPs.

**TEMPORARY SEEDING**

23. EXPOSED SURFACES THAT WILL NOT BE BROUGHT TO FINAL GRADE OR GIVEN A PERMANENT COVER TREATMENT WITHIN 30 DAYS OF THE EXPOSURE SHALL HAVE SEED MIX AND MULCH PLACED TO STABILIZE THE SOIL AND REDUCE EROSION/SEDIMENTATION. SEEDING AREAS SHALL BE CHECKED REGULARLY TO ENSURE A GOOD STAND OF VEGETATION. AREAS THAT FAIL TO ESTABLISH VEGETATION COVER ALTHOUGH TO PREVENT EROSION WILL BE RESEED AS SOON AS SUCH AREAS ARE IDENTIFIED.
24. AN APPROVED TEMPORARY SEEDING MIXTURE SHALL BE APPLIED TO THE PREPARED SEED BED AT A RATE OF 120 LBS/ACRE. NOTE: "HYDROSEEDING" APPLICATIONS WITH APPROVED SEED-MULCH-FERTILIZER MIXTURES MAY ALSO BE USED.
25. PERMANENT STORM WATER FACILITIES SHALL BE ISOLATED AND PROTECTED FROM SEDIMENTATION WITH AN APPROVED BMP.

EROSION PREVENTION & SEDIMENT CONTROL					STANDARD PLAN NO.		
REV. NO.	DATE	BY	APPROVED	<b>E-1.00</b>			
13/01/08	K60	AMS					
09/17/09	DN	AMS					
08/28/17	DN	AMS					

N.T.S.

**STABILIZED CONSTRUCTION ENTRANCE**

STANDARD PLAN NO. **E-1.05**

REV. NO.	DATE	BY	APPROVED	<b>E-1.05</b>			
01/08/09	MWH	AMS					
07/21/15	DN	AMS					

N.T.S.

**PLASTIC COVERING**

STANDARD PLAN NO. **E-1.23**

REV. NO.	DATE	BY	APPROVED	<b>E-1.23</b>			
01/05/08	DN	AMS					
07/23/15	DN	AMS					

N.T.S.

**INLET PROTECTION DETAILS**

STANDARD PLAN NO. **E-2.20a**

REV. NO.	DATE	BY	APPROVED	<b>E-2.20a</b>			
06/07/14	MWH	AMS					
08/19/09	DN	AMS					
07/23/15	DN	AMS					

N.T.S.

**SILT FENCE**

STANDARD PLAN NO. **E-2.33**

REV. NO.	DATE	BY	APPROVED	<b>E-2.33</b>			
01/08/09	MWH	AMS					
07/23/15	DN	AMS					

N.T.S.

**SSW ARCHITECTS**

**SCHREIBER  
STARLING  
WHITEHEAD**

901 FIFTH AVE. #3100  
SEATTLE, WA 98164  
206-682-8300  
SSWARCHITECTS.COM

**PBS**

PBS Engineering and Environmental Inc.  
415 W 6th Street, Suite 601  
Vancouver, WA 98660  
360.695.3488  
pbsusa.com

ALLEN S. WESTERSJÖ  
THE CITY OF WASHINGTON  
**RELINQUARY**  
52989  
REGISTERED  
PROFESSIONAL ENGINEER

WASHINGTON  
SCHOOL FOR THE DEAF

## CCDHL Pre-Demolition Study

### Contract Documents Erosion Control Details

Client Project No.: 2018-713  
SSW Architects  
Project No.: 18036.1  
Date: JAN 2019

# C605







ARCHITECTS

**SCHREIBER  
STARLING  
WHITEHEAD**

901 FIFTH AVE. #3100

SEATTLE, WA 98164

206-682-8300

[SSWARCHITECTS.COM](http://SSWARCHITECTS.COM)