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Subject: Abatement and Remediation Recommendations, Basement Level Stairwell and Storage Room, Givens Community Center

At your request, Rose Environmental is pleased to provide these asbestos abatement, lead paint, and microbial remediation recommendations for the Basement Level Stairwell and Storage Room within the Givens Community Center located at 1026 Sydney Avenue in Port Orchard, Washington.

Background

In September 2018, Rose Environmental conducted an initial inspection and sampling for microbial contamination, asbestos in building materials, and lead in paint within the Givens Basement Storage Room and Boiler Room (see Rose Environmental report dated October 18, 2018). On October 22, 2019, Kitsap County requested Rose Environmental return to review current conditions and prepare recommendations (including work plan/protocols) for abatement and/or remediation so that the Basement Stairwell and Storage Room could be used safely for future storage and periodic occupancy.

Current Conditions

A summary of current conditions includes:

Asbestos-containing Materials

1. Stairwell Floor Tiles: ~85 square feet (SF) of dark brown 9-inch by 9-inch vinyl composition floor tiles (VCT) over black mastic on Stairwell treads and landings contained 9% chrysotile asbestos.

Lead-containing Paint

2. Basement Entry, Hallways, and Storage Room: Brown and green (over white) wall paint throughout the Basement contain lead at about 0.6% by weight, which is above the HUD/EPA designation of "lead-based paint" of 0.5%.

   Although the floor paint was tested and found to not contain lead, all paint within the Givens Basement areas should be assumed to be lead-containing, and treated in accordance with the EPA's Lead Repair, Renovation, and Painting (RRP) Rule.

   Also, as noted in our original report, waste streams containing wall paint should be evaluated for lead content prior to disposal by EPA Toxicity Characteristic Leachate Procedure (TCLP) to ensure RCRA classifications are considered.

Visible Mold Growth

3. Stairwell Lower Landing and Ceiling: ~25 SF of water damage and visible mold on wood framing, plaster, gypsum wallboard (GWB), and debris. The historic leak from the custodial sink on Floor 1 above has reportedly been repaired.

4. Stairwell Middle Landing Ceiling: ~32 SF of water damage and visible mold on fiberboard ceiling panels.

5. West Wall, NW Storage Room: ~10 SF of water damage and visible mold on GWB door patch.

   Additionally, 10-50 SF of water damage (and potentially-concealed mold) is present on water-damaged ceiling and wall plaster, including pressed-wood flooring as part of the movable shelving system, adjacent to the Storage Room NW corner.

   Finally, other water damage is present at locations of historic water staining and moisture intrusion at the Basement Storage Room NE corner.

Options for Remediation and Abatement

If remodeling is intended to occur within the Givens Basement areas, the County should consult with an appropriate architect or interior designer to better define the nature and extent of final space use and design requirements.

For any of the following options, water-damaged debris cleanup in the Stairwell and Storage Room can be cleaned up by normal construction or janitorial workers wearing simple personal protective equipment (PPE) of an NIOSH N95 disposable dust mask and nitrile gloves.

Rose Environmental offers Kitsap County to utilize any or all of the following options for remediation and abatement of asbestos, lead, and visibly moldy building materials, from small (minimum) to large (comprehensive) in scope and extent:

1. Asbestos Debris Cleanup and Moldy Wallboard Removal:

   Asbestos-containing VCT is not required to be removed unless the material will be disturbed as part of the pre-occupancy construction scope. However, damaged VCT debris should be cleaned up by a Certified Asbestos Workers under the direct on-site supervision of a Certified Asbestos Supervisor.

   At a minimum, <5 SF of ACM VCT debris should be cleaned at the Stairwell, and 10 SF of visibly moldy GWB should be removed from the West Wall of the Storage Room.

   These activities should be conducted in accordance with the attached asbestos abatement, lead paint, and microbial remediation work protocols.

   Following this, water damage

2. ACM VCT Abatement and Moldy Wallboard Removal:

   Alternatively, all 85 SF ACM VCT can be abated from the Stairwell along with 10 SF of moldy GWB removed from the Storage Room W wall, in accordance with the attached asbestos abatement, lead paint, and microbial remediation work protocols.

3. ACM VCT Abatement, Moldy Wallboard Removal, and Water-Damaged Material Removal/Cleanup from Stairwell and West Portion of Storage Room

   Alternatively, in accordance with the attached asbestos abatement, lead paint, and microbial remediation work protocols, the contractor should:

   A. Abate 85 SF of ACM VCT at the Stairwell

   B. Remove and remediate 10 SF of moldy GWB at Storage Room W wall

   C. Remove 600 SF of water-damaged pressed-wood flooring within 15 feet of the Storage Room west wall

   D. Remove and clean 50 SF of water-damaged debris in the Stairwell, including the Mid-Landing and Lower Landing Ceilings

   E. Clean 200 SF of water-damaged ceiling and wall plaster at Storage Room W wall

4. ACM VCT Abatement, Moldy Wallboard Removal, and Comprehensive Water-Damaged Building Material Removal and Cleanup

   Alternatively, in accordance with the attached asbestos abatement, lead paint, and microbial remediation work protocols, the contractor should:

   A. Abate 85 SF of ACM VCT at the Stairwell

   B. Remove and remediate 10 SF of moldy GWB at Storage Room W wall

   C. Remove 600 SF of water-damaged pressed-wood flooring within 15 feet of the Storage Room west wall

   D. Remove and clean 50 SF of water-damaged debris in the Stairwell, including the Mid-Landing and Lower Landing Ceilings

   E. Clean 200 SF of water-damaged ceiling and wall plaster at Storage Room W wall

   F. Remove all movable shelving from Storage Room, and remove 2500 SF of pressed-wood flooring and 500 SF of water-damaged wall plaster at Storage Room NE corner.

Remedial Scope Options Summary

Remedial Option	Total Required SF Per Scope Item			
	ACM (SF)	Lead Paint (SF)	Visible Mold (SF)	Water-damaged Materials (SF)
Option 1	<5	10	10	
Option 2	85	10	10	
Option 3	85	260	10	850
Option 4	85	760	10	3850

Thank you for the opportunity to assist Kitsap County with these recommendations. Please call me if you have questions regarding this report.

Sincerely,

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ASBESTOS ABATEMENT WORKPLAN

VCT in Givens Community Center Basement Stairwell
1026 Sydney Avenue
Port Orchard, Washington

Prepared for:

Kitsap County Dept. of Administrative Services

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work of this section consists of asbestos abatement of non-friable vinyl composition tile (VCT) in the stairwell within the Givens Community Center Basement Storage Area. Scope items and requirements for asbestos management are presented below.

B. The asbestos sampling results are provided in Table 1 below.

C. The Contractor shall take all necessary reasonable measures to control air and water pollution by any material or equipment used during asbestos abatement.

D. Identified and Presumed locations of asbestos-containing material (ACM):

a. Approximately 85 square feet dark brown nine-inch by nine-inch vinyl composition floor tiles over black mastic on Stairwell treads and landings contained 9% chrysotile asbestos.

B. The Contractor shall be responsible for the collection and analysis of personnel exposure samples for asbestos in accordance with the Occupational Safety and Health Administration (OSHA) regulations.

C. If suspect ACM is encountered in wall or ceiling interiors in unanticipated locations, the unforeseen condition will be documented and described, including the location, and the extent and the quantity of suspect ACM, and any immediate actions taken for safety or housekeeping purposes. This information will be provided to the Industrial Hygienist and the Engineer or the Kitsap County technical representative.

D. Any ACMs of the nature shown or described, but not specifically called out or shown in the plans, but which are reasonably implied and necessary for a complete and satisfactory removal job shall be included without additional cost to the Government.

E. Applicable training shall be provided by the Contractor prior to personnel performing abatement as required by applicable regulation 29 CFR 1926.1101 (asbestos). All persons conducting asbestos abatement work shall receive compliant training per Title 40 of the CFR – Protection of the Environment.

Table 1 – Givens Community Center Asbestos Sampling Results

Sample Date	**Sample ID**	**Material Description**	**Location**	**Asbestos Content**	**Estimated Quantity**
ASBESTOS-CONTAINING MATERIALS					
9/25/2018	**925-A-1**	**Dark brown 9"x 9" VCT over black mastic**	**Stairwell Treads**	**9% Chrysotile**	**~85 SF**
NON-ASBESTOS CONTAINING MATERIALS					
9/25/2018	925-A-2	Green painted white plaster over cement over ¼" GWB	Entry West Wall	NAD	NA
	925-A-3	Brown painted white plaster over cement	Stairwell Landing S Wall	NAD	NA
	925-A-4	Tan 12" x 12" VCT with orange and black mastic	Entry floor	NAD	NA
	925-A-5	Tan ceramic tile and mortar	East Bathroom	NAD	NA
	925-A-6	Tan streaked 12" x 12" VCT with orange and black mastic	North Storage Room – NE Corner	NAD	NA
	925-A-7	White/light green painted white plaster over cement	North Storage Room W Wall	NAD	NA
10/22/2019	K-Wllb	¼" Paper-faced GWB	Stairwell	NAD	NA
	K-GrPl	Green / white plaster over cement	Stairwell	NAD	NA
	K-GrPl2	Green / white plaster over cement	North Storage Room	NAD	NA
	K-VC	Tan 1x1 VCT with orange/black mastic	North Storage Room	NAD	NA

Note: NAD = No asbestos detected VCT = vinyl composition floor tile
GWB = gypsum wallboard

A. Two hours of asbestos awareness training shall be provided to applicable Kitsap County personnel and subcontractors working in the project facilities that contain ACM that reasonably can be expected to be impacted as part of this Work.

B. Third party asbestos abatement oversight will be provided by an independent consultant contracted under the construction contractor. Third party oversight by the third-party Industrial Hygienist will be coordinated with the Kitsap County Project Manager to provide project surveillance, perimeter and clearance air sampling, and visual inspections. The clearance air samples will be analyzed using Phase Contrast Microscopy (PCM) in accordance with applicable regulations. All work and material shall be subject to visual inspection by the Industrial Hygienist (IH). The Contractor shall provide reasonable and necessary facilities for such observation and shall render the necessary assistance to permit the representative to carry out all phases of observation. When required by the IH, the Contractor shall take down or uncover portions of the finished work. If the work thus exposed is unsatisfactory, all cost and expenses of exposing, removing, re-testing, replacing and restoring shall be borne by the Contractor. Any omission or failure on the part of the IH to disapprove or reject any inferior or defective work or material shall

not be construed to be an acceptance of any such work or materials. The Contractor shall remove at its own expense any defective work or material rejected by the IH and shall rebuild or replace the same without extra charge to the Government. All re-testing of an area for clearance shall be at the Abatement Contractor's expense.

C. Contractors and employees should be prepared to comply with the OSHA Fall Protection Standard 29 CFR 1926 Subpart M while working at heights. In the event scaffolding is utilized during the prep or removal process, OSHA Standard 29 CFR 1926 Subpart L will apply.

D. The Contractor shall be responsible for the clean-up and testing of any area contaminated due to Contractor negligence at no additional cost to the Kitsap County.

1.2 REFERENCES AND RELATED SPECIFICATIONS

A. All work under this contract shall be done in strict accordance with all applicable Federal, State, and Local regulations, standards and codes governing asbestos abatement and other trade work done in conjunction with the abatement. The most recent edition of any relevant regulation, standard, document or code shall be in effect. Where conflict among the requirements or with these specifications exists, the most stringent requirements shall be utilized.

B. Section 02 41 13: Selective Demolition.

C. Rose Environmental *Kitsap County Givens Basement Storage and Boiler Room Microbial Evaluation Report,* dated October 16, 2018.

D. American Society of Safety Engineers (ASSE), ASSE/SAFE Z9.2 Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems, 2012.

E. Underwriters Laboratories (UL), *UL Standard for Safety High-Efficiency Particulate, Air Filter Units, UL 586,* 2009; reprint 2017.

F. US Occupational Safety and Health Administration (OSHA), 29 CFR 1910.1001, General Industry Standards for Asbestos.

G. OSHA, 29 CFR 1926.1101, Construction Industry Standards for Asbestos.

H. OSHA, 29 CFR 1926.62 Lead.

I. OSHA, 29 CFR 1910.134, Respiratory Protection.

J. OSHA, 29 CFR 1910.145, Accident Prevention.

K. OSHA, 29 CFR 1910.2, Medical Records.

L. OSHA, 29 CFR 1910.38, Emergency/Fire Prevention Programs.

M. OSHA, 29 CFR 1910.1200, Hazard Communication.

N. US Environmental Protection Agency (EPA), 40 CFR 61 Sub. A, General Provisions.

O. EPA, 40 CFR 61 Sub. B.

P. US Department of Transportation (USDOT) 49 CFR 171 and 172.

Q. National Institute for Occupational Safety and Health (NIOSH), *Certified Equipment List.*

R. NIOSH, *Occupational Exposure Sampling Strategy 77-173*.

S. NIOSH, *Guide to Industrial Respiratory Protection*, 87-116.

T. *Asbestos, tremolite, anthophyllite, and actinolite,* Chapter 296-62 Washington Administrative Code (WAC), Part 1-1.

U. *Asbestos,* Chapter 296-65 WAC.

1.3 DEFINITIONS AND ACRONYMS

A. Asbestos: Includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered. Asbestos includes PACM, as defined below.

B. Asbestos-Containing Material (ACM): Any material containing more than one (1) percent asbestos.

C. Asbestos-Containing Waste Material (ACWM): Any material which is, or is suspected of being, a material contaminated with an ACM which is to be removed from a work area for disposal.

D. Asbestos Debris: Pieces of ACM that can be identified by color, texture, or composition, or means dust, if the dust is determined by an accredited inspector to be ACM.

E. Authorized Person: Any person authorized by the employer and required by work duties to be present in regulated areas.

F. Class I Asbestos Work: Activities involving the removal of ACM that is a thermal system insulation or a surfacing material.

G. Class II Asbestos Work: Activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard systems with ACM drywall joint compound, floor tile and sheeting, roofing and siding shingles, and construction mastics.

H. Critical Barrier: One or more layers of plastic sealed over all openings into a work area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a work area from migrating into an adjacent area.

I. Competent Person: The Abatement Contractor's employee who is capable of identifying existing asbestos in the workplace, who has the authority to take prompt corrective measures to eliminate them, and who is trained and accredited as defined in 29 CFR 1926.1101 and 29 CFR 1926.62. The duties of the Competent Person include, but are not limited to, the following: controlling entry to and exit from the asbestos work area, supervising any employee exposure monitoring required by the standards, ensuring that all employees working within a work area wear the appropriate personal protective equipment and are trained in the use of appropriate methods of exposure control and decontamination, and ensuring that engineering controls in use are

functioning properly.

J. Disposal Bag: A properly labeled 6-mil. thick, leak-tight polyethylene bag used for containerizing and/or transporting asbestos waste to the disposal site.

K. Disturbance: Activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM. Disturbance includes cutting away small amounts of ACM and PACM, no greater than the amount which can be contained in one standard sized glove bag or waste bag in order to access a building component. Maximum glove bag or waste bag size referred to herein is 60 inches in length and width.

L. Friable Asbestos Material: Material that contains more than 1.0 percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

M. HEPA Filter: A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97 percent of all mono-dispersed particles (e.g. asbestos fibers) of 0.3 microns in diameter.

N. Industrial Hygiene: An area of specialization in the field of industrial safety and health that is concerned with predicting, recognizing, assessing, controlling, and preventing environmental stressors in the workplace that can lead to sickness, disease, or other forms of impaired health.

O. Industrial Hygienist: A person having a college or university degree(s) in engineering, chemistry, physics, medicine, or related physical or biological sciences who, by virtue of special studies and training, has acquired competence in industrial hygiene.

P. Intact: ACM that has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix.

Q. Negative Initial Exposure Assessment: An assessment by an industrial hygienist which demonstrates that employee exposure during an operation is expected to be consistently below the permissible exposure limit (PEL) for representative 8-hour time-weighted average (TWA) samples and 30-minute excursion limit (EL) samples.

R. Non-friable Asbestos Material: Material that contains more than 1.0 percent asbestos by weight and that cannot be crumbled, pulverized, or reduced to a powder by hand pressure when dry.

S. Personal Monitoring: Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

T. PACM: Presumed Asbestos-Containing Material; means thermal system insulation and surfacing material found in buildings constructed no later than 1980.

U. Regulated Area: An area established by the abatement contractor to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and a work area within which airborne concentrations of asbestos, exceed or there is a reasonable possibility they may exceed, the permissible exposure limit.

V. Removal: All operations where ACM and/or PACM are taken out or stripped from structures or substrates, includes demolition operations.

W. Renovation: Modifying of any existing structure, or portion thereof.

X. Surfactant: A chemical wetting agent added to water to improve wetting and penetration into a substrate.

Y. Time Weighted Average (TWA): The average concentration of a contaminant in air during a specific time period.

AA. Visible Emissions: Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments.

BB. Work Area: The area where asbestos-related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers or debris, and entry by unauthorized personnel. A Work Area is a Regulated Area as defined by 29 CFR 1926.1101.

1.4 SPECIAL CONSTRUCTION REQUIREMENTS

A. Holiday Work Restrictions: No holiday work restrictions for this project are established.

1.5 FIELD VERIFICATION

A. Field verify all new and existing dimensions affecting the work of this contract before ordering products.

1.6 CONSTRUCTION MATERIALS

A. The Government will not furnish any materials for this project.

1.7 SALVAGED MATERIALS

A. Excess salvaged materials not reinstalled in the project remain the property of the Government.

B. Stockpile material within the rooms where the materials are recovered for reuse. If more space is required, coordinate storage location with Contracting Officer.

1.8 PROJECT SUBMITTAL REQUIREMENTS

A. Pre-Project Submittals:

1. Proof that required Federal, State, and local permits, have been obtained.
2. Proof of asbestos-specific insurance demonstrating both liability and pollution coverage. Policy shall name Kitsap County as an additional insured and shall include a waiver of subrogation. Policy limits shall be a minimum of two million dollars ($2,000,000).

B. Health and Safety Related Submittals: The Contractor shall submit to the Contracting Officer for review an Asbestos-Specific Health and Safety Program including, but not limited to: a Respiratory Protection Program, a Medical Surveillance Program, and an Accident Prevention Program. Additional health and safety related submittals required are:

1. The Contractor shall submit the resume and copies of professional registrations/certifications for the Contractor's employee who will act as the Competent Person for the project. The Competent Person must meet the qualifications and have the training and certifications defined by OSHA.
2. Proof that all employees have passed appropriate medical examinations required by OSHA.
3. Certification that all employees have been instructed on the hazards of asbestos exposure, use and fitting of respirators and protective dress, use of showers, work area entry and exit procedures, work methods, and protective measures.
4. Certification that each employee has been properly fitted with a specified respirator.
5. If rental equipment is to be used in work area or to transport asbestos contaminated waste, provide notice to rental agency stating intended use of equipment, with copy to the Industrial Hygienist.
6. For each type of training session, the Contractor shall submit a proposed outline of the subjects to be covered to the Industrial Hygienist for approval. The training shall not be conducted until the outline is approved.
7. Copies of attendance records and certificates for each employee for all asbestos training as required by this Section.
8. Copies of current physicians written medical opinions for all employee's subject to medical surveillance requirements defined in OSHA respiratory Protection Standards.

C. Asbestos Abatement Project Plan: Develop and submit to the Contracting Officer for review a written Asbestos Abatement Project Plan. This plan should meet the requirements of a Project Design and be prepared by a certified Project Designer. The plan will be job-specific and list the work procedures to be used during the removal of asbestos from the Ranch House and Bunkhouse. This work plan shall include, but not be limited to:

1. Construction schedule in sufficient detail for the Contracting Officer to determine the duration and level of effort required for the project.
2. Description, accompanied by sketches to scale, of decontamination enclosure systems.
3. Description of asbestos waste handling procedures. Include name and address of waste disposal site; name, address, and telephone number of entity who will transport asbestos waste; and, a sample of transport manifest to be used to identify quantity of waste removed and accepted by disposal site.

D. Asbestos-Related Project Submittals – Ongoing Requirements

1. Results of all worker exposure assessment air samples shall be made available to applicable personnel per OSHA 29 CFR 1926.1101, and shall also be submitted to the Industrial Hygienist or a designated on-site representative within 24-hours of sample collection. Submittals shall include sample collection logs and laboratory analysis sheets.
2. After every disposal operation, provide copies of transport manifests, disposal receipts, and chain of custody forms for all asbestos waste materials removed from the site. Chain-of-custody form shall include date, address of pickup site, name and address of Contractor, names of persons responsible for pickup, name and address of disposal site, quantity of asbestos waste, and type of containers used. The form shall be signed by the Contractor, the Contracting Officer, disposal site operator, and hauler if a private hauler is employed.

E. Close-out Report: Prepare a close-out report with the following items:

1. Description of removal activities performed during the project.
2. Pre- and post- work photographs.

3. Description and results of all occupational and environmental sampling.
4. Description and results of third-party final clearance activities.
5. Results of waste characterization sampling.
6. Copies of all ACWM manifest documents shall be completed and signed by the Contracting Officer, the Contractor, the Transporter, and the Disposal facility.

1.9 QUALITY ASSURANCE

A. Qualifications: Workers shall be fully qualified and experienced in the techniques of abatement, handling and disposal of ACMs and meet the requirements as set forth by OSHA and the EPA.

B. Regulatory Requirements:

1. Comply with OSHA Safety and Health Standard (29 CFR 1910.1001); OSHA Asbestos Regulation for the Construction Industry (29 CFR 1926.58); National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR, Part 61, Subparts A and B); Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763); Washington Administrative Code (WAC) (Chapter 296-62, Part 1-1, and Chapter 296-65), and DOT regulations for transporting asbestos-containing waste.
2. Notify all responsible state and local agencies in writing at least 10 days before removal work begins. Obtain all required permits before work begins. The Contractor shall be responsible for obtaining all necessary permits and certifications of personnel in conjunction with asbestos removal, hauling, and disposition and provide timely notification of such actions as may be required by Federal, state, regional and local authorities. Fees and/or charges for these permits shall be included in the Contractor's bid price. Provide copies of all obtained permits to the Industrial Hygienist.
3. Dispose of asbestos waste at an authorized landfill site in accordance with requirements of NESHAP and applicable state and local guidelines and regulations.

1.10 RECORD KEEPING

A. Daily Project Log: The Site Supervisor must maintain a Daily Project Log. The Daily Project Log must be used each day of the project to document the following information.

1. Date.
2. Name of Supervisor.
3. Name of Industrial Hygienist monitoring work area (if applicable).
4. Manometer data (if applicable)
5. Number of workers on site.
6. Equipment utilized.
7. Brief description of daily work activities.
8. Listing of any non-compliance noted, emergencies, stop work orders (with detailed explanation), and descriptions of any other significant events.

1.11 PROJECT CONDITIONS

A. Maintain existing emergency exits and building emergency equipment, such as fire alarms, fire hose equipment, and emergency lighting devices, in operating order.

B. Do not damage existing building materials which are not associated with the work or work area. Any damage to building materials not protected within the work area, or that are outside the work area and not associated with the work, shall be repaired or replaced by the Contractor at no cost to the Government.

C. Wall, ceiling and flooring systems can include multiple layers. Due to the inconsistency of these systems and the potential for overlay materials, all systems shall be assumed to be ACMs unless specifically sampled and confirmed to be non-ACM. If the work shall impact the wall, ceiling or flooring systems, any material uncovered that was not previously sampled must be assumed to be asbestos. Samples of the uncovered material shall be taken by a competent person and work shall be stopped until the competent person allows work to continue. If suspect ACM is encountered in wall or ceiling interiors in unanticipated locations, the unforeseen condition will be documented and described, including the location, and the extent and the quantity of suspect ACM, and any immediate actions taken for safety or housekeeping purposes. This information will be provided to the Industrial Hygienist or the Kitsap County technical representative.

PART 2 - PRODUCTS

2.1 PERSONAL PROTECTIVE EQUIPMENT

A. Respiratory Protection:

1. Workers who abate asbestos shall be provided with personally issued, individually identified respirators that meet the required level of protection. During pre-cleaning, installation of critical barriers, and HEPA vacuuming activities, the Contractor shall utilize (at a minimum) half face air-purifying respirators with approved HEPA filter cartridges. At a minimum, the Contractor shall utilize Powered Air Purifying Respirators (PAPR) for removal and cleanup work.
2. The Contractor shall provide workers with and require the use of respirators approved by NIOSH for asbestos in accordance with OSHA Standard 29 CFR 1926.1101. The minimum respiratory protection allowable shall be an approved half-mask air-purifying respirator with HEPA cartridges. Half-mask respirators will be used during pre-cleaning only. A full-face piece will be required at all other times. Disposable single-use respirators will not be permitted. The initial respiratory protection provided shall be chosen prior to commencement of removal operation based on data from past exposure assessment monitoring or initial monitoring performed to accurately determine the airborne concentration of asbestos to which employees may be exposed.
3. Workers must perform positive and negative air pressure fit tests each time a respirator is put on, whenever the respirator design so permits. Powered air-purifying respirators shall be tested for adequate flow as specified by the manufacturer.
4. Workers shall be given a qualitative fit test in accordance with procedures detailed in OSHA 29 CFR 1926.1101 for all respirators to be used. An appropriately administered quantitative fit test may be substituted for the qualitative fit test. Documentation of adequate respirator fit must be provided to the Contractor. Fit tests shall be administered annually.

B. Personal Protection required for Asbestos Abatement:

1. Prior to commencement of abatement activities, all personnel who will be required to enter

the work area for handling containerized ACMs must have received the required training. Special on-site training on equipment and procedures unique to this job site shall be performed as required. Training in emergency response and evacuation procedures shall also be provided.

2. All respiratory protection shall be provided to workers through a written respiratory protection program. This program shall be posted in the clean room of the worker decontamination enclosure system.
3. Disposable clothing including head, foot and full body protection shall be provided in sufficient quantities and adequate sizes for all workers and authorized visitors. All personnel engaged in asbestos removal work shall wear approved disposable protective clothing constructed of spun-bonded olefin or polypropylene fabrics, or other material of equivalent resistance to penetration by asbestos. A full body suit is recommended in lieu of a separate set of coveralls, head covers, and shoe covers. Disposable whole-body clothing including head covers, gloves, and shoe coverings shall be provided to and worn by all personnel in the asbestos control area. If elastic sleeve closures are not provided, sleeves shall be secured with duct tape to gloves. Washable footwear having a non-skid tracking surface shall be provided and used by all personnel within the asbestos control area.
4. Persons having facial hair which may interfere with the seal of a respirator shall not be allowed to enter the work area.
5. Contaminated clothing shall be treated as ACM and undergo the same disposal procedures.
6. The Contractor shall, at all times, have available for use by the Industrial Hygienist, two clean sets of personal protective equipment and clothing (excluding air-purifying negative-pressure respirators, which will be provided by individual visitors), as required for entry in asbestos work areas by these specifications.
7. Respirators shall be worn at all times if asbestos materials are impacted to the extent that airborne emissions are created.
8. Protective eye wear, gloves, rubber boots and/or other footwear shall be provided as required for workers and authorized visitors. Safety shoes may be required for some activities.
9. Eating, drinking, smoking, and chewing gum or tobacco will not be allowed in the work area.

2.2 EQUIPMENT

A. HEPA equipped filtration equipment.

1. Vacuum Equipment: HEPA filtered vacuuming equipment with a filter system capable of collecting and retaining asbestos fibers. Filters shall be 99.97 percent efficient for retaining fibers 0.3 microns or larger.

2.3 PLASTIC SHEETING

A. 6 mils. in thickness and sized to minimize the frequency of joints.

B. Polyethylene sheeting utilized for worker decontamination enclosure shall be opaque white or black in color.

2.4 TAPE

A. For use under dry and wet conditions, capable of being cleaned off surfaces without permanent marks or damage to substratum.

2.5 CONTAINERS

A. Asbestos wastes shall be stored in air and water tight, 55-gallon metal or fiberglass drums with tightly fitting lids, lined with 6-mil plastic bags. Label containers in accordance with OSHA 1910.1001.

B. Disposal drums (if applicable) shall be metal with locking ring tops and inner 6-mil. polyethylene liners.

C. Stick-on warning labels, as per EPA or OSHA requirements, shall be used on all disposal drums. All drums must additionally be labeled with DOT code.

2.6 OTHER MATERIALS

A. Surfactant (wetting agent) shall be a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed in a proportion as specified by manufacturer.

B. Encapsulation materials shall be either the penetrating or bridging type, pollution-free, non-toxic, with a Class A fire classification as specified herein. Material shall be flexible when cured, resistant to weathering, oxidation, aging, and abuse. The Contractor shall submit product data, use instructions, and recommendations from the manufacturer for products intended for use.

C. Provide all other materials required for temporary construction.

PART 3 - EXECUTION

3.1 HOUSEKEEPING

A. Establish Regulated Areas per OSHA 29 CFR 1926.1101. Demarcate all Regulated Areas per OSHA.

B. Keep project neat, orderly, and in a safe condition at all times. Use wet methods and HEPA-equipped vacuums only to collect all dust, waste, debris, etc., in areas where ACMs are impacted. Prohibit the use of dry sweeping or vacuuming without using HEPA-equipped vacuums.

C. All powered hand tools and equipment used to impact ACMs or PACMs must be equipped with point of contact HEPA-equipped vacuum attachments, and/or the materials must be thoroughly wetted with an effective wetting agent suitable for the material and operation.

D. Access to the work area must be restricted to “authorized persons” only as defined in OSHA 29 CFR 1926.1101. This may be accomplished by the use of properly demarcated critical barriers, securing adjacent access points, or installing barrier plastic sheeting (containments for Class I work) and signs following implementation of compliant Negative Exposure Assessment activities

and at the direction of the competent person.

E. The Contractor shall verify locations of utilities prior to any environmental abatement and interior demolition work. Existing water, sewer, electrical, communications and gas lines located within the boundaries of the environmental abatement work shall be located and non-essential utilities shall be properly locked and tagged out at the limits of the environmental abatement, or selective demolition work. This work will require a qualified and licensed electrician to verify safety and proper lockout.

F. Unless and until a Negative Exposure Assessment is produced, establish an equipment room or area adjacent to the regulated area for the decontamination of employees and their equipment that is contaminated with asbestos.

G. Provide enough containers for collecting ACWM and construction debris.

H. Place drop cloths adjacent to areas where impacts to ACM will occur.

I. Use a HEPA equipped vacuum and/or wet methods to clean up any dust, debris, or other waste materials that may contain or be contaminated with ACWM.

J. No dry sweeping is permitted at any time during any activities conducted on or around any ACMs such that any waste dust, debris, or other item may be contaminated.

K. Thoroughly wet all dry or drying ACMs and general rubbish to prevent creating dust.

L. Keep ACWM adequately wet and in covered containers.

M. Ensure that employees do not smoke in work areas where they are occupationally exposed to asbestos as a result of activities in or around that work area.

3.2 FIRE SAFETY

A. The Contractor shall take the following precautions against fire:

1. The Contractor shall comply fully with requirements of the Federal, State and local government, Owner, Contracting Officer, including stipulations as outlined below. The Contractor shall maintain and enforce all regulations imposed and shall be required to secure such protection as may be required. In the event of strikes, these precautions shall not be relaxed. Contractor is responsible for acquainting the local Fire Department with existing conditions.
2. The Contractor shall not impede or void the essential function of emergency fire exits while performing abatement work.
3. At least one (1) qualified person thoroughly familiar with fire protection and prevention shall be on duty at all hours that Contractor’s employees are working. This person shall patrol the entire work-area frequently and shall have authority to take immediate remedial action to eliminate unnecessary fire hazards.
4. Building material storage shall be limited to secure areas within the building or, where stored outside, shall be kept at least ten feet (10′) away from the building. Storage areas will be approved by the Contracting Officer.
5. Fire extinguishers: Maintain and provide approved fire extinguishers throughout all

accessible areas. Placement, inspection and maintenance of fire extinguishers shall comply with 29 CFR 1926.130. The Contractor shall provide at least one 20 ABC fire extinguisher for every 3,000 square feet of work area, with a maximum distance of 100 feet between fire extinguishers. The Contractor shall place (at a minimum) ABC fire extinguishers in the following locations:

a. Clean room of personnel decontamination facility.
b. Equipment room of personnel decontamination facility.
c. Within the containment, at least one extinguisher for every 3,000 square feet of work area with a maximum distance of 100 feet between fire extinguishers.

6. Gasoline, oils, and other volatile liquids shall be kept outside, to be brought into the building in quantities only as needed. Such storage shall be in a well-ventilated location, removed from all open heating or lighting devices. Storage areas will be approved by the KITSAP COUNTY.
7. Electrical wiring for construction light and power shall be a properly fused, ground fault circuit interrupter (GFCI) installed to conform to basic code requirements, and maintained under the supervision of a competent electrician. This also applies to all temporary lines used by the Contractor.
8. During any torch-cutting activities, the Contractor shall take necessary steps to comply with 29 CFR 1926 Subpart J (1926.350-1926.353), including provisions addressing transportation and storage of oxygen and acetylene cylinders, fire prevention and ventilation. The Contractor shall utilize persons trained and knowledgeable in all equipment used on-site.

3.3 WORK AREA PREPARATION

A. Class II abatement work areas shall be constructed of barrier tape adn 6-mil poly sheeting over all windows, doors, vents and openings or penetrations into the works area.

B. Post caution signs in and around the work area to comply with OSHA 1910.1001(g) (1) and Federal, state, and local regulations.

C. Shut down and lockout all heating, cooling, and air-conditioning system components that supply or pass through the work area.

D. Seal off openings, such as corridors, doorways, windows, vents, ducts, grilles, diffusers, switch and outlet boxes, and lighting fixtures, with 1 layer of 6-mil poly sheeting sealed with duct tape.

E. Clean items to be removed from work area, using HEPA vacuum equipment and/or wet cleaning methods. Remove cleaned items to a temporary location as directed by Consultant.

F. Clean items to remain in the work area, using HEPA vacuum equipment and/or wet cleaning methods, and enclose with 1 layer of 6-mil poly sheeting sealed with duct tape. Protect items with temporary barricades, covers, or pads as necessary to prevent damage.

G. Clean work area using HEPA vacuum equipment and/or wet cleaning methods.

H. Cover porous or non-cleanable surfaces and objects with 6-mil. poly sheeting sealed with duct tape.

I. Each work area shall have an attached decontamination space.

3.4 DECONTAMINATION SPACE – REQUIRED FOR ABATEMENT

A. If decontamination units are constructed on-site, plans for construction, including materials and layout, shall be submitted as shop drawings and approved in writing by the Contractor prior to work initiation.

B. The decontamination space should be established as change area where personnel will don and doff personal protection equipment (PPE).

C. One layer of 6-mil poly sheeting shall be placed on the floor, and adequate numbers of 6-mil disposal bags and HEPA-vacuum cleaners shall be placed in the space/change area to adequately decontaminate all personnel and equipment leaving the abatement work area to be free of visible dust, dirt, and debris.

3.5 WORK AREA ENTRY AND EXIT PROCEDURES

A. For non-enclosed regulated areas, the routes of egress shall be clearly identified and communicated to all workers.

1. All workers and authorized personnel shall enter the regulated area through the worker decontamination space and must sign the entry log upon entry and exit.

2. All personnel entering any work area shall read and be familiar with all posted regulations, personal protection requirements, including work place entry and exit procedures, and emergency procedures. A sign-off sheet shall be used to acknowledge that these have been reviewed and understood by all personnel prior to entry.

3. All personnel shall proceed first and put on required respiratory protection, disposable coveralls, head covering, and foot covering. Hard hats, eye protection, and gloves shall also be utilized if required. Clean respirators and protective clothing shall be provided and utilized by each person for each separate entry into the work area.

4. Before leaving the work area, all personnel shall remove gross contamination from the outside of respirators and protective clothing by brushing and/or wet wiping procedures. Each person shall clean bottoms of protective footwear in the walk-off pan just prior to entering the decontamination area.

5. Rubber boots may be decontaminated at the completion of the abatement for reuse.

B. Cartridges used on 1/2 face APRs shall be disposed of each time a worker leaves the asbestos control area.

C. Replacement (new) respirator cartridges shall be stored away from the work areas and decon areas. Cartridges shall not be stored on the floor or other locations where water and/or physical damage may occur.

3.6 ASBESTOS REMOVAL WORK

A. Upon completion of the asbestos removal work, the Contractor shall submit a written statement to Kitsap County attesting that all items containing asbestos have been disposed of in accordance with EPA 40, CFR, Part 61, Subpart M in the approved sanitary landfill(s). Documentation shall include proof of regulatory approval and copies of completed Waste Shipment Records signed by generator, transporter(s) and disposal site operator and listing the following information:

B. Name, address, and telephone number of the waste generator.

C. Name and address of local, State, or EPA Regional agency responsible for administering the asbestos NESHAP program.

D. Quantity of ACWM in cubic meters or yards.

E. Name and telephone number of the disposal site operator.

F. Name and physical location of the disposal site.

G. Date transported.

H. Name, address and telephone number of the transporter(s).

I. A certification that the contents of the shipment are fully and accurately described by the proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to all applicable international and government regulations.

3.7 AIR MONITORING

A. Air samples for asbestos may be collected adjacent to the abatement work areas by the Industrial Hygienist each day abatement occurs. Asbestos air samples will be analyzed by the Industrial Hygienist at the end of each work shift. The purpose of the abatement perimeter monitoring is to detect faults in the work area isolation such as:

1. Contamination of the areas/building outside of the work area with airborne asbestos particles;
2. Failure of filtration or rupture in the differential pressure system (if used) causing contamination of air outside with airborne asbestos dust; and
3. Should any of the above occur, immediately cease abatement activities until the fault is corrected. Do not recommence work until authorized by the Industrial Hygienist.

B. If at any time in the abatement process the outside work area monitoring results indicate that the asbestos concentration is at or above 0.01 fibers per cubic centimeter, CEASE ALL WORK except corrective action. After correcting cause of unacceptable levels outside the work area, HEPA-vacuum all surfaces that potentially could be contaminated; wet-wipe, using amended water, all wetable surfaces; and HEPA-vacuum a second time. Complete corrective work with no change in the contract Sum if high airborne asbestos levels were caused by Contractor’s activities.

C. Aggressive final clearance air samples for asbestos will be collected in each asbestos removal

area. The IH will collect clearance air samples for PCM analysis. If the air samples do not meet the post-abatement standard of 0.010 f/cc, the work area will be re-cleaned until acceptable air levels are achieved at no additional cost to the Government. The asbestos abatement action shall be considered complete when clearance air samples result in acceptable air concentrations. Failed clearance costs will be the responsibility of the Contractor.

3.8 ABATEMENT WORK PRACTICES

A. The following sections describe protocols to be used for the various abatement tasks associated with this project. After all personal protection and containment controls are implemented; the abatement task sequence will be as follows:

1. Shut down and lock out all HVAC, mechanical or refrigeration equipment within the work area.
2. Construct worker decontamination system at entrance to the work area. Construct waste pass-out decontamination system.
3. Pre-clean all mechanical equipment, floors, and walls.
4. Approval of worker decontamination system(s) and containment system shall be approved in writing prior to initiation of removal or repair activities.
5. Remove and properly dispose of existing non-friable ACM.
6. Upon completion of removal or repair activities, the Contractor will request final inspection of the work area by the Industrial Hygienist. All surfaces are to be thoroughly cleaned prior to this request.
7. If air sampling indicates area clearance in accordance with specifications, the area will be declared clean and all remaining polyethylene, tape, debris, etc., shall be removed and bagged as asbestos contaminated waste.
8. All asbestos waste must be adequately wet as defined in the EPA/NESHAP Guidance dated December 1990. Per the EPA Guidance, “adequately wet” means to “sufficiently mix or penetrate with liquid to prevent the release of particles.” If visible emissions are observed coming from ACM waste, then the material is not adequately wet. The absence of visible emissions is not sufficient evidence of being adequately wet. All abated materials, regardless of whether they are first stripped from their substrate, must be adequately wet prior to disposal.

3.9 PROJECT DECONTAMINATION AND FINAL CLEARANCE

A. At the conclusion of the active abatement process, all surfaces in the abatement area should be thoroughly and completely HEPA vacuumed. These surfaces include (but are not limited to) ceilings, walls, floors, and windows, doors, fixtures of any kind and appliances. This includes not just abated surfaces, but also un-abated surfaces, exposed to asbestos dust generated by the abatement process. All areas should be included in this HEPA process, except for spaces that:

1. Were found free of asbestos dust before the abatement process began;
2. Were properly sealed before the abatement process began; and
3. Were never entered during the abatement process.

B. Wet wiping

1. Use Proper Wet Cleaning Procedures: At the conclusions of the active abatement process

and after the first HEPA vacuuming, all surfaces identified as requiring HEPA vacuuming earlier should be thoroughly and completely washed with an amended water solution.

2. Change Cleaning Mixture Regularly: To avoid re-contaminating the area by using overly dirty water, users should carefully follow surface area limits and change the cleaning mixture accordingly. Users must ensure that the dirty water does not re-contaminate the environment. This dirty water is potentially hazardous and should be treated accordingly.

C. Final Inspection

1. After the final cleanup is complete, the final inspection will take place. The Industrial Hygienist shall require 24-hour advanced notice of work areas prepared for final inspection. The objective of the inspection is to ensure abatement completeness and verify that no visible dust, dirt or debris is present.
2. Post-abatement visual inspection will be performed to confirm job completeness by determining whether all surfaces have been abated according to the approved abatement plan. The inspector will present the Contractor with list of items to complete before the inspection process can continue.

3.10 RE-ESTABLISHMENT OF THE WORK AREA AND SYSTEMS

A. Re-establishment of the work area to general access shall only occur following the completion of clean up procedures and/or after clearance air monitoring has been performed and documented to the satisfaction of Industrial Hygienist.

B. The Industrial Hygienist shall visually inspect the work area for any remaining visible residues. Evidence of contamination will necessitate additional cleaning and additional air monitoring.

3.11 DISPOSAL

A. Asbestos wastes shall be thoroughly wetted and double-bagged in appropriately labeled asbestos disposal bags. Bags shall be sealed airtight while the material is still wet. Bag tops shall be twisted and sealed with duct tape, then bent over and sealed again with at least three wraps of duct tape. Biological materials may be disposed of in standard construction garbage bags in enclosed roll-off containers.

B. Additional material shall not be added to bags, and bags shall not be reopened after they have been sealed. Asbestos wastes shall be transported by a properly licensed transporter in a covered truck and disposed of at a landfill approved for asbestos. A manifest document shall be completed and signed by the Contracting Officer, the Abatement Contractor, the Transporter, and the Disposal facility. The Contractor will submit all disposal records to the Industrial Hygienist.

C. Immediately remove hazardous rubbish from project site. Place other construction debris in refuse containers at least daily. Dispose of refuse at least weekly, in a legal manner, at public or private dumping areas outside the park. Do not burn or bury refuse inside the park.

D. Labels must be affixed to all bags, drums or other containers containing ACWMs. The following label will be prominently displayed on the waste containers. All warning label print shall be readily visible, in large bold letter size printed on a contrasting background. Labels shall contain the following information:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT
DO NOT BREATHE ASBESTOS FIBERS

3.12 AIR AND WATER POLLUTION CONTROL

A. Take all necessary reasonable measures to reduce air and water pollution by any material or equipment used during construction.

B. Contractor personnel, building occupants, and visitors to the structures must be protected from exposure to airborne asbestos fibers.

C. Initial exposure assessment sampling will be conducted by the Contractor's Competent Person during activities that impact ACM, until a record of potential exposure during each type of activity is established.

D. Samples shall be analyzed using PCM according to National Institute of Occupational Safety and Health (NIOSH) Counting Method 7400 for Phase Contrast Microscopy.

E. Laboratories performing analysis of air samples will be rated proficient by the American Industrial Hygiene Association (AIHA) Proficiency Analytical Testing (PAT) program.

F. Results of the air samples shall be made available to applicable personnel and shall be submitted to the Industrial Hygienist within 24-hours of sample collection.

G. Do not allow ACWM or other waste materials to be washed into the lakes or other bodies of water.

H. The Worker decontamination shower room shall contain one or more showers, as necessary, to adequately accommodate workers. Each showerhead shall be supplied with hot and cold water adjustable to the tap. The shower enclosure shall be constructed to prohibit leakage of any kind. The Contractor shall supply and keep available at all times an adequate supply of soap, shampoo, and towels. Shower water shall be drained, collected, and filtered through a system with at least 5-micron particle size collection capability. All filtered water shall be stored for subsequent discharge to the site sanitary sewer. The shower unit shall be constructed to ensure against any leakage of any kind and shall be kept clean of all debris and ACM at all times.

END OF SECTION 02 82 13

EMSL Analytical, Inc.

3317 3rd Ave S, Suite D 2nd floor Seattle, WA 98134

Tel/Fax: (206) 269-6310 / (206) 900-8789

http://www.emsl.com / seattlelab@emsl.com

EMSL Order:	511802895
Customer ID:	RSEE42
Customer PO:	
Project ID:	

Attention:	Ryan Anders	**Phone:**	(206) 679-0699
	Rose Environmental LLC	**Fax:**	
	6715 Greenwood Ave N	**Received Date:**	09/26/2018 5:00 PM
	Seattle, WA 98103	**Analysis Date:**	09/27/2018
		Collected Date:	
Project:	9878-Kitsap		

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
925-A-1-Floor Tile *511802895-0001*		Brown Non-Fibrous Homogeneous		91% Non-fibrous (Other)	9% Chrysotile
925-A-1-Mastic *511802895-0001A*		Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
925-A-2-Skim Coat *511802895-0002*		White Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected
925-A-2-Plaster *511802895-0002A*		Gray/White Non-Fibrous Homogeneous		15% Quartz 85% Non-fibrous (Other)	None Detected
925-A-2-Wallboard *511802895-0002B*		Brown/White Fibrous Homogeneous	15% Cellulose	65% Gypsum 20% Non-fibrous (Other)	None Detected
925-A-3-Skim Coat *511802895-0003*		White Non-Fibrous Homogeneous		35% Ca Carbonate 65% Non-fibrous (Other)	None Detected
925-A-3-Plaster *511802895-0003A*		Gray Non-Fibrous Homogeneous		15% Quartz 85% Non-fibrous (Other)	None Detected
925-A-4-Floor Tile *511802895-0004*		Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
925-A-4-Mastic *511802895-0004A*		Brown/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
925-A-5-CMU *511802895-0005*		White Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
925-A-5-Mortar *511802895-0005A*		Gray Non-Fibrous Homogeneous		15% Quartz 85% Non-fibrous (Other)	None Detected
925-A-6-Floor Tile *511802895-0006* *Result includes a small amount of inseparable attached material*		White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
925-A-6-Mastic *511802895-0006A*		Brown/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
925-A-7-Skim Coat *511802895-0007*		White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
925-A-7-Plaster *511802895-0007A*		Gray/White Non-Fibrous Homogeneous		15% Quartz 85% Non-fibrous (Other)	None Detected

Initial report from: 09/27/2018 17:39:34

EMSL Analytical, Inc.
3317 3rd Ave S, Suite D 2nd floor Seattle, WA 98134
Tel/Fax: (206) 269-6310 / (206) 900-8789
http://www.emsl.com / seattlelab@emsl.com

EMSL Order:	511802895
Customer ID:	RSEE42
Customer PO:	
Project ID:	

Analyst(s)
Ehrin Baul (15)

Lauren Kerber, Laboratory Manager
or Other Approved Signatory

Initial report from: 09/27/2018 17:39:34

EMSL Analytical, Inc.
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EMSL Order:	511802910
CustomerID:	RSEE42
CustomerPO:	
ProjectID:	

Attn: **Ryan Anders**
Rose Environmental LLC
6715 Greenwood Ave N
Seattle, WA 98103

Phone:	(206) 679-0699
Fax:	
Received:	09/26/18 5:00 PM
Collected:	

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client SampleDescription	*Collected*	*Analyzed*	*Weight*	*RDL*	*Lead Concentration*
925-B-1 *511802910-0001*		10/1/2018	0.0806 g	0.025 % wt	0.62 % wt
925-B-2 *511802910-0002*		10/1/2018	0.0902 g	0.022 % wt	0.63 % wt
925-B-3 *511802910-0003*		10/1/2018	0.2008 g	0.010 % wt	<0.010 % wt

Lauren Kerber, Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc. Seattle, WA

Initial report from 10/01/2018 15:09:09

November 4, 2019

Martin Rose
Rose Environmental
6715 Greenwood Ave. N
Seattle, WA 98107

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1923225.00

Client Project: N-A
Location: KIT 2019

Dear Mr. Rose,

Enclosed please find test results for the 4 sample(s) submitted to our laboratory for analysis on 10/31/2019.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor

Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Rose Environmental
Address: 6715 Greenwood Ave. N
Seattle, WA 98107

Attention: Mr. Martin Rose
Project Location: KIT 2019

Batch #: 1923225.00
Client Project #: N-A
Date Received: 10/31/2019
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 19126792 **Client Sample #: K-WIlb**
Location: KIT 2019

Layer 1 of 2	**Description:** White chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Gypsum/Binder, Fine grains	Cellulose 15%	**None Detected ND**
Layer 2 of 2	**Description:** Gray loose sandy material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine particles, Sand	None Detected ND	**None Detected ND**

Lab ID: 19126793 **Client Sample #: K-GrPl**
Location: KIT 2019

Layer 1 of 2	**Description:** White brittle material with layered paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
	Paint		
Layer 2 of 2	**Description:** Gray sandy/brittle material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Sand, Fine particles	None Detected ND	**None Detected ND**

Lab ID: 19126794 **Client Sample #: K-GrPl2**
Location: KIT 2019

Layer 1 of 2	**Description:** White brittle material with layered paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Fine grains, Fine particles	None Detected ND	**None Detected ND**
	Paint		

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 11/01/2019
Reviewed by: Matt Macfarlane **Date:** 11/04/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Rose Environmental
Address: 6715 Greenwood Ave. N
Seattle, WA 98107

Attention: Mr. Martin Rose
Project Location: KIT 2019

Batch #: 1923225.00
Client Project #: N-A
Date Received: 10/31/2019
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2	**Description:** Gray sandy/brittle material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Sand, Fine particles	None Detected ND	**None Detected ND**

Lab ID: 19126795 **Client Sample #: K-VC**
Location: KIT 2019

Layer 1 of 2	**Description:** Off-white vinyl tile		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Vinyl/Binder, Calcareous particles, Fine particles	None Detected ND	**None Detected ND**
Layer 2 of 2	**Description:** Yellow soft mastic with debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Fine particles, Debris	Cellulose <1%	**None Detected ND**

Sampled by: Client
Analyzed by: Tiffany Querry **Date:** 11/01/2019
Reviewed by: Matt Macfarlane **Date:** 11/04/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES

Company	Rose Environmental	**NVL Batch Number**	**1923225.00**
Address	6715 Greenwood Ave. N Seattle, WA 98107	**TAT** 1 Day **AH** No **Rush TAT**	
Project Manager	Mr. Martin Rose	**Due Date** 11/1/2019 **Time** 4:20 PM	
Phone	(206) 679-0699	**Email** roseenv@gmail.com	
		Fax (206) 279-1756	

Project Name/Number: N-A **Project Location:** KIT 2019

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 4 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	19126792	K-Wllb		A
2	19126793	K-GrPl		A
3	19126794	K-GrPl2		A
4	19126795	K-VC		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Kelly AuVu		NVL	10/31/19	1620
Analyzed by	Tiffany Querry		NVL	11/1/19	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 10/31/2019
Time: 4:37 PM
Entered By: Kelly AuVu

CHAIN of CUSTODY
SAMPLE LOG

1923225

INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

Client Rose Environmental
Street 6715 Greenwood Ave. N
Seattle, WA 98107

NVL Batch Number
Client Job Number
Total Samples 4
Turn Around Time ☐ 1 Hr ☐ 6 Hrs ☐ 3 Days ☐ 10 Days ☐ 2 Hrs ☒ 1 Day ☐ 4 Days ☐ 4 Hrs ☐ 2 Days ☐ 5 Days
Please call for TAT less than 24 Hrs

Project Manager Mr. Martin Rose
Project Location KIT 2019

Email address roseenv@gmail.com

Phone: (206) 679-0699 **Fax:** (206) 279-1756

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☑ Asbestos Bulk	☒ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Paint Chips in %	☐ Arsenic (As)	☐ All 8	☐ All 3
☐ TCLP	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in cm	☐ Barium (Ba)	☐ Lead (Pb)	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppl	☐ Dust/wipe (Area)	☐ Waste Water	☐ Cadmium (Cd)	☐ Mercury (Hg)	☐ Nickel (Ni)
		☐ Soil	☐ Other	☐ Chromium (Cr)	☐ Selenium (Se)	☐ Zinc (Zn)
					☐ Silver (Ag)	

Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____ ☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments (e.g Sample are, Sample Volume, etc)	A/R
1		K-Wlb	PFGWB	
2		K-GrP1	PLST	
3		K-GrP12	PLST	
4		K-VC	WHT VCT	
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by					
Relinquished by	M Rose	MRose	Rose Env	10/3/	1619
Received by	Kelly Allen		NVL	10/3/19	1620
Analyzed by					
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Please composite all wall board samples

Work Plan for Lead-Based Painted Surfaces

The Givens Community Center Basement Storage Space
1026 Sydney Avenue
Port Orchard, Washington

Kitsap County Dept. of Administrative Services
November 11, 2019

1.0 INSTRUCTION

This Work Procedure applies to the disturbance of lead-containing painted surfaces during the remediation and cleaning in Basement Stairwell and Storage areas of the Givens Community Center located at 1026 Sydney Avenue in Port Orchard,Washington. The purpose of this Work Plan is to provide general practices and procedures for (1) training and certification, (2) occupant and worker protection, (3) work practices, and (4) cleaning and verification. This Work Procedure is intended to comply with the Environmental Protection Agency/State of Washington Department of Commerce Lead Renovation, Repair, and Painting rule and the State of Washington Division of Safety and Health (L&I/DOSH) Lead in Construction regulation. This Work Procedure is based on the results of lead sampling in Rose Environmental's *Basement Storage and Boiler Room Microbial Report* (dated October 18, 2018).

Known locations lead-based paint include:

1. Brown wall paint
2. White / light green paint

1.2 GENERAL WORK SEQUENCE

1. All firms disturbing lead-containing paint must be EPA-certified and show proof. Additionally, a certified renovator must be on site at all times during the work.

2. All firms must require evidence that tenants have been provided information/education pamphlets to tenants on interior lead-based paint work.

3. Prohibited activities include open torch burning, power tools without HEPA-filtered exhaust control, and heat guns used at temperatures above 1100 ^{o}F. Power tools and torch flaming on new materials or those not suspected of lead-based paint containing is acceptable.

4. Cover and protect porous and semi-porous objects within the work area. Create containments by closing doors, covering doorways, erecting free-standing containment walls with plastic.

5. Cover all porous and semi-porous objects to remain in work area with minimum 4-mil thick polyethylene plastic. Extend plastic on floors a minimum of six feet from wall. Create a containment by closing and covering doors to room with plastic. If no doors are present, create a free-standing containment wall by tenting, zip walls, or the like.
6. Create a means to decontaminate workers if leaving the work area after work starts (e.g, an anteroom, berm, pool, or mat). Ensure all personnel, equipment, and waste containers are free of dust upon leaving the work area.

7. Provide workers with adequate personnel protection equipment.

8. Conduct work in accordance with the work practices provided.

9. Following completion of work, clean all objects and surfaces in the work area and within two feet of the work area by damp wiping or HEPA-vacuuming, including mopping of floor areas.

10. Conduct cleaning verification with wipe cloths and cleaning verification card and document success or failure.

2.0 PERSONNEL PROTECTION

2.1 WORKER CERTIFICATION

1. All firms must be EPA/WA-DOC-certified and show proof (non-expired certification cards and/or refresher course cards).

2. A certified renovator must be on site at all times during the work, but may provide on-the-job training to non-certified workers as long as it is documented.

3. All workers who will be conducting maintenance and cleanup of lead-containing paint must receive lead awareness training prior to conducting work.

2.2 WORKER INSTRUCTION

Before the project begins, the Contractor shall instruct workers on using appropriate procedures for personal protection when performing remedial and cleaning techniques, including:

1. Health hazards of lead
2. Use and fit of respirators
3. Use of protective clothing
4. Entry and exit from work areas
5. Aspects of work procedures
6. Safety and emergency egress procedures

2.3 RESPIRATORY PROTECTION

Workers disturbing lead paint where prior exposure sampling results do not exist should be provided with P100 HEPA-filtered cartridge half-face respirators until results from exposure assessments are known. High protection factor respirators scan be worn but would not be required, as such tasks associated with known higher exposures are prohibited from Lead RRP projects.

2.4 PROTECTIVE CLOTHING

Workers should be with protective disposable clothing, consisting of full-body coveralls and gloves in sizes to properly fit individual workers. All persons performing removal work should disposal clothing over undergarments before entering the work area.

Provide eye protection and hard hats, as required by job conditions or by applicable safety regulations.

The supervisor shall not, under any circumstances, permit any person to enter work areas without the appropriate protective clothing and equipment.

2.5 DECONTAMINATION PROCEDURES

Ensure that each worker and authorized visitor dons respiratory protection and protective clothing (e.g., disposable coveralls) over undergarments before entering active work areas. Workers and authorized visitors shall enter and egress a work area only through a decontamination areas, which will be attached to the work area. The use of respiratory protection and protective clothing should be required within active work areas until negative exposure assessments are completed.

Ensure that each worker and authorized visitor removes protective clothing within the decontamination zone (nearest the work area) and places it into an impermeable bag or container. Respirators shall be required to remain on until after the wearer exits the decontamination zone.

Hand washing facilities should be provided and required to be used. Hand washing facilities should be located on every floor.

2.6 WARNING SIGNS

Warning signs should be posted around the perimeter of the work areas. Example wording can be as follows:

WARNING – DO NOT ENTER
Respirators and Protective Clothing
are Required in This Area

Warning signs shall not be removed until completed work area containments have passed cleaning verification.

3.0 WORK AREA PREPARATION AND EQUIPMENT

PRE-CLEANING

- Conduct pre-cleaning of floors and obvious accumulation areas prior to placing plastic dust barriers and floor sheets. Cleanup should be conducted using HEPA-vacuuming and wet methods only, such as misting and damp wiping. Methods such as compressed air, dry sweeping, water blasting, and other aggressive/powered means are prohibited.

3.1 WORK AREA BARRIERS

- Cover all porous and semi-porous objects to remain in work area with minimum 4-mil thick polyethylene plastic. Extend plastic on floors a minimum of six feet from wall. Create a containment by closing and covering doors to room with plastic. If no doors are present, create a free-standing containment wall by tenting, zip walls, or the like.

- Identify where HVAC system air intakes are located and prevent the infiltration of airborne dust from work areas from reaching these intakes. If possible, shut down all nearby HVAC systems in or around the work area.

- Prevent public or unauthorized access into exclusion zone.

- Consider using dust control barriers, such as polyethylene sheeting, where the risk of dust migration is likely or uncertain.

3.2 WORK AREA PREPARATION REVIEW

Before cleanup within the designated work area begins, workers should notify the Certified Renovator and request a visual inspection of the work area preparation. No work within the work areas shall begin until the work area preparation passes this review.

4.0 WORK PRACTICES

- Conduct work activities which minimize the aerosolization of settled dust reservoirs. The use of compressed air, sweeping, shoveling, or brushing for clean up is prohibited.

- Remove loose installed materials and deteriorated paint by manual and wet methods only, such as wet scraping, wet brushing, or chemical stripping. Abrasive methods, powered means, and heat guns above 1,100 degrees Fahrenheit are prohibited.

- Score paint before separating components.

- Use prying and pulling methods to remove components instead of breaking them.

- HEPA-shrouded power tools are allowed, but those that create any visible clouds of dust should be discontinued or repaired.

- Continue to use good hygiene practices such no chewing, eating, drinking, smoking, or applying cosmetics while inside work areas.

- Paint chips, disposable protective clothing and drop cloths and other painted debris shall not be placed on unprotected floors and shall be shielded to prevent dispersion of the debris by the wind or rain water.

5.0 CLEANUP

- Cleanup of any residual debris which was not collected by the drop sheets or within work areas shall be required. If cleanup is required, it shall be performed using a high efficiency particulate air (HEPA) filtered vacuum or wet methods.

- Following completion of work, clean all objects and surfaces in the work area and within two feet of the work area by damp wiping or HEPA vacuuming, including mopping floor areas.

- Debris will be collected in storage containers in a manner that prevents releasing the removed dust into the air. Potentially hazardous debris will be cleaned up frequently, typically once per day, and prevented from escaping the containment.

- A Certified Renovator should verify cleanliness using a cleaning verification card and appropriate wiping material (e.g., Swiffer pad). The time, location, and result of verification should be documented.

6.0 WASTE DETERMINATION

- A representative sample of the waste, debris, disposable drop cloths, disposable clothing, waste water (for hygiene), etc., shall be collected in accordance with the requirements of EPA SW-846 1311 and 6010 and tested by the Toxicity Characteristic Leachate Procedure (TCLP) in accordance with Appendix II of 40 CFR 261.

- Although debris is not classified as hazardous waste until tested, the waste shall be handled as a hazardous material until it is determined to be non-hazardous.

- Waste stored on-site determined to be hazardous shall be properly containerized, labeled and stored within a regulated area. If the tests of the debris show the waste to be non-hazardous for the metals listed, all waste may be treated as general construction debris.

This work plan prepared by: 

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WATER-DAMAGED AND MOLD-CONTAMINATED MATERIALS REMOVAL AND DISPOSAL PROTOCOL

Givens Community Center Basement Storage Space
1026 Sydney Avenue
Port Orchard, Washington

Prepared for:

Kitsap County Dept. of Administrative Services

PART 1 GENERAL

1.1 DESCRIPTION OF WORK:

A. Refer to Rose Environmental's *Kitsap County Givens Basement Storage and Boiler Room Microbial Evaluation Report*, dated October 16, 2018, outlining our moisture and microbial findings within the Givens Basement Stairwell and North Storage Area.

B. Remediation activities shall comply with this remediation protocol and, where applicable, regulations of the Environmental Protection Agency (EPA), the Washington State Department of Labor and Industries, and any other applicable state or local regulations. Contractors performing work under this protocol are solely responsible for protection of health, safety, and the environment at the job site.

This document is not intended to be a technical analysis of the structure for code compliance, habitability, geological survey, the presence of hazardous materials, or property value.

C. Establish containment barriers preventing contamination of the occupied spaces, other occupant furnishings and items, and the HVAC system.

D. Remove affected wallboard, plaster, and flooring.

E. Clean work area vertical and horizontal surfaces and those within 10 feet of containment work areas to be free of settled dust, dirt, and debris. The use of biocides, bleach, sealants, encapsulants, disinfectants, sterilizers, or other antimicrobial compounds are neither required nor recommended, unless persons with severely compromised immune systems (e.g., organ transplant patients) will be occupying the building. The use of dilute detergents or degreasers, such as Formula 409 or soap, however, may aid in dust or dirt cleanup. Any other chemical use should be reviewed by Rose Environmental.

1.2 GENERAL REQUIREMENTS:

A. This protocol pertains to removal and disposal of contaminated building materials, and cleaning and decontamination of remaining materials.

B. The requirements contained in this Section pertain to CONTAMINATED MATERIALS ABATEMENT WORK and are for the purpose of protecting employees and occupants against exposure to potentially-hazardous substances.

Contractors will make efforts not to select immune-compromised workers such as workers receiving chemotherapy treatments, recent organ transplant patients, or HIV patients, because they are at greater risk of developing a disease than a healthy person. Bearing this in mind, worker screening should be done in accordance with the Americans with Disabilities Act.

C. Contractor's Work Plan:

1. The brief Work Plan should be prepared in the form of a checklist and should include specific procedures for:

a. Work area preparation and protection procedures;

b. Worker protection and decontamination procedures, including normal removal and "spill" response; and

c. Waste handling, packaging, and disposal procedures.

2. The Work Plan should contain sufficient detail so that a skilled worker, by following the Plan, can perform acceptable work in a safe manner to remove and dispose of the contaminated GWB and associated materials, and to clean and decontaminate remaining materials.

PART 2 PRODUCTS

2.1 RESPIRATORY PROTECTION EQUIPMENT:

A. The Contractor should provide personally issued and marked respirators approved by the National Institute of Occupational Safety and Health (NIOSH), and provide sufficient replacement cartridges for respirators with disposable filters.

B. Provide workers with approved cartridge-type half-face respirators with HEPA (P100) filter cartridges.

C. Use all respiratory protection in accordance with State of Washington Dept. of L&I WAC Code 296-842, *Respirators*, including clean-shaven faces for a good fit.

2.2 PROTECTIVE CLOTHING:

The Contractor should provide approved washable or disposable Tyvek (or equivalent) coveralls, disposable head and boot covers, chemically resistant gloves (rubber dishwashing gloves or nitrile), hard-hats, safety glasses or goggles for <u>all</u> workers engaged in contaminated material removal.

2.3 SDS:

Provide SDSs (Safety Data Sheets) for all hazardous chemicals used on-site (there should be none).

2.4 POLYETHYLENE SHEETING:

All polyethylene sheeting used on-site should be 6 mil and meet or exceed NFPA 701 standards for fire resistance.

PART 3 EXECUTION

3.1 PREPARATION:

A. Electrical Power: The Contractor should verify that the electrical power to the affected components is deactivated, disconnected, and locked-out.

B. Decontamination Procedures: All personnel involved with removal and/or handling of contaminated materials will comply with the following decontamination procedures:

1. Establish a change area where personnel will don or remove personal protection equipment (PPE);

2. Utilize assembly-line decontamination where used equipment/gear can be disposed into approved waste containers;

3. HEPA-vacuum the outside of work coveralls before leaving work area.

4. Remove disposable PPE materials and place in approved disposal bags for disposal with removed contaminated materials; and,

5. Proceed through decontamination stations and thoroughly clean hands and exposed surfaces with soap, then rinse with clean water.

6. Prior to commencement of abatement, ***if applicable***, all salvageable personal belongings should be removed by the Contractor from the work area to a temporary location for cleaning. For non-porous surfaces (e.g., plastic, glass, metal), and semi-porous surfaces (e.g. wood), the surfaces should be cleaned with an appropriate detergent agent. For porous surfaces that show no visible contamination or water damage, the surfaces should be cleaned with a vacuum equipped with High Efficiency Particulate (HEPA) filtration.

3.2 WORKER PROTECTION – Approved Work Plan procedures:

A. All personnel entering the work area should sign a daily log and put on clean protective clothing.

B. Basic protective clothing should consist of coveralls, head and boot covers, gloves, hard hats, safety glasses or goggles, and respirators.

C. Contaminated material disposal: Six (6) mil. Plastic wrapping and tape, or comparable bagging materials should be used for disposal of contaminated components.

3.2.1 SETTING UP CONTAINMENT & REMOVAL OF CONTAMINATED MATERIALS:

A. The Contractor should ensure that workers performing the tasks below are wearing approved coveralls, head and boot covers, gloves, respirators and hard hats.

B. Pre-demolition preparations:

1. Isolate the work area: Seal the area from adjacent occupied spaces and HVAC system equipment using fire-resistant plastic sheeting and duct tape; and **seal air vents, if applicable, with plastic sheeting and duct tape**.

2. Place plastic sheeting below work areas to collected debris and settled dust.

C. Remove and bag or wrap all contaminated materials and store in work area in preparation for disposal.

D. Rose Environmental recommends removing GWB and affected insulation to the designated height, and at least one foot beyond the last visible extent of mold and water damage when cavity-side surfaces are revealed during demolition of affected wall assemblies.

E. Where feasible, removal and replacement of visibly moldy paper-faced gypsum board is still the ***preferred*** remedial method. However, where removal and replacement are not feasible due to construction or building code restraints, Rose Environmental recommends the following **remediation-in-place** procedure:

- Affected areas must be dried to background conditions and moisture content verified prior to application of the following steps.

- Visibly moldy areas shall be damp-wiped clean and vacuumed with a HEPA-filtered vacuum.

- Application of a fungistatic primer shall cover all visibly moldy areas. Acceptable primers include Zinsser Perma-White, Fosters 42-42, or Sherwin-Williams Harmony Primer.

- A final inspection for dryness and completeness will be conducted following remediation and primer application.

3.4 CLEANING OF WORK AREAS AND ADJACENT AREAS

Once all necessary materials have been removed from the containment work areas, the Contractor shall thoroughly clean **horizontal and vertical surfaces** to remove all settled dusts from horizontal and vertical surfaces using damp-wiping and HEPA-filtered vacuuming.

Additionally, all surfaces within 10 feet of the containment work areas shall bee cleaned.;

Use a brush attachment on the vacuum cleaner when cleaning semiporous and porous surfaces (to dislodge spores that may be trapped in surface pores. If vacuum cleaning does not remove dusts adequately, consider wiping surfaces with a slightly damp cloth.

Cleaning of work areas shall proceed from top to bottom. Damp-wipe cloths shall be changed frequently to minimize redeposition of contaminants. All used cloths shall be double bagged in 6-mil polyethylene bags for removal.

Small amounts of mild, low-odor detergents (such as Formula 409, Simple Green) may be used for cleaning. Biocides, including bleach, fungicides, encapsulants, sealants, are

not allowed without discussion and approval by Rose Environmental.

3.5 CONSTRUCTION OVERSIGHT

Rose Environmental may conduct periodic contractor oversight to ensure adherence to this protocol (if requested by owner).

3.6 POST ABATEMENT MONITORING

A. The Contractor should conduct a visual inspection to verify the completion of removal and clean up.

B. Rose Environmental will conduct final visual inspection and post abatement monitoring, if requested by owner.

C. Once post-abatement monitoring results meet the clearance criteria then all seals, barriers, barricades, and decontamination areas should be dismantled and removed.

D. Work area containments and/or critical barriers should not be removed until post abatement results are reviewed and accepted by Rose Environmental.

3.7 RESTORATION OF WORK AREA

Upon completion, remove and dispose of all plastic sheeting materials with care as to not recontaminate the area with the contaminate materials.