


ADDENDUM TO THE CONTRACT DOCUMENTS

	ADDENDUM NO. 001
	Project: Solano Community College District Building 1600 Modernization Project Project Number: 25-009
	Date: July 2, 2024

Addendum No. 001 – The following clarifications are provided and must be added/considered when completing your bid: Acknowledgement of receipt of this **Addendum No. 001**, is required on the Bid Form. Please clearly note the addendum date and number.

ITEM NO. 1 – GENERAL INFORMATION

1.1. PROJECT MANUAL – 00 01 20 LIST OF SCHEDULES

- Replace previously issued specification section 00 01 20 List of Schedules in its entirety with updated specification section 00 01 20 List of Schedules (Addendum 001), attached to this addendum.

1.2. PROJECT MANUAL – 00 11 16 NOTICE TO BIDDERS

- Replace previously issued specification section 00 11 16 Notice to Bidders in its entirety with updated specification section 00 11 16 Notice to Bidders (Addendum 001), attached to this addendum.

1.3. TECHNICAL SPECIFICATIONS

- Hazardous Materials Specifications, PMP Environmental Consulting, Inc.

ITEM NO. 2 – DRAWINGS

- 2.1. None.**

ITEM NO. 3 – RESPONSES TO QUESTIONS SUBMITTED

3.1. Question No. 01

Question: [Contractor] not being union does that mean we just hire Labor from the Union will that satisfy the PLA?

Response: See attached Project Labor Agreement Guidelines document.

3.2. Question No. 02

Question: The SLDBE Good Faith Efforts state that we are to request assistance from community organizations, SLDBE contractor groups; veterans groups, local, state and federal disadvantaged business assistance officers; and/or other organizations that provide assistance in the recruitment and placement of SLDBEs as they are available. Could you please provide some names and contact information for any of the above as a starting point for the general contractors bidding on this project?

Response: In our experience contractors typically advertise on platforms that target SLDBE entities. The exact approach contractors take to meet the SLDBE goals are up to the contactors.

3.3. Question No. 03

Question: The Instructions to Bidders Item 10 notes that SLDBE Specification Section 00 45 20 is required to be submitted with the bid. This spec section 00 45 20 includes multiple items:

a.) Small, Local and Diverse Business Program (SLDBE) Description DOCUMENT 00 45 20-1 – 00 45 20-3.

Do you require that a print out of these pages be included with our bid even though they are not forms?

Response: No.

3.4. Question No. 04

Question: The Instructions to Bidders Item 10 notes that SLDBE Specification Section 00 45 20 is required to be submitted with the bid. This spec section 00 45 20 includes multiple items:

b.) SLDBE Information Bid Form Page 1 & 2

There are 2 bid forms and 2 sub lists required with the bid. That is a lot of duplicated information to collect and input and ensure that all is correct and the best / lowest price for the District.

Would the District consider allowing all general contractors to submit the SLDBE Information Bid Form Page 1 and 2 within 2 business days after the bid? The later submittal will ensure that the District gets the maximum participation of SLDBEs by General Contractors.

If not, would the District at least consider allowing page 2 of the SLDBE Information Bid Form to be submitted within 2 business days after the bid?

Page 2 requires addresses, phone numbers, license numbers, email addresses, etc. of subcontractors and this is in addition to the designated subcontractor list that is also being provided.

Response: Contractor must submit the "SLDBE Information Bid Form", pages 00 45 20-4 & 00 45 20-5" **OR** the "Good Faith Effort (GFE) Checklist Sheet", pages 00 45 20-6 & 00 45 20-7 with their bid. One of these two forms must be submitted with the contractors bid and must be completely filled out. Which form is submitted depends on the Contractors ability to meet the 20% SLDBE goal.

3.5. Question No. 05

Question: The Instructions to Bidders Item 10 notes that SLDBE Specification Section 00 45 20 is required to be submitted with the bid. This spec section 00 45 20 includes multiple items:

c.) GFE Checklist Sheet Page 1 & 2

We have not comments or questions regarding this form due with the bid.

Response: Understood.

3.6. Question No. 06

Question: The Instructions to Bidders Item 10 notes that SLDBE Specification Section 00 45 20 is required to be submitted with the bid. This spec section 00 45 20 includes multiple items:

d.) SLDBE Program Contract Participation Tracking Quarterly Form.

Do require this quarterly form to be included with our bid even though it is really a quarterly form to be submitted after award?

Response: Page 00 45 20-8, SLDB Program Contract Participation Tracking – Quarterly form does not get submitted with Bid.

3.7. Question No. 07

Question: The Instructions to Bidders Item 10 notes that SLDBE Specification Section 00 45 20 is required to be submitted with the bid. This spec section 00 45 20 includes multiple items:

e.) Blank Last page of the section (Document 00 45 20-9)

Do you require a print out of this page of the spec section to be included with the bid?

Response: No.

3.8. Question No. 08

Question: The insurance requirements in the general conditions state that earthquake and flood are part of the builders risk coverages required.

Could you please confirm that this is correct and not just boilerplate language?

Also, please state if the builders risk is to cover only the renovation work to Building 1600 or if you require coverage to replace the entire building in the case of an earthquake or flood. The wording in the Builders Risk section could be interpreted both ways, and we want to make sure we include the cost for the coverage you want.

If you require that we provide BR coverage to replace the entire Building 1600, please provide the replacement cost on which our insurance agent/carrier should base the quote. By the District providing the replacement cost – all general contractors will be using the same amount to get Builders Risk (BR) insurance quotes to replace the building (if required).

Response: *This is not boilerplate language. Coverage is for the renovation work and not for the entire building.*

3.9. Question No. 09

Question: Specification Section 01 32 13 Scheduling of Work – states in several areas of this section that a cost and resource loaded schedule is required for this project. We feel that this requirement for a project of this size is an unnecessary, added cost. Could you remove the requirement for a cost and resource loaded schedule for this project?

Response: *A cost and resource loaded schedule is not required for this project.*

3.10. Question No. 10

Question: Please advise if a hazardous materials report is available for the project.

Response: *Hazardous Materials Report attached.*

3.11. Question No. 11

Question: Under Division 02 – Section 024119 - Selective Demolition states, “Hazardous Materials: Present in buildings and structures to be selectively demolished. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.”

No report can be found in the specifications, project manual, or project documents. Please provide direction on how to obtain copy of said report(s) and or provide a location if being overlooked in project files.

Response: *Hazardous Materials Report attached.*

3.12. Question No. 12

Question: It seems that July 18 is an extremely busy bidding date for several projects. Is there in chance the bid date for this project will be extended?

Response: *See updated dates in attachments. Due date extended to July 25th, 2024 by 2:00pm.*

DOCUMENT 00 01 20

LIST OF SCHEDULES

BID PHASE SCHEDULE

- Non-Mandatory Pre-Bid Conference: Thursday, June 13th, 2024, 1:00 pm.
 - **Interested Parties need to register through the following link.**
[REGISTER HERE]
<https://events.teams.microsoft.com/event/1e225f03-6111-4a9e-80c6-d04fff55a4c0@dc5d168e-14e5-44b1-99ae-b7984aa29306>
- **Mandatory** Job Walk: Tuesday, June 18th, 2024, 11:00am.
 - Meeting location will be Building 1600 on the Fairfield Campus (Project Site).
- Last date to submit questions to Noe.Ramos@Solano.edu : By Wednesday, July 3rd, 2024, 2:00pm.
- Last addendum will be issued: ~~By Wednesday, July 10th, 2024, 2:00pm.~~ **By Wednesday, July 12th, 2024, 2:00pm.**
- **BIDS DUE: ~~By Thursday, July 18th, 2024, 2:00pm.~~ **By Thursday, July 25th, 2024 by 2:00pm.****
- **Mandatory Post Bid Interview: ~~Friday, July 19th, 2024, Time TBD.~~ **Friday, July 19th, 2024, Time TBD.****
- Solano Community College Board of Trustees Approval: Wednesday, August 7th, 2024
- Notice of Award: Anticipated by Thursday, August 8th, 2024.
- Notice to Proceed: Anticipated by Monday, August 26th, 2024.

CONSTRUCTION SCHEDULE

- **Overall Project Duration:** August 26, 2024 – May 30th, 2024
 - Owner Move-Out: Complete by August 26th, 2024.
 - Owner Move-In: Starting June 2nd, 2025.

END OF DOCUMENT

DOCUMENT 00 11 16

NOTICE TO BIDDERS

1. Notice is hereby given that the governing board ("Board") of the **Solano Community College District** ("District") will receive sealed bids for the following project, Bid No. 25-009 ("Project" or "Contract"):

BUILDING 1600 MODERNIZATION PROJECT

2. The Project consists of:
 - a. All labor, materials, equipment, and supplies necessary for the completion of the entire scope of work as outlined in the contract documents. Includes all associated civil, architectural, structural, plumbing, mechanical, electrical and/or low voltage work as indicated in the Drawings and Specifications.
 - b. The scope of work includes, but is not limited to; modernization of existing cosmetology department, restroom modernization, accessibility upgrades, exterior canopy replacement and removal of mansard roof.
 - c. Contractor shall include safe-off of all utilities, including but not limited to all electrical, fire alarm, data, security, and plumbing as needed to complete the project scope.
 - d. The scope of this project is further defined in the Contract Documents. The Contractor will provide all security fencing, safety barriers, portable toilets, and debris bins per the Contract Specifications. Multiple relocations of site fencing/ safety barriers may be required for the completion of this project. All campus pedestrian access shall be maintained, and existing buildings shall remain functional during the duration of the project.
3. To bid on this Project, the Bidder is required to possess one or more of the following State of California contractor license(s):

B – General Building Contractor

The Bidder's license(s) must remain active and in good standing throughout the term of the Contract.

4. To bid on this Project, the Bidder is required to be registered as a public works contractor with the Department of Industrial Relations pursuant to the Labor Code.
5. Contract Documents will be available on or after June 5th, 2024, and may be viewed and/or downloaded from the District's website at;
<https://welcome.solano.edu/measureq/bidding-opportunities/>
6. **Sealed Bids will be received until 2:00 p.m., ~~July 18th, 2024~~ July 25th, 2024, at Solano Community College, 4000 Suisun Valley Road, Fairfield, California 94534**, at or after which time the bids will be opened and publicly read aloud. Any

bid that is submitted after this time shall be non-responsive and returned to the bidder. Any claim by a bidder of error in its bid must be made in compliance with section 5100, et seq. of the Public Contract Code.

If mailing, the District suggests delivery one day prior to bid date to allow for sufficient time for receiving, processing and delivery to the appropriate department.

It is each bidder's sole responsibility to ensure its bid is delivered timely and received at the location designated as specified. The District will not be responsible for errors in delivery, including not receiving bids via email under any circumstance. Any bid received at the designated location after the scheduled closing time for receipt of bids shall be returned to the bidder unopened.

Bidders choosing to mail bids shall send them to;

Attn: Noe Ramos, Kitchell
Building 300 Modernization Project – Bid Number 23-010
4000 Suisun Valley Road, Building 1102 (Kitchell Bond Office)
Fairfield, CA 94534

In-person Bid Opening will not be held, and instead will be live streamed over the internet. This will take place at approximately 2:10pm, on the bid due date. Potential bidders can view the live opening on the District's website on the following link:

<https://welcome.solano.edu/scc-bids/>

7. [RESERVED]
8. All bids shall be on the form provided by the District. Each bid must conform and be responsive to all pertinent Contract Documents, including, but not limited to, the Instructions to Bidders.
9. A bid bond by an admitted surety insurer on the form provided by the District, or a cashier's check or a certified check, drawn to the order of the Solano Community College District, in the amount of ten percent (10%) of the total bid price, shall accompany the Bid Form and Proposal, as a guarantee that the Bidder will, within seven (7) calendar days after the date of the Notice of Award, enter into a contract with the District for the performance of the services as stipulated in the bid.
10. **One Non-Mandatory Pre-Bid Conference (via Microsoft Teams) will be held on Thursday, June 13th, 2024, at 11:00 a.m. All interested parties must register to attend through the link below.**

[REGISTER HERE](#)

<https://events.teams.microsoft.com/event/1e225f03-6111-4a9e-80c6-d04fff55a4c0@dc5d168e-14e5-44b1-99ae-b7984aa29306>

(Copy and paste link above if issues with link)

One Mandatory Site Visit will be held on Tuesday, June 18th, 2024, at 11:00 a.m. Failure to attend or tardiness will render the bidder ineligible.

11. All pre-bid questions must be submitted in writing to the Project Manager, Noe Ramos, at Noe.Ramos@solano.edu. **Pre-Bid questions must be submitted on or before 2:00 p.m., Wednesday, July 3rd, 2024.**
12. The successful Bidder shall be required to furnish a 100% Performance Bond and a 100% Payment Bond if it is awarded the contract for the Work.
13. [RESERVED]
14. The successful Bidder may substitute securities for any monies withheld by the District to ensure performance under the Contract, in accordance with the provisions of section 22300 of the Public Contract Code.
15. The successful bidder will be expected to meet a twenty percent (20%) Small, Local and Diverse Business Enterprise Program (SLDBE) goal by listing their small, local, and diverse subcontractors and/or suppliers on the SLDBE Bid Form and submitting this with their bid. Contractors who fail to meet the twenty percent (20%) SLDBE goal must submit evidence of having made a Good Faith Effort to attempt to achieve the twenty percent (20%) SLDBE goal.
16. The successful bidder will be required to certify that it either meets the Disabled Veteran Business Enterprise ("DVBE") goal of three percent (3%) participation or made a good faith effort to solicit DVBE participation in this Contract if it is awarded the contract for the Work. Note that DVBE participation will count towards SLDBE Program Goal.
17. The Contractor and all Subcontractors under the Contractor shall pay all workers on all work performed pursuant to this Contract not less than the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work as determined by the Director of the Department of Industrial Relations, State of California, for the type of work performed and the locality in which the work is to be performed within the boundaries of the District, pursuant to section 1770, et seq. of the California Labor Code. Prevailing wage rates are also available from the District or on the Internet at: <<http://www.dir.ca.gov>>.
18. This Project is subject to labor compliance monitoring and enforcement by the Department of Industrial Relations pursuant to Labor Code section 1771.4 and subject to the requirements of Title 8 of the California Code of Regulations. The successful Bidder shall comply with all requirements of Division 2, Part 7, Chapter 1, Articles 1-5 of the Labor Code.
19. The District has entered into a Project Labor Agreement that is applicable to this Project. A copy of the Project Labor Agreement is included in the Bid Documents. The successful bidder and all subcontractors will be required to agree to be bound by the Project Labor Agreement.
20. The Contractor and all Subcontractors under the Contractor shall comply with applicable federal, State, and local requirements relating to COVID-19 or other public

health emergency/epidemic/pandemic including, if required, preparing, posting, and implementing a Social Distancing Protocol.

21. [RESERVED]
22. [RESERVED]
23. The District shall award the Contract, if it awards it at all, to the lowest responsive responsible bidder based on:
 - A. The Base Bid Amount plus all Alternates.
24. The Board reserves the right to reject any and all bids and/or waive any irregularity in any bid received. If the District awards the Contract, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (90) days after the date of the bid opening.

END OF DOCUMENT



Scope of Work

PROJECT NUMBER: 23-017

SITE ID: Solano Community College District – Building 1600
4000 Suisun Valley Road
Fairfield, California

CONTACT PERSONS: Owner Representative PMP, Inc.

Name: Noe Ramos Ms. Shannon Johanson
Kitchell CEM Senior Project Manager
c/o Solano CCD

Phone: (408) 334-7382 (916) 628-5124

SECTION I - BACKGROUND

Solano Community College will be performing a modernization project in Building 1600 tentatively scheduled for August 2024. The modernization scope includes but is not limited to site work including concrete columns, trellis, roofing, etc., removal of storefront in 1645, flooring, demolition of walls, ceilings, fixtures, etc. in restrooms, interior walls and ceiling, suspended ceiling, mechanical system, lighting, and other building improvements and upgrades listed in project plans and specifications. As part of this modernization, asbestos, lead, and other hazardous materials will be impacted. The abatement of asbestos and lead containing materials will be performed by a licensed abatement/remediation contractor. The abatement contractor's onsite supervisor must always have a copy of these specifications onsite. It is required that the supervisor read these specifications prior to arriving onsite to assure they understand the requirements set forth to protect onsite staff, students, workers, and the environment.

These specifications provide a detailed list of conditions the Contractor must meet including project submittals, training, medical evaluations, licensing, insurance, work practices, communications, and other requirements. Attached to these specifications are building survey reports. These reports help clarify the project scope and include tables with detailed descriptions of building materials, locations, estimated quantities, laboratory analyses, regulatory categorization (ACM, ACCM, RACM, Category 1 Non-Friable, Category 2 Non-Friable) and material location diagrams.

SECTION II - MATERIALS & LOCATIONS OF ABATEMENT WORK

Location of materials are generalized in this table. Contractors shall refer to PMP, Inc.'s survey report (attached to these specifications) and the project drawings provided by Aedis Architects for work to be completed. The measurements listed in the survey report are estimated. The abatement contractor is responsible for quantifying all removal footage.



2.1 ASBESTOS

Sample ID	Material	Asbestos Content	EPA Category	Approximate Square Footage
01A-E	Drywall w/Wallpaper Covering w/Joint Compound	2% Chrysotile Joint Compound 2% Chrysotile (Texture)	RACM	Unknown
02A-G	Drywall- Smooth	2% Chrysotile Joint Compound	RACM	Unknown
03A-C	2'x4' False Ceiling Panels-Old Fissure Pattern	4% Chrysotile	RACM	9,000 SF
08A-B	9" VFT Green w/Brown Streaks & Black Mastic	<1% Chrysotile Tile 3% Chrysotile Mastic	CAT I	1200 SF
09A	9" VFT Brown w/Streaks & Black Mastic	3% Chrysotile Mastic	CAT II	5000 SF
10A-C	9" VFT-Beige & Black Mastic	<1% Chrysotile Tile 3% Chrysotile Mastic	CAT I	2000 SF
19A	Dark Gray Grout associate with Gray/Pink Tile	3% Chrysotile	RACM	100 SF
26A-C	Brown Window Frame Sealant-Interior	<1% Chrysotile	CAT II	500 LF
31A-B	Brown Window Putty-Exterior	<1% Chrysotile	CAT II	500 LF
32A-C	Brown Concrete Expansion Joint at Windows	2% Chrysotile	CAT II	50 LF
39A-D	Canvas Wrap TSI Pipewrap	3% Chrysotile	RACM	200 LF
40A-B	Brown Door Frame Sealant-Exterior	<1% Chrysotile	CAT II	250 LF
43A-C	Red Tile Seam Sealant	2% Chrysotile	CAT II	Unknown



2.2 LEAD RESULTS

The following paints may be disturbed without special regard to lead:

- Beige paint on drywall in Corridor
- Beige Paint on drywall in Office
- Green Paint on Metal Door Frame
- White Paint on drywall in Classroom
- White Paint on Metal Door Frame
- Beige Paint on Metal Door Frame/Door
- Beige Paint on drywall in Restroom
- Red Paint on Concrete-Exterior
- White/Light Gray Paint on Concrete-Exterior
- Gray Paint on Stucco/Concrete-Exterior
- White Paint on Concrete Exterior
- Red Paint on Concrete/Stucco
- Yellow Paint on Concrete/Stucco
- Orange Paint on Metal Roof Ladder
- White Paint on Metal Roof Flashing

All other paints and/or coatings found at this site contain a minimum of lead-containing levels.

SECTION III - DISPOSITION & STORAGE OF ITEMS IN AREA

The owner will remove most loose equipment and furniture in the abatement areas prior to the start of the project. All items removed by the abatement contractor must be either turned over to the owner (as noted or indicated in the plans) or disposed of by the abatement contractor.

SECTION IV - OCCUPANCY

None in the immediate area.

SECTION V - PRE-CLEANING

The abatement contractor may have light pre-cleaning of the work area prior to set-up.

SECTION VI – ELECTRICITY AND WATER

In coordination with the building owner shut down and disconnect all electrical power, gas, sewage, water, phone lines, fire life safety lines and sprinkler systems to the work area, as necessary, so that there is no possibility of reactivation and electrical shock.

Provide all connections for temporary utilities in the work area needed throughout abatement. Temporary electrical power shall be according to Cal/OSHA, OSHA, and the National Electrical Code for Wet Environments.

The contractor shall conform to the Owner's lockout requirements and always secure the work area. The Contractor, throughout the abatement phase, shall secure area entrances and exits.



Unauthorized visitors are strictly prohibited. The contractor shall ensure that all doors, gates, windows, and potential entrances to the work areas and the designated waste location areas are secured and locked at the end of each workday. It is the Contractor's responsibility to prevent unauthorized entries to the work area.

Long hoses and electrical cords may be required.

SECTION VII – SECURITY AND SAFETY

GFCI's shall be used on all electrical equipment.

The contractor shall store all materials, equipment, and supplies for the project in areas designated by the Owner.

Approved fire extinguishers (Class ABC, multi-purpose, dry chemical type, rated: 4A; 60BC) shall be readily available to workers (maximum travel distance of 50 feet) inside and adjacent to work area(s). Personnel and emergency exits shall be clearly indicated. The emergency exit plan shall be approved by the Owner and/or Environmental Consultant prior to the setup of any work areas.

The Contractor shall be responsible for identifying all HVAC components (if applicable) that lead into or out of the work areas. All components shall be disconnected and sealed airtight for the duration of the abatement work. All openings shall be sealed with two (2) layers of 6-mil polyethylene secured with duct tape, as applicable.

For roof removal work the Contractor shall provide worker safety according to all OSHA regulations (Title 8), including use of tie-offs, harnesses, and lanyards. Particular attention shall be given to the placement and security of accesses (ladders, etc.) to the roof and for fall protection for those working near the perimeter of the roof.

All ladders used for roof removal shall conform to Cal/OSHA requirements. The ladders shall extend at least three feet above the roof line and shall be tied off to the building to prevent them from sliding.

A copy of the contractor's safety meeting notes shall be given to the on-site PMP, Inc. project manager. Safety meetings shall be held at least once a week.

SECTION VIII – CONTAINMENT SETUP AND DECONTAMINATION

8.1 Asbestos Containment/Decontamination-Interior

Containment must have a three-stage decontamination chamber with an operational shower installed. Each stage of this decon must have z-flaps between itself and the adjoining stage(s) with a lip of at least 4" to prevent the transfer of waste from chamber to chamber.



Showers chambers and equipment washing chambers must be equipped with catch pans of sufficient size to capture and hold water which overflows from showering and washing activities. The "dirty" chamber shall have an extra layer of 6-mil polyethylene sheeting on the floor as a "drop cloth" and it shall be replaced at least once daily.

Showers and washing stations must also be equipped with a filtering system that includes a 0.5-micron filter. If the filtering system is not available or is not functioning correctly, shower water must be bagged and disposed of as asbestos-containing waste.

Abatement and remediation work will be stopped if decon is not kept in acceptable condition.

Storage or consumption of food and/or beverages shall not be permitted inside the containment or within any of the decontamination chambers. Food or drink consumption within containment or decon chambers will result in the abatement worker(s) dismissal from the site for the duration of the project.

As necessary, Contractor shall seal operable windows and other penetrations in the work area with two layers of 6-mil polyethylene sealed with tape.

Contractor shall construct airtight negative pressure containment(s) for the removal of all interior materials. If friable material or RACM is generated during work activities, Contractor must segregate this material from any non-regulated ACM that are removed and must package and label them accordingly. Negative pressure shall be continuously maintained at a minimum differential of -0.03 column inches of water for the duration of abatement and cleaning activities and until clearance has been achieved. In addition to negative pressure, the work area shall be engineered to have a minimum of 4 air exchanges per hour with sufficient air mixing inside the containment to eliminate dead-air spaces. The contractor shall submit a worksheet identifying the air change calculations for each contained work area. The worksheet shall identify the containment area volume and the identification number and capacity of each portable AHU to be used. The Contractor shall use the following calculation to determine the capacity for each unit and number of units needed for each containment:

The contractor shall provide easily accessible viewing ports from the clean space into each abatement area. Viewing ports must be a minimum of 2' x 2', clear-see-through plastic with no scratches, tape, or glue marks.

Pressure differential recorders with strip or circular charts are required to monitor the pressure differential of each work area. The recorders must be calibrated prior to arriving on site and shall be periodically recalibrated throughout the project.

The work area(s) shall be placed under negative pressure as outlined in this specification and throughout the abatement work period. If a containment area is breached (failure of polyethylene seals, visible dust emission, etc.), the Contractor shall take immediate action to control the breach and clean the area to the satisfaction of the Environmental Consultant.



Clearance for any contaminated areas will be determined by the Environmental Consultant and may include air sampling.

The Contractor shall be responsible for all costs associated with the clean-up and testing (including costs associated with the Environmental Consultant) resulting from containment breaches.

Containment/Decontamination – Exterior Roof

Any disturbance to the red concrete roof tile (asbestos containing sealant) or black coating on metal flashing (contains PCBs) will require abatement and should follow the following containment/decontamination procedures.

The work shall be coordinated and scheduled when there are favorable weather conditions, such as, performing the abatement work when the forecast is for "clear skies" and no rain for three or more consecutive days. The Contractor shall remove only that amount of roofing material which can be reroofed or covered and secured from the weather.

The Contractor shall seal all air intakes associated with the HVAC units which are on or near the roof under abatement, and at adjacent HVAC units, particularly downwind from roofing removal activity. In addition, all louvers, window mounted fan systems, attic openings, etc., shall be sealed as critical barriers. The Contractor is responsible for sealing all HVAC openings as critical barriers using one layer of 6 mil poly. These critical barriers shall be installed at the beginning of each shift and removed at the end of each shift prior to reuse by the Owner. If the building will not be reoccupied daily, the barriers may stay in place.

The perimeter of the roof where removal is to be conducted shall be posted with barrier tape at a distance of at least 20 feet from the edge of the removal area. This barrier tape will provide a buffer zone and assist in the restriction of non-abatement personnel.

Poly sheeting shall be placed on the ground directly below the work area or on the adjacent roof surfaces and cover an area extending out at least 10 feet. The Contractor shall secure the poly to the ground using tape, weights, or other means to secure the poly from being picked up by wind or becoming a trip hazard. The Contractor shall secure the poly to the adjacent roof surfaces with tape, etc.

8.2 Lead Containment/Decontamination

1. For interior work site preparation, one layer of 6-mil poly sheeting must be placed on the entire floor of the work area. The poly sheeting must be secured to the floor using tape so there is no gap between the floor and the wall. If individual rooms are being worked in, seal all doorways with an airlock flap to prevent contamination of other areas of the building. Post lead warning signs at the building exterior near main entry and all secondary entryways. All ventilation systems are to be turned off and the supply and return registers sealed with poly sheeting. If furniture or other equipment are to remain in place, cover with a single layer of poly sheeting.



All cleanup of the work area shall be performed using a HEPA vacuum and wet washing techniques.

2. For exterior paint stabilization use barrier tape at a 20-foot perimeter around the working surfaces to prevent other people from entering the work area. Post Lead Warning Signs at the 20-foot perimeter. Barriers may be less than 20 feet from work area when walls provide protection from entry by unauthorized personnel. Place one layer of 6-mil poly sheeting on the entire floor of the work area. The poly sheeting must be secured to the floor using tape so there is no gap between the floor and the wall.
3. A decontamination area shall be placed adjacent to the work area, but outside of the regulated area. The decontamination area will be constructed of one layer of 6-mil poly and shall include water, soap, and towels plus a tacky pad for footwear decontamination to allow workers to properly decontaminate.

SECTION IX - REGULATED AREA ENTRY POINTS AND WASTE CONTAINER PERIMETERS

1. Regulated Area Entry Points and Waste Container Perimeters shall be posted as follows:

**DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE
REQUIRED IN THIS AREA**

**CAUTION
LEAD HAZARD
DO NOT ENTER WORK AREA
UNLESS AUTHORIZED**

These postings are required to warn non-remediation personnel of the restricted access, and potential hazard which exists in the vicinity of the regulated areas and waste bin(s).

9.1 Waste Containers for Non-Hazardous Asbestos Containing Materials

1. Waste material containers, including the "burrito wrapped" material, shall have warning labels affixed.

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**



SECTION X – CHALLENGE TESTING (DOP TESTING)

On-site DOP testing shall be required on all equipment using HEPA filters, and certificates shall be provided to the on-site PMP, Inc. project manager.

All equipment shall arrive at the project site visually clean. Units arriving dirty or contaminated shall be removed from the project site until corrections can be made.

SECTION XI - NEGATIVE AIR

The contractor shall ensure that sufficient negative air units are used to create a minimum negative pressure of -0.03 inches until clearance air has been achieved. All negative air machines shall remain sealed when not functioning.

SECTION XII - NOTIFICATIONS

The Abatement Contractor must notify Cal/OSHA at least twenty-four hours in advance of disturbing asbestos on this project.

The Abatement Contractor shall notify the Bay Area Air Quality Management District (BAAQMD) at least 10-working days in advance of disturbing Regulated Asbestos-containing Material (RACM) on this project. The Abatement Contractor is responsible for the submittal of this notice and all costs associated with this submittal. The Abatement Contractor shall ensure that the submittal information is on time and accurate and stays accurate. All costs and penalties for providing false, incorrect, or untimely information shall be the sole responsibility of the contractor.

The contractor must coordinate with the Owner and the Project Monitor at least one week before starting work. Exact work start times must be communicated to the Project Monitor at least twenty-four hours prior to the start of work or the work will not be allowed to proceed. The Project Monitor and Owner have final authority in determining whether to allow the Abatement Contractor to proceed with the work.

SECTION XIII - TRAINING REQUIREMENTS

13.1 Asbestos

All asbestos work will need to be conducted by US EPA AHERA trained Supervisors and Workers.

13.2 Lead

The lead-based paints and/or coatings should only be handled by CDPH trained workers using lead-safe work practices.

The paints and/or coatings listed as lead containing can be impacted by workers with a minimum 8-hours of lead training specific to the task at hand, using lead-safe work practices.

Workers are required to have a current Blood Lead Level (BLL) test results performed within the previous twelve months.



All workers must have valid medical clearance and fit tests.

Copies of all worker documents must be presented to the onsite representative prior to the start of work.

SECTION XIV - WORKER PROTECTION

Worker protection shall be in accordance with current Cal/OSHA regulations; however, at a minimum, all workers shall wear half-face negative pressure respirators with P100 (HEPA) cartridges.

Tyvek suits or equivalent will be worn for all work impacting asbestos, lead, and other hazardous materials.

Workers shall always wear safety glasses and gloves. If gloves or glasses are to be re-used, they shall be HEPA-vacuumed clean. Nitrile gloves shall be worn during PCB removal.

Street clothes may be worn below tyvek suits for non-friable removal, but clothing will need to be HEPA-vacuumed clean if suits become ripped or torn during work.

SECTION XV - ABATEMENT METHOD

The contractor shall refer to the attached PMP, Inc. General Requirements for setup and abatement requirements for specific materials.

In all areas where drywall is removed - contractor is to cut a straight and level line where horizontal edges of remaining drywall are left. All vertical edges of remaining drywall must be cut in a straight line and centered on a stud to facilitate patch back attachment of new drywall.

Composite sampling, which may potentially reduce the total asbestos content of the material, is only permitted when sampling joint compound, tape, and gypsum wallboard according to EPA's Asbestos NESHAP Clarification Regarding Analysis of Multi-Layered Systems (40 CFR Part 61 FRL-4821-7). For the purposes of this project, all drywall is considered RACM. Point count samples were not collected for the smooth textured drywall and the drywall with wallpaper covering has asbestos found in the texture coat any may not be point counted per regulations.

If the abatement contractor decides to use mechanical methods of removal for either the vinyl asbestos tiles or mastic the materials will need to be disposed of as RACM.

During removal activities, the Contractor shall protect against contamination of soil, water, plant life, and adjacent building areas, and shall ensure that there is no airborne release of hazardous materials and dusts. The Owner may collect air samples in the building and in adjacent areas to evaluate the Contractor's performance. Evidence of airborne levels of contaminants above background will require the implementation of additional controls at no increase to contract price.

The Contractor shall continuously apply wetting agent throughout the removal process. The wetting agent shall be applied with a low-pressure fine spray to minimize fiber release. The materials shall be thoroughly saturated so that there is no detectable fiber release.



All ACM shall be immediately packaged, sufficiently wet to prevent the release of fibers, in leak-tight containers following removal.

Minimize removal activities of ACMs that generate airborne particulate. To the extent feasible, use manual methods to remove ACMs in sections or substantially intact, wetting along the scoring line continually and misting the air with a liquid sprayer to knock down suspended particulate.

SECTION XVI - PERSONAL AIR SAMPLING

The contractor shall collect personal air samples on workers performing various removal activities during this project. This sampling shall be in accordance with Cal/OSHA regulations found in Title 8 Section 1532.1 and 1529. Contractor is responsible for providing personal air sample results for this project within 72 hours of sample collection.

SECTION XVII - CLEARANCE AIR SAMPLES

One set of AHERA clearance air samples shall be collected from each containment and analyzed in accordance with AHERA protocols prior to work by other contractors.

SECTION XVIII - DUMPSTERS

The construction dumpsters will be placed inside the construction fencing. The exact location will be determined or discussed at a pre-construction meeting.

Dumpsters will need to be placed on plywood to help prevent damage to concrete.

SECTION XIX - ASBESTOS DISPOSAL

All waste bags shall have visibly damp materials but shall not contain loose water. In the event loose water is discovered within a waste bag, it shall be absorbed with kitty litter, saw dust or similar product prior to the bag being sealed. If opening and re-sealing of bag is required, all work shall be performed inside the negative pressure containment.

All waste shall be double bagged in 6-mil polyethylene bags and sealed in a “gooseneck” fashion.

All drywall and 2’x4’ false ceiling panels (old), dark gray grout associate with gray/pink tile, and canvas wrap thermal system insulation (TSI) are considered friable materials and will need to be disposed of as a hazardous asbestos waste.

All 9” vinyl floor tiles, black mastic, brown window frame sealant, brown window putty, brown concrete expansion joint sealant, brown door frame sealant, red tile seam sealant and transite are classified as a CAT I or CAT II non friable materials. These materials will be disposed of as non-friable asbestos containing waste. If any of the materials listed above are rendered friable during removal, they will need to be disposed of as hazardous asbestos waste.



Contractor shall provide stick-on labels for bags that meet the Cal/OSHA, NESHAP, and DTSC requirements for hazardous and non-hazardous waste container labeling.

All asbestos waste, hazardous or not, shall be manifested. Non-hazardous waste shall be manifested on a non-hazardous waste manifest.

Ensure that polyethylene bags are evacuated of excess air using a HEPA vacuum and sealed airtight. The exterior of all waste bags and/or containers shall be damp, wipe cleaned, and HEPA vacuumed prior to removing them from the equipment decontamination unit.

Ensure all disposal containers are properly labeled according to 8 CCR 1529, 5194 (HAZCOM), 49 CFR 171-179 (USDOT), 40 CFR 61 Subpart M (NESHAP), and any local regulations and state regulations as required by this specification.

SECTION XX – LEAD, HEAVY METALS, ETC. DISPOSAL

The contractor is responsible for characterizing all waste streams prior to disposal. PMP, Inc. will need to receive results 24 hours prior to the waste leaving the site.

The contractor shall notify the district at least 24 hours in advance of when the manifest must be signed. Under no circumstances will the contractor sign the manifest on behalf of the district.

SECTION XXI – BULK PCB, PCB BALLAST, AND MERCURY LIGHT TUBES

Polychlorinated biphenyl (PCB's) was found in the Brown Window Frame Sealant-Interior, Tan Window Putty – Exterior, Brown Expansion Joint Sealant-Exterior, Brown Concrete Expansion Joint Sealant-Exterior, Black Coating on Roof Flashing, and Gray Door/Window Frame Sealant-Exterior. The levels range from 720 µg/kg to 130,000,000 µg/kg. PCBs were added as an unauthorized use into bulk materials such as sealants/caulking, paints/coatings, fiberglass, etc. between 1950 and 1979.

The PCB containing sealants/coatings shall be removed using hand tools such as utility knife, putty knife, scraper, ripping chisel, brush, hammer, and HEPA vacuum. All tools shall be cleaned with acetone or similar product after use.

All concrete, metal, drywall, and/or plaster shall be wiped down with acetone after PCB sealant removal.

Work practices shall comply with suggested approaches for the handling of PCBs as described on the EPA's website at <https://www.epa.gov/pcbs/polychlorinated-biphenyls-pcbs-building-materials#Information-Contractors> and summarized in the attached *Polychlorinated Biphenyls (PCBs) Summary of Tools and Methods for Caulk Removal*.

Materials that contained PCBs at levels below 50ppm at the time of installation are defined as excluded product and are not subject to the requirements of 40CFR761. These materials still must be handled and disposed of properly in a facility permitted to receive PCB contaminated waste above 1 ppm.



Any material containing more than 50 ppm of PCB's outside of electrical transformers are considered an unauthorized use and must be removed, sealed in leak-tight containers, and disposed of as a hazardous waste. These materials are commonly referred to as bulk product wastes (BPW). Substrates in contact with these BPWs may also need to be cleaned or disposed of as PCB-containing remediation wastes.

The US EPA has prepared a memorandum titled *PCB Bulk Product Waste Reinterpretation* dated October 24, 2012. This letter allows a building owner that has bulk product wastes to dispose of the impacted substrate to be managed and disposed of as bulk product waste.

All disposal of PCB's should meet the EPA requirement under 40 CFR part 761. All PCB waste must have a waste profile/characterization completed prior to disposal.

If sampling shows PCB concentrations of >50 PPM all waste will need to be disposed of at a hazardous waste landfill permitted by the EPA under section 3004 of RCRA or by the state authorized under section 3006 of RCRA, or a PCB disposal facility approved under this part.

The contractor must dismantle every light fixture to ensure that it does not contain PCB ballast.

All PCB ballast and mercury light tubes must be recycled or disposed of as a universal waste. See the Other Hazardous Materials Requirements for additional information on handling and disposal.

SECTION XXII - FREON

Any freon that will be impacted by the upcoming renovation must be evacuated/captured and recycled by a certified refrigerant recycler per 40 CFR 273.13 (d) (2).

SECTION XXIII - RADIOACTIVE SOURCES

Radioactive tritium containing exit signs, smoke alarms, etc. shall be handled and disposed of properly according to local, state, and federal regulations.

XXIV - PRE-SITE VISITS AND MEETINGS

It's recommended that contractors bidding on this project attend the pre-bid site visit to measure areas/materials, as contractor is responsible for their own measurements, and determine if factors not addressed in these Specifications may affect their work or price estimates.

SECTION XXV - SILICA

As part of this project, stucco, drywall, and concrete will all be disturbed or removed. Contractors must handle all cementitious materials in accordance with Cal/OSHA regulation 8 CCR 1530.1, which requires workers to either wear suits and respirators while handling such materials or to collect personal air samples on workers creating a negative exposure assessment (NEA) proving the protective suits and respirators are not necessary.



SECTION XXVI - SUBMITTALS

Section 2.31 includes all required submittals including pre-bid submittals, pre-work submittals, submittals provided during the project, and post submittals required at the end of the project before the project will be deemed fully complete and final payment will be made.

The Abatement Contractor must review the submittal list prior to bidding on this project. There may be more, or different submittals required for this project than expected by the Contractor.

The Contractor will not be allowed to begin work until the submittal package has been approved by the Project Monitor. The Contractor will be held responsible for all delays resulting from the failure to provide the required submittals in the time frame stated in this specification.

XXVII - LIQUIDATED DAMAGES

Per District's requirements.

Attachments: General Requirements for Asbestos
General Requirements for Lead
Other Hazardous Materials

Written by: Shannon Johanson

Date: December 28, 2023



Asbestos General Requirements

GENERAL REQUIREMENTS FOR ASBESTOS

SECTION 1. DEFINITIONS

Abatement - Procedures beyond a special operations and maintenance program to control fiber release from asbestos-containing materials. Includes removal, encapsulation, enclosure, repair.

ACGIH - American Conference of Governmental Industrial Hygienists

AHERA - Asbestos Hazard Emergency Response Act (40 CFR 763)

AIHA - American Industrial Hygiene Association

Air Filtration Device - A portable exhaust system equipped with HEPA filtration and capable of maintaining a constant low velocity air flow into contaminated areas from adjacent uncontaminated areas. At a minimum, the air intake for the air filtration device, must have a pre-filter on it which can be changed within the containment area.

Airlock - A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area. The airlock shall consist of a minimum of two curtained Z-flap doorways separated by a distance of at least three (3) feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.

Air Monitoring - The process of measuring the fiber content of a known volume of air collected during a specific period of time. The procedure normally utilized for asbestos follows the NIOSH Standard Analytical Method for Asbestos in Air Method 7400. For clearance air monitoring, transmission electron microscopy methods may be utilized for detection of smaller fibers and specific fiber identification.

Air Sampling Professional - The professional contracted or employed by the Owner to supervise and/or conduct air monitoring and analysis schemes. The air sampling professional must be a Cal/OSHA Certified Asbestos Consultant or Certified Site Surveillance Technician. This individual shall not be affiliated in any way other with the contractor performing the abatement work.

Ambient Air - The air outside buildings and structures or the air as it normally exists in a space prior to abatement.

Amended Water - Water to which a surfactant has been added.

ANSI - American National Standards Institute

Approval/Acceptance - A written means of approving/accepting a product, containment set-up, work practice. Approval/Acceptance by PMP, Inc. Project Manager may be given verbally, if followed in written format. Failure of PMP, Inc. Project Manager to address an issue either verbally or in writing does not imply Approval/Acceptance.

Asbestos - Means the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite grunerite (amosite), anthophyllite, actinolite, and tremolite.

Asbestos-Containing Construction Material (ACCM) - Cal/OSHA term used to describe construction

materials that contain asbestos in amounts greater than one-tenth of one percent (0.1%) either alone or mixed with fibrous or non-fibrous materials.

Asbestos-Containing Material (ACM) - Term used by Cal/OSHA, and U.S. EPA to include any material containing more than one percent (1%) asbestos. Except for waste issues, for the purposes of this contract the terms ACM and ACCM shall be interchangeable.

Asbestos-Containing Hazardous Waste - Materials defined by the State of California to be packaged, labeled, transported, and disposed of as an asbestos hazardous waste. This includes all friable asbestos-containing material over one percent (1%) asbestos. This also includes all asbestos-containing material containing less than one-percent asbestos for which one or more bulk samples have not been point counted and found to contain less than one percent (1%) asbestos.

Asbestos-Containing Waste Material - Asbestos-containing material or asbestos-contaminated objects requiring disposal.

Asbestos Project Manager - An individual who is qualified by virtue of experience and education, designated as the Owner's representative and responsible for overseeing the asbestos abatement portion of the project. This person is generally the same as the PMP, Inc. Project Manager.

ASTM - American Society for Testing and Materials

Authorized Visitor - The Owner (and any designated representative) and any representative of a regulatory or other agency having jurisdiction over the project.

Bidder - A duly licensed and accredited asbestos contractor who has submitted a bid. If bid walk is mandatory, bidder must attend the walk-in order for bid to be considered responsive.

Cal/OSHA - California Division of Occupational Safety and Health. Acronym of DOSH is interchangeable with this term.

Certified Industrial Hygienist (CIH) - An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.

Cleaning Barriers - Cleaning barriers are used in addition to critical barriers and are primarily to aid in the decontamination of the area after the completion of asbestos removal work. Cleaning barriers are normally comprised of plastic sheeting placed over non-asbestos-containing surfaces (e.g. walls, floors, ceilings, casework, etc.), and asbestos-containing surfaces not scheduled for removal, in the regulated area.

Clean Room - An uncontaminated area or room which is a part of the worker decontamination enclosure system with provisions for storage of workers' street clothes and clean protective equipment. Also, the term includes uncontaminated area or room of a Waste Transfer Airlock.

Competent Person - The Contractor's employee who meets the requirements of and is responsible for the activities of the Competent Person as described in Title 8 CCR 1529. The includes but is not limited to an individual who has current AHERA Contractor/Supervisor accreditation and has the responsibility and authority to ensure that the Contractor's employees comply with the contract documents and all relevant Cal/OSHA regulations.

Containment - The temporary isolation of the work area from the rest of the building to prevent escape of asbestos fibers.

Contractor - The Contractor is the person or entity identified as such in the Contract Documents; references to "Contractor" include the Contractor's authorized representative.

Contractor/Supervisor - A person who successfully completed an initial U.S. EPA and/or state-approved five-day AHERA-accreditation course and who has maintained that training through approved annual refresher training, and possesses current and valid AHERA-accreditation documentation as a AHERA-accredited Contractor/Supervisor

Cal/OSHA Class I, II, III, or IV Work- Work classes described in 8 CCR 1529 that describe different levels of asbestos work.

Critical Barrier - Critical Barriers used to restrict water and air flow. Critical Barriers are the barriers placed over openings in the walls and ceilings of a work area to ensure that airborne fibers cannot escape the work area via these openings. The Contractor will construct impermeable barriers at all exits or openings, including doorways, duct chases, mechanical shafts, elevator shafts, floor openings, drains, and the like, so that all possible exit or entrance routes are effectively barricaded and sealed. Unless otherwise specified in the Contract documents, critical barriers shall be constructed of at least one layer of 6-mil thick poly.

Critical Barrier Negative Pressure Test - Required test for negative pressure with only critical barriers and air filtration units installed. This test must be conducted prior to the installation of cleaning barriers but may be conducted with or without the decontamination unit in place.

Curtained Doorway, Z-Flapped - A device to allow ingress or egress from one room to another while permitting minimal air movement between spaces (such as the various rooms of the decontamination chamber). Each Curtained Doorway will consist of three sheets of poly. The first barrier will be a sheet of poly covering the entire passage and taped to the ceiling, walls, and floor. This sheet will be slit vertically in order for the workers to pass through it. Another sheet of poly will cover the first sheet but be taped only to the ceiling (or top of the first barrier) and down one wall. The third sheet of poly will be placed on the opposite side of the slit poly from the second sheet. The third sheet of poly will be attached in a similar manner as the second sheet except the wall attachment will be to the opposite wall. Each barrier must be weighted at the bottom in order to ensure that it will lay flat against the slit sheet opening should the negative pressure system fail. Please see diagram:

Other designs are permissible, if approved by the PMP, Inc. onsite project manager.

Decontamination Enclosure System - (Also known as Decon or Waste Transfer Decon) A series of connected rooms designed for the decontamination of workers and equipment that is separated from the work area and from each other by z-flapped curtained doorways. This unit shall be constructed with at least two layers of six-mil poly for the floors, walls, and ceiling. The floor of the dirty room shall consist of two layers of six-mil poly plus a third layer of poly, four-mil or thicker, to be used as a removable drop layer. Drop layer is to be removed as needed, but not less than daily. All decontamination enclosure systems used for worker entry and exit shall be equipped with a shower. At no time shall z-flaps of Decontaminations Enclosure System chambers be taped, held or otherwise blocked open.

DOP - Dioctyl phthalate particles which are normally used as an agent for testing the efficiency of HEPA filters.

Demolition - The wrecking or taking out of any load-supporting structural member, casework, items or surfaces of a facility together with any related handling operations and disposal.

Dust or Debris - Material visible to the PMP, Inc. Project Manager. Dust and debris may be contaminated with asbestos, and may affect the asbestos work practices, containment or clearance air samples required on this project, whether contaminated with asbestos or not.

Encapsulant, Bridging/Penetrating - A liquid material which can be applied to asbestos-containing material to control the possible release of asbestos fibers from a material either by creating a membrane over the surface (bridging encapsulant) or by penetrating the material and binding its components together (penetrating encapsulant).

Encapsulant, Lock-down - A liquid product designed to mist the air within a contained area after the containment has passed visual clearance by the PMP, Inc. Project Manager. Lock-down encapsulant is designed to bind asbestos fibers together and to create a tacky surface causing non-visible asbestos fibers, settling out of the air, to adhere to containment poly.

U.S. EPA - U.S. Environmental Protection Agency

Equipment Decontamination Enclosure System - That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment into or out of the work area, consisting of a clean room, washroom and holding area.

Equipment Room - A contaminated area or room which is part of the worker/equipment decontamination enclosure system with provisions for storage of contaminated clothing and equipment.

Exterior of Containment HEPA Filtered Pressure Differential Unit - An air-purifying unit positioned outside, rather than inside the regulated work area. The face, or filter portion of the unit is integrated within the work area, and the remainder of the unit (housing, wheels, rivets, control panel, etc.) is located outside of the work area. This allows filters on the air intake to be changed from within the regulated area but access to the machine itself is available to those outside the area. Pressure differential units which pass DOP testing across the HEPA filter, but fail at rivets, control panels, wheels, etc. may be used in this fashion as long as the failure point of the unit can remain on the exterior of containment while the face of the unit and filters are inside containment.

Facility - Any institutional, commercial, or industrial structure, installation, or building.

Facility Component - Any item (pipe, duct, boiler, tank, reactor, turbine, furnace, etc.) at or in a facility, any portion of a facility or any structural member in or at a facility.

Federal OSHA or OSHA - Federal Occupational Safety and Health Administration.

Fixed object - A piece of equipment or furniture in the work area which cannot be removed, or will not be removed by Owner's decision, from the work area.

Friable asbestos - Asbestos-containing material which, when dry, can be crumbled to dust by hand pressure.

Glovebag Technique - A method with limited applications for removing small amounts of friable asbestos-containing materials from ducts, short piping runs, valves, joints, elbows, and other non-

planar surfaces. The glovebag assembly is a manufactured or fabricated device consisting of a glovebag (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic), two inward projecting long sleeves, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The glovebag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all asbestos fibers released during the process. Glovebags must meet the specification requirements for glovebags as listed in 8 CCR 1529. All workers who are permitted to use the glovebag technique must be highly trained, experienced, and skilled in this method. All techniques and procedures employed by the contractor shall be approved by the PMP, Inc. Project Manager.

HVAC - Heating, ventilation, and air conditioning system.

HEPA Filter - A high efficiency particulate air filter capable of removing particles 0.3 microns in diameter from an air stream with 99.97% efficiency.

HEPA Vacuum - A vacuum system equipped with HEPA filtration.

PMP Project Manager - An individual, employed by (or subcontracted to) PMP Environmental Consulting, Inc., who is qualified by virtue of experience and education, designated as the Owner's representative and responsible for overseeing the asbestos abatement, and/or other activities.

Holding Area - A clean space where clean supplies and equipment are stored before being placed into containment. Also, a contaminated space, adjacent to a shower or equipment washing chamber, where dirty equipment or packaged waste is stored prior to removal from containment.

Lock-down - To mist the air and to wet surfaces with an agent designed to bind asbestos fibers together and to create a tacky surface causing non-visible asbestos fibers, settling out of the air, to adhere to containment poly.

Magnehelic Gauge - Instrument for measuring the static air-pressure differential across a barrier.

Manometer - See "Magnehelic gauge". This project requires at least one properly calibrated and fully functioning recording manometer.

Mil - An abbreviation for millimeter. Generally used when referring to the thickness of plastic (poly) sheeting used to contain the regulated area.

Mini-Enclosures - Mini-enclosures may be used where glovebag setups are not feasible. The use of them must be approved by the PMP, Inc. Project Manager. Mini-enclosures shall be constructed of six-mil polyethylene (attached with tape and/or glue to walls and floors) and shall be small enough for a maximum of two workers who can enter the enclosure one time, complete the abatement exercise, pass out the containerized debris and exit. The workers shall have available a change room contiguous to the work area where they can remove their coveralls prior to leaving the area.

Monitoring - May include:

- a) Visual inspection for the presence of visible emissions; or
- b) Air monitoring performed in accordance with accepted methods.
- c) Collecting core samples of encapsulated or bridged materials.
- d) Collecting other bulk samples during and following abatement.
- e) Sampling substrata following abatement.

Inspection of abatement contractor's, and contractor's employees, work practices for compliance to these and other specifications and applicable regulations.

NVLAP - National Voluntary Laboratory Accreditation Program.

NESHAP - The National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61, Nov. 20, 1990)

NIOSH - The National Institute for Occupational Safety and Health

Owner - The Owner includes the individual or entity that owns the property and, unless otherwise stated, the Owner's authorized representatives, including the PMP, Inc. Project Manager, the Owner's Board of Trustees and the Owner's officers, employees, agents and representatives.

PCM - Phase contrast microscopy according to NIOSH Method 7400A.

Poly - Polyethylene sheeting.

Pre-start Meeting - Meeting held before the beginning of the project in which final details of the project are discussed and Contractor provides Project Monitor with pre-job submittal packet.

Regulated Area - An area established by a contractor to demarcate areas where the contractor's employees may conduct Class 1, 2, or 3 work as described in 8 CCR 1529 or airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit. Additionally, "regulated area" means any measure used to restrict access to an area where personnel impacting asbestos-containing materials are required to wear respiratory protection and/or protective clothing by the project specifications, or applicable regulations, regardless of airborne asbestos concentration levels.

Regulations - shall include all relevant federal, state, and local regulations including but not limited to:

- a. U.S. Environmental Protection Agency Regulations for Asbestos (Title 40, Code of Federal Regulations, Part 61, Subparts A & B)
- b. Title 8, Chapter 4, Subchapters 1 through 21, California Administrative Code, General Industry Safety orders, Section 5208 "Asbestos" or the applicable sections of the Federal Asbestos Regulations. Cal/OSHA Construction Safety Orders, Section 1529.
- c. "Asbestos Hazard Emergency Response Act", U. S. Environmental Protection Agency, 40 CFR, Part 763. Final Rule and Notice.
- d. Applicable local county Air Pollution Control District and Air Quality Management District or other local NESHAPs Enforcement.

Removal - The stripping of any asbestos-containing materials from surfaces, substrates, or components of a facility. As per various regulations, the ground is considered a substrate.

Renovation - Altering in any way one or more facility components.

Scope of Work - Job specific information and specifications used in combination with these Asbestos General Requirements. If conflicts exist between the Scope of Work and these specifications, the stricter requirement will be enforced unless the conflict is specifically addressed in writing in the Scope of Work for this project.

Shower Room - A room between the clean room and the equipment room in the decontamination enclosure with hot and cold or warm running water controllable at the tap and suitably arranged for complete showering during decontamination. The shower room must be equipped with an overflow pan to contain water splashed, leaked, or spilled out of the shower unit.

Staging Area - The secured area outside of containment where clean equipment and supplies are stored. Waste must not be stored within the staging area unless placed within an additional lockable container or area approved by the PMP, Inc. Project Manager.

Strip - To take off friable asbestos materials from any part of a facility.

Structural Member - Any load-supporting member of a facility, such as beams and load-supporting walls or any non-load-supporting member, such as ceilings and non-load supporting walls.

Submittals - Pre, in-progress and post job documents submitted by contractor to Owner's representative as indicated in General Requirements and Bidding Requirements.

Surfactant - A chemical wetting agent added to water to improve penetration.

TEM - Transmission Electron Microscopy according to AHERA specifications for Level II analysis on all AHERA projects. Non-AHERA projects may employ other levels of TEM analysis.

Visible Emissions - Any emissions, whether containing particulate asbestos material or not, that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

Waste Load-out/Transfer System - A decontamination system utilized for transferring containerized waste from inside to outside of the work area. A series of three connected rooms used for the load-out of asbestos-containing materials that have been properly containerized. The waste loadout chamber system shall normally consist of three connected chambers adjacent to the work area. Each chamber shall be constructed with at least two layers of six-mil thick poly for the floors, walls, and ceiling. The chamber located closest to the work area is known as the dirty chamber, and in addition to the two layers of six-mil thick poly on the floor, shall also have a third layer of poly, four-mil or thicker, to be used as a removable drop layer. The drop layer is to be removed as needed but at least daily. The chamber located closest to the outside the work area is known as the clean chamber. See Section 15 for proper use of waste Load-out/Transfer System.

Wet cleaning - The process of eliminating asbestos contamination and visible dust and debris from building surfaces and objects by using cloths, mops, or other utensils which have been dampened with water and afterwards thoroughly decontaminating them or disposing of them as asbestos contaminated waste.

Work area - Designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contained work area or temporary enclosure is a work area that is isolated from the rest of the facility using critical barriers and cleaning barriers, a decontamination system, and additional means of signs and barriers to reduce access by unauthorized persons. The work area includes all decontamination chambers, waste transfer system and the abatement area. A non-contained work area is an isolated or controlled-access work area which has not had poly installed nor been equipped with a

decontamination enclosure system.

Worker - A person who successfully completed an initial U.S. EPA and/or state-approved four-day AHERA-accreditation course and who has maintained that training through approved annual refresher training, and possesses current and valid AHERA-accreditation documentation as a AHERA-accredited asbestos worker.

SECTION 2. NOTIFICATIONS, SUBMISSIONS, POSTINGS

2.1 Site Investigations

By submitting a bid to the primary contractor, and being listed by the primary contractor as the sub-contractor for asbestos related work, the asbestos abatement contractor acknowledges that they have investigated and satisfied themselves as to:

A) the conditions affecting the work, including but not limited to, physical conditions of the site which may bear upon site access, handling, and storage of tools and materials, access to water, electric, or other utilities, or otherwise affect performance of required activities

B) the character and quality of all surface and subsurface materials or obstacles to be encountered, in so far as, this information is reasonably ascertainable from an inspection of the site, including exploratory work done by the owner or a designated consultant, as well as information presented in drawings and specifications included with this contract. Any failure by the asbestos abatement contractor to acquaint themselves with available information will not relieve them from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Owner is not responsible for any conclusions or interpretations made by the asbestos abatement contractor based on the information made available by the Owner.

2.2 Notification

Prior to commencement of work the Contractor shall send notices of the work to be completed to the agencies listed below with a copy of each to be provided to the Owner or its representative at the pre-start meeting.

For compliance with 40 CFR part 61.146 of Subpart M, send notice at least ten (10) working days prior to start of work to all of the following appropriate agencies:

EPA, Region 9 Asbestos Program Enforcement 75 Hawthorne Street San Francisco, CA 94105	Chief Compliance Division California Air Resources Board P.O. Box 2815 Sacramento, CA 95812 (For non-EPA delegated counties)
Local Air Pollution Control District (APCD) or Local Air Quality Management District (AQMD)	

For compliance with 8 CCR 1529 and 8 CCR 5203, send written notice at least one day prior to start of work to:

State of California
Department of Occupational Safety and Health
District Office

These notices shall include, at a minimum, the name and address of the contractor, the name and address of the worksite, the type of work to be done including the percent asbestos content of the material, the methods used to prevent migration of the fibers, personal protective measures, the number of his workers involved, any union representation of the workers and the methods of disposal

including the names and EPA numbers of both the certified hauler and the waste disposal site. The notices shall also include start and finish dates. Changes in start and completion dates shall be reported immediately to the proper agency. Use forms provided by agency whenever possible.

2.31a Prestart Submittals - Contractor

- A. Contractor shall provide a copy of the notification for NESHAP compliance along with a receipt of fees paid.
- B. Contractor shall provide a copy of the notification for Cal/OSHA compliance along with the fax confirmation receipt.
- C. Contractor Notification to Local Hospital, Police, and Fire Department
- D. Contractor shall provide a copy of their active CSLB License with Asbestos Certification.
- E. Contractor shall provide a copy of their active Cal/OSHA (DOSH) registration.
- F. The asbestos abatement contractor shall submit a statement, signed by an officer of the company, containing the following information:
 - 1. A record of any citations issued by Federal, State, or Local regulatory agencies within the last 3 years, relating to asbestos abatement activity. Include projects, dates, and resolutions.
 - 2. A list of penalties incurred through non-compliance with asbestos abatement project specifications, including liquidated damages, overruns in scheduled time limitations, and resolutions.
 - 3. Situations in which an asbestos-related contract has been terminated including projects, dates, and reasons for terminations.
- G. Submit copies of insurance certificates which meet requirements as outlined below:

Contractor shall purchase and maintain insurance that will protect them from claims that may arise out of or result from the activities under this Contract, whether those activities are performed by the asbestos abatement contractor, by any subcontractor, or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

Contractor shall submit proof of coverage for the asbestos abatement contractor and subcontractors under the Worker's Compensation insurance system of the State of California or other similar benefit acts.

Contractor shall submit a certificate of general liability insurance protecting against liability for bodily injury and property damage arising from the asbestos abatement contractor's activities under this contract.

Such certificate of insurance must contain the following provisions:

- (a) The limit of liability shall not be less than \$1,000,000.00 per occurrence for bodily injury and property damage liability combined.

- (b) The Owner, Owner's Agents, and PMP Environmental Consulting, Inc. (PMP, Inc.) must be named as additional insured, but only in respect to liability arising or resulting from activities under this contract.
- (c) In the event of cancellation of the insurance policy, the Owner and PMP, Inc. shall be given thirty days advance written notice.
- (d) The insurance certificate must state that the insurance includes liability coverage for asbestos abatement work.
- H. Submit proof satisfactory to the Owner that required permits have been acquired applicable to the project being performed and specific to the project site and location. If no city, county, or other permits for parking, waste bin location, or variances for scheduled work hours are required, this should be stated in writing and submitted to the Owner.
- I. Submit Subcontractors information or statement that subcontractors will not be required or used during this project. This statement should also include that if it becomes necessary to use a subcontractor during this project that the subcontractor will not be allowed to perform work until all required documentation has been submitted for review by the Owner or PMP, Inc., and the Contractor receives written approval for use of the subcontractor on this project.
- J. Submit a complete list of all rented equipment, or equipment expected to be rented from an outside contractor for use in "Regulated Areas," "Work Areas," or "Containments," where the equipment may be exposed to elevated levels of airborne asbestos. If no equipment is to be rented a statement should be submitted stating, no rental equipment will be used on the project. The statement should also include that, if it becomes necessary to use rented equipment, written statements from each rental company will be provided to the Owner prior to its use, indicating the rental company's acknowledgment that the equipment is provided for and may be used in areas where airborne levels of asbestos may be present.
- K. Submit emergency and non-emergency telephone numbers for the appropriate Police, Hospital, and Fire Departments. This list of numbers shall also include the name, pager or cell phone numbers of the onsite supervisor and his immediate company supervisor.
- L. Submit detailed written directions from the project site to the medical facility to be used in case of an emergency. Also include a map which sufficiently shows the route to be taken from the site to the designated medical facility.
- M. Submit written emergency procedures pertinent to the work to be performed and which can be implemented by site personnel if the need arises.
- N. Submit detailed information on preparation of work area, personal protective equipment, employee experience, training and assigned responsibilities during the project. Also list decontamination procedures for personnel, work area and equipment, abatement methods and procedures, required air monitoring program, procedures for handling and disposing of waste materials and procedures for final decontamination and cleanup.
- O. Submit a detailed work schedule. The schedule shall have, as a minimum, the work area and the day/month for beginning and terminating work in each work area. During progress of work, it shall be the Contractor's responsibility to keep the schedule current and up to date.
- P. Submit to the Owner shop drawings, on projects where requested in the Scope of Work, for

layout and construction of decontamination enclosure systems and barriers for isolation of the work area as detailed in this specification and required by applicable regulations.

- Q. Submit Safety Data Sheets (SDS) for all applicable materials, supplies, etc. These documents must be legible and completely reveal information required to be communicated to the Contractor's employees, visitors, and Owner Representatives.
- R. Submit manufacturers' certifications that high efficiency particulate air (HEPA) vacuums, pressure differential units and other local exhaust ventilation equipment conform to ANSI Z9.2-79.

Submit manufacturer's documentation pertaining to the capability of wastewater filters to filter particles of 1.0 micron in size.
- S. Submit name of laboratory/person to be used for Phase Contrast Microscopy (PCM) analysis and copy of current NVLAP Certificate of Accreditation (if applicable), and most recent NIOSH Proficiency Analytical Testing Program results.
- T. Submit a written statement that OSHA monitoring will be performed for all asbestos-related activities performed during this project. This statement must be on company letterhead, dated, include name of the site or project being worked on, and signed by an authorized agent of the company performing the asbestos-related work.
- U. Submit a copy of the Contractor's Injury and Illness Prevention Program
- V. Submit a copy of written Respiratory Protection Program

2.31b Pre-Start Submittals-Contractor Waste Documentation

Section 7, C. Submit copy of waste transporters Department of Toxic Substances Control, Hazardous Waste Transporter Registration if hazardous asbestos-containing waste is to be removed during the project. If hazardous asbestos-containing waste will not be generated submit the name, address, and registration information for the waste hauler to be used for transporting the waste.

Section 7, D. Submit documentation listing the name and site address of the waste facility designated to receive asbestos-containing waste generated during this project. This documentation shall also include the EPA identification number, and a copy of the current permit authorizing the waste facility to accept and dispose of asbestos-containing waste.

2.31c Pre-Start Submittals-Worker Certifications (Section 5, Letter B)

Submit documentation satisfactory to the Owner that the Contractor's employees, including foremen, supervisor, and any other company personnel or agents who may be exposed to airborne asbestos fibers or who may be responsible for any aspects of abatement activities, have received required US EPA AHERA training.

Submit documentation from physician that all employees or agents who may be exposed to airborne asbestos more than background levels, action level, or the PEL have been provided with an opportunity to be medically monitored to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. In addition, document that personnel have received medical monitoring as required by Cal/OSHA regulations. The Contractor must be aware of and provide information to the examining physician about unusual

conditions in the workplace environment (e.g., high temperatures, humidity, chemical contaminants) that may impact on the employee's ability to perform work activities.

Submit documentation of respirator fit-testing for all Contractor employees and agents who must enter any work area where asbestos-containing materials may or will be impacted. This fit testing shall be in accordance with qualitative or quantitative procedures as required by OSHA regulations or be quantitative in nature. Documentation pertaining to NIOSH approvals for all respiratory protective devices utilized on site shall also be included.

Submit each of the following and other pre-abatement documents required above, unless exempted in the scope of work or the bidding requirements, prior to the start of abatement. This list is to be used a checklist only and specific requirements are outlined in Sections 2.31a, b, and c of the General Requirements.

2.31a Checklist

- A. _____ Notification to Regional Air Resource Board, Regional EPA, or local APCD/AQMD
- B. _____ Notification to CAL/OSHA (prior to start)
- C. _____ State Contractor's license with asbestos certification
- D. _____ Contractor Cal/OSHA Registration
- E. _____ Notification of Prior Environmental Citations/Legal Proceedings/Contract Termination
- F. _____ Insurance Certificate
 - a) General liability
 - b) Asbestos liability certificate
 - c) Automobile Insurance
 - d) Workers' compensation insurance
- G. _____ Names of all Subcontractors, license numbers and copies of general liability insurance with a minimum coverage of \$1,000,000.00. Client & PMP, Inc. named as additional insured.
- H. _____ Emergency and non-emergency phone list
- I. _____ Written Directions/Map to nearest Hospital
- J. _____ Project Schedules
- K. _____ Contractor Map/Drawings for Containment Setup
- L. _____ Safety Data Sheets
- M. _____ Manufacturers' Equipment Specification Sheets
- N. _____ Contractor OSHA Air Monitoring Statement listing the laboratory used for air sample analysis
- O. _____ Contractor Injury and Illness Prevention Program
- P. _____ Contractor Written Respiratory Program

2.31b Checklist

- _____ Name and telephone number of transporter
- _____ Name and EPA number of Waste Sites

2.31c Checklist

- _____ Training records - AHERA (Supervisor and worker) *
- _____ Respiratory fit tests for each employee*
- _____ Medical records for each employee*

Note *No contractor worker will be allowed inside containment prior to verification of AHERA, respirator and medical documentation. This verification must either be onsite or faxed to PMP, Inc.'s office prior to entry.

2.32 Pre-start Submittals - Owner

Owner shall provide to the Contractor prior to commencement of work:

- a. Any available pre-abatement air sampling data to Contractor.
- b. List of Owner's employees/agents who will or may require worksite access.
- c. Data on equipment access protection and/or shutdown procedures.

2.4 Submittals During the Work Process

The following documentation shall be submitted to the PMP, Inc. Project Manager:

- A. The contractor shall submit daily- a copy of the worker roster identifying all employees onsite and the hours worked.
- B. The contractor shall submit daily - a copy of a one-page summary of job progress. This summary must include a brief description of the work completed at the site(s), number of employees, and any issues that arose. This summary is in addition to the daily documentation required to be submitted by OSHA and AHERA regulations and other PMP, Inc. specifications.
- C. The contractor shall submit daily - copies of work site entry/exit logbooks with information on worker and visitor access.
- D. The contractor shall submit daily - copies of the air-differential manometer readings
The contractor shall submit results of air sampling data collected during the course of the abatement including OSHA compliance air monitoring results. Contractor shall submit sample results within 72 hours of collection of the samples for samples to be considered valid indicators of employee exposures within containment. Lack of valid exposure assessments may, at PMP, Inc. Project Manager's discretion, result in the contractor being required to raise worker personal protection levels.
- E. Submit weekly copy of on-site safety meeting documentation. Each safety meeting must be signed by all employees working on the project for that week.
- G. Proof of DOP or equivalent (Challenge) testing of HEPA-filtered units
- H. Contractor shall submit copies of any Regulatory Agency Inspection/Enforcement Documents

- I. Accident Report Forms
- J. Other Contract Documents as required by Scope of Work
- K. Construction Meeting Minutes

2.41 Submittals During the Work Process-Waste Disposal (Section 7)

- A. The contractor shall submit copies of all transport manifests, Land Ban Certifications, trip tickets, weights, and disposal receipts for all asbestos hazardous waste materials.
- B. The contractor shall submit copies of all transport manifests, trip tickets, weights, and disposal receipts for all asbestos non-hazardous waste materials.

2.5 Clean-Room Area Postings

Postings may be in a prominent area adjacent to the clean room but must be visible to workers entering and exiting the containment.

List of persons authorized to enter restricted area. The list shall include, among others, the following names with addresses and phone numbers:

Contractor	Testing Laboratory
Air-sampling Professional	Owner's representatives
Asbestos Project Manager	Any other designated by the Owner
Regulatory Agency Personnel	

A copy of the daily entry/exit logbook shall be maintained in the clean room area of the worker decontamination system and provided to the PMP, Inc. Project Manager weekly or as otherwise requested.

Telephone numbers, other than 911 of all emergency response personnel shall be prominently posted in the clean change area and equipment room. The locations of the nearest telephones shall be indicated on a map or diagram.

Written emergency procedures shall be posted in the clean room.

Written entry/exit procedures shall be posted in the clean room and equipment room. (See Section 9)

All the contractor's personnel and area air sampling results shall be posted in the clean room area within 72 hours of collection, unless otherwise noted.

A copy of the CAL-OSHA and EPA or Local APCD notification shall be posted in the clean room area.

A CAL-OSHA Information poster and a CAL-OSHA Construction Site poster shall be posted in the clean room area.

Copies of Safety Data Sheets (SDS) for all materials onsite shall be posted in the clean room area. Bag out/load out/waste transfer procedures must be listed in writing at the load out exit.

A copy of the contractor's written Respiratory Protection Program shall be posted in the clean room.

2.6 Job Site Documents

The following shall be available at each job site:

1. List of all AHERA-accredited workers and supervisors entering the regulated area.
2. An updated list of all contractor and subcontractor employees who have worked on this job.
3. All contract specifications, Scope of Work, addendums, change orders, etc.. Contractor competent person must sign a document stating he has full knowledge of the Scope of Work and contract specifications.
4. Written Injury and Illness Prevention Program.
5. Training records.
6. Medical records.
7. Written Respiratory Protection Program
Fit test records for all contractor employees

2.7 Project Close-out Documentation and Submittals

The Contractor shall generate a demolition "as built" drawing detailing all walls, floors, ceilings, mechanical items, plumbing, wiring and structural components which were removed, to what extent each of these items was removed (e.g. entire wall demolished from floor to ceiling), and in what areas. The contractor must provide this drawing to the Owner and PMP, Inc. at the conclusion of the interior asbestos abatement activities when required in the Scope of Work or requested by PMP, Inc. or Owner. Digital pictures of remaining conditions would be helpful but are not required.

Unless submitted during the project, the Contractor shall submit the following post-job submittals to the Owner within thirty (30) days of the completion of asbestos abatement work.

_____ Copies of revised notifications to regulatory agencies.

_____ A copy of the worker/visitor log showing the following for all persons entering the work area: date, name, social security number, entering and leaving times, company or agency represented, and reason for entry. The contractor's time records will not be accepted in lieu of a worker/visitor log. Include a signed cover sheet certifying that the copy is a complete copy of the log from the job.

_____ Copies of all accident reports submitted during the course of work.

_____ A copy of worker exposure monitoring results collected in compliance with Cal/OSHA regulations (Title 8 CCR, Section 1529) including daily/representative/full-shift/breathing-zone air samples and 30-minute excursion samples. Include a cover sheet signed by an authorized representative of the testing laboratory performing the work, indicating that the data is complete and accurate.

_____ If applicable, a copy of the asbestos waste documentation showing dates, times, manifest numbers, quantities of wastes, types of containers removed from the work area, the hauler, and the signature of the recorder.

_____ A Land Disposal Restrictions Notification and Certification.

_____ Completed Uniform Hazardous Waste and Non-Hazardous Wasteforms including information required for the Waste Shipment Record.

_____ A complete record of the air filtration devices used certifying DOP testing (if performed) and printed record, indicating continuous operation, and documenting differential air pressure.

_____ All submittals required before, during, or after the project that have not been submitted must be received by PMP, Inc. prior to PMP, Inc. signing off on contractors' final payment or pay retention release.

_____ Copies of Prevailing Wage Certification Records (unless project is not a prevailing wage project)

SECTION 3. SITE SECURITY

The regulated area shall be restricted to authorized, trained personnel wearing appropriate personal protective equipment.

If required in the Scope of Work and whenever an entire building is placed under containment, the work area(s) under construction must be isolated from the remainder of the property and/or adjacent properties with temporary chain link fencing. This fencing does not eliminate or reduce plywood barrier requirements for any portion of containment that exists on exteriors of buildings. Temporary fencing must be supported at least once every section of fencing by concrete block or equivalent.

Unless exempted in the Scope of Work any portion of containment on the exterior of the buildings must be protected by a burglar resistant, lockable plywood structure. This structure must have a roof and be at least 8 feet tall. This plywood barrier must be solid plywood and be constructed in a manner sufficient to withstand expected weather conditions (i.e. wind, rain, etc.). A soffit overhang may be used for the roof of this structure, barrier walls must extend completely up to soffit overhang ceiling.

Entry into the work area by unauthorized individuals shall be reported immediately to the Owner by the Contractor.

A logbook shall be maintained in the clean room area of the worker decontamination system. Anyone who enters the work areas must record name, affiliation, time in, and time out for each entry. A copy of the daily log shall be provided to the PMP, Inc. Project Manager daily or as otherwise requested.

Access to the work area shall be through a worker decontamination system. All other means of access (doors, windows, hallways, etc.) shall be blocked or locked to prevent entry to or exit from the work area. The only exceptions for this rule are the waste loadout airlock, and emergency exits in case of fire or accident.

Emergency exits shall NOT be locked; however, they shall be sealed with polyethylene sheeting and tape until needed. These emergency exits shall be clearly designated. They shall also have a razor knife permanently in place to facilitate emergency exit.

Contractor should have control of site security during abatement operations, in order to protect work efforts and equipment. During off-hours access to the abatement area shall be restricted by a lockable entry.

Storage of asbestos containing debris, hazardous or not, will be such that access to it is limited to the contractor. Lockable bins shall be utilized, and they shall be locked at all times except when loading occurs. No soft covers will be allowed for any storage bins.

All Owner policies and procedures regarding site security and safety shall be strictly adhered to by the Contractor.

Keys and/or lock combinations to all lockable enclosures and waste bins must be provided to the PMP, Inc. Project Manager prior to the start of abatement.

SECTION 4. EMERGENCY PLANNING

Emergency planning and procedures shall be developed by the Contractor prior to abatement initiation and agreed to by Contractor and Owner.

Emergency procedures shall be established and presented to all employees and the PMP, Inc. Project Manager prior to the beginning of any work. A written emergency plan must be posted.

Emergency planning shall include written notification of police, fire, and emergency medical personnel of planned abatement activities, work schedule and layout of work area, particularly barriers that may affect response capabilities. Emergency planning shall include considerations of fire, explosion, toxic atmospheres, electrical hazards, slips, trips and falls, and heat related injury. A copy of the written Injury and Illness Prevention Program shall be on the work site.

Employees shall be trained in evacuation procedures in the event of workplace emergencies. Telephone numbers of all emergency response personnel shall be prominently posted in the clean change area and equipment room, along with the locations of the nearest telephone indicated on a map or diagram.

At least two fire extinguishers shall be present on site. At least one fire extinguisher shall be present outside of the containment and at least one fire extinguisher shall be present inside containment. Additional extinguishers shall be distributed according to Cal/OSHA requirements or as identified in the Scope of Work.

An emergency blast horn shall be placed inside of any containment comprising more than a single building space for emergency evacuation in the event of a fire or other emergency.

If required in the Scope of Work, a means of radio communication shall be established between inside and outside of containment whenever a containment has a section(s) not directly visible from a clear-sight view window. This requirement may be met through walkie talkies or by wired communication systems. PMP, Inc. project monitor is to be given a communication device tied into communication system used by the contractor's crew.

The contractor shall clearly mark emergency egress routes in brightly colored spray paint, tape, or equivalent, within the containment area. When required by the specification, or deemed necessary by the PMP, Inc. Project Manager, the contractor shall station flashlights throughout the work area to be used in the advent of an electrical power outage. Tools that can be used to cut containment poly must be placed at each emergency egress location.

Emergency exit signs, and arrows painted, taped, or otherwise marked shall be located approximately three feet from the floor level. This will make signs visible for standing workers as well as workers required to crawl to emergency egress location.

In the event of a power and/or water interruption all abatement work, other than cleanup of debris on the ground, is to stop. Work disturbing asbestos cannot continue until the power and/or water is restored, or the Project Manager authorizes emergency procedures

During hot working conditions, such as in an attic space during summer, or in containments where live steam or hot water lines are exposed, special attention must be given to the possibility of heat stress and burns.

In the case of fire, or other life-threatening situations, all decontamination requirements are null and void. Immediate preservation of life takes precedence over decontamination requirements.

If emergency personnel (fire, police, paramedics, etc.) are called to the project site, they must be informed of the fact that the project is an asbestos abatement project and whether containment has been established and/or breached.

SECTION 5. PRE-START MEETING (See also Section 2)

The successful Bidder, his on-site supervisory personnel, and Air Sampling Professional (if applicable), representatives of the Owner, Owner's Asbestos Project Manager, and other individuals as necessary shall be present at a pre-start meeting TIME AND PLACE AS NOTED IN THE SCOPE OF WORK OR TO BE DETERMINED.

Responsibility for notification of building occupants regarding impending activity shall be determined at this meeting.

At this meeting the Contractor shall provide all required submittals, as indicated in Section 2, Part 2.31a, b, and c.

The Contractor's supervisory personnel must be given a complete copy of the Scope of Work and attached abatement specifications (including these Asbestos General Requirements) and must be familiar with them prior to the pre-start meeting. Delays caused by an onsite contractor foreman not being familiar with the requirements of these specifications will not extend the Contractor's completion date.

In addition, contractor shall be prepared to provide detailed information on preparation of work area, personal protective equipment, employee experience, training and assigned responsibilities during the project. Contractor must also be prepared to discuss decontamination procedures for personnel, work area and equipment, abatement methods and procedures, required air monitoring program, procedures for handling and disposing of waste materials and procedures for final decontamination and cleanup. A sequence of work and performance schedule, procedures for dealing with heat stress and emergency procedures shall also be submitted.

If applicable, a detailed work-area-by-work-area schedule must be submitted at this time. The schedule shall have, at a minimum, the work area and the day/month for beginning and terminating work in each work area. During progress of work, it shall be the contractor's responsibility to keep the schedule current and up to date.

SECTION 6. MATERIALS AND EQUIPMENT

6.1 Contractor Equipment and Supplies

Deliver all consumable materials in the original packages, containers or bundles bearing the name of the manufacturer and brand name (where applicable). These must be approved by the Owner. Polyethylene (Poly) sheeting, 4-mil thick for walls and 6-mil thick for floors and all other uses, shall be provided in widths selected to minimize the frequency of joints.

All poly shall be flame-retardant, fire-rated poly. This includes all poly used for decon setups whether or not they are erected inside of the building.

Polyethylene sheeting utilized for worker decontamination enclosure shall be opaque white or black in color and each layer shall be a minimum of 6-mil thick. At least two layers shall be required. Modesty barriers are to be erected whenever and wherever the PMP, Inc. Project Manager determines one is needed.

Disposal bags shall be of 6-mil polyethylene with labels required by OSHA, DOT, Department of Toxic Substance Control regulations.

Disposal drums shall be metal or fiber board with locking ring tops to be used only if required and/or allowed by selected dumpsite.

Stick-on labels as per DOHS and OSHA requirements for disposal drums shall be provided.

Warning signs as required by OSHA shall be provided and posted per regulations.

Surfactant (wetting agent) shall be a 50/50 mixture of polyoxyethylene ether and polyoxethylene ester or equivalent, mixed, and used according to the manufacturer's directions.

A sufficient number of pressure differential units equipped with HEPA filtration and operated in accordance with ANSI Z9.2-79 and EPA guidance document EPA 560/5-83-002 Guidance for Controlling Friable Asbestos-Containing Materials in Buildings, Appendix F: Recommended Specifications and Operating Procedures for the Use of Negative Pressure Systems for Asbestos Abatement, shall be utilized so as to meet the requirements of Section 12 of this specification.

All HEPA filtration equipment must be tested with DOP or an equivalent testing agent (see Section 12).

The contractor will provide adequate number of respirators for the work force. These respirators will include, when specified:

- a. Full face piece supplied air respirators with HEPA-filtered disconnects operated in positive pressure or pressure demand mode.
- b. Full face piece, tight-fitting, powered air-purifying respirators with HEPA-filters,
- c. Half mask or full-face respirators with HEPA filters.

All respirators shall be NIOSH-approved and be equipped with supplies for immediate replacement of defective parts.

Contractor shall provide full-body disposable protective clothing, including head, body, and foot coverings, such as Tyvek, or equivalent, to all workers and authorized visitors in sizes adequate to accommodate movement without tearing. No street clothes, unless excepted by Scope of Work or other portions of this specification are allowed to be worn under disposable protective clothing.

The Contractor shall provide additional safety equipment (e.g., hard hats, eye protection, safety shoes, disposable PVC gloves), as necessary to all workers and authorized visitors.

Non-skid footwear shall be provided to all abatement workers.

A sufficient supply of scaffolds, ladders, lifts and hand tools (e.g., scrapers, wire cutters, brushes, utility knives, wire saws, etc.) shall be provided as needed. Only fiberglass ladders shall be used within the work area. Wooden ladders and wooden handled tools shall not be allowed within the work area.

Rubber dustpans and rubber squeegees shall be provided for cleanup.

A sufficient supply of HEPA-filtered vacuum systems shall be available.

The PMP, Inc. Project Manager may require the use of additional equipment if he feels the number or number of certain items or materials is not sufficient.

Vacuums and pressure differential units shall arrive on site sealed and free of debris. Pre-filters of all pressure differential units must be new and unused.

All product data sheets, and all Material Safety Data sheets (MSDS) shall be submitted for all products and materials prior to their use on the job site.

All contractor equipment and supplies must arrive on site clean and dust free. Equipment must be inspected and accepted by PMP, Inc. Project Manager as it arrives onsite. Any equipment covered with dust (no matter the source of dust), plaster debris, multiple layers of encapsulant and/or spray glue, or any other debris will not be accepted. Chipped and/or rusted equipment will not be accepted even if it is to be used outside of containment. Delays caused by a lack of clean equipment will not extend Contractor's schedule.

Equipment rejected due to a lack of cleanliness must be removed from Owner's grounds in order to be cleaned. Dirty equipment wrapped in plastic will not be acceptable.

The decision of the Owner, PMP, Inc. Project Manager or the Owner's representative on all equipment and supplies shall be final.

6.2 Rental Equipment and Supplies

Any equipment rented and delivered to the site for the purpose of conducting asbestos abatement work must be accompanied with documentation verifying that the rental agency has been notified and acknowledges receipt of notification that the equipment being rented will be used for asbestos abatement work. This documentation must be submitted to the PMP, Inc. Project Manager prior to the equipment being delivered to the job site. Rental equipment, including scaffolding, will be held to the same standard of cleanliness as all other equipment on this project.

All rented equipment must be inspected and accepted by PMP, Inc. Project Manager as it arrives onsite. Any equipment covered with dust (no matter the source of dust), plaster debris, multiple layers of encapsulant and/or spray glue, or any other debris will not be accepted. Delays caused by a lack of clean equipment will not extend Contractor's schedule. Equipment rejected due to a lack of cleanliness must be removed from Owner's grounds in order to be cleaned. Dirty equipment wrapped in plastic will not be acceptable.

The PMP, Inc. Project Manager must be informed 24 hours prior to the delivery of any rental equipment.

The decision of the Owner, PMP, Inc. Project Manager or the Owner's representative on all rental

equipment and supplies shall be final.

SECTION 7. WORK SITE FACILITIES

The Owner shall provide sanitary facilities for abatement personnel outside of the enclosed work area. To use these facilities all workers shall wear normal street clothes including pants and shirts. No bathing suits or disposable coveralls are allowed to be worn to use the sanitary facilities.

At no-time will workers be allowed to exit the containment area, once abatement has begun disturbing asbestos, without showering prior to entering the clean chamber of the decon. (Exception to this may be made, at PMP, Inc. project manager's discretion, for Project Manager and Contractor's supervisor for conducting a clearance visual during which the PMP, Inc. Project Manager may allow street clothes to be worn under disposable overalls).

At no time shall workers exit the clean room/changing area wearing anything other than street clothes, including pants and shirt.

The Owner shall provide water for construction purposes, unless stated otherwise in the Scope of Work. Contractor shall connect to existing Owner system.

The Owner shall provide the electrical source. Contractor is responsible for all connections and disconnection of electrical power. All electrical power supplied to the containment area must be ground fault interrupter protected. Loss of power due to contractor activities will require contractor to supply electrical power at his own expense.

The Owner or its representative shall specify the wastewater discharge location and location of waste bins. The owner, when applicable, shall specify acceptable routes of travel.

The Contractor shall be required to place footing materials of sufficient thickness, strength, and size under the casters, footings, and/or runners of waste bin(s) to prevent damage of property surfaces. The contractor is responsible for all damages to Owner's property caused by the delivery, placement, or removal of a waste bin. Damaged property shall be repaired to equal or better condition than was present prior to the activity causing the damage. This may be amended in scope of work for this project.

The Owner shall specify on-site parking areas, if available, and access to the site.

SECTION 8. RESPIRATORY PROTECTION

All respiratory protection shall be provided to workers in accordance with the submitted written respiratory protection program, which includes all items as required by OSHA. This program shall be posted in the clean room of the worker decontamination enclosure system or adjacent to the clean room.

The Contractor shall ensure that all workers entering the regulated area wear appropriate respiratory protection. Respiratory protection provided workers shall be in accordance with 8 CCR 1529, and 8 CCR 5144 and the respiratory protection program submitted by the Contractor. This program shall be available at the worksite.

The PMP, Inc. Project Manager, his or her onsite representative, or the Owner or their representative may deny access to the regulated area to anyone who, in the final judgement of the PMP, Inc. Project Manager, is not properly wearing adequate respiratory protection for the project conditions. This includes but is not limited to those wearing unidentified respirators, those with improperly sealed respirators, those wearing respirators in an improper manner such as over their protective suit hood, or in any other fashion judged by the PMP, Inc. Project Manager to be improper or inadequate to protect the individual from the airborne asbestos at the project site.

The Contractor shall provide each worker needing respiratory protection with his or her own, individually identified, NIOSH-approved respirator. At a minimum, these respirators will be equipped with a P-100 series HEPA filter. The Contractor shall provide additional filter types if that becomes necessary for specific hazards discovered on the job site or if required in the contract documents.

The Contractor shall ensure that all workers use the respirator in compliance with the manufacturer's instructions for proper use and care of that product.

Workers must perform positive and negative respirator seal checks each time a respirator is put on, provided the respirator design permits.

The Contractor shall ensure that those workers wearing powered air purifying respirators test the air flow rate according to the frequency and methods specified by the manufacturer.

Workers shall be given, at least, a qualitative fit test in accordance with procedures detailed in the Cal/OSHA requirements for all respirators to be used on this abatement project. An appropriately administered quantitative fit test may be substituted for the qualitative fit test.

The Contractor shall ensure and provide written records to the PMP, Inc. Project Manager that all workers wearing tight-fitting respirators have been appropriately fit tested in accordance with the requirements of 8 CCR 5144.

The Contractor shall ensure that nothing interferes with the seal of the respirator to the face of the worker. This includes but is not limited to facial hair, clothing, protective clothing, equipment, or anything else that comes between the respirator and the face of the worker.

Use of any respirator must follow the manufacturer's instructions for proper use and care of that product.

The Contractor shall ensure that workers wear respirators underneath protective clothing

Workers conducting any work that may create an airborne release of asbestos must wear appropriate respiratory protection. This includes but is not limited to the pre-cleaning of asbestos

contamination off of furniture, equipment and floors, and the set-up of contaminated work areas.

The judgement of the PMP, Inc. Project Manager shall be final if there is a disagreement between the Owner and the Contractor regarding the need for wearing or the type of personal protection required.

In no event will a negative exposure assessment be allowed to lower respiratory protection, from that listed in the Scope of Work or required by regulation in the absence of an NEA, prior to the start of a project. Air samples used for negative exposure assessments created after the project has started must be from work conducted under this contract.

Minimum Respiratory Protection for OSHA Class I Work

Unless specified differently in the contract documents, the Contractor's employees conducting Class I work will wear tight-fitting, full-face powered-air purifying respirators for all Class I work that will take more than one hour to complete. They must wear a minimum of a half-face negative air-purifying respirator for Class I work lasting less than one hour. Contract documents may require additional respiratory protection, such as the use of supplied air respirator systems if, in the opinion of the PMP, Inc. Project Manager, the airborne asbestos levels are expected to exceed one fiber per cubic centimeter of air (1 f/cc).

After work has begun, if the Contractor wishes to lower respiratory protection requirements, such as for glovebag or other work, he or she must demonstrate to the PMP, Inc. Project Manager that personal air sampling results from that project prove that airborne fibers levels are below the Cal/OSHA Permissible Exposure Limit. The Project Manager will normally require sampling results used for this purpose to include several days of sampling taken during the work expected to generate the highest airborne levels.

The Project Manager will have final authority regarding whether the respiratory protection may be reduced below the need for powered-air purifying respirators.

Unless stated otherwise in the contract documents, for the purposes of respiratory protection, Class I work will include the removal of materials such as gypsum board surfaces that are covered with a texturing or skim coat material that contains over one percent asbestos.

Minimum Respiratory Protection for Class II and III Work Practices

Unless specified differently in the contract documents, the Contractor's employees conducting Class II or III work will wear a minimum of half-face, air-purifying respirators. Contract documents may require additional respiratory protection, such as the use of full-face air-purifying respirators or powered-air-purifying respirators.

After work has begun, if a Contractor wishes to lower respiratory protection requirements, he or she must demonstrate to the PMP, Inc. Project Manager that personal air sampling results from that project prove that airborne fibers levels are below the limit of quantification for the phase contrast microscopy method. The Project Manager will normally require sampling results used for this purpose to include several days of sampling taken during the work expected to generate the highest expected airborne levels. The Project Manager will have final authority regarding whether the respiratory protection may be reduced or eliminated. For example, the PMP, Inc. Project Manager may require personal samples to be analyzed by TEM before determining that asbestos does not pose an airborne health risk.

Respiratory Protection for All Work Classes and Unclassified Work

Respiratory protection will always be required if thermal system or surfacing materials are disturbed or if any asbestos-containing materials will not be removed substantially intact.

The PMP, Inc. Project Manager has full authority to raise the level of respiratory protection required for access to the regulated area if in his or her judgement additional respiratory protection is required. For example, if personal air sample results collected by either the Contractor or PMP, Inc. indicate higher than expected levels, the Project Manager is authorized to increase the level of required respiratory protection. The PMP, Inc. Project Manager will determine if the increased respiratory protection is due to new, unexpected developments such as the discovery of new materials, or if the increase is due to the Contractor failing to follow good work practices. The judgement on this matter by the PMP, Inc. Project Manager will be final.

The Owner is not responsible for increased costs or delays resulting from the need to increase respiratory protection should the reason for the increased respiratory protection be due to the Contractor's failure to adequately utilize wet work methods and/or the prompt cleanup of debris.

The Contractor may only implement respiratory protection changes after receiving written approval for the change from the PMP, Inc. Project Manager.

Waste transport and disposal personnel must wear at least half-face, air-purifying respirators when handling intact sealed bags. Powered-air purifying respirators must be worn if waste containers spill, break, or in any other fashion require a Class I work cleanup be performed.

The contractor shall comply with the respiratory protection requirements listed in 8 CCR 1529 until that date that 8 CCR 5144 includes assigned protection factors for all respirators. The following list of respirators and their assigned "protection factors" shall be the criteria for the selection of respiratory protection.

RESPIRATOR SELECTION	PROTECTION FACTOR
Half-mask air purifying respirator equipped with high efficiency particulate air (HEPA) filter - P-100	10
Full-face air purifying respirator equipped with HEPA filter - P-100	10
Half or full-face, powered air purifying respirators equipped with HEPA filter - P-100	1,000
Type C continuous flow supplied air	1,000
Full facepiece, supplied air respirator operated in pressure demand mode	1,000
Full facepiece, supplied air respirator operated in pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus (SCBA)	10,000

Workers shall be provided, as a minimum, with personally issued and marked respirators equipped with high efficiency particulate air (HEPA) filters approved by NIOSH to be worn in the designated work area and/or whenever a potential exposure to asbestos exists. The owner or its representative may refuse entry to the work area to a worker with an unidentified respirator.

Sufficient filters shall be provided for replacement as required by the workers or applicable regulations. Disposable respirators shall not be used.

No worker shall be exposed to levels estimated to be greater than 0.01 f/cc inside their respirator as determined by the protection factor of the respirator worn and the work area fiber levels.

Whenever type C respirator protection is used, compressed air systems shall be designed to provide air volumes and pressures to accommodate respirator manufacturer specifications. The compressed air system shall have a reservoir of adequate capacity to allow the escape of all respirator wearers from contaminated areas in the event of compressor failure.

Compressors must meet the requirements of 29 CFR 1910.134(d).

Location of compressors must be approved by Owner for exhaust and noise considerations.

Compressors must have an in-line carbon monoxide monitor and periodic inspection of carbon monoxide monitors must be documented. Documentation of adequacy of compressed air systems/respiratory protection systems must be retained on site. This documentation will include a list of compatible components with the maximum number and type of respirators that may be used with the system. Periodic testing of compressed air shall insure those systems provide air of sufficient quality (Grade D breathing air). Documentation of this testing, including a description of the process used to perform the test and results of each test must be submitted to the PMP, Inc. Project Manager weekly.

Whenever powered air-purifying respirator protection is used, a sufficient supply of replacement batteries and HEPA filter cartridges shall be provided to the workers. At least one spare fully charged battery must be available on-site for each PAPR in use. The flow rate delivered to the face piece shall be checked and recorded by the Contractor on the sheet provided by the PMP, Inc. Project Manager each time a worker dons the respirator. Written respiratory protection program must detail how this testing is to be performed by each employee or the onsite supervisor. The Contractor shall ensure that the flow rate for PAPRs meets the requirements listed in 8 CCR 1544 regarding tight- and loose-fitting respirators as appropriate. The Contractors shall also ensure that PAPRs are worn, checked, and maintained according to the directions of the manufacturer.

During encapsulation operations or usage of other organic base aerosols (e.g. spray glue, expanding foam, etc.) workers shall be provided with combination organic vapor/HEPA filter respirator cartridges.

SECTION 9. PERSONNEL PROTECTION REQUIREMENT AND TRAINING

Prior to commencement of abatement activities all personnel who will be required to enter the work area or handle containerized asbestos containing materials must have received adequate training in accordance with the OSHA, EPA AHERA and NESHAP regulations.

Special on-site training on equipment and procedures unique to this job site shall be performed by the Contractor as required by law or recommended by the equipment manufacturer.

The Contractor shall provide training in emergency response and evacuation procedures.

See Section 8 for respiratory protection requirements.

Disposable clothing, including head, foot and full body protection, shall be provided in sufficient quantities and adequate sizes for all workers and authorized visitors. Damaged coveralls shall be immediately repaired or replaced.

Hard hats, protective eyewear, proper protective gloves, rubber boots and/or other footwear shall be provided by the Contractor as required for workers and authorized visitors. Safety shoes may be required for some activities.

Contractor personnel shall not wear street clothes or clothes of any type underneath the protective disposable clothing. Upon exiting the work area, no items worn in the work area, such as clothing, personal protective gear, footwear, or hair coverings will be allowed to be worn past the shower of the decontamination unit. Contractor worker(s) have the option of wearing disposable undergarments underneath protective clothing, or they may be nude underneath the protective disposable clothing.

Each time the worker(s) enter the work area they will don new disposable clothing and undergarments. Street clothes (including underwear and shoes) shall not be allowed inside the work area, except during visual clearance activities.

The PMP, Inc. Project Manager may use personal judgement to allow authorized personal to wear street clothes under protective clothing during the construction of final visual or other short-duration visits into the regulated area during times which asbestos is not being disturbed and gross debris is not present. In these situations, approved by the PMP, Inc. Project Manager, the authorized person shall deposit the protective clothing on the dirty side of the decontamination system and may proceed through the shower and clean room wearing the clothes they wore under their protective clothing.

SECTION 10. WORKER DECONTAMINATION ENCLOSURE SYSTEMS (WASTE TRANSFER DECON)

Worker decontamination enclosure systems shall be provided at all locations where workers will enter or exit the work area. One system at a single location for each contained work area is preferred. Enclosure systems may be constructed out of metal, wood or plastic support as appropriate. Plans for construction, including materials and layout, shall be submitted as shop drawings, and approved, in writing, by the Owner or its representative prior to work initiation. Detailed descriptions of portable, prefabricated units, if used, must be submitted for the Owner's approval. The worker decontamination enclosure system shall consist of at least a clean room, a shower room, and an equipment room. All decontamination units shall have, at least, two layers of 6-mil polyethylene sheeting.

Unless stated otherwise in the Scope of Work, all decontamination units, pressure differential units, and other portions of containment outside the building shall be covered with a 2"x 4" wood studs and 1/2" plywood enclosure for security. Pressure differential units shall be secured as necessary to the building or ground. Exhaust openings shall have metal grates to prevent objects from being put into the exhaust openings. Pressure differential exhaust shall be exhausted to an area acceptable to PMP, Inc. Project Manager and mounted through a solid surface, such as plywood.

Entry and exit from all airlocks and decontamination enclosure system chambers shall be through doorways designed to restrict air movement between chambers when not in use.

Each decontamination chamber shall have, at least, a four-inch lip of poly from the floor up the wall to prevent possible transfer of water and debris between chambers. Excess plastic at the corners of this floor is to be fitted to the sides of the chamber by folding plastic and taping, as opposed to cutting away excess poly and taping seams. In addition to this four-inch lip of poly the shower chamber shall have an overflow pan, in which the shower unit sits, that can hold two inches of water. The filter system and any hose connections transferring contaminated water shall be in a secondary containment, such as a metal pan. Any leakage shall be double-bagged or re-filtered.

The dirty side shall have an extra layer of 6-mil polyethylene sheeting on the floor as a "drop cloth" and it shall be replaced at least daily.

The clean room shall be sized and equipped to adequately accommodate the work crew and personal protection equipment. The minimum size of clean and dirty chambers shall be three feet by three feet, minimum size may be increased by requirements in the Scope of Work. Lighting, heat and electricity shall be provided as necessary for comfort. This space shall not be used for storage of tools, equipment, or materials (except as specifically designated), nor as office space.

The shower room shall contain one or more operable showers as necessary to adequately accommodate workers, minimum of one shower for every ten (or portion thereof) workers. The shower enclosure shall be constructed to ensure against leakage of any kind. In addition, the shower shall be a separate unit from the decon walls. The shower unit cannot be made from poly. Metal or hard plastic is acceptable. An adequate supply of soap, shampoo and towels shall be always supplied by the Contractor and available. Shower water shall be drained, collected, and filtered through a system with at least 1.0-micron particle size collection capability.

The shower pan in the shower chamber shall be, at least, 3' x 3' in size. The shower chamber shall be constructed so that no water from the shower can spray out of the chamber, nor any water run down the sides of the poly and miss the pan. The shower chamber dimensions shall be

determined by the size of the shower pan but are not to be smaller than 3' wide by 3' long by 7' tall.

Abatement work will be stopped if decon is not kept in acceptable condition.

Storage or consumption of food and/or beverages shall not be permitted inside the containment or within any of the decontamination chambers. Food or drink consumption within containment will result in the abatement worker(s) dismissal from the site for the duration of the project.

SECTION 11. WORKPLACE ENTRY AND EXIT PROCEDURES

All workers and authorized personnel shall enter the work area through the worker decontamination enclosure system.

All personnel who enter the work area must sign the entry log, located in the clean room.

All personnel, before entering the work area, shall read and be familiar with all posted regulations, personal protection requirements (including workplace 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.

All personnel shall proceed first to the clean room (or area), remove all clothes and don appropriate respiratory protection and disposable coveralls, head covering and foot covering. Hard hats, eye protection and gloves shall also be worn, as appropriate. Clean respirators and protective clothing shall be provided and utilized by each person for each separate entry into the work area.

Personnel wearing designated personal protective equipment shall proceed from the clean room through the shower room and equipment room to the main work area.

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. (Small HEPA vacuums with brush attachments may be utilized for this purpose.) Each person shall clean bottoms of protective footwear in the walk-off pan just prior to entering the equipment room.

Personnel shall proceed to the equipment room where they remove all protective equipment except respirators. Deposit disposable clothing into appropriately labeled containers for disposal. All clothing items, including underwear or hair coverings must be removed and disposed of prior to entering the shower.

Reusable, contaminated footwear shall be stored in the equipment room when not in use in the work area. This footwear shall be cleaned prior to being removed from the work area. Placing footwear in two 6 mil poly bags is sufficient for moving from one containment to another, but not for moving from one site to another. Contaminated footwear shall remain within the equipment room for the duration of the project. Cleaned footwear may be removed from containment, but must be approved by PMP, Inc. Project Manager.

Still wearing respirators, personnel shall proceed to the shower area, clean the outside of the respirators and the exposed face area under running water prior to removal of respirator, then shower and shampoo to remove residual asbestos contamination. Various types of respirators will require slight modification of these procedures.

After showering and drying off, proceed to the clean room and don clean disposable clothing if there will be later re-entry into the work area, or street clothes if it is the end of the work shift.

These procedures shall be posted in the clean room and equipment room.

SECTION 12. DIFFERENTIAL AIR PRESSURE SYSTEMS (See also Section 13)

12.1 Negative Pressure Requirements

Negative pressure shall be maintained at -0.03" water differential at all times during abatement activities, including entry/exit and bag out procedures. Contractor shall assign crew members to determine the cause of loss of pressure any time containment's negative pressure drops below -0.04" water differential. All work will be stopped in any containment for which the negative pressure drops below -0.020" water differential, until problem is resolved, and pressure returns to -0.04" water differential or better.

If containment cannot be brought up to -0.04" water differential, abatement contractor must increase number of negative pressure differential units until 10 air changes per hour is taking place. If this fails to raise negative pressure to acceptable levels, the contractor may request in writing a reduction in negative pressure requirements. If PMP, Inc.'s project manager agrees that the contractor has tried all possible remedies, PMP, Inc. project manager may grant reduction in negative pressure requirement. PMP, Inc.'s project manager is under no obligation to grant this request.

All negative pressure units installed, but not operating, must be sealed at both the exhaust location and the intake of the machine. This will prevent back draft which could allow asbestos fiber contamination from the HEPA filter.

12.2 DOP (or equivalent) Testing

Contractor shall provide differential air pressure systems for each work area in accordance with Appendix J of EPA "Guidance for Controlling Asbestos-Containing Materials in Buildings," EPA 560/5-85-024.

All HEPA filtered systems used on this project shall be tested and certified by an independent company, approved in advance by PMP, Inc., on-site and prior to use. All vacuums and pressure differential units shall meet A NSI Z9.2, using an appropriate testing agent. Documentation of these tests shall be provided to the PMP, Inc. Project Manager prior to the use of any HEPA system.

DOP, or equivalent, testing must be conducted on-site, unless stated otherwise in the Scope of Work. All HEPA filtered units, including but not limited to vacuums, air pressure differential units, and make-up air filters must be tested onsite. Testing of air pressure differential units must include testing of the wheel attachments, control panel, and seam and rivets of the housing, as well as the HEPA filter itself. A unit which passes DOP testing across the filter, but which fails testing for any component of the housing may be certified as an "Exterior of Containment HEPA Filtered Unit" only.

All HEPA equipped equipment to be used on the project must be delivered to the site empty of all debris, clean and free of dust, and in full operating condition. Covering dirty units with poly, other than the HEPA filter surface, will not be acceptable.

DOP or equivalent testing must be conducted by an independent testing company approved in advance by PMP, Inc. Contractors may not test their own equipment.

DOP or equivalent testing is required when any HEPA filters are changed.

All HEPA filtered machines, including but not limited to vacuums and negative pressure

differential machines, shall be utilized in the way they were DOP tested.

Any negative pressure unit turned upside down, or on its side, must be returned to an upright position and re-DOP tested. Negative pressure units shall not be used on this project while laid on their side or upside down.

In case of a power outage, contractor must seal exhaust ducts against back draft into containment.

All negative air units will have the filter sealed with poly and tape before being shutdown to prevent back draft.

12.3 Differential Pressure Recording Instruments

Differential air pressure shall be continuously monitored by Contractor using a recording instrument, Dwyer Instrument Co., "Photohelic Gauge" or equivalent, connected to an appropriate circular chart recorder or a comparable recorder that maintains a record of dates, times, and pressure differentials. The location of the pressure measurement tap shall be approved in advance by the PMP, Inc. Project Manager. During the operation of the unit, circular charts shall be collected daily, dated, and signed by an OSHA Competent Person present on site. Pressure differential shall be checked at a minimum of every hour during the work shift by a person familiar with the operation of the pressure-differential-filtration units, as well as the recording device. Each check shall be documented with a time and date notation on the circular chart and "Manometer Readings" form along with the initials of the person performing the check. A copy of the circular chart record shall be submitted to the PMP, Inc. Project Manager daily. The circular chart shall record time, date, pressure differential, coordinates, and location.

In the event the manometer recording mechanism fails, the Contractor shall be responsible for manually recording the pressure differential at fifteen (15) minute intervals. The log shall be kept until the recording device is operational. The log shall be provided to the PMP, Inc. Project Manager daily.

The "Manometer Readings" form shall be a record of dates and times of pressure readings and instrument stability.

Connect recording instrument to an audible alarm which will activate at pressure differential of- 0.025 inches water gauge air pressure. Defective or non-operating instrumentation may require temporary stoppage of work until instrumentation is replaced.

For larger projects at least one manometer station shall be in place for each 25,000 square feet of containment space.

12.4 Differential Pressure System

Exhaust air shall be vented only to the exterior of the building at locations approved by the Owner unless otherwise noted or directed in the Scope of Work or by arrangement with the PMP, Inc. Project Manager. Such outlets shall not be near or adjacent to other building intake vents or louvers or at entrances to building. Openings made in the enclosure system to accommodate these units shall be made air-tight with tape and/or caulking as needed. They shall NOT be exhausted into occupied areas of the building. Twelve-inch (12") extension ducting shall be used to reach from the work area to the outside when required. Careful installation by the contractor, air monitoring by PMP, Inc. and daily inspections by the contractor shall be done to ensure that the ducting does not release fibers into uncontaminated building areas.

The work area shall have a differential air pressure of -0.04 inches water differential whenever the work is being performed including removal, gross clean-up, encapsulation of surfaces, bag-out operations and worker entry and exit procedures. If pressure differential ever drops below -0.025 inches water differential, all work, other than cleanup of waste on the floor of containment, must be halted until reason for pressure differential drop has been determined and corrected.

Only unused pre-manufactured, reinforced flex ducting shall be used within the containment area for exhausting filtered air. Contractor may not construct ducting using poly or other materials.

All interior of containment air pressure differential units and flex ducting must be wrapped in poly during all abatement activities. This poly wrap is to be removed after "finish detail" work has been completed, but prior to clearance visual.

Flex ducting must be supported by solid surface at point of exit from containment. This may require contractor to install plywood, or similar, structure for exhaust point.

SECTION 13. EXECUTION

13.1 Execution

Contractor and Owner shall investigate the work area and agree (in writing, if necessary) on the pre-abatement condition of the work area.

Contractor shall post danger signs meeting the OSHA specifications at locations and approaches to locations where airborne concentrations of asbestos may exceed ambient background levels.

When electrical supply within area of abatement poses a hazard, contractor, in conjunction with the Owner, shall shut down and lock out electric power to all work areas. Contractor shall provide temporary power and lighting sources, ensure safe installation (including ground faulting) of temporary power sources and equipment by complying with all applicable electrical code requirements and OSHA requirements for temporary electrical systems. Contractor shall have a licensed electrician shut down and lock out electric power, and setup temporary power and lighting sources. All costs of electricity shall be paid for by the Owner unless specified differently in the Scope of Work. The cost for set-up of temporary power is the responsibility of the abatement contractor unless specified differently in the Scope of Work.

When plumbing is required to be altered or becomes damaged, contractor shall have a licensed plumber disconnect and cap all water as necessary within the work area. Water shall be provided by the Owner from a location near the work area, but not necessarily within the work area.

Shut down and lock out all heating, ventilating, and air-conditioning-system (HVAC) components that are in, supply, or pass through the work area. Seal all intake and exhaust vents in the work area with tape and 6-mil polyethylene within the work area (interior) and on the exterior of the building. Also seal any seams in system components that pass through the work area.

Pre-clean all fixed objects in all work areas using HEPA-filtered vacuums and/or wet-cleaning techniques as appropriate or deemed necessary by the PMP, Inc. Project Manager. Careful attention must be paid to machinery behind grills or gratings where access may be difficult but contamination significant. After pre-cleaning, enclose fixed objects in 6-mil polyethylene sheeting and seal securely in place with tape.

Pre-clean all surfaces in all work areas using HEPA filtered vacuums and/or wet cleaning methods as appropriate. Do not disturb asbestos-containing materials during the pre-cleaning phase.

Unless otherwise stated in the Scope of Work or by agreement with the PMP, Inc. Project Manager all non-asbestos-containing materials left in the work area shall be covered by one layer of 6-mil polyethylene sheeting. If any non-asbestos containing materials become contaminated with asbestos during removal activities and can't be decontaminated, these materials shall be disposed of as asbestos-containing materials by the Contractor. The PMP, Inc. Project Manager shall determine the friability of these materials prior to disposal. These materials shall be manifested appropriately.

Contractor shall seal all windows, doorways, elevator openings, corridor entrances, drains, ducts, grills, grates, diffusers, skylights and other openings between the work area and uncontaminated areas outside of the work area. These openings must be sealed with 6-mil polyethylene sheeting and tape. These protective layers shall be in addition to the two polyethylene layers on floors, ceilings, and walls. These openings are referred to as critical barriers. Seal all cracks in critical barrier areas with tape, caulk, or foam prior to sealing critical barriers.

A critical barrier only, negative pressure check shall be required prior to the set-up of interior containment. Prior to the Contractor covering critical barriers with additional layers of wall, floor, or ceiling poly, the installation and integrity of critical barrier seals must be approved by the PMP, Inc. Project Manager. Wall, floor, and ceiling poly installed prior to the critical barrier negative pressure check shall be removed by the Contractor if deemed required by the PMP, Inc. Project Manager in order to properly test critical barriers.

All items attached to asbestos-containing materials and items which cannot be removed without disturbing asbestos-containing materials shall be removed by the Contractor after establishment of containment and negative pressure. If these items are to be "saved and returned" or "reused" by the Owner, the Contractor must remove and clean them without damage. These items must be cataloged using the attached "Return Item Inventory Sheet" provided by PMP, Inc.

Contractor shall cover floors in the work area with polyethylene sheeting. Floor shall be covered with a minimum of two layers of 6-mil polyethylene sheeting. Plastic shall be sized to minimize seams. A distance of at least six (6) feet between seams is sufficient. DO NOT locate any seams at wall/floor joints. Floor sheeting shall extend at least twelve inches (12") up the sidewalls of the work area. Sheeting shall be installed in a fashion to prevent slippage between successive layers of material. A layer of 10-mil polyethylene sheeting and/or plywood may be required by the PMP, Inc. Project Manager to protect certain flooring materials -- carpets, hardwood floors, tiles, etc. At no time will wall or ceiling materials be permitted to be dropped onto unprotected floors. This includes areas where the floor surfaces contain asbestos.

Contractor shall cover walls in the work area with polyethylene sheeting. Walls shall be covered with a minimum of two layers of 4-mil polyethylene sheeting. Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least six feet (6'). DO NOT locate any seams at wall/floor joints. Wall sheeting shall overlap floor sheeting by at least twelve inches (12") beyond the wall/floor joint to provide a better seal against water damage and for pressure differential maintenance. Wall sheeting shall be secured adequately to prevent it from falling away from the walls. This may require additional support/attachment when pressure differential systems are utilized.

Contractor shall cover ceilings in the work area with polyethylene sheeting. Ceilings shall be covered with a minimum of two layers of 4 mil polyethylene sheeting. Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least six feet (6'). DO NOT locate seams at wall/ceiling joints. Ceiling sheeting shall overlap wall sheeting by at least twelve inches (12") beyond the ceiling/wall joint to provide a better seal against water damage and for pressure differential maintenance. Ceiling sheeting shall be secured adequately to prevent it from falling away from the walls. This may require additional support/attachment when pressure differential systems are utilized.

The contractor shall add clear sight windows in the containment walls at least 1' x 2' in size. The PMP, Inc. Project Manager will approve quantity and placement of these inspection windows. PMP, Inc. Project Manager has the right to require clearer sight windows or require placement of windows to be altered.

The equipment room shall be used for storage of equipment and tools at the end of a shift after they have been decontaminated using a HEPA-filtered vacuum and/or wet-cleaning techniques as appropriate. A walk-off pan shall be in the work area just outside the equipment room. A six-mil. disposal bag or a drum lined with a labeled 6-mil polyethylene bag for collection of disposable clothing shall be in this room.

Contractor shall obtain written containment visual clearance from PMP, Inc. Project Manager prior

to the start of abatement in all containments.

Contractor is not responsible for normal tape damage due to tape requirements for containment set-up, unless specifically mentioned in the Scope of Work. Contractor is responsible for excessive tape damage and damage from spray glue application, staples, nails, hooks, etc. installed to support containment.

Install and initiate operation of pressure differential equipment as needed to maintain differential-air pressure of -0.030 inches of water. There shall be a sufficient number of differential air pressure units to maintain a minimum of four air changer per hour. All pressure differential units shall have pre-filters at the intake of the system which must be changeable from inside the containment area. Openings made in the enclosure system to accommodate these units shall be made airtight with tape and/or caulking as needed. They shall NOT be exhausted into occupied areas of the building. Twelve-inch (12") extension ducting shall be used to reach from the work area to the outside when required. Careful installation, air monitoring and daily inspections shall be done to ensure that the ducting does not release fibers into uncontaminated building areas.

All flex ducting, protected by poly during abatement or not, pre-filters and intermediate filters shall be manifested and discarded as friable, hazardous asbestos-containing materials. A flex tube may be used for multiple containments on the same job if it is moved from one containment to another in two 6 mil poly bags

Once the containment has been constructed and reinforced as necessary with pressure differential units in operation as required, the contractor shall test the enclosure for leakage utilizing smoke tubes. The containment shall be repaired or reconstructed as needed.

All HEPA systems used on this project shall be tested and certified onsite by an independent company prior to use. (See section 12)

Contractor shall submit logs documenting filter changes for each pressure differential unit.

Contractor shall clearly identify and maintain emergency and fire exits from the work area.

Work shall not begin each day until:

- a. Enclosure systems, or modifications thereof, have been designed and built by the contractor and each step approved by the APM. If the design of containment is to be altered in any way, after it is approved by the PMP, Inc. Project Manager, a written explanation of how and why the containment is to be altered must be submitted to the PMP, Inc. Project Manager for approval.
- b. Pressure-differential systems are functioning according to an acceptable design.
- c. All pre-abatement submissions, notifications, postings, and permits have been provided and are satisfactory to the Owner or its representative.
- d. All equipment for abatement, clean-up and disposal is on hand.
- e. All worker training (and AHERA certification) is completed and documented.
- f. The contractor has installed all required clear transparent view ports made of plastic or equivalent, in the polyethylene wall so that activities can be visually monitored by the project manager from outside the containment. This window shall measure approximately 1' wide by 2' high. It shall be installed at a location approved by the PMP, Inc. Project Manager. It is recognized that viewing ports are not possible in all locations.
- g. All pressure-differential units and vacuums have received and passed onsite DOP testing.
- h. Contractor has at least one competent person at each site in which work is taking place.
- i. All necessary documents and information have been posted or are on the work site.

See Section 2.

13.2 Power Outage Procedures

The following procedures shall be followed in the event of a power outage (no matter the source of the outage):

Immediately stop abatement activities.

Wet all debris and/or friable materials within the containment.

Depart containment area as soon as reasonable. Shower out or use Hudson sprayers to decontaminate worker if shower is inoperable due to power outage.

Seal containment area including:

- A. Decon units
- B. Makeup airports
- C. Bag out chambers
- D. Negative pressure air exhausts or inlets (must be sealed in a fashion that will allow for exhaust of air to occur when power is restored) Re-establish APD before starting abatement

Contractors will be given credit against liquidated damages for all actual down time plus two hours for shut down procedures, decontamination procedures and start up, (total of 6 hours) unless power outage is attributable to abatement contractor actions.

If a generator is required in the specifications, made necessary due to extended power outages, or chosen to be used by the abatement contractor the following issues must be addressed:

Generator must not violate any local noise ordinances nor disturb adjacent building occupants. Generator exhaust must not be allowed to contaminate the makeup air being pulled into the containment. It must, also, not be allowed to mix with HVAC air supplied to adjacent occupied buildings.

13.3 Work Schedule

A detailed work area by work area schedule must be submitted at the pre-start meeting. The schedule shall have, at a minimum, the work area and the day/month for beginning and terminating work in each work area. During the progress of work, it shall be the contractor's responsibility to keep the schedule current and up to date.

Contractor's request to change this schedule must be submitted to PMP, Inc. in writing at least 48 hours prior to the proposed addition, deletion or change in hours of a work shift. This would include working more than one shift per day, working extra days in the week, changing work hours or workdays, etc. If 48 hours' notice is not given, the proposed work shift may be canceled by PMP, Inc. Project Manager. The Owner and/or PMP, Inc. Project Manager reserves the right to deny any changes in the work schedule.

If the contractor wishes to work on a Federal or State holiday, more than five days a week, or more than 9 hours a day, Contractor becomes responsible for cost of project management fees to cover extended hours. If contractor fails to appear onsite without notifying PMP, Inc. Project Manager 24 hours in advance, the contractor becomes responsible for all PMP, Inc. Project Manager travel fees, onsite time fees, and other associated project management fees for that day.

SECTION 14. REMOVAL PROCEDURES

Contractor shall wet all asbestos-containing material with an amended water solution using equipment capable of providing a fine spray mist, to reduce airborne-fiber concentrations when the material is disturbed. Saturate the material to the substrate; however, do not allow excessive water to accumulate in the work area. Keep all removed material wet enough to prevent fiber release until it can be containerized for disposal. Maintain high humidity in the work area by misting or spraying to assist in fiber settling and reduce airborne concentrations. Wetting procedures are not equally effective on all types of asbestos-containing materials but shall none-the-less be used in all cases.

Saturated asbestos-containing material shall be removed in manageable sections. Removed material should be containerized immediately (as soon as removed). Surrounding areas shall be periodically sprayed and maintained in a wet condition until visible material is cleaned up. Gross debris shall be cleaned up and bagged prior to any work stoppage, such as for breaks, lunch, end of each shift, or project shut down (voluntary or not).

Material removed from building structures or components shall not be dropped or thrown onto unprotected floors at any time. Floors shall be covered with poly regardless of if they are being removed after ceiling or walls. Material should be removed as intact sections or components whenever possible and carefully lowered to the floor.

Containers (6-mil polyethylene bags or drums) shall be sealed when full. Double bagging of waste material is necessary. Bags shall not be overfilled. They should be securely sealed to prevent accidental opening and leakage by tying tops of bags in an overhand knot or by taping in gooseneck fashion. Do not seal bags with wire or cord.

Drums shall be used to dispose of asbestos-containing waste with sharp-edged components (e.g., nails, screws, metal lath, tin sheeting). Waste must be double bagged and goose-necked within drums.

After completion of all stripping work, surfaces from which asbestos-containing materials have been removed shall be wet-brushed and sponged or cleaned by some equivalent method to remove all visible residue.

After the work area has been rendered free of visible residues (and verified clean by the APM), a thin coat of a satisfactory encapsulating agent shall be applied to lock-down non-visible fibers on all surfaces, in the work area including structural members, building components and plastic sheeting on walls, floors and covering non-removable items, to seal in non-visible residue. Unprotected flooring surfaces shall not be encapsulated unless otherwise noted in the Scope of Work or indicated by the PMP, Inc. Project Manager.

After asbestos-containing materials have been removed from floor surfaces. These floor surfaces shall be washed with a TSP solution, or similar detergent acceptable to the Client, follow-up flooring contractor, and PMP, Inc, Project Manager, prior to clearance air tests.

SECTION 15. WASTE CONTAINER PASS-OUT PROCEDURES

Asbestos-contaminated waste that has been containerized shall be transported out of the work area through the waste transfer airlock or through an approved pass-out arrangement.

Waste pass-out procedures shall utilize two teams of workers, an "inside" team and an "outside" team.

The inside team, wearing appropriate protective clothing and respirators for inside the work area, shall clean the outside, including bottoms, of properly labeled containers (bags, drums, or wrapped components) using HEPA vacuums and wet-wiping techniques and transport them into the waste container pass-out airlock. Provisions for spray cleaning exterior of bags, equipment, and removable items shall be present in the waste pass-out. Wastewater from this operation shall be collected and filtered as required through a 1.0-micron filter. No worker from the inside team shall further exit the work area through this airlock.

The three-chamber system is utilized in the following manner. Workers inside the work area place the waste in the initial waste container, which is usually a bag. They then rinse the bag and seal it. They hand it to a worker in the dirty chamber room who inspects the bag and, if it is clean, places it in the secondary waste container. The secondary container is either another bag or a lined rigid-wall container such as a barrel or box. The worker then seals the secondary container and may attach the proper labeling. The worker places the container in the middle chamber. The worker in the clean chamber then reaches in and lifts the container into the clean chamber. The worker inspects it and if not already labeled, attaches the proper labels. The worker then passes the container to the outside worker who transports the container either to the waste transport vehicle or to a holding area. At no time shall z-flaps of transfer system chambers be taped, held or otherwise blocked open. The Contractor must not allow more than one poly airlock doorway to be open at any one time. This prevents a tunnel system and a breakdown in the isolation of the work area. Negative pressure must be maintained during all waste load-out activities.

The contract documents or the PMP, Inc. Project Manager may in allow a one or two chamber system to be used for some projects, if the liability to the client, in the judgment of the PMP, Inc. Project Manager is not increased. As with a three-chamber system, in a one or two chamber system, the Contractor may never allow more than one poly air flap doorway to be open at any one time. For example, a one chamber system would function in the following manner. Workers in the work area rinse and seal the initial waste container. They hand the initial container to a worker in the load-out chamber. That worker verifies that the container is clean and then places it into the secondary container which will be either another bag or lined ridged-wall container depending on the specifications. The load-out worker then seals the container and applies the appropriate labels. The sealed, labeled container is then passed to the outside workers who transport it to the waste transport container or holding area.

The exit from this airlock shall be secured to prevent unauthorized entry.

SECTION 16. CLEAN-UP PROCEDURE AND VISUAL CLEARANCE CRITERIA

16.1 Clean-up Procedure

Remove and containerize all visible accumulations of asbestos-containing material and asbestos-contaminated debris utilizing rubber dust pans and rubber squeegees to move material around. DO NOT use metal shovels to pick up or move accumulated waste. Special care shall be taken to minimize damage to floor sheeting.

Wet-clean all surfaces in the work area using rags, mops and sponges as appropriate. (Note: Some HEPA vacuums might not be wet-dry vacuums.) To pick up excess water and gross wet debris, a wet-dry shop vacuum with HEPA filter may be used.

Airless sprayers and water hoses shall not be used in a "power washing" fashion on any surfaces.

Contractor shall remove each cleaned layer of polyethylene sheeting from walls and floors. Windows, doors, HVAC system vents and all other critical barriers shall remain sealed. The pressure differential units shall remain in continuous operation. Decontamination enclosure systems shall remain in place and be utilized.

Remove all containerized waste from the work area.

Decontaminate all tools and equipment and remove at the appropriate time in the cleaning sequence.

Contractor shall clean work area and conduct pre-clearance visual. Once pre-visual has been passed by contractor, contractor shall allow dust to settle within containment for 24 hours, then return and re-clean by HEPA-vacuuming and/or wet-cleaning all objects and surfaces in the work area again. At this point PMP, Inc. will conduct the final visual. If final visual fails, contractor must reclean area until final visual passes. Once final visual is passed, contractor will be instructed to encapsulate the containment area, unless encapsulation of containment has been disallowed in the Scope of Work or material specific specification.

Contractor may request a reduction in the 24-hour waiting period, if personal samples collected during the abatement work and detail clean-up work have shown fiber levels below the PEL. Reduction of waiting period must be made in writing, accompanied by personal sample results from this project. Contractor must acknowledge that reduction in waiting period may result in failed clearance air samples and that retaking and re-analyzing these air samples will be at the contractor's expense. Reduction in waiting time will be at the discretion of the PMP, Inc. Project Manager and client.

16.2 Visual Clearance Criteria:

The Contractor shall perform a pre-final visual of the removal area and adjacent surfaces prior to requesting that the Owner's representative conduct a final visual inspection. The pre-final visual performed by the Contractor shall verify that all materials have been completely removed from the work area, and that the work area meets the requirements specified in Section 17.

Upon completion of the pre-final visual inspection by the Contractor a final visual of the containment area will be performed by the Owner's representative. The PMP, Inc. Project Manager will determine the clearance criteria for the project. At a minimum, no three-dimensional debris shall be left within the work area; all poly shall be wet wiped so that no visible dust or debris is left; the decontamination chambers shall be clean of all debris; the waste transfer area

shall be clean of all debris; all equipment and supplies shall be clean of all debris. The Contractor shall not be released to encapsulate the containment until receiving written acceptance by the Owner's representative stating the removal area and the containment have met the criteria of the Owner's representative for completeness of removal and cleanliness of the containment barriers and surfaces.

When required, clearance air sampling shall be performed following the requirements specified in Section 17 after encapsulation of the containment has taken place and enough time has passed to allow the encapsulant to dry. The Owner shall determine the method of analysis to be used based on the amount and type of material removed within a containment. If at a K through 12 school site and the quantity of Asbestos-Containing Material (ACM) exceeds 160 square feet or 260 linear feet, analysis of air samples must be by transmission electron microscopy (TEM) per US EPA AHERA regulations.

The PMP, Inc. Project Manager will conduct the final visual inspection of the work area for visible residue. If any accumulation of residue is observed, it will be assumed to be asbestos and the 24-hour settling period/cleaning cycle will be repeated.

Additional cleaning cycles shall be provided by the contractor, as necessary, at no cost to the Owner until the specified clean criteria have been met.

PMP, Inc. Project Manager has final say on whether an area meets these requirements.

Following the satisfactory completion of clearance-air monitoring, remaining barriers may be removed and properly discarded as non-asbestos containing waste. If contamination exists behind these critical barriers, additional cleaning and air monitoring may be required.

Final visual will be conducted by at least one PMP, Inc. Project Manager. PMP, Inc. may supply additional personnel for inspection in order both speed up the inspection and to more thoroughly inspected the containment areas.

Owner, contractor and PMP, Inc. Project Manager shall jointly review the work area and make a damage assessment, after clearance air samples have passed and containment has been torn down.

SECTION 17. CLEARANCE AIR MONITORING

Following the completion of clean-up operations, the contractor shall notify the PMP, Inc. Project Manager in writing that work areas are ready for final visual inspection. This notification is to be made only after contractor foreman has made a visual inspection of his own.

After the PMP, Inc. Project Manager has given a final written approval of the clean-up operations, the contractor shall proceed to "lock-down" the containment area with an encapsulant. Exception to this is for containments that are not to be encapsulated prior to clearance air testing according to the Scope of Work (ie floor tile only projects).

Owner shall then arrange for an Air Monitoring Professional to sample the air in the work area for airborne fiber concentrations. Clearance-air monitoring shall proceed 24 hours after lock-down or when the area is dry, whichever is later.

Contractor may request a reduction in the 24-hour waiting period, if personal samples collected during the abatement work and detail clean-up work have shown fiber levels below the PEL. Reduction of waiting period must be made in writing, accompanied by personal sample results from this project. Contractor must acknowledge that reduction in waiting period may result in failed, or overloaded (with encapsulant) clearance air samples and that retaking and re-analyzing these air samples will be at the contractor's expense. Reduction in waiting time will be at the discretion of the PMP, Inc. Project Manager and the Owner.

Air samples will be taken using the "aggressive" air sampling techniques described in the AHERA regulations unless noted differently in the Scope of Work for non-AHERA sites. In the case aggressive samples cannot be collected (e.g. in a dirt floor area) this will be noted in the Project Manager's notes.

If PCM analysis is used for clearance air samples, all clearance samples at all locations shall indicate a fiber concentration of less than or equal to 0.01 f/cc for release of the work area.

If TEM analysis is to be used for clearance air samples, then the clearance criteria shall be the same as AHERA, unless otherwise specified in the Scope of Work.

Areas exceeding these levels shall be re-cleaned and, if appropriate, re-encapsulated at no additional cost to the owner. All areas where clearance air samples fail will be re-tested.

The contractor shall be responsible for all subsequent air sampling costs if air samples fail to meet clearance criteria levels. This cost includes four hours of time for PMP, Inc. personnel to collect the air samples and the cost of laboratory analysis.

Roof Removal: No clearance air monitoring required. Only a visual inspection of the roof for roofing debris will be provided.

Tar-like Pipe Wrap Removal: This non-friable material will only be removed by cutting the clean ends of the pipe it is insulating. No clearance air monitoring required.

TSI Removal: When removal is less than three linear feet within a single glovebag (or similar) containment, no clearance air monitoring will be required.

Regardless of the method used, when removal exceeds three linear feet within a single

containment clearance air monitoring will be performed prior to the removal of the containment barriers.

Drywall Removal: Regardless of the asbestos content, when the quantity of drywall removed exceeds 3 square feet, clearance air monitoring will be performed prior to the removal of the containment barriers.

VFT & Mastic Removal: When the quantity removed exceeds 3 square feet, clearance air monitoring will be performed prior to the removal of the containment barriers.

SECTION 18. MONITORING

Owner reserves the right to perform air and performance (contractor work practices, housekeeping, record keeping, etc.) monitoring at any time.

Contractor shall conduct personal air monitoring in accord with OSHA regulations. Results shall be made available to the PMP, Inc. Project Manager within 72 hours of collection. Hard copies of these results shall be supplied to PMP, Inc. Project Manager within 7 days of collection. Failure to supply these sample results in the specified time may cause work to be stopped until all delinquent results have been submitted. Loss of contractor work time because of noncompliance of the provisions of this paragraph will not extend the date for work completion.

Owner may take air samples prior to, during, and after the project. Work shall not be considered complete until all air sampling has been completed and satisfactory levels have been obtained. "Satisfactory levels" shall be those established by AHERA, unless more stringent requirements have been identified in the Scope of Work, General Specifications, General Requirements, or other Project Specifications.

In areas where soil contamination may be present, soil samples must meet specified criteria in Scope of Work prior to clearance air samples collection.

Owner, or PMP, Inc. Project Manager, shall be authorized to issue a STOP WORK order whenever Contractor's work or protective measures are not in accord with published regulations or contract specifications.

SECTION 19. DISPOSAL PROCEDURES

19.1 Disposal Procedures

Waste transport and disposal personnel must wear at least half mask HEPA-cartridge type respirators when handling intact sealed bags.

Disposal bags shall be of 6-mil polyethylene, pre-printed with labels as required by California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) regulations.

Disposal drums shall be plastic, metal or fiber board with locking ring tops. If heavy duty cardboard boxes are allowed in the Scope of Work, they may replace the barrels. Cardboard boxes must be sturdy enough not to be deformed or compromised by the weight of the materials disposed within them.

All containers, including bags and barrels or boxes must be labels the same as the ACM waste disposal bags.

All waste shall be double bagged in 6-mil polyethylene bags and goose-necked. These bags will then be placed into disposal drums as described above.

Contractor shall provide stick-on labels for disposal containers that meet the Cal/OSHA, NESHAPS, and DTSC requirements for hazardous and non-hazardous waste container labeling.

All waste bags shall have visibly damp materials but shall not contain loose water. In the event loose water is discovered within a waste bag, it shall be absorbed with kitty litter, saw dust or similar product prior to the bag being sealed.

All asbestos waste, hazardous or not, shall be manifested. Non-hazardous waste shall be manifested on a non-hazardous waste manifest.

All waste containers (barrels or boxes) shall be sealed in a manner that allows them to be opened for inspection of sealed bags within by PMP Project Manager, Regulatory personnel and Dumpsite personnel.

Waste placed into boxes or barrels at the project site must be disposed of within the same boxes and barrels at the dumpsite. Removal of waste from these boxes and barrels is not allowed. As the work progresses, to prevent exceeding available storage capacity onsite, sealed and labeled containers of asbestos-containing waste shall be removed and transported to the prearranged disposal location.

Disposal must occur at an authorized site in accordance with regulatory requirements of NESHAPS and applicable State and Local guidelines and regulations, including the California State Environmental Protection Agency, Toxic Substances Control Division regulations.

Transport vehicles shall be marked with the sign prescribed by NESHAPS regulations during loading and unloading to warn people of the presence of asbestos.

All dump receipts, trip tickets, waste manifests, NESHAP Waste Shipment Record (WSR) and other documentation of disposal shall be delivered to the Owner, for the Owner's records. The WSR is not required if the cubic yards of asbestos-containing waste is indicated on the Waste Manifest. The manifest should be signed by the Owner, the hauler, and the Disposal Site Operator as the responsibility for the material changes hands. If a second hauler is employed, his

name, address, telephone number and signature should also appear on the form. The WSR, if used, shall be signed by the Owner or its agent and the disposal site operator.

All manifests shall have asbestos waste identified as: "RQ, Asbestos, 9, NA2212, III". This requirement may be changed as new regulations are issued. See "Waste Disposal" requirements at end of "General Requirements".

All manifests shall be accompanied by a "Notice and Certification". A signed copy of this must be provided to the Owner or Owner's agent.

19.2 Transportation to the Landfill

Once drums, bags and wrapped components have been removed from the work area, they shall be loaded into an enclosed (solid walls, ceiling, and floor) truck or waste bin, which has been lined with 6-mil polyethylene (walls and floor).

When moving containers, utilize hand trucks, carts, and proper lifting techniques to avoid back injuries. Trucks with lift gates are helpful for raising drums during truck loading.

Personnel loading asbestos-containing waste shall be protected by disposable clothing including head, body, and foot protection and, at a minimum, half-facepiece, air-purifying, dual cartridge respirators equipped with high-efficiency filters. Any debris or residue observed on containers or surfaces outside of the work area resulting from clean-up or disposal activities shall be immediately cleaned up using HEPA filtered vacuum equipment and/or wet methods as appropriate.

No waste containers shall be onsite which contain other hazardous waste, or hazardous waste from another owner. Waste from multiple sites of the same owner within the same waste container is acceptable; however, it must be manifested separately.

If contractor is storing waste from various sites of one owner, all transportation vehicles shall be covered by the same regulations as the waste bin or truck being used to haul the waste to the dump. If equipment or supplies are to be left in vehicles during hauling of waste-to-waste bin or truck, waste and equipment/supplies must be separated by a solid (wood or metal) barrier which has been sealed as a critical barrier. A poly wall barrier is not sufficient.

Waste bin must be locked at all times except when being filled.

It is the contractor's responsibility to see that all waste bins, trucks, and storage bins arrive onsite completely free from debris.

The contractor shall provide a weight receipt that identifies the net weight of the material being discarded.

19.3 Disposal at the Landfill

Upon reaching the landfill, trucks are to approach the dump location as closely as possible for unloading of the asbestos-containing waste.

Bags, drums, barrels and components shall be inspected as they are off-loaded at the disposal site. Material in damaged containers shall be re-packed in empty drums or bags as necessary. (Local requirements may not allow the disposal of asbestos waste in drums. Check with appropriate agency and institute appropriate alternative procedures.)

Waste containers shall be placed on the ground at the disposal site, not pushed or thrown out of the trucks (weight of wet material could rupture containers).

Personnel off-loading containers at the disposal site shall wear protective equipment consisting of disposable head, body and foot protection and, at a minimum, half-facepiece, air-purifying, dual cartridge respirators equipped with high-efficiency filters.

Following the removal of all containerized waste, the truck cargo area shall be decontaminated using HEPA vacuums and/or wet methods to meet the no visible residue criteria. Polyethylene sheeting shall be removed and discarded, along with contaminated cleaning materials and protective clothing, in bags or drums at the disposal site.

SECTION 20. SPECIFIC PROCEDURES AND REQUIREMENTS

NOTE: All Specific Procedures and Requirements listed in Section 20 shall be reviewed by the contractor along with the Scope of Work issued for the project. If any perceived conflicts are present between the Scope of Work and these specifications or within the General Requirements specification itself, the contractor shall ask for a written interpretation from the PMP, Inc. Project Manager prior to submission of his bid. If conflicts in the "Scope of Work" and this specification or with the General Requirements specification itself are discovered after the start of abatement, the more stringent specification and/or requirements will be enforced. The PMP, Inc. Project Manager shall make the determination as to what which requirements and/or specifications are more stringent.

20.1 General Repair of Damaged Thermal System Insulation (TSI) Procedures

Where TSI has been damaged, and it is feasible to repair the small nicks, cuts, and exposed ends, the following procedures shall be performed:

Contractor shall establish a regulated area according to the requirements of 8 CCR1529 and as enhanced by this specification and the Scope of Work, including but not limited to the posting of the area and allowing on authorized personnel into the work area.

Piece of 4-6 mil poly sheeting shall be placed directly under the area to be worked to collect any fallen debris or repair compound.

Half-masks and disposable suits (at a minimum) shall be used during this work.

The area shall be restricted to those personnel involved in the work, so posting of the accesses is required. In some cases, poly shall be used to cover the access points.

1. A HEPA-vacuum must be in the immediate area to pre-clean any debris observed surrounding the damaged section, or in the event of a mishap.

If work is performed indoors, the ventilation system shall be off in the areas worked in to prevent fiber distribution. Ventilation supply and exhaust ducts shall be covered with poly sheeting.
2. It will be necessary to remove small sections of other insulation material, such as fiberglass, if debris from the damaged pipewrap has contaminated it.
3. If appropriate, contractor shall HEPA-vacuums the damaged section will collect all loose, hanging, friable insulation material prior to any further repair work.
4. Very small cracks, holes, nicks, and cuts can be repaired with only joint compound or with a single layer of wettable cloth and appropriate bridging encapsulant. Larger sections of damaged pipewrap, particularly where pipe hangers or metal channel have damaged the insulation, will require at least two layers of wettable cloth.
5. Where the pipewrap cannot be removed completely from penetrations in the walls, floors, or ceilings, the pipewrap shall be removed at least one inch into the opening and sealed with a bridging encapsulant to grade. The Contractor may choose to fill large gaps with fiberglass insulation, prior to sealing with the encapsulant.
6. All of the Contractor's materials, including poly sheeting, tape, joint compound, etc. shall

be removed at the completion of the work performed.

20.2 Glovebag Technique Requirements

Where the glovebag technique is specified for removal of Thermal System Insulation (TSI), or in those areas where the Contractor opts to use glovebags, all of the following conditions must be met:

The Contractor shall develop a regulated area that meets the requirements of 8 CCR 1529 regarding posting and limited access.

The Contractor shall follow the procedures recommended by the manufacturer of the glovebags, and the specifications required by Federal OSHA and Cal/OSHA regulations

All critical openings within the regulated area shall be sealed prior to set up of the containment.

At least one layer of 6 mil poly must be used to contain the abatement area.

Stationary objects in the immediate area of the room which cannot be removed from the work area must be covered with at least one layer of 4 mil poly sheeting after being pre-cleaned.

A minimum three stage decontamination unit with a shower shall be contiguous with the containment for areas requiring removal of more than 6 linear feet of TSI, or 10 square feet of surfacing material.

Negative pressure shall be established and a circular graph recording manometer shall be attached to the containment per Section 13.

A HEPA-filtered vacuum shall be in the immediate area for use in conjunction with the bags or in case of a spill.

Glovebags may not be used on surfaces where temperatures exceed 150 degrees Fahrenheit.

Glovebags may be used only once and may not be moved or slid for removal of a second section of TSI.

At least two persons shall perform Class I glovebag removal as defined by Federal and Cal/OSHA.

Before beginning the operation, loose and friable material adjacent to the glovebag operation shall be wrapped and sealed in two layers of 6 mil poly sheeting or otherwise rendered intact.

Where the system uses an attached waste bag, such bag shall be connected to a collection bag using a hose or other materials which shall withstand pressure of ACM waste and water without losing its integrity.

The Contractor shall apply a sufficient volume of amended water to all pipewrap scheduled for removal while it is enclosed in the glovebag.

A sliding valve or other device shall separate the waste bag from the hose to ensure no exposure when the waste bag is disconnected.

Prior to placement in the disposal bag, glovebags shall be collapsed by removing air within them using a HEPA-vacuum.

Upon detachment, the glovebag must be immediately placed into at least two 6 mil thick disposal bags. The disposal bags must be sealed using the "gooseneck" sealing technique.

Where pipes enter walls, floors, or ceilings which are not within the scope of the project, the pipewrap shall be removed at least 1" into the structure and the pipewrap end must be sealed with bridging encapsulant and/or wettable cloth.

If the Contractor chooses to use a Negative Pressure Glove Bag System, Negative Pressure Glove Box System, or Water Spray Process System in lieu of the traditional Glovebag System, the Contractor shall submit to Owner's agent/site representative detailed written procedures on those systems which will be used. In addition, air sampling data, generated by the Contractor, must be provided to Owner's agent/site representative. Owner's agent/site representative must provide prior approval to alternate techniques and approaches to those specifications detailed here.

The Contractor is responsible for salvage and decontamination of all pipe system supports, hangers, brackets, saddles, etc. These items shall be inventoried by the Contractor and verified by the Owner's agent/site representative before and after abatement. The Contractor will be responsible for replacement of any items lost or damaged.

The Contractor shall be responsible for ensuring the piping system remains adequately supported. This may be achieved by readjusting existing hanger brackets as insulation is removed, or by other approved methods, such as inserting wood blocks to replace the thickness of the removed insulation.

20.3 Mini-Cube Enclosure Requirements

For the purposes of these specifications, "mini-cube enclosure", "mini-enclosure", and "mini-cube" are all used interchangeably and mean the same. The mini-cube enclosure is required to be constructed whenever small sections of walls, ceilings, or pipe insulation are to be removed for electrical, plumbing, mechanical, etc., work. The purpose is to create an enclosed and controlled work environment while removing asbestos or accessing an attic space which is contaminated.

Enclosure walls and floors must be constructed of at least two layers of fire-rated 6 mil poly sheeting. No visible holes, cracks, penetrations, etc. shall be within this enclosure. The upright frame shall be adjustable in order to butt the top of the enclosure to the wall or ceiling area. A single drop layer of 6 mil poly sheeting shall be put down and removed daily at the end of the work shift. For work involving removal of TSI by glovebag technique, only one layer of 6 mil poly sheeting is required for construction of the mini enclosure. All mini-enclosures, mini-cubes, etc. must have a view port that allows the PMP, Inc. Project Manager to view the activities going on inside the regulated area. The placement, number, and size of the view port(s) must be acceptable to the PMP, Inc. Project Manager.

At least two chambers shall be present, separated by flapped poly sheeting doors. The first chamber upon entrance will be called the "clean" chamber, while the second chamber will be called the "dirty" chamber.

Since the top of the enclosure must be open in the chamber where ceiling access will take place, special care must be taken prior to moving the enclosure. If the mini enclosure is designed to be portable, the enclosure must be sealed at the top prior to being moved to the next location. This may be achieved by temporarily sealing the top of the chamber with poly and tape from the inside.

Dirty chamber must be sealed around work area in a fashion that creates an air-tight seal without causing damage to floor, walls, ceilings, or other materials. This may be achieved by use of a pliable material, such as non-porous foam rubber, or other methods approved by the PMP, Inc. project manager. A tight seal must be maintained without damage to the remaining materials (this may be difficult if tape is used).

For access to an attic space, position the enclosure at the location to be worked. The enclosure must be butted up to the ceiling surface to form a semi-seal between the top of the enclosure and the ceiling. The enclosure can then be completely sealed to the ceiling, using tape. After a seal has been established, access into the ceiling can then proceed.

A HEPA vacuum shall be used to establish "negative pressure" or airflow into the enclosure. This shall be verified by using ventilation smoke tubes.

The following equipment and materials, at a minimum, must be present inside the mini enclosure "dirty" chamber:

6 mil poly bags with clean rags for cleaning.

Amended water in a Hudson-like sprayer for the rags.

Empty bag for disposal of items.

Flashlights or drop light as appropriate.

Personal Protective Equipment including extra suits in case of multiple entry/exits

Amended water in a properly labeled Hudson Sprayer
Daily change of 6 mil poly sheeting drop layer.

Other tools needed to perform task.

The following equipment and materials, at a minimum, must be present inside of the mini enclosure "clean" chamber:

Clean potable water in a Hudson-like sprayer which is labeled "Clean Potable Water Only". A new container must be designed for potable water only. No container used previously to hold liquids will be allowed. No open containers will be allowed.

Clean disposable shower or hand towels for drying hands, arms, and face.

6 mil poly bags for disposal of towels and other items.

Any other tools the Contractor requires, such as tape, screwdrivers, etc.

The work area must be delineated with the proper barrier tape and the outside of the poly-flapped entry to the mini-cube must be posted with OSHA required warning signs for a regulated area.

Clean disposable coveralls must be worn entering the mini enclosure and must be removed prior to leaving the mini enclosure. Depending upon the work being performed, the Contractor may choose to "double suit" in disposable coveralls. All workers shall use the Clean Room and its supplies for personal hygiene prior to exiting the enclosure.

For work involving removal of more than 6 linear feet of TSI, or greater than 10 square feet of surfacing material (regardless of method to be used), a shower must be attached to the mini-cube enclosure and be contiguous with the work environment and comply with all other decontamination requirements in related sections of this specification.

If there is removal of greater than 3 linear feet of TSI, or greater than 3 square feet of surfacing material (regardless of the method used), the enclosure must remain in place until a final visual is passed, and clearance air samples are collected by Owner's agent/site representative. Where work involves less than these quantities, only a visual inspection by Owner's agent/site representative will be required prior to removal of the mini enclosure. Mini enclosure shall be constructed in a fashion that will stay in place, remain intact and under negative pressure for numerous days while awaiting clearance air sample results.

20.4 Roofing Abatement Requirements

General Requirements

Except as amended here and in the Scope of Work, all other Sections of this Exhibit shall be followed.

The work shall be coordinated and scheduled when there are favorable weather conditions, such as, performing the abatement work when the forecast is for "clear skies" and no rain for three or more consecutive days. The Contractor shall remove only that amount of roofing material which can be reroofed or covered and secured from the weather.

Work may be halted at the discretion of the Owner's agent/site representative if wind conditions occur which can or does cause removed roofing materials to be blown off the roof area, or beyond the designated removal area perimeter. All roofing work shall be coordinated to allow other trades to work at the same time if their work is in areas where contamination cannot occur. No cutting, sanding, grinding, or removal of any type will take place until all preparations for removal have been completed and inspected by the onsite project manager. This section may be amended in other sections of this specification for this project.

The words "clear skies" are used as a means of indicating favorable weather conditions. These

two words do not mean, nor are they intended to require skies be clear and free of clouds, fog, or other meteorological conditions which are not expected or forecast to produce measurable rain. The follow up requirement of no rain for three or more consecutive days is to help clarify the favorable weather condition requirement. The last sentence concerning the amount of roofing to be removed is to further instruct and direct the Contractor not to be over optimistic and create more open roof areas than can be reroofed, secured, or properly protected from weather in case the forecast changes unexpectedly or without warning.

All work hours at the site shall be determined by the Owner or as defined in other sections of this Exhibit. Unless otherwise stated, the buildings will be reoccupied each morning Monday through Friday.

All work shall be coordinated with the other trades involved on this project, with central coordination being primary between the abatement contractor and the General Contractor for the project. However, Owner's agent/site representative must be notified of projects in advance as stated in other sections of this Exhibit.

The Contractor shall provide all necessary equipment, tools, materials, lighting, labor, etc. to perform the work. Sufficient lighting shall be provided to illuminate the entire removal and transit areas for removal of roofing material, and for the final visual inspection by the Owner's agent/site representative if the work is to be performed at night.

All HEPA equipment to be used on the project must be delivered to the site empty of all debris, clean, free of dust, and in full operating condition. HEPA equipment to be used inside any building must have been DOP tested within the last 90 days. This DOP certification must be verified by Owner's agent/site representative prior to its use.

The Contractor shall provide worker safety according to all OSHA regulations (Title 8), including use of tie-offs, harnesses, and lanyards. Particular attention shall be given to the placement and securing of accesses (ladders, etc.) to the roof and for fall protection for those working near the perimeter of the roof.

All ladders used shall conform to Cal/OSHA requirements. The ladders shall extend at least three feet above the roof line and shall be tied off to the building to prevent them from sliding.

Contractor Responsibilities

The Contractor shall be responsible for securing all exposed roof surfaces, including any roof penetrations against weather after roofing materials have been removed. Protection of the roof must be made with an impermeable barrier to prevent water from entering the building structure.

The Contractor will be responsible for all clean-up and costs associated with the decontamination of occupied spaces in the event of contamination of an occupied space.

The Contractor is responsible for any contamination of the attic space above the existing ceilings inside the buildings caused by their work, except as noted specifically in the Scope of Work.

The Contractor is responsible for damage to the roofing substrate and will be responsible for repair or replacement if damaged.

The Contractor is responsible for removal of all roofing layers and associated materials such as roofing nails, insulation, fiberboard, etc. down to the wood or metal substrate regardless of asbestos content, unless otherwise noted in the Scope of Work. Where it is unknown how many layers of roofing materials exist, it must be assumed that there are multiple roofing layers present. The Contractor may, upon request and approval by the Owner, collect core samples of any roof to be removed for the purpose of determining its depth and structure. If coring is conducted, it is the responsibility of the Contractor to repair the areas affected to industry standards using non-asbestos materials.

The Contractor is responsible for removing all roofing nails and driving in all nails used for securing the roofing substrate after roof material has been removed. The Contractor will not be required to remove silver paint or tar coating on conduit, roof jacks, heating, ventilation, and air conditioning (HVAC) equipment, flashings, etc. which will be reused by the Owner. Where flashing is to be reused, the Contractor shall carefully remove and save the flashing in an undamaged condition, unless otherwise required by the Owner. This section may be amended in the Scope of Work for this project.

The Contractor is responsible for removal and replacement of wood block or metal supports which may be present under conduit, gas lines, piping, HVAC units, ducting, etc. in order to perform the work. The Contractor is also responsible for temporarily installing wood blocks for any existing roof structures during the roofing removal, when it is necessary to remove existing support members to accomplish the work.

The Contractor is responsible for damage to all equipment and existing cables which are present on the roof. The Contractor is responsible for damage to electrical wiring, telephone lines, antenna wires, and other conduits which are present. An inspection for pre-existing conditions is the responsibility of the Contractor but may also be conducted by the Owner's representative.

The Contractor is responsible for obtaining all necessary permits to perform this work, including any local permits for work in the evening/night hours.

Standards of cleanliness for fluted metal decks located underneath asbestos-containing roofing materials. It is possible for the abatement crew to remove the asbestos-containing roofing materials without breaking through or removing the light grey insulation material beneath it. If removal of asbestos roofing materials is performed as described above, and the insulation material remains intact, Client's agent/site representative can conduct a final visual for asbestos-containing debris. Once this inspection has been completed, and the requirement for no remaining asbestos-containing debris on the roof is met, the insulation layer is removed.

At this point, asbestos is no longer an issue, and Client's agent/site representative will allow minor amounts of the non-asbestos debris to remain in the fluted areas of the deck. General cleaning of the flutes is conducted to a point where the amount of debris remaining is reduced to a minimal amount without having to completely clean or vacuum the flute channel.

The Client is unaware of any potential hazard which could be caused by leaving some non-asbestos debris and does not consider it necessary to have the flute channels detailed beyond generally clean conditions. However, if the fiberboard layer is extensively damaged during removal of the asbestos-containing materials, and asbestos-containing roofing debris cannot be distinguished from non-asbestos containing roofing materials, all flutes shall be vacuumed and cleaned as set forth in the project specifications.

Owner Responsibilities

The Owner is responsible for closing all windows in the building where the asbestos roofing material will be removed. This must be done prior to the asbestos abatement contractor arriving onsite for the work shift, in order to prevent delays.

The Owner shall also be responsible for cutting or trimming back all trees and limbs which may impact the removal of the existing roofing materials.

General Roof Removal Instructions and Requirements

Removal of non-friable asbestos-containing roofing is designated as Class II work. Half-masks and disposable coveralls shall be used at a minimum by all workers, at all times, when within the regulated area.

No personnel will be allowed into the regulated area during actual removal work without proper respiratory and personal protective equipment. Work boots with hard soles are required to be worn by all abatement personnel. No athletic, street, or dress shoes are to be worn during work activities.

All roofing material shall be removed in an intact state to the extent feasible.

All roofing is to be removed wet by an amended water solution or encapsulant as necessary.

The abated roof area shall be HEPA vacuumed after roofing materials have been removed. Particular attention shall be directed at the flute channels of metal decks.

Pre-Abatement Preparation Requirements

The Contractor shall seal all air intakes associated with the HVAC units which are on or near the roof under abatement, and at adjacent HVAC units, particularly downwind from roofing removal activity. In addition, all louvers, window mounted fan systems, attic openings, etc., shall be sealed as critical barriers. The Contractor is responsible for sealing all HVAC openings as critical barriers using one layer of 6 mil poly. These critical barriers shall be installed at the beginning of each shift and removed at the end of each shift prior to reuse by the Owner. If the building will not be reoccupied daily, the barriers may stay in place.

The perimeter of the roof where removal is to be conducted, shall be posted with barrier tape at a distance of at least 20 feet from the edge of the removal area. This barrier tape will provide a buffer zone and assist in the restriction of non-abatement personnel.

Poly sheeting shall be placed on the ground directly below the work area or on the adjacent roof surfaces and cover an area extending out at least 10 feet. The Contractor shall secure the poly to the ground using tape, weights, or other means to secure the poly from being picked up by wind or becoming a trip hazard. The Contractor shall secure the poly to the adjacent roof surfaces with tape, etc.

Waste Bin Preparations

The Contractor is responsible for inspecting all waste bins delivered to the job site for load worthiness. The Owner's agent/site representative reserves the right to refuse any waste bin without any additional cost to the client, which upon examination, and in the opinion of the site representative, has a high probability of failure of doors, skids, walls, floors, or which contains other debris.

The Contractor shall be required to place footing materials of sufficient thickness, strength, and size under the casters, footings, and/or runners of waste bin(s) to prevent damage of property surfaces. The contractor is responsible for all damages to Owner's property caused by the delivery, placement, or removal of a waste bin. Damaged property shall be repaired to equal or better condition than was present prior to the activity causing the damage. This section may be amended in the Scope of Work for this project.

Unless the roofing material is carried or passed to the ground by hand, it shall be lowered to the ground via covered, dust-tight chute, crane, or hoist. All waste shall be sufficiently wetted with amended water to prevent fiber release. If fiber release cannot be prevented, then the chute and bin must be within a negative pressure enclosure. In no case shall roofing materials be dropped or thrown into trucks, bins, or waste bins from the roof without the protection of a dust tight chute or other means acceptable to the PMP, Inc. Project Manager.

Posting and Label Requirements for:

Regulated Area Entry Points and Waste Bin Perimeters

Access to regulated areas shall be posted as outlined by Cal/OSHA Title 8, 1529 (k)(7)(B) 1 and 2 with warning signs. Perimeters of waste bin(s) shall also be posted as outlined by Cal/OSHA Title 8, 1529 (k)(7)(B) 1 and 2 with barrier tape bearing the following information:

**DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE
REQUIRED IN THIS AREA**

These postings are required to warn non-abatement personnel of the restricted access, and potential hazard which exists in the vicinity of the regulated areas and waste bin(s).

Building Perimeter at Ground Level

Building perimeters shall be posted with barrier tape bearing one of the following descriptions:

CAUTION in black letters on a solid yellow background.
DANGER in black letters on a solid red background.
DANGER ASBESTOS HAZARD in black letters on a solid red background.

Waste Material Containers

Waste material containers, including the "burrito wrapped" material, shall have warning labels affixed in accordance with Cal/OSHA Title 8, 1529 (k)(8) (A-D).

**DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD**

General Requirements for Creating Roof Penetrations

All roofing penetration cuts (if any) shall be at the direction of the primary contractors' Job Foreman and coordinated with Owner's agent/site representative as to the time of work. Any equipment to be used for the purposes of cutting, grinding, or sanding must meet or exceed all Cal/OSHA requirements regarding HEPA filtration and wetting/misting. Any equipment rented for the purpose of conducting asbestos work must be accompanied with documentation verifying that the rental agency has been notified and acknowledges receipt of notification that the equipment being rented will be used for asbestos related work. This documentation will be submitted to Owner's agent/site representative prior to the equipment being used on the job site.

The penetration area shall be surrounded by a 10-foot-wide section of at least 4 mil poly. This poly will help in the cleanup of small roofing material particles which may otherwise be mixed onto the surface of surrounding roof material. If the penetration is within 10 feet of the edge of the roof, poly shall be placed on the ground (or roof) directly below the work area. The Contractor shall secure the poly to the ground using tape, weights, or other means to secure the poly from wind and becoming a trip hazard.

Waste Disposal and Documentation Requirements

31. Roofing waste may be disposed as non-hazardous asbestos waste, in a landfill permitted to accept non-friable, non-hazardous asbestos roofing material. If the asbestos roofing material is currently friable, or becomes friable during its removal, it shall be disposed of in a landfill permitted to accept friable asbestos waste.

It is acceptable to dispose of bagged or sealed roofing waste into open topped waste bins lined with a single layer of 6 mil poly sheeting. The Contractor shall completely enclose all roofing waste material commonly known as "burrito wrap" in the waste bin using 6 mil poly sheeting. Upon being lowered, unwrapped material shall be transferred to a closed receptacle in such a manner as to preclude the dispersion of dust. In addition to the 6 mil poly sheeting, the top of the waste bin shall be completely enclosed with a tarp which is secured to the vehicle for transport or storage onsite if left overnight. The type of material for the tarp shall meet all requirements for transport of hazardous materials.

32. The Contractor is required to provide to Owner's agent/site representative a copy of the "trip tickets" indicating the actual weight of waste material.

20.5 Vinyl Asbestos Floor Tile (VFT) Removal Requirements

Contractor shall conduct VFT and/or mastic removal within a regulated area as defined by 8 CCR 1529.

1. The doors, windows, and penetrations into the rooms shall be sealed with polyethylene. All ventilation systems shall be locked-out and sealed as critical barriers. An attached three stage decon with operational shower is required. The Scope of Work may require more chambers depending upon the project size.

Baseboards shall be removed if necessary to access all VFT. If baseboard mastic contains asbestos, baseboards are not to be disturbed prior to start of abatement.

Half-mask respirators, rubber boots, gloves, and disposable coveralls are to be used as a minimum for worker protection.

4. The VFT's must be double bagged in 6 mil poly bags. It is acceptable to place several

bags of VFTs into a barrel lined with a second 6 mil poly bag.

5. All VFT's and mastic must be sufficiently wetted with amended water when being lifted off the floor.
6. The mastic layer may be removed either by solvent or wet buffing with a solvent. If a solvent is used, the negative air unit exhaust shall be directed downwind as much as possible, or a sufficient length of exhaust hose will be required to prevent re-entrainment of the vapors. Any solvents used for removing mastic shall be non-toxic low odor and non-flammable. A material safety data sheet for the solvent shall be provided and subject to approval by the project manager prior to use. MSDS must match solvent being used on the current jobsite.
7. During removal of the mastic with solvent or other organic based liquid, combination respiratory cartridges (organic vapor/HEPA) shall be worn to protect against asbestos and the solvent.
8. If floors are removed after walls and ceilings, full enclosure of the walls and ceiling with poly will be required, no matter what method of tile and mastic removal is used. If floors are removed prior to walls and ceilings which will eventually be removed as asbestos containing materials, then critical barriers and splash guards are all that will be required. All surfaces and materials not being removed as asbestos containing material must be covered with poly no matter which order floors walls and ceiling are abated.

Following removal of all floor tile and mastic, the contractor shall wash the floors thoroughly using a solution of trisodium phosphate (TSP) and water. Sufficient water shall be used for final rinsing of the floor for a clean finish.

If the removal of the floor mastic is on a wood substrate (or this technique is required in the scope of work), contractor is to use a mixture of the low odor mastic removal chemical and diatomaceous earth or (equivalent) to form a paste. Mix the paste to a consistency that will still be effective on the mastic and reduce the absorption of the chemical into the wood substrate, or seepage under casework and into concrete crevasses.

No bead blasting or shot blasting is allowed to be performed on these projects.

20.6 Drywall Removal Requirements

1. The doors, windows, and penetrations into the rooms shall be sealed as critical barriers with 6-mil polyethylene. An attached three stage decon with operable shower is required. The Scope of Work may require more chambers depending upon the project size.

Powered air purifying HEPA respirators, rubber boots, gloves, and disposable coveralls are to be used as a minimum for worker protection.

Shut down and lock out all heating, ventilating, and air-conditioning-system (HVAC) components that are in, supply or pass through the work area. Seal all intake and exhaust vents in the work area with tape and two layers of 6-mil polyethylene within the work area (interior) and one layer of 6-mil poly on the exterior of the building. Also seal any seams in system components that pass through the work area. Remove all HVAC system filters and place in labeled 6-mil polyethylene bags for storing and eventual disposal as asbestos-contaminated waste.

4. The drywall must be double bagged and “goose-necked” in 6 mil poly bags. It is acceptable to place several “goose-necked” bags of drywall into a barrel lined with a second 6 mil poly bag that is “goose-necked”.
5. All drywall must be sufficiently wetted with amended water when being removed.

Negative pressure shall be established, maintained, and recorded. This shall be verified by using ventilation smoke tubes.

Contractor, in conjunction with the Client/Owner, shall shut down and lock out electric power to all work areas. Contractor shall provide temporary power and lighting sources, ensure safe installation (including ground faulting) of temporary power sources and equipment by complying with all applicable electrical code requirements and OSHA requirements for temporary electrical systems. Contractor shall have a certified electrician shut down and lock out electric power, and setup temporary power and lighting sources. All cost for electric supply shall be paid for by the Client/Owner.

Contractor shall have a certified plumber disconnect and cap all water and gas within the work area. Water shall be provided by the Client from a location near the work area, but not within the work area.

All non-asbestos-containing materials left in the work area shall be covered by two layers of 6-mil polyethylene sheeting. If any non-asbestos containing materials become contaminated with asbestos during removal activities these materials shall be disposed of as asbestos-containing materials by the Contractor.

A critical barrier only, negative pressure check shall be required prior to the set-up of interior containment.

Cover floors in the work area with polyethylene sheeting. Floor shall be covered with a minimum of two layers of 6-mil polyethylene sheeting. Plastic shall be sized to minimize seams. A distance of at least six (6) feet between seams is sufficient. DO NOT locate any seams at wall/floor joints. Floor sheeting shall extend at least twelve inches (12") up the sidewalls of the work area. Sheeting shall be installed in a fashion to prevent slippage between successive layers of material. A layer of 10-mil polyethylene sheeting and/or plywood will be required to protect certain flooring materials -- carpets, hardwood floors, tiles, etc. At no time will wall or ceiling surfaces be permitted to be dropped onto unprotected floors. This includes areas where the floor surfaces contain asbestos.

Cover asbestos-containing walls in the work area with polyethylene sheeting if these walls are to remain or if these walls are non-asbestos containing and will remain. Walls shall be covered with a minimum of two layers of 4-mil polyethylene sheeting. Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least six feet (6'). DO NOT locate any seams at wall/floor joints. Wall sheeting shall overlap floor sheeting by at least twelve inches (12") beyond the wall/floor joint to provide a better seal against water damage and for pressure differential maintenance. Wall sheeting shall be secured adequately to prevent it from falling away from the walls. This may require additional support/attachment when pressure differential systems are utilized.

Cover asbestos -containing ceilings in the work area with polyethylene sheeting if they are to remain or if these ceilings are non-asbestos-containing and will remain. Ceilings shall be covered with a minimum of two layers of 4 mil polyethylene sheeting. Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least six

feet (6'). DO NOT locate seams at wall/ceiling joints. Ceiling sheeting shall overlap wall sheeting by at least twelve inches (12") beyond the ceiling/wall joint to provide a better seal against water damage and for pressure differential maintenance. Ceiling sheeting shall be secured adequately to prevent it from falling away from the walls. This may require additional support/attachment when pressure differential systems are utilized.

If floor tile and drywall are to be removed within the same work area the floor tile and mastic shall be removed first, followed by the drywall removal. If the contractor wishes to submit a different removal work plan it shall be submitted prior to the beginning of the project. The PMP, Inc. Project Manager will review this work plan and respond in writing if it is accepted, or if it is accepted under condition of amendment.

Asbestos Abatement Contractor is required to remove nails, screws and/or other wall/ceiling material attachments.

Asbestos Abatement Contractor may remove studs with asbestos containing materials still attached, as long as they are to be removed, and are disposed of as asbestos-containing material.

Asbestos Abatement Contractor may not cut any sheer wall for any reason, without prior consent from the project Architect.

No damage will be permitted to studs that are to remain in place. Wall surfaces are to be peeled away, not pounded. The Contractor shall be financial responsible for any damage caused to studs.

Contractor is responsible for clean-up of all texturing and joint compound found on studs and rafter, as well as other surfaces behind, or inset into, the drywall materials.

Adhere to other requirements as stated in Sections 1-19, 21 and 22.

Following removal of all drywall, the contractor shall encapsulate the area with an encapsulate that is compatible with the reinstallation of wall and/or ceiling surfaces. The floors shall not be encapsulated unless otherwise noted in the Scope of Work, or stipulated by the PMP, Inc. Project Manager.

NOTE: All Specific Procedures and Requirements listed in Section 20 shall be reviewed by the contractor along with the Scope of Work issued for the project. If any perceived conflicts are present between the Scope of Work and these specifications or within the General Requirements specification itself, the contractor shall ask for a written interpretation from the PMP, Inc. Project Manager prior to submission of his bid. If conflicts in the "Scope of Work" and this specification, or with the General Requirements specification itself are discovered after the start of abatement, the more stringent specification and/or requirements will be enforced. The PMP, Inc. Project Manager shall make the determination as to which requirements and/or specifications are more stringent. If the materials to be removed during the project do not relate to any of the procedures in Section 20 or multiple materials exist within the work area, the contractor shall follow those procedures outlined in Sections 1-19, 21 and 22.

SECTION 21. PATENTS AND PREVAILING WAGES

21.1 Patents

Contractor shall pay all royalties and license fees required for the performance of the work. Contractor shall defend suits or claims resulting from contractor's or any subcontractor's infringement of patent rights and shall indemnify Owner and Owner's representative from losses on account thereof.

21.2 Prevailing Wage Requirements

The asbestos abatement contractor is always fully and totally responsible for compliance with payment of prevailing wage rates pursuant to provisions of the California Labor Code, for compliance with Division 2, Part 7, Chapter 1, California Labor Code, including but not limited to Section 1776; and for compliance with California Labor Code, Section 1777.5 for all apprenticeable occupations.

SECTION 22. PERMITS AND FEES

If any permits are required to be issued for any of the Work to be performed by Contractor, Subcontractor(s) or Sub-subcontractor(s) as part of the Project, it shall be the sole responsibility of the Contractor to expeditiously obtain all such permits and any costs incurred by the Contractor in obtaining such Permits shall be included within the Contract Price.



Lead General Requirements

GENERAL REQUIREMENTS FOR LEAD

PART 1: GENERAL REQUIREMENTS

1.1 SUMMARY

These specifications are designed to minimize and control potential lead hazards during demolition of construction materials that contain lead.

The primary focus of these specifications is to address the work practices and procedures that the Contractor must follow when conducting activities that may disturb lead in coatings on building surfaces.

No Contractor shall begin work that will disturb any surfaces in a manner that will either expose a worker to possible lead containing dust or create possible lead containing waste, until all required pre-construction documentation has been reviewed and written approval from The Owner has been received. Any Contractor observed conducting such activities without having written approval from THE OWNER will be instructed to stop work. Work will not be allowed to resume until the approval has been received by the Contractor.

These specifications shall apply to all work activities that are expected to disturb coatings containing lead. These activities include demolition of coated surfaces and the removal of lead coated building components.

The Contractor shall utilize engineering controls to limit the release of lead dust or debris. These engineering controls may include, but are not limited to, using wet methods, using tools with vacuum recovery systems with High Efficiency Air Particulate (HEPA) filtration, using vacuums with HEPA filtration, and the prompt cleanup of any debris produced. Dry scraping, sanding, grinding, or abrading lead-containing materials is not permitted.

1.2 REGULATORY COMPLIANCE

There are various agencies that regulate activities involving lead-containing paints and coatings. The following definitions are discussed in order to assist in the interpretation of the requirements that follow. The following is a summary list of the most important agencies and regulations that apply to the disturbance of lead and lead in coating during construction work. This list is not to be considered comprehensive. The Contractor is responsible for complying with all applicable Federal, State, and Local regulations that may apply to the specific work being conducted by the Contractor.

1.2.1 ENVIRONMENTAL PROTECTION AGENCY (EPA)

Lead: Identification of Dangerous Levels of Lead; Final Rule (40 CFR Part 745 Subpart D)

The EPA defines lead-based paint as paints and coatings that contain lead in concentrations equal to or more than one milligram per square centimeter (1 mg/cm²), 5000 parts per million (5000 ppm), or one half of one percent (0.5%) by weight. EPA regulations apply to all housing

and child-occupied facilities built before 1978. When the term A lead-based paint is used in the context of these specifications, the term is used only to refer to paint that contains lead in concentrations equal to or greater than that defined by the EPA as lead-based paint. (This is to differentiate lead-based paint from the term A lead-containing paint as used for compliance with OSHA and Cal/OSHA.)

1.2.2 HOUSING AND URBAN DEVELOPMENT (HUD)

Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance (24 CFR Part 35)

The HUD Rule for Federal Housing (shortened name) applies to all residential properties built before 1978 that receive Federal financial assistance. This regulation uses the same definition of lead-based paint as the EPA. The work practices and procedures described in these specifications are designed to comply with occupant and worker protection regulations as mandated by OSHA and Cal/OSHA regulations for work that disturbs lead paint. These specifications are not designed to comply with all the requirements of 24 CFR Part 35. THE OWNER may require additional practices and procedures in the scope of work for activities conducted in properties covered by the HUD Rule for Federal Housing.

1.2.3 CALIFORNIA DEPARTMENT OF PUBLIC HEALTH (CDPH)

Accreditation, Certification, and Work Practices for Lead-Based Paint and Lead Hazards (Title 17, CCR, Division 1, Chapter 8, Sections 35000-361000)

This regulation primarily applies to residential and public buildings located in California. The definition of a public building is one that is generally accessible to the public. Some aspects of this regulation, particularly those that pertain to the definition of presumed lead-based paint and the containment requirements for disturbing lead-based paint apply to all structures in California.

This CDPH regulation definition of lead-based paint is identical to the EPA/HUD definition of 1 mg/cm², 5000 ppm, 0.5% by weight. In addition, this regulation requires all paint on structures in California to be treated as presumed lead-based paint unless the paint is on a home built after 1978 or a school built after 1992.

The CDPH regulation differentiates between work that disturbs lead as part of renovation or maintenance work and work that disturbs lead as part of abatement work as defined in Title 17. The work practices and procedures described in these specifications are designed to comply with worker protection regulations as mandated by OSHA and Cal/OSHA regulations for work that disturbs lead as part of demolition work. These specifications are not designed to comply with the requirements for abatement as defined in the CDPH Title 17 regulation. THE OWNER may require additional practices and procedures in the scope of work for activities conducted as abatement as defined by Title 17.

1.2.4 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (CAL/OSHA)

Lead Standard for the Construction Industry (CFR 1926.62) (8 CCR 1532.1)

This standard regulates work done by employees who may disturb lead as part of renovation or maintenance work.

The OSHA and the Cal/OSHA standards are virtually identical though Cal/OSHA adds some requirements that are not in the OSHA standard.

OSHA and Cal/OSHA regulate lead whenever lead is determined to exist in a material. When the term lead-containing paint is used in the context of these specifications, the term is used to refer to paint that contains lead in an amount equal to or above the reporting limit for the laboratory analysis or detected by an X-ray Fluorescent Analyzer (XRF).

In addition, Cal/OSHA uses the EPA/HUD/CDPH definition of lead-based paint (1 mg/cm², 5000 ppm, 0.5% by weight) for their pre-job notification requirements discussed in section 1.3.

The Cal/OSHA standard has additional requirements that are not in the Federal OSHA standard found in CFR 1926.62. Contractors not familiar with the California standard must familiarize themselves with the additional requirements. The following information summarizes the significant additional requirements in the Cal/OSHA standard. This summary is not meant to substitute for the Contractor reading and being familiar with the Cal/OSHA requirements.

- a. The California standard requires employers to notify Cal/OSHA before employees conduct a trigger task that will disturb more than 100 square or linear feet of material that contains lead in concentrations equal to or above 1 mg/cm², 5000 ppm, 0.5% by weight. The notification also applies to welding or torch cutting that takes more than one hour in a shift. Trigger tasks are described in 8 CCR 1532.1 (d)(2). In brief, they include manual demolition, scraping, sanding, using HEPA-attached equipment, using heat guns to remove lead paint, welding, torch cutting, and using other more aggressive techniques. (This is a summary list and does not list all task that are considered trigger tasks.)
- b. The California standard defines lead-containing paint at the Consumer Product Safety Commission's (CPSC) level of 0.06% by weight or 600 ppm for non-trigger tasks. However, both the California and Federal OSHA standards require training, personal protective equipment, and specific work practice precautions whenever employees will disturb lead in any concentration (including less than 600 ppm). Thus Cal/OSHA (like OSHA) regulates paint when it contains lead above the reporting limit for laboratory analysis or detectable by an XRF.
- c. The California standard also requires CDPH lead training and certification for any supervisors or workers who are shown to be exposed to airborne lead levels above the PEL in residential or public buildings. (A public building is defined as being generally accessible to the public.)
- d. The California standard uses the term a regulated area. Cal/OSHA requires the supervisor to establish a regulated area whenever workers may be exposed to airborne lead over the PEL or if they will perform A trigger tasks as defined in 8 CCR 1532.1 (d)(2).

1.3 LEAD WORK PRE-JOB NOTIFICATION REQUIREMENTS

The Contractor is responsible for complying with the Lead-Work Pre-Job Notification as specified in 8 CCR 1532.1 (p). Notification is required for this project; therefore, the Contractor must provide the notification to Cal/OSHA and provide a copy of this notification to THE OWNER as part of the Contractor's pre-work submittal package.

1.4 DOCUMENTS PROVIDED TO THE OWNER BY THE CONTRACTOR

While additional documents may be required by the scope of work for this project, at a minimum the Contractor will be required to provide THE OWNER with the following documents regarding the Contractors ability to safely disturb paint and other materials that contain lead.

1.4.1 DOCUMENTS SUBMITTED PRIOR TO THE START OF WORK

- a. A written compliance plan must be provided to THE OWNER and include the following:
 1. A description of equipment and materials, controls, crew size, job responsibilities, and operations and maintenance procedures for each activity in which lead is disturbed and potentially emitted.
 2. A description of specific control methods (wet methods, engineering controls, etc.);
 3. Technology considered in meeting the Cal/OSHA permissible exposure level (PEL);
 4. Air monitoring data documenting sources of lead emissions.
 5. A detailed implementation schedule for the compliance plan, including the schedule for inspections by a competent person.
 6. A description of the lead work practice program which will be used to control worker exposures. This includes the use of protective work clothing, equipment, hygiene facilities and practices, and housekeeping practices.
 7. A description of the steps the Contractor will take to minimize the generation of hazardous waste produced on this project. This includes but is not necessarily limited to how the contractor will separate waste streams. For example, how will the Contractor keep potentially hazardous waste such as paint chips and dust from being disposed of with other potentially non-hazardous construction materials and debris.

Note: If the Contractor is found conducting lead related work not specifically mentioned and described in the compliance plan, the work will be stopped until a compliance plan including that work is submitted, reviewed, and approved by THE OWNER.

- b. The Contractor shall submit to THE OWNER copies of recent (performed within the previous 12 months or less) blood sampling and analysis test results of lead (BLL) and zinc protoporphyrin (ZPP) levels for all workers who will be performing any Trigger Tasks

with regards to lead-containing paints as defined in 8 CCR 1532.1 (d)(2).

- c. The Contractor shall submit to THE OWNER copies of current medical evaluations and respiratory fit test records done in compliance with 8 CCR 1532.1 for all workers exposed to lead and/or who will wear respirators on this project. The Contractor is responsible for maintaining current documents and resubmitting copies to THE OWNER for any worker whose documents expire during the project. Any worker observed on a job site who either is not approved to conduct work by THE OWNER or has been approved but documentation pertaining to training, medical evaluation, or respiratory fit testing has expired, will be instructed to stop work until these documents are received by THE OWNER and the worker is approved to perform work that disturbs lead.
- d. The Contractor shall submit to THE OWNER proof that the supervisor and workers meet the training requirements listed in 8 CCR 1532.1 (l)(2) for employees who may be exposed above the Action Level of 30 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) based on an eight-hour time-weighted average.
- e. If CDPH regulations are triggered the Contractor shall submit to THE OWNER proof of current CDPH certification as a lead supervisor for the onsite competent person for all projects that include trigger tasks (as defined in 8 CCR 1532.1 (d)(2)). This requirement applies whether the activities disturb lead-based paint or lead-containing paint. (Summary: the supervisor must be a CDPH Certified Lead Supervisor if the crew will conduct trigger tasks on paint containing lead.)
- f. If CDPH regulations are triggered the Contractor shall submit to THE OWNER proof of current CDPH certification as lead workers for all workers who will conduct trigger tasks (as defined in 8 CCR 1532.1 (d)(2)) whenever the tasks will disturb lead-based paint as defined by EPA/HUD/CDPH.)

1.5.1 Documents That Must Be Provided to THE OWNER During the Course Work (Or Following Completion Of The Work If Applicable)

The following documents must be provided THE OWNER following completion of the physical activities associated with the project. The following documents must be received and approved by THE OWNER before the work is considered completed and payment issued.

- a. The Contractor must provide the results of exposure sampling done to comply with the requirements of 8 CCR 1532.1 (d). Sample information must include (but is not restricted to) the name of the individuals wearing the samples, the individuals' Social Security Number or Company ID number, the date the samples were collected, identification by unique method of the area where the work is being performed, and identification of the work being performed. Laboratory results shall be provided to THE OWNER within 72 hours of sample collection.
- b. The Contractor must provide all waste disposal documentation.
- c. Local sanitation district Wastewater Discharge Permit for Surface Washers (if required).

1.5 THIRD PARTY OVERSIGHT

THE OWNER has retained the services of an independent third-party consultant to provide oversight of the project. The Contractor shall treat this third-party consultant as a designated representative of THE OWNER.

1.6 AIR SAMPLING BY THE OWNER

THE OWNER may determine it appropriate to collect air samples to evaluate the effectiveness of the Contractor's engineering controls and work practices. Air sampling may also be used to verify the effectiveness of the Contractor's containment system.

1.7 AIR SAMPLING BY THE CONTRACTOR

The Contractor is responsible for conducting exposure air sampling of the Contractor's employees that complies with the requirements of 8 CCR 1532.1 (d). Should the Contractor wish to make use of the exceptions to air sampling stated in 8 CCR 1532.1 (d)(3)(C) & (D), the Contractor must submit the required information to THE OWNER and receive written approval from THE OWNER prior to the Contractor reducing the personal protection, containment, or engineering controls stated in this specification. In summary, prior to any actions being taken based on the results of previous sampling conducted at different job sites, THE OWNER must specifically approve the use of those results and the actions the Contractor wishes to take based on the results of that sampling.

1.8 NOTIFICATION OF EMPLOYERS OF EMPLOYEES IN ADJACENT AREAS

The Contractor is responsible for ensuring that employers of employees in areas adjacent to the work being conducted have been notified that work disturbing lead will take place. This notification is in addition to the posting of lead regulated area signs. This notification of adjacent employers is the ultimate responsibility of the Contractor but should be done in consultation with THE OWNER. In summary, this notice shall be provided to all other contractors and subcontractors in areas adjacent to the work. Those employers must be notified in advance of any upcoming work that will disturb or impact lead in a manner that may generate airborne levels of lead that could present a potential exposure to workers at or above the Permissible Exposure Limit (PEL) as defined in 8 CCR 1532.1(c). This notice shall also provide information on the control measures being implemented and a warning that the employer's employees are to remain outside of the posted regulated areas.

1.9 PROTECTION OF ADJACENT ITEMS

The Contractor shall remove or protect items (if any) located within 20 feet of all paint disturbance areas in order to avoid contaminating those items with lead. Those items may have to be relocated or disposed of prior to the start of work. The Contractor must coordinate with THE OWNER the removal of items, the storage of those items, and the protection of items or materials left inside the work area.

1.10 PROTECTION OF ACCESS/EGRESS OF BUILDING OCCUPANTS

The Contractor is responsible for ensuring that building occupants and those in adjacent areas are not exposed to lead dust or debris as they enter or exit buildings. The Contractor shall ensure that building occupants and others in the adjacent area do not enter the lead regulated area and have a safe means of access and egress to the building.

1.11 TRAINING REQUIREMENTS

For all work that will require performing trigger tasks (as defined in 8 CCR 1532.1 (d)(2) on lead-containing or lead-based paint, the Contractor shall provide a competent person who is currently certified as a lead supervisor by CDPH. The CDPH-certified supervisor must be on site whenever work disturbing lead is being conducted. Workers conducting trigger tasks on lead-based paint do not have to be CDPH certified, unless CDPH regulations are triggered by exposure levels or creation of a lead hazard during stabilization or demolition activities. Those conducting trigger tasks or other activities disturbing lead on lead-containing paint (but not lead-based paint) must, at a minimum, meet the training requirements listed in 8 CCR 1532.1 for those workers who may be exposed above the Action Level.

1.12 SUSPENSION OF WORK

THE OWNER or its designated agents may suspend all work that disturbs lead if any controls (such as barriers) fail, if excessive amounts of debris known or suspected to contain lead are detected outside the containment, or if work is on the exterior of a structure and wind speeds are more than twenty miles per hour, or if in the judgment of THE OWNER, other factors exist that determine the work must be stopped because of the potential of lead hazards being created. For example, THE OWNER may conduct perimeter monitoring and discover that lead is being released in concentrations above $1 \mu\text{g}/\text{m}^3$ above background levels or work area air monitoring that is above $15 \mu\text{g}/\text{m}^3$ calculated on an eight-hour time-weighted-average. In either case, THE OWNER may suspend work until more effective containment, work practices, and engineering controls are utilized.

2.0 MATERIALS AND EQUIPMENT

2.1 FIRE RESISTANT PLASTIC SHEETING (POLY)

All plastic sheeting used on this project must be fire resistant.

2.2 CHALLENGE TESTING OF HEPA FILTRATION SYSTEMS

All HEPA equipped vacuums and pressure differential units to be used on this project during lead-containing paint operations shall be tested and meet ANSI requirements using DOP or an equivalent testing agent. This testing must take place on site prior to their use and after replacement of any HEPA filter removed from previously tested equipment. Copies of all certifications must be provided to THE OWNER prior to use of the equipment.

2.3 VACUUM-ASSISTED TOOLS

When using power tools to disturb lead, the Contractor shall only use tools that have a vacuum assisted process equipped with HEPA filtration. The Contractor must receive written approval from THE OWNER for the use of all power tools for which the Contractor feels a HEPA-vacuum assisted process is not feasible.

2.4 POWER WASHING

For the purposes of this specification, power washing is defined as: The use of a low pressure a power washer to rinse/wash stable painted or coated surfaces to remove dust, dirt, grime, and other foreign matter in preparation for re-painting. In no circumstance is this to be construed as water blasting and is not intended nor shall be used to remove lead-containing paints or coatings from surfaces. Areas of loose, peeling, cracking, or unstable coatings shall be stabilized using the appropriate methods and personnel protective equipment as specified by Cal/OSHA and CDPH regulations (if applicable), and these specifications.

If lead paint chips are removed by power washing, all water runoffs must be contained. Prior to performing power wash operations, the Contractor must determine if the local sanitation district requires a Wastewater Discharge Permit for Surface Washers. Should this permit be required, the Contractor is responsible for obtaining it, accurately completing it and adhering to the permit requirements.

2.5 PERSONAL PROTECTIVE EQUIPMENT

The Contractor shall use respirators and personal protective equipment as required by 8 CCR 1532.1 and as appropriate based on personal air monitoring results. All respirators must be NIOSH/MSHA approved.

Respirator fit test records and the respiratory protection program shall be retained on site as part of the project documentation if respiratory protection is used on this project. Disposable dust/mist respirators shall not be used.

At a minimum, half-face respirators with P-100 cartridges will be required during surface preparation where there is manual scraping or sanding.

At a minimum, the Contractor must ensure that no lead dust or debris is tracked out of the contained, regulated area. The Contractor must ensure that all those allowed into the regulated area have adequate foot coverings that ensure that they will not track contaminated material out of the area when they leave.

3.0 EXECUTION

3.1 SUMMARY

Contractors conducting lead related construction work will be evaluated on a performance standard which includes, but is not limited to, cleanliness of work area, work practices as verified by exposure monitoring, containment set up, and ultimately, the cleanup of paint chips,

dust, and debris.

Any work practice that creates paint chips, dust, or painted debris must be conducted within a regulated area as defined in 8 CCR 1532.1 and within a containment at least as stringent as described in these specifications. The containment system shall be designed and constructed to prevent visible dust or debris from escaping the work area. The regulated area shall be in compliance with the Cal/OSHA lead in construction standard found in 8 CCR 1532.1 (i)(6) and Title 17. In addition, the containment shall be designed to avoid generation of airborne lead in concentrations above 1 ug/m³ above background levels as measured downwind at the perimeter of the work area.

3.2 COMPLIANCE WITH REQUIREMENTS FOR THE PERMISSIBLE EXPOSURE LIMIT AND ACTION LEVEL

Contractor must comply with all OSHA requirements specified for work that results in exposures over the PEL. This will include, but is not limited to, complying with requirements for training, personal protection, regulated area development, blood testing, personal air monitoring, the development of a written compliance plan, and the notification of employers in adjacent areas.

Contractors must assume the Action Level of 30 micrograms per cubic meter (ug/m³) will be exceeded each time a new job task is conducted.

Contractors shall conduct personal air monitoring for each different work practice or activity that disturbs materials containing lead. Monitoring shall continue until all different job classifications have been shown not to expose workers to lead levels above the Action Level of 30 ug/m³.

THE OWNER may choose to collect area air samples within the work area. These samples results may be used to generate an eight-hour, time-weighted average. The result of area samples in a lead work area should normally be far below what the workers are breathing. Therefore THE OWNER air work area air samples that result in exposures above 15 ug/m³ will trigger a re-evaluation of the Contractor's work practices, engineering controls, and containment system.

3.2.1 PERSONAL AIR SAMPLING

The Contractor is responsible for conducting personal air monitoring during disturbance of lead-containing or lead-based paint to evaluate airborne exposures during performance of any work listed as a Trigger Task as discussed in 8 CCR 1532.1 (d) (2). This sampling shall be in accordance with Cal/OSHA regulations found in Title 8 Section 1532.1, in order to determine worker exposure to lead and evaluate the effectiveness of the Contractor's written Compliance Work Plan submitted to THE OWNER.

3.2.2 ALTERNATE WORK PLANS

The Contractor may submit alternate work plans to the Owner's suggested work practices. These alternate work plans must be approved by THE OWNER prior to their implementation.

3.3 PROHIBITED WORK PRACTICES

The following work activities are prohibited on the project:

- a. Open flame burning or torching.
- b. Machine sanding or grinding without a tool equipped with a vacuum recovery system that includes High Efficiency Particulate Air (HEPA) filtration.
- c. Un-contained hydro-blasting or high-pressure washing.
- d. Abrasive blasting or sandblasting without a tool equipped with a vacuum recovery system that includes HEPA filtration or done outside of a negative pressure enclosure.
- e. Heat guns operating above 1,100 degrees Fahrenheit.
- f. Dry scraping (except for limited areas where electrical hazards create a higher risk than lead.)
- g. Use of methylene chloride-based paint strippers.

3.4 COMPETENT PERSON

The Contractor shall have a competent person (as defined by Cal/OSHA) onsite to supervise and oversee all activities which may disturb materials containing lead. This person must be a CDPH Certified Lead Supervisor if trigger tasks will be performed as described in 8 CCR 1532.1 (d)(2). Trigger tasks include but are not limited to, manual demolition, scraping and sanding, using heat guns, power tool cleaning with or without dust collection systems, abrasive blasting, welding, cutting, torch burning, and debris clean-up.

3.5 WORK SITE PREPARATION

Preparation of the work area at the site must be completed using 6-mil polyethylene (poly) sheeting placed over floors, asphalt, concrete, soil, vegetation, and other surfaces in the immediate work area.

3.5.1 EXTERIOR WORK SITE PREPARATION

For exterior work site preparation, one layer of 6-mil poly sheeting should be placed on the ground extending at least 20 feet beyond the perimeter of surfaces included in the work. Depending on wind conditions, the poly may need to be extended further than twenty foot minimum. The poly on the ground must be adequate to catch all paint chips, dust and debris that is released by the work.

Do not anchor ladder feet on top of plastic (puncture the plastic to anchor ladders securely to ground). For all other exterior painted surfaces, protect the poly sheeting with boards to prevent puncture from falling debris, nails, etc., if necessary. Secure the plastic to the side of the building with tape, or other anchoring system, so there is no gap between the plastic and the

building. Weight all plastic sheets down using wooden two-by-fours or similar objects. If water blasting is to be performed raise edges of the plastic to create a catch basin to prevent runoff of contaminated water.

The exterior of all windows located within ten feet of any disturbance of lead must be sealed by covering them with at least one layer of six mil thick poly sheeting. All ventilation machinery within 20 feet of the disturbance should be sealed by at least one layer of six mil thick poly sheeting. Keep all windows within 20 feet of working surfaces closed, including windows of adjacent structures.

Should the disturbance of paint involve removing paint from the exterior of a window, then the Contractor must seal the inside of the window with two layers of 6 mil thick poly. There shall be no gaps between the interior wall and the material. THE OWNER may choose to waive the requirement to seal the inside of the window with two layers of poly if the disturbance of lead involves less than 5% of the painted surface area of an exterior window.

Those in adjacent areas must be kept a sufficient distance from any chance of encountering lead dust and debris. Therefore, the Contractor shall erect barrier tape at a 20-foot perimeter outside the edge of the containment area poly sheeting. This barrier tape shall comply with 8 CCR 1532.1 (m) and read WARNING, LEAD WORK AREA, POISON, NO SMOKING OR EATING.

The barrier tape must not be directly adjacent to poly sheeting used to contain dust and debris. There must be a buffer zone between the poly sheeting and the barrier tape. In summary, if the poly sheeting extends ten feet out from the surface being disturbed, the barrier tape must be placed 30 feet away from the surface being disturbed. If however, the poly sheeting extends to 20 feet out, then the barrier tape must be at least 40 feet out from the surface being disturbed. The area off the poly sheeting, but inside of the barrier tape, is still part of the regulated area but is not allowed to have any lead dust or debris present at any time.

THE OWNER recognizes that the distances described in developing the containment may not be feasible in certain situations. However, compromises in these requirements must be specifically approved by THE OWNER prior to their implementation.

The Contractor shall not conduct exterior work if wind speeds are greater than 20 miles per hour.

Work must stop and cleanup occur before rain begins.

The Contractor shall not leave debris or poly sheeting out overnight. The Contractor shall keep all debris, stored in metal barrels if hazardous waste, in a secured area until final disposal.

3.5.2 INTERIOR SITE PREPARATION

For interior work site preparation, one layer of 6-mil poly sheeting must be placed on the entire floor. However, the entire floor area need not be covered by poly for large interior areas where the disturbance of lead is limited to the perimeter of the area. If the entire floor area is not covered with poly, the poly must extend out a minimum of ten feet from those areas where lead

will be disturbed. The poly sheeting must be secured to the floor using tape so there is no gap between the floor and the wall.

If individual rooms are being worked in, seal all doorways with a primitive airlock flap to prevent contamination of other areas of the building. Post Lead Warning Signs at the building exterior near main and all secondary entryways. All ventilation systems must be turned off or sealed off in the room or interior space where lead will be disturbed. Any exceptions to this must be approved by THE OWNER. Ventilation system ducts and/or registers must be sealed with poly if they are within 20 feet of the disturbance of lead even if they are turned off. If furniture or other equipment are to remain in place, cover with a single layer of poly sheeting. All cleanup of the work area shall be performed using a HEPA vacuum and wet washing techniques.

3.6 WET WORK PRACTICES

If scraping or sanding is to be performed, this work must be done using wet methods unless a vacuum recovery system is used that includes HEPA filtration.

3.7 ABRASIVE BLASTING

Where abrasive blasting is performed by the Contractor, a negative pressure enclosure must be constructed using at a minimum six mil thick poly sheeting. The Contractor shall utilize air filtration units equipped with HEPA filtration to establish a negative pressure within the work area. Sufficient make-up air ports shall be installed with flapped openings and pre-filters to assist in providing outside air for dilution of airborne particulate. The integrity of the negative pressure enclosure shall be maintained at all times during the abrasive blasting work to prevent fugitive emissions.

3.8 OMITTED

3.9 LEAD WASTE MANAGEMENT

Waste disposal of all materials is the responsibility of the Contractor. The Contractor must plan the work in order to minimize the generation of hazardous waste during the demolition operation. The Contractor must create separate waste streams as necessary. This particularly includes the separation of any loose paint chips or flakes from other construction debris. All waste streams must be identified by the Contractor before the work begins and separated during the course of the project to minimize costs of disposal. The Contractor is responsible for all costs associated with the testing, removal, packing, loading, shipping, and disposal of lead containing waste generated during this project. (This does not include wastewater testing done to determine if power washing is permitted.)

The Contractor is required to comply with all regulations in Title 8 Section 1532.1 Lead in Construction, Cal/EPA Title 22 for waste classification and disposal.

3.9.1 LEAD WASTE TESTING

The Contractor must conduct appropriate waste stream characterization testing and/or filtering prior to disposal of waste products such as water, sand, paint chips, vacuum debris, and filters

generated during surface preparation activities. Once completed, the test analysis results must be submitted to THE OWNER for review. The Contractor is responsible for all costs associated with waste stream testing.

The Contractor may not remove or dispose of the identified materials from the job site until this review has been completed and the Contractor has been informed by THE OWNER of their concurrence that the materials have been properly tested and meet the requirements allowing the materials to be classified as non-hazardous. This process does not apply to any waste assumed or determined to meet levels of lead requiring the waste to be disposed of as hazardous waste.

3.9.2 WASTE MANIFESTS

The Contractor is responsible for obtaining and properly completing any Uniform Hazardous Waste Manifests needed for the disposal of lead containing waste. However, the Contractor SHALL NOT sign any Uniform Hazardous Waste Manifests for the Owner.

The Contractor SHALL contact THE OWNER in advance of the scheduled pick-up time and date so the waste materials can be visually inspected for proper packing. At that time the Contractor will deliver the Uniform Hazardous Waste Manifest to THE OWNER so it can be properly signed by THE OWNER.

3.10 DECONTAMINATION PROCEDURES

Decontamination procedures shall be established by the Contractor depending upon the airborne concentrations of lead, and shall, at a minimum, be in compliance with 8 CCR 1532.1 (i)(1-5). As stated in 8 1532.1 (i)(1-5), the Contractor shall assure that these decontamination facilities are used by the supervisor and workers. For work that does not exceed the PEL, the Contractor must assure that a hand-washing station is available and used by the supervisor and workers.

For work that exceeds the PEL, or is assumed to exceed the PEL, the Contractor must provide a shower facility.

3.10.1 AVOIDING CONTAMINATION OF ADJACENT AREAS BY PROPER DECONTAMINATION

The Contractor must ensure that no lead-contaminated dust or debris is tracked out of the regulated, contained area on the clothes or footwear of those allowed in the work area. Footwear worn out of the work area must have been covered by protective booties if worn in the work area. Following removal of the protective covering over the footwear, all footwear worn in the work area must be HEPA vacuumed before allowing it to be worn out of the regulated area. Footwear that can be washed before leaving the work area does not need to be covered by protective booties as long as the exterior of the footwear is thoroughly washed prior to being worn outside of the regulated area.

Should THE OWNER discover that an occupant of the regulated area leaves the regulated area without properly decontaminating, the Contractor will be required to clean the adjacent areas that in the opinion of THE OWNER may have been exposed to lead dust or debris from this

action. Failure to properly decontaminate is demonstrated by wearing protective clothing outside the regulated area that was previously worn in the area or by wearing footwear outside the regulated area that was not properly covered and/or decontaminated. The failure to adequately decontaminate will trigger the following cleaning. In all areas determined necessary by THE OWNER, the Contractor will be required to HEPA vacuum, then wet wash, then HEPA vacuum again all potentially contaminated areas and items to the satisfaction of THE OWNER. THE OWNER will not need to demonstrate the need for this cleaning by the presence of visible dust and will not need to collect settled dust samples in order to require the Contractor to implement the cleaning routine.

3.11 ENSURING EFFECTIVENESS OF CONTAINMENT

The containment system use by the Contractor must be designed to eliminate any lead dust or debris from leaving the regulated work area in an uncontrolled, uncontained fashion. Should the interior and exterior site preparation described in this section not be adequate at controlling the release of lead dust and debris, the Contractor must stop work and design a more effective containment system. The Contractor is responsible for designing an effective containment system. Should that require a different type of Containment than described in the compliance work plan provided THE OWNER, the Contractor must obtain approval from THE OWNER to implement the proposed replacement type of containment. All costs associated with developing an effective containment system are the responsibility of the Contractor.

3.11.1 WORK PRACTICES DONE TO ENSURE EFFECTIVENESS OF THE CONTAINMENT

The Contractor shall ensure the prompt cleanup of dust and debris created by the work. At a minimum, this means the work area must be cleaned of any visible dust and debris prior to any work stoppage (such as for breaks and/or lunch, or, if the containment is for an interior space, prior to the end of the work shift.)

The Contractor shall not allow significant amounts of paint chips and debris to gather on the poly sheeting and be trampled by the workers feet.

The Contractor shall ensure that at least one worker is assigned to chase down any paint chips or debris that might be blown off the containment. This is particularly necessary for any work done on the exterior of multi-story buildings.

3.11.2 WORK INVOLVING WHOLE COMPONENT REMOVAL

Prior to whole building components being removed, or demolition activities being started, loose peeling and flaking paint must first be either removed from the component surfaces or stabilized. Any paint flakes generated during this work must be separated into appropriate waste streams and handled as a hazardous waste, or as deemed appropriate based on results of proper analytical testing results.

3.11.3 AIR SAMPLING DONE TO ASSURE EFFECTIVENESS OF THE CONTAINMENT

The Contractor should design engineering controls and barriers in order to ensure that the work does not generate an airborne release of lead more than 1 ug/m³ above background levels as

measured by THE OWNER at the perimeter of the work.

THE OWNER may also choose to collect area air samples within the regulated area. Should these samples indicate an airborne lead level that is more than half of the Action Level (15 ug/m³ as determined by an eight-hour time-weighted average), the Contractor shall change the engineering controls and/or work practices in order to ensure that future area air samples results drop below 15 ug/m³.

3.12 SUBMITTAL REQUIREMENTS

The following documents shall be provided to THE OWNER prior to, during, and at the completion of the work. Additional documents may be required by THE OWNER. This form is developed for the convenience of the Contractor and does not necessarily represent all the documentation needed for all jobs.

3.12.1 LEAD-RELATED WORK PRE-CONSTRUCTION SUBMITTALS

1. Current Training Records for Lead
 - A. Lead-Related Construction Training
Compliance with 8 CCR 1532.1 (l)(2) for all supervisors and workers
 - B. Lead-Related Construction Certification by CDPH
Certification as specified by 8 CCR 1532.1 (l)(3) if required by these specifications or by project conditions.

Summary of specification requirements: All supervisors/workers must meet Cal/OSHA training requirements for those exposed over the Action Level. Supervisors must be CDPH certified as Lead Supervisors if they will supervise the implementation of trigger tasks on lead-containing paint.

Workers do not have to be CDPH Certified Lead Workers unless CDPH regulations are triggered. The intent of the supervisor being CDPH certified is to assure the contractor supervisor has sufficient experience to manage a project of this size and complexity.

2. Written Compliance Plan
3. Written Respiratory Protection Program
4. Current Worker Related Documentation
 - A. Copies of Recent BLL and ZPP Analysis Reports for Workers (Performed Within Previous 12 Months)
 - B. Medical Evaluation Stating each Employee is Cleared for Respirator Use (Performed Within the Previous 12 Months)
 - C. Respiratory Fit Tests for Each Employee (Current by OSHA and Cal/OSHA

Standards)

5. Written Notification to Cal/OSHA to comply with 8 CCR 1532.1 (p) Pre-Work Job Notification

The following documents shall be provided to THE OWNER prior to, during, and at the completion of the work. Additional documents may be required by THE OWNER. This form is developed for the convenience of the Contractor and does not necessarily represent all the documentation needed for all jobs.

3.12.2 LEAD-RELATED INTERIM CONSTRUCTION SUBMITTALS

1. Waste Stream Characterization Testing Results (prior to removal of waste from the site and generated during work impacting materials containing lead. This does not include whole architectural components.)
2. Exposure Assessment (Air Monitoring) Results of Employees Performing Trigger Tasks (Within 72 Hours of Sample Collection)
3. DOP Testing Documentation
4. Worker Documentation for New Workers Assigned to the Project or Workers with Documentation on File Which Expired During the Project.

The following documents shall be provided to THE OWNER prior to, during, and at the completion of the work. Additional documents may be required by THE OWNER. This form is developed for the convenience of the Contractor and does not necessarily represent all the documentation needed for all jobs.

3.12.3 LEAD-RELATED POST CONSTRUCTION SUBMITTALS

Contractor shall provide the following post-construction submittals to THE OWNER through the designated channels within thirty (30) days of completion of lead-related work.

1. Completed Uniform Hazardous Waste forms for lead waste disposal (if applicable with reference in the final letter that all waste forms have been submitted to the Owner through proper channels).
2. Letter stating that all documentation has been submitted to THE OWNER through proper channels or stating the Contractor and their sub-contractors did not generate lead waste during the performance of their work.

Note: Any item on this list submitted during the course of the project and received by THE OWNER will not need to be submitted again, unless specifically requested.



Other Hazardous Materials General Requirements

OTHER HAZARDOUS MATERIALS SPECIFICATIONS

SECTION I - DEFINITIONS

Abatement - Procedures beyond a special operations and maintenance program to control fiber release from PCB-containing materials. Includes removal, encapsulation, enclosure, repair.

ACGIH - American Conference of Governmental Industrial Hygienists

AIHA - American Industrial Hygiene Association

Air Filtration Device - A portable exhaust system equipped with HEPA filtration and capable of maintaining a constant low velocity air flow into contaminated areas from adjacent uncontaminated areas. At a minimum, the air intake for the air filtration device, must have a pre-filter on it which can be changed within the containment area.

Airlock - A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area. The airlock shall consist of a minimum of two curtained Z-flap doorways separated by a distance of at least three (3) feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.

Air Monitoring - The process of measuring the fiber content of a known volume of air collected during a specific period of time. The procedure normally utilized for asbestos follows the NIOSH Standard Analytical Method for Asbestos in Air Method 7400. For clearance air monitoring, transmission electron microscopy methods may be utilized for detection of smaller fibers and specific fiber identification.

Air Sampling Professional - The professional contracted or employed by the Owner to supervise and/or conduct air monitoring and analysis schemes. The air sampling professional must be a Cal/OSHA Certified Asbestos Consultant or Certified Site Surveillance Technician. This individual shall not be affiliated in any way other with the contractor performing the abatement work.

Ambient Air - The air outside buildings and structures or the air as it normally exists in a space prior to abatement.

Amended Water - Water to which a surfactant has been added.

ANSI - American National Standards Institute

Approval/Acceptance - A written means of approving/accepting a product, containment set-up, work practice. Approval/Acceptance by PMP, Inc. Project Manager may be given verbally, if followed in written format. Failure of PMP, Inc. Project Manager to address an issue either verbally or in writing does not imply Approval/Acceptance.

Asbestos - Means the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite grunerite (amosite), anthophyllite, actinolite, and tremolite.

Project Manager - An individual who is qualified by virtue of experience and education, designated as the Owner's representative and responsible for overseeing the abatement portion of the project. This person is generally the same as the PMP, Inc. Project Manager.

ASTM - American Society for Testing and Materials

Authorized Visitor - The Owner (and any designated representative) and any representative of a regulatory or other agency having jurisdiction over the project.

Bidder - A duly licensed and accredited asbestos contractor who has submitted a bid. If bid walk is mandatory, bidder must attend the walk-in order for bid to be considered responsive.

Cal/OSHA - California Division of Occupational Safety and Health. Acronym of DOSH is interchangeable with this term.

Certified Industrial Hygienist (CIH) - An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.

Cleaning Barriers - Cleaning barriers are used in addition to critical barriers and are primarily to aid in the decontamination of the area after the completion of asbestos removal work. Cleaning barriers are normally comprised of plastic sheeting placed over non-asbestos-containing surfaces (e.g. walls, floors, ceilings, casework, etc.), and asbestos-containing surfaces not scheduled for removal, in the regulated area.

Clean Room - An uncontaminated area or room which is a part of the worker decontamination enclosure system with provisions for storage of workers' street clothes and clean protective equipment. Also, the term includes uncontaminated area or room of a Waste Transfer Airlock.

Competent Person - The Contractor's employee who meets the requirements of and is responsible for the activities of the Competent Person as described in Title 8 CCR 1529. The includes but is not limited to an individual who has current AHERA Contractor/Supervisor accreditation and has the responsibility and authority to ensure that the Contractor's employees comply with the contract documents and all relevant Cal/OSHA regulations.

Containment - The temporary isolation of the work area from the rest of the building to prevent escape of asbestos fibers.

Contractor - The Contractor is the person or entity identified as such in the Contract Documents; references to "Contractor" include the Contractor's authorized representative.

Critical Barrier - Critical Barriers used to restrict water and air flow. Critical Barriers are the barriers placed over openings in the walls and ceilings of a work area to ensure that airborne fibers cannot escape the work area via these openings. The Contractor will construct impermeable barriers at all exits or openings, including doorways, duct chases, mechanical shafts, elevator shafts, floor openings, drains, and the like, so that all possible exit or entrance

routes are effectively barricaded and sealed. Unless otherwise specified in the Contract documents, critical barriers shall be constructed of at least one layer of 6-mil thick poly.

Critical Barrier Negative Pressure Test - Required test for negative pressure with only critical barriers and air filtration units installed. This test must be conducted prior to the installation of cleaning barriers but may be conducted with or without the decontamination unit in place.

Curtained Doorway, Z-Flapped - A device to allow ingress or egress from one room to another while permitting minimal air movement between spaces (such as the various rooms of the decontamination chamber). Each Curtained Doorway will consist of three sheets of poly. The first barrier will be a sheet of poly covering the entire passage and taped to the ceiling, walls, and floor. This sheet will be slit vertically in order for the workers to pass through it. Another sheet of poly will cover the first sheet but be taped only to the ceiling (or top of the first barrier) and down one wall. The third sheet of poly will be placed on the opposite side of the slit poly from the second sheet. The third sheet of poly will be attached in a similar manner as the second sheet except the wall attachment will be to the opposite wall. Each barrier must be weighted at the bottom in order to ensure that it will lay flat against the slit sheet opening should the negative pressure system fail. Please see diagram:

Other designs are permissible, if approved by the PMP, Inc. onsite project manager.

Decontamination Enclosure System - (Also known as Decon or Waste Transfer Decon) A series of connected rooms designed for the decontamination of workers and equipment that is separated from the work area and from each other by z-flapped curtained doorways. This unit shall be constructed with at least two layers of six-mil poly for the floors, walls, and ceiling. The floor of the dirty room shall consist of two layers of six-mil poly plus a third layer of poly, four-mil or thicker, to be used as a removable drop layer. Drop layer is to be removed as needed, but not less than daily. All decontamination enclosure systems used for worker entry and exit shall be equipped with a shower. At no time shall z-flaps of Decontaminations Enclosure System chambers be taped, held or otherwise blocked open.

DOP - Dioctyl phthalate particles which are normally used as an agent for testing the efficiency of HEPA filters.

Demolition - The wrecking or taking out of any load-supporting structural member, casework, items or surfaces of a facility together with any related handling operations and disposal.

Dust or Debris - Material visible to the PMP, Inc. Project Manager. Dust and debris may be contaminated with asbestos, and may affect the asbestos work practices, containment or clearance air samples required on this project, whether contaminated with asbestos or not.

Encapsulant, Bridging/Penetrating - A liquid material which can be applied to asbestos-containing material to control the possible release of asbestos fibers from a material either by creating a membrane over the surface (bridging encapsulant) or by penetrating the material and binding its components together (penetrating encapsulant).

Encapsulant, Lock-down - A liquid product designed to mist the air within a contained area after the containment has passed visual clearance by the PMP, Inc. Project Manager. Lock-down

encapsulant is designed to bind asbestos fibers together and to create a tacky surface causing non-visible asbestos fibers, settling out of the air, to adhere to containment poly.

U.S. EPA - U.S. Environmental Protection Agency

Equipment Decontamination Enclosure System - That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment into or out of the work area, consisting of a clean room, washroom and holding area.

Equipment Room - A contaminated area or room which is part of the worker/equipment decontamination enclosure system with provisions for storage of contaminated clothing and equipment.

Exterior of Containment HEPA Filtered Pressure Differential Unit - An air-purifying unit positioned outside, rather than inside the regulated work area. The face, or filter portion of the unit is integrated within the work area, and the remainder of the unit (housing, wheels, rivets, control panel, etc.) is located outside of the work area. This allows filters on the air intake to be changed from within the regulated area but access to the machine itself is available to those outside the area. Pressure differential units which pass DOP testing across the HEPA filter, but fail at rivets, control panels, wheels, etc. may be used in this fashion as long as the failure point of the unit can remain on the exterior of containment while the face of the unit and filters are inside containment.

Facility - Any institutional, commercial, or industrial structure, installation, or building.

Facility Component - Any item (pipe, duct, boiler, tank, reactor, turbine, furnace, etc.) at or in a facility, any portion of a facility or any structural member in or at a facility.

Federal OSHA or OSHA - Federal Occupational Safety and Health Administration.

Fixed object - A piece of equipment or furniture in the work area which cannot be removed, or will not be removed by Owner's decision, from the work area.

HVAC - Heating, ventilation, and air conditioning system.

HEPA Filter - A high efficiency particulate air filter capable of removing particles 0.3 microns in diameter from an air stream with 99.97% efficiency.

HEPA Vacuum - A vacuum system equipped with HEPA filtration.

PMP Project Manager - An individual, employed by (or subcontracted to) PMP Environmental Consulting, Inc., who is qualified by virtue of experience and education, designated as the Owner's representative and responsible for overseeing the abatement, and/or other activities.

Holding Area - A clean space where clean supplies and equipment are stored before being placed into containment. Also, a contaminated space, adjacent to a shower or equipment washing chamber, where dirty equipment or packaged waste is stored prior to removal from containment.

Lock-down - To mist the air and to wet surfaces with an agent designed to bind asbestos fibers together and to create a tacky surface causing non-visible asbestos fibers, settling out of the air, to adhere to containment poly.

Magnehelic Gauge - Instrument for measuring the static air-pressure differential across a barrier.

Manometer - See "Magnehelic gauge". This project requires at least one properly calibrated and fully functioning recording manometer.

Mil - An abbreviation for millimeter. Generally used when referring to the thickness of plastic (poly) sheeting used to contain the regulated area.

Mini-Enclosures - Mini-enclosures may be used where glovebag setups are not feasible. The use of them must be approved by the PMP, Inc. Project Manager. Mini-enclosures shall be constructed of six-mil polyethylene (attached with tape and/or glue to walls and floors) and shall be small enough for a maximum of two workers who can enter the enclosure one time, complete the abatement exercise, pass out the containerized debris and exit. The workers shall have available a change room contiguous to the work area where they can remove their coveralls prior to leaving the area.

Monitoring - May include:

- a) Visual inspection for the presence of visible emissions; or
- b) Air monitoring performed in accordance with accepted methods.
- c) Collecting core samples of encapsulated or bridged materials.
- d) Collecting other bulk samples during and following abatement.
- e) Sampling substrata following abatement.

Inspection of abatement contractor's, and contractor's employees, work practices for compliance to these and other specifications and applicable regulations.

NVLAP - National Voluntary Laboratory Accreditation Program.

NESHAP - The National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61, Nov. 20, 1990)

NIOSH - The National Institute for Occupational Safety and Health

Owner - The Owner includes the individual or entity that owns the property and, unless otherwise stated, the Owner's authorized representatives, including the PMP, Inc. Project Manager, the Owner's Board of Trustees and the Owner's officers, employees, agents and representatives.

Poly - Polyethylene sheeting.

Pre-start Meeting - Meeting held before the beginning of the project in which final details of the project are discussed and Contractor provides Project Monitor with pre-job submittal packet.

Regulated Area - An area established by a contractor to demarcate areas where the contractor's employees may conduct Class 1, 2, or 3 work as described in 8 CCR 1529 or airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit. Additionally, "regulated area" means any measure used to restrict access to an area where personnel impacting asbestos-containing materials are required to wear respiratory protection and/or protective clothing by the project specifications, or applicable regulations, regardless of airborne asbestos concentration levels.

Regulations - shall include all relevant federal, state, and local regulations including but not limited to:

- a. U.S. Environmental Protection Agency Regulations for Asbestos (Title 40, Code of Federal Regulations, Part 61, Subparts A & B)
- b. Title 8, Chapter 4, Subchapters 1 through 21, California Administrative Code, General Industry Safety orders, Section 5208 "Asbestos" or the applicable sections of the Federal Asbestos Regulations. Cal/OSHA Construction Safety Orders, Section 1529.
- c. "Asbestos Hazard Emergency Response Act", U. S. Environmental Protection Agency, 40 CFR, Part 763. Final Rule and Notice.
- d. Applicable local county Air Pollution Control District and Air Quality Management District or other local NESHAPs Enforcement.

Removal - The stripping of any asbestos-containing materials from surfaces, substrates, or components of a facility. As per various regulations, the ground is considered a substrate.

Renovation - Altering in any way one or more facility components.

Scope of Work - Job specific information and specifications used in combination with these Asbestos General

Requirements. If conflicts exist between the Scope of Work and these specifications, the stricter requirement will be enforced unless the conflict is specifically addressed in writing in the Scope of Work for this project.

Shower Room - A room between the clean room and the equipment room in the decontamination enclosure with hot and cold or warm running water controllable at the tap and suitably arranged for complete showering during decontamination. The shower room must be equipped with an overflow pan to contain water splashed, leaked or spilled out of the shower unit.

Staging Area - The secured area outside of containment where clean equipment and supplies are stored. Waste must not be stored within the staging area unless placed within an additional lockable container or area approved by the PMP, Inc. Project Manager.

Strip - To take off friable asbestos materials from any part of a facility.

Structural Member - Any load-supporting member of a facility, such as beams and load-supporting walls or any non-load-supporting member, such as ceilings and non-load supporting walls.

Submittals - Pre, in-progress and post job documents submitted by contractor to Owner's representative as indicated in General Requirements and Bidding Requirements.

Surfactant - A chemical wetting agent added to water to improve penetration.

Visible Emissions - Any emissions, whether containing particulate or not, that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

Waste Load-out/Transfer System - A decontamination system utilized for transferring containerized waste from inside to outside of the work area. A series of three connected rooms used for the load-out of asbestos-containing materials that have been properly containerized. The waste loadout chamber system shall normally consist of three connected chambers adjacent to the work area. Each chamber shall be constructed with at least two layers of six-mil thick poly for the floors, walls, and ceiling. The chamber located closest to the work area is known as the dirty chamber, and in addition to the two layers of six-mil thick poly on the floor, shall also have a third layer of poly, four-mil or thicker, to be used as a removable drop layer. The drop layer is to be removed as needed but at least daily. The chamber located closest to the outside the work area is known as the clean chamber. See Section 15 for proper use of waste Load-out/Transfer System.

Wet cleaning - The process of eliminating asbestos contamination and visible dust and debris from building surfaces and objects by using cloths, mops, or other utensils which have been dampened with water and afterwards thoroughly decontaminating them or disposing of them as asbestos contaminated waste.

Work area - Designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contained work area or temporary enclosure is a work area that is isolated from the rest of the facility using critical barriers and cleaning barriers, a decontamination system, and additional means of signs and barriers to reduce access by unauthorized persons. The work area includes all decontamination chambers, waste transfer system and the abatement area. A non-contained work area is an isolated or controlled-access work area which has not had poly installed nor been equipped with a decontamination enclosure system.

Worker - A person who successfully completed an initial U.S. EPA and/or state-approved four-day AHERA-accreditation course and who has maintained that training through approved annual refresher training, and possesses current and valid AHERA-accreditation documentation as a AHERA-accredited asbestos worker.

SECTION II - POLYCHLORINATED BIPHENYLS (PCB's)

2.1 PCB Light Ballasts

The Contractor may be instructed to remove light fixtures which contain light ballasts during demolition/ renovation activities specified in the contract documents. These light ballasts typically contain PCBs in the oil used as coolant and lubricant. Any ballast containing PCBs is to be considered a "Hazardous Waste", and the Contractor is responsible for ensuring personnel who perform PCB related work (inspection, removal, clean-up) are trained and qualified to do so. All workers must also follow current OSHA regulations including 29 CFR 1910.120 and 8 CCR 5192, as well as other applicable federal, state, and local laws and regulations.

All light ballasts manufactured through 1978 are magnetic ballasts which contain PCBs. Installation of ballasts manufactured prior to 1978 continued for several more years. As a result, it can be expected that any building constructed before 1980 which has not had a complete lighting retrofit is likely to have PCB containing ballasts. Therefore, unless the ballast is electronic (this type is PCB free), determined by testing not to contain PCBs, or the manufacturers label on the ballast states "No PCBs", it is assumed all light ballasts on this site contain PCB's, and must therefore be handled as a hazardous waste by the Contractor. The Contractor may have other options for disposal of any light ballasts found not to contain PCB's.

Light Ballast Inspection

Contractor should disconnect all power and de-energize all electrical equipment to be impacted prior to performing inspection of electrical devices scheduled for removal or replacement. This de-energizing should be performed by or under the supervision of a licensed electrician. Contractor shall inspect each ballast prior to its removal to determine if the ballast is leaking, if oily residue is present on the exterior of the ballast, or the ballast has been damaged resulting in a leak. Upon discovering and prior to removal of any oil coated, leaking, or damaged ballast Contractor shall contact Owner's representative to discuss work procedures, waste requirements, etc.

Handling Work Practices of Undamaged Light Ballasts

Handling of ballasts shall be consistent with existing ballast conditions. While a ballast may not initially indicate any damage or leakage to be present, it may become damaged or begin to leak for any number of reasons during the removal and handling process. Any skin contact will probably constitute overexposure to PCBs since they are easily absorbed through the skin. It is recommended any personnel who will perform PCB related work should at a minimum wear protective clothing, including chemically resistant gloves, goggles, boots, and disposable coveralls.

Handling Work Practices of Damaged Light Ballasts

Handling of damaged ballasts shall be performed in a manner consistent with existing and current federal, state, and local laws and regulations. Clean-up of spills, or contaminated surfaces will require the use of specifically trained and properly protected personnel utilizing state of the art work practices, removal equipment, and materials. The Owner's representative must be notified prior to the performance of this type of work.

2.2 PCB Containing Waste

All PCB containing light ballasts, removed by the Contractor, shall be placed in leak tight approved containers (metal barrels) until they are removed from the site by a waste transporter permitted to haul hazardous materials. Barrels must not be loaded more than their approved capacity. For most barrels this is 750 pounds. No other materials except, an enough absorbent packing material, shall be included with the light ballasts.

The Contractor should contact their waste hauler prior to the start of work for information pertaining to recommendations, or the waste haulers stated requirements, for packing PCB containing ballasts. However, at a minimum, the absorbent packing material should be added to the bottom of the waste barrel prior to the first ballast. Absorbent packing material should then be added intermittently as necessary to encase the ballasts as the waste barrel is being filled. When the waste barrel is filled, or no more light ballasts will be added, additional absorbent packing material should be added to completely cover the ballasts and the container then sealed.

Contractor is also responsible for appropriate labeling of waste barrels and securing of lids to meet federal and/or state requirements while being stored on the site.

All leaking or damaged ballasts must be handled in accordance with federal and state disposal requirements and shall be separated from undamaged ballasts in preparation for incineration at an appropriately licensed facility.

The Contractor is responsible for all costs associated with the removal, packing, loading, shipping, and disposal of each barrel of waste generated during this project. The Contractor is also responsible for obtaining and properly completing any Uniform Hazardous Waste Manifests needed for the disposal of PCB waste. However, the Contractor SHALL NOT sign any Uniform Hazardous Waste Manifests for the Owner.

2.3 Bulk PCB Materials

For projects involving buildings constructed or remodeled between 1950 and 1979, it is important to ensure that the PCB abatement activities are conducted safely and in accordance with Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA).

2.4 Personal Protective Equipment (PPE)

Chemical-resistant gloves made of nitrile butadiene rubber and Tyvek coveralls.

All workers should wear safety glasses or protective goggles.

Respirators with combination organic vapor and HEPA cartridges when working with dust generating activities or solvents.

Worker hygiene - Eating, drinking, and smoking should be prohibited in the work site. Showers and separate changing areas for work clothing and everyday clothing should be provided for work involving dust generation.

2.5 Containment and removal

Containment area must be constructed using 4-6 mil poly to minimize the spread of PCB dust to other surrounding areas.

Contractor must regularly clean the work area, including tools and machinery, with a HEPA vacuum and mopping, or hand wiping, to remove dust.

The HVAC system should be shut down and remain off until PCB abatement is complete. The abatement areas should be isolated from the HVAC system always.

2.6 Visual Inspection and Clearance

A third-party consultant shall conduct a visual inspection of the containment area to determine if additional decontamination is warranted or if the area is ready for clearance.

PMP, Inc. will collect wipe samples from surfaces within the containment after decontamination is complete. A sufficient number of wipe samples will be collected to ensure that the area is fully decontaminated. The number of samples and location will be determined in accordance with 40 CFR 761 Subpart O or Subpart P. A minimum of three samples shall be collected. These samples will be collected on horizontal surfaces.

2.7 Disposal

The contractor shall properly store removed PCB-contaminated materials at the place of removal. Materials should be placed in tightly-locking, stable containers (e.g., fiber drums or polyethylene buckets with polyethylene lining).

No person may avoid any provision specifying a PCB concentration by diluting the PCBs, unless otherwise specifically provided.

All PCB waste must be characterized/profiled to determine the proper disposal requirements and waste facility.

When caulk with PCB concentrations equal to or greater than 50 parts per million (ppm) is removed along with any attached PCB containing building materials, it must all be disposed of in accordance with the methods provided in [40 CFR 761.62](#)

SECTION III - UNIVERSAL WASTE LAMP HANDLING PROCEDURES

The Contractor may be instructed to remove light fixtures which contain lamps which are designated as "Universal Waste" during demolition/renovation activities specified in the contract documents. If the Contractor is instructed to remove such fixtures the following handling procedures shall be followed.

3.1 Universal Wastes

Universal wastes are hazardous wastes that are more common and pose a lower risk to people and the environment than other hazardous wastes. Federal and State regulations identify

universal wastes. The regulations, called the “Universal Waste Rule,” are in the California Code of Regulations (CCR), title 22, division 4.5, chapter 23.

3.2 Universal Waste Lamps

Universal Waste Lamp, also referred to as “lamp” is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infra-red regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium, and metal halide lamps. Any lamp which is not spent and has been designated to be reused is not classified as a waste and does not meet the requirements of a hazardous waste or a universal waste.

3.3 Mercury-added lamps (effective February 9, 2004)

Fluorescent tubes and several other types of lamps (not incandescent light bulbs) contain a small amount of mercury that is necessary for their operation. Currently, most fluorescent lamps contain enough mercury to be a hazardous waste. Metallic mercury is liquid at room temperature but can easily evaporate from liquid to vapor. Mercury vapor is colorless and odorless. Fluorescent bulbs contain mostly mercury vapor but can contain small amounts of liquid mercury.

3.4 Universal Waste Lamp Disposal

Spent lamps typically contain concentrations of mercury exceeding the established Total Threshold Limit Concentration and/or the Soluble Threshold Limit Concentration values. Therefore, these lamps must be sent to an authorized recycle facility, or to a universal waste consolidator for shipment to an authorized recycling facility.

At a minimum the lamps must be packaged in boxes/packages/containers which are structurally sound, adequate to prevent breakage, and compatible with the content of the lamps. These packages must remain closed and be free of damage which could cause leakage under reasonably foreseeable conditions.

Each container shall be labeled or marked clearly with one of the following phrases: “Universal Waste– Lamp(s),” or “Waste Lamp(s).” or “Used Lamp(s)”.

Documentation in the form of a log, invoice, manifest, bill of lading or other shipping document is required to be submitted to PMP, Inc. for each shipment of waste from the project site. This documentation shall include name and address of generator, address of site waste is generated on, quantity of lamps to be shipped, date of shipment, name and address of hauler, and name and address of waste facility receiving the waste.

3.5 Hazardous Waste Designation

Any lamp which is not designated for recycling or continued use in a different fixture for which the lamp is manufactured for use in must be handled, managed, and disposed of as a hazardous waste in accordance with Cal/EPA Title 22. Since all spent lamps are required to be recycled, the Owner will not approve of the disposal of lamps as hazardous without consultation and review of the specific circumstances which warrant this change in designation.

3.6 Additional Waste Management Requirements

The Contractor is responsible for managing lamps in a manner which prevents release of any universal waste or component of a universal waste to the environment. The Contractor is also responsible for the immediate clean-up of materials (mercury or other hazardous constituents) released by a lamp broken during removal, or otherwise damaged while being handled, into a container, or containers, designed to accommodate the resulting waste and its contents.

The Contractor is responsible for training employees in proper handling, packaging, storing, and labeling the universal waste, as well as, how to respond to releases (66273.13). This may be accomplished by providing employees written instructions or posting these instructions in the area where the universal waste lamps are being stored.

The Contractor is responsible for all costs associated with the removal, packing, loading, shipping, clean up, and disposal of hazardous materials removed during this project, and any waste generated due to breakage during this project. The Contractor is also responsible for obtaining and properly completing any Uniform Hazardous Waste Manifests needed for the disposal of lamp waste. However, the Contractor SHALL NOT sign any Uniform Hazardous Waste Manifests for the Owner.

It SHALL be the responsibility of the Contractor to contact the Owner in advance of the scheduled pick-up time and date, so the waste materials can be visually inspected for proper packing, and to have the Uniform Hazardous Waste Manifest properly signed by an Owner representative.

SECTION IV - MERCURY

4.1 Mercury Switches

Thermostat switches that contain mercury are considered a hazardous waste if removed and disposed. Where the contract requires removal of thermostat switches, the Contractor SHALL follow all requirements for packaging and disposal of these mercury containing wastes.

4.2 Mercury Flooring

In the 1960's, many companies began manufacturing and installing a thin layer of synthetic, polyurethane flooring on top of concrete sub-floors, to provide a resilient and rubberlike surface. Typically, proprietary liquid polyurethane was poured on top of the sub-floor and organo-mercuric salts were incorporated to catalyze the polymerization/curing process. Mercury-containing polyurethane floors were widely installed in school gymnasiums and sports tracks across the US, until being discontinued in the mid-1980s due to concerns of their emissions of mercury vapor.

Mercury is a bio-accumulative toxic chemical. Bioaccumulation occurs when mercury is absorbed into your body at a faster rate than which the mercury can be lost by catabolism and excretion. At room temperature, this heavy metal is liquid that readily emits vapor, and mercury vapor is a neurotoxin. The United States Protection Agency has set a minimum risk level of 0.3 micrograms of mercury vapor per cubic meter of air.

4.3 Containment

The doors, windows, and penetrations into the rooms shall be sealed with 6 mil polyethylene. All ventilation systems shall be locked-out and sealed as critical barriers. An attached three

stage decon with operational shower is required. The Scope of Work may require more chambers depending upon the project size.

Walls shall be covered with a minimum of two layers of 4-mil polyethylene sheeting. Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least six feet (6'). DO NOT locate any seams at wall/floor joints. Wall sheeting shall overlap floor sheeting by at least twelve inches (12") beyond the wall/floor joint to provide a better seal against water damage and for pressure differential maintenance. Wall sheeting shall be secured adequately to prevent it from falling away from the walls.

HEPA filters scrubbed the air and exhausting to the exterior of the building. Charcoal pre-filter is required for all mercury work.

Signage prevented unauthorized individuals from entering the containment areas must be posted at all entrances/exits.

4.4 Training

All contractors entering the containment area are required to complete a 40-hour hazwoper training.

4.5 Personal Protective Equipment (PPE)

Personal Protective Equipment shall consist of full body coveralls, gloves, face shields and/or glasses to prevent skin and eye contact, and a minimum of half face respirators with mercury cartridges.

It should be noted that mercury flooring cannot be cleaned using a HEPA vacuum or brooms (sweeping). These methods will cause the mercury to spread and increase mercury levels in the air. A special vacuum cleaner designed to collect mercury should be used.

4.6 Removal and Clearance

All removal work must be done using proper dust control techniques. No visible emission shall be seen in containment.

Daily clean-up of loose dust and debris is mandatory before breaks and leaving the site.

Final visual inspection will be conducted at the end of the abatement process.

To clear the area of mercury contamination, a Jerome Mercury Vapor Analyzer must be used to test floors and other surface areas for mercury contamination. The area will be cleared when concentrations are found to be below 0.3 $\mu\text{g}/\text{m}^3$ for mercury vapor or below the established baseline prior to the start of work.

SECTION V - SMOKE DETECTORS WHICH MAY CONTAIN A RADIOACTIVE ELEMENT

The Contractor shall be responsible for the removal of all smoke detectors which may contain a radioactive element, which may be present in the building. These types of detectors are easily identified by reviewing the label which is usually found on the back of the detector. Older units may display the international radiation symbol (three bladed propeller) and the radioactive

content. Newer units state the radioactive content and their Nuclear Regulatory Agency (NRC) license number.

The Contractor shall be responsible for contacting the manufacturer of any smoke detector with a radioactive element present to determine their return policies. The California Department of Toxic Substance Control (DTSC) has stated that it is a condition of the manufacturers NRC license that they must accept returned units for disposal. The Contractor shall be responsible for all costs associated with removing, packaging, and shipping of the detectors in compliance with the manufacturers policies and procedures.

Contractor shall submit to the Owner a letter from the manufacturer which includes the number of units received, date received, and acceptance of the shipment for disposal by that manufacturer.

SECTION VI - FREON AND REFRIGERANT RECOVERY

40 CFR 273.13 (d)(2) Waste Management (11/24/04) States refrigerant gas recovery must be conducted by a licensed refrigerant recovery technician. All Contractors are liable for the payment of any/all fines issued to the client for improper release of refrigerants to the atmosphere. These fines can be \$10,000 or more, per release.

SECTION VII - SILICA

It should be noted that silica is not a hazardous material, but that regulation 8 CCR 1532.3 (Cal/OSHA Construction) and 8 CCR 5204 (General Industry) regarding the disturbance of silica containing materials (cement containing materials, stone, rock, gypsum, false ceiling panels, etc.) must be conducted per the requirements of the regulation enforce at the time of the work.

7.1 Specified Exposure Control Methods

The following control methods and corresponding work practices, engineering controls and personal protective equipment use must be followed, or improved on, by all contractors handling materials that may contain crystalline silica – whether the activity of construction based or a general industry activity (Table 1 Copied from Cal/OSHA):

7.2 Table 1 - Specified Exposure Control Methods When Working with Materials Containing Crystalline Silica

		<i>Required respiratory protection and minimum assigned protection factor</i>	
<i>Equipment/task</i>	<i>Engineering and work practice control methods</i>	<i>(APF)</i>	
		<i>≤ 4 hours/shift</i>	<i>> 4 hours/shift</i>
(i) Stationary masonry saws	Use saw equipped with integrated water delivery system that	None	None.
	continuously feeds water to the blade		
	Operate and maintain tool in accordance with manufacturer's		
	instructions to minimize dust emissions		
(ii) Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that		
	continuously feeds water to the blade		
	Operate and maintain tool in accordance with manufacturer's		
	instructions to minimize dust emissions:		
	-When used outdoors	None	APF 10.
	-When used indoors or in an enclosed area	APF 10	APF 10.
(iii) Handheld power saws for cutting	For tasks performed outdoors only: Use saw equipped with	None	None.
fiber-cement board (with blade	commercially available dust collection system		
diameter of 8 inches or less)			

	Operate and maintain tool in accordance with manufacturer's		
	instructions to minimize dust emissions		
	Dust collector must provide the air flow recommended by the tool		
	manufacturer, or greater, and have a filter with 99% or greater		
	efficiency		
(iv) Walk-behind saws	Use saw equipped with integrated water delivery system that		
	continuously feeds water to the blade		
	Operate and maintain tool in accordance with manufacturer's		
	instructions to minimize dust emissions:		
	-When used outdoors	None	None.
	-When used indoors or in an enclosed area	APF 10	APF 10.
(v) Drivable saws	For tasks performed outdoors only:		
	Use saw equipped with integrated water delivery system that	None	None.
	continuously feeds water to the blade		
	Operate and maintain tool in accordance with manufacturer's		
	instructions to minimize dust emissions		
(vi) Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that	None	None.
	supplies water to cutting surface		
	Operate and maintain tool in accordance with manufacturer's		
	instructions to minimize dust emissions		

(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system	None	None.
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		
	Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism		
	Use a HEPA-filtered vacuum when cleaning holes		
(viii) Dowel drilling rigs for concrete	For tasks performed outdoors only:		
	Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism	APF 10	APF 10.
	Use a HEPA-filtered vacuum when cleaning holes		
(ix) Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector	None	None.
	OR		

	Operate from within an enclosed cab and use water for dust	None	None.
	suppression on drill bit		
(x) Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact:		
	-When used outdoors	None	APF 10.
	-When used indoors or in an enclosed area	APF 10	APF 10.
	OR		
	Use tool equipped with commercially available shroud and dust collection system		
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		
	Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism:		
	-When used outdoors	None	APF 10.
	-When used indoors or in an enclosed area	APF 10	APF 10.
(xi) Handheld grinders for mortar removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system	APF 10	APF 25.
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		

	Dust collector must provide 25 cubic feet per minute (cfm) or greater		
	of airflow per inch of wheel diameter and have a filter with 99% or		
	greater efficiency and a cyclonic pre-separator or filter-cleaning		
	mechanism		
(xii) Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface	None	None.
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		
	OR		
	Use grinder equipped with commercially available shroud and dust collection system		
	Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions		
	Dust collector must provide 25 cubic feet per minute (cfm) or greater		
	of airflow per inch of wheel diameter and have a filter with 99% or		
	greater efficiency and a cyclonic pre-separator or		
	filter-cleaning mechanism:		
	-When used outdoors	None	None.
	-When used indoors or in an enclosed area	None	APF 10.

(xiii) Walk-behind milling machines	Use machine equipped with integrated water delivery system that	None	None.
and floor grinders	continuously feeds water to the cutting surface		
	Operate and maintain tool in accordance with manufacturer's		
	instructions to minimize dust emissions		
	OR		
	Use machine equipped with dust collection system recommended by	None	None.
	the manufacturer		
	Operate and maintain tool in accordance with manufacturer's		
	instructions to minimize dust emissions		
	Dust collector must provide the air flow recommended by the		
	manufacturer, or greater, and have a filter with 99% or greater		
	efficiency and a filter-cleaning mechanism		
	When used indoors or in an enclosed area, use a HEPA-filtered		
	vacuum to remove loose dust in between passes		
(xiv) Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant	None	None.
	Operate and maintain machine to minimize dust emissions		
(xv) Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays	None	None.

	designed to suppress dust		
	Operate and maintain machine to minimize dust emissions		
	For cuts of four inches in depth or less on any substrate:		
	Use machine equipped with exhaust ventilation on drum enclosure	None	None.
	and supplemental water sprays designed to suppress dust		
	Operate and maintain machine to minimize dust emissions		
	OR		
	Use a machine equipped with supplemental water spray designed to	None	None.
	suppress dust. Water must be combined with a surfactant		
	Operate and maintain machine to minimize dust emissions		
(xvi) Crushing machines	Use equipment designed to deliver water spray or mist for dust	None	None.
	suppression at crusher and other points where dust is generated (<i>e.g.</i> ,		
	hoppers, conveyers, sieves/sizing or vibrating components, and		
	discharge points)		
	Operate and maintain machine in accordance with manufacturer's		
	instructions to minimize dust emissions		
	Use a ventilated booth that provides fresh, climate-controlled air to		
	the operator, or a remote-control station		
(xvii) Heavy equipment and utility	Operate equipment from within an enclosed cab When employees	None	None.

vehicles used to abrade or	outside of the cab are engaged in the task, apply water and/or		
fracture silica-containing materials (e.g., hoe-ramming, rock ripping)	dust suppressants as necessary to minimize dust emissions		
or used during demolition activities			
involving silica-containing			
materials			
(xviii) Heavy equipment and utility	Apply water and/or dust suppressants as necessary to minimize dust	None	None.
vehicles for tasks such as grading	emissions OR		
and excavating but not including:			
Demolishing, abrading, or fracturing	When the equipment operator is the only employee engaged in the	None	None.
silica-containing materials	task, operate equipment from within an enclosed cab		

7.3 Demarcation

Contractor shall demarcate regulated areas from the rest of the workplace in a manner that minimizes the number of employees exposed to respirable crystalline silica within the regulated area.

Contractor shall post signs at all entrances to regulated areas that bear the legend specified in subsection 8 CCR 5204 (j)(2):

DANGER
RESPIRABLE CRYSTALLINE SILICA
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
WEAR RESPIRATORY PROTECTION IN THIS AREA

AUTHORIZED PERSONNEL ONLY

7.4 Training

Contractors must have a minimum of one-hour training on the hazards of Silica. The training must cover the six bullet points within the regulation and must be performed by a competent person.

When required to use a respirator, Contractor must also have a valid medical and respirator fit test.

7.5 Respirators

Contractor shall provide each employee and the employee's designated representative entering a regulated area with an appropriate respirator equipped with HEPA cartridges (or a single use filtering face piece respirator rated at P-100) and shall require each employee and the employee's designated representative to use the respirator while in a regulated area.

7.6 Air monitoring

Contractor shall make and maintain an accurate record of all exposure measurements taken to assess employee exposure to respirable crystalline silica.

This record shall include at least the following information:

1. The date of measurement for each sample taken
2. The task monitored
3. Sampling and analytical methods used
4. Number, duration, and results of samples taken
5. Identity of the laboratory that performed the analysis
6. Type of personal protective equipment, such as respirators, worn by the employees monitored
7. Name, social security number, and job classification of all employees represented by the monitoring, indicating which employees were monitored.

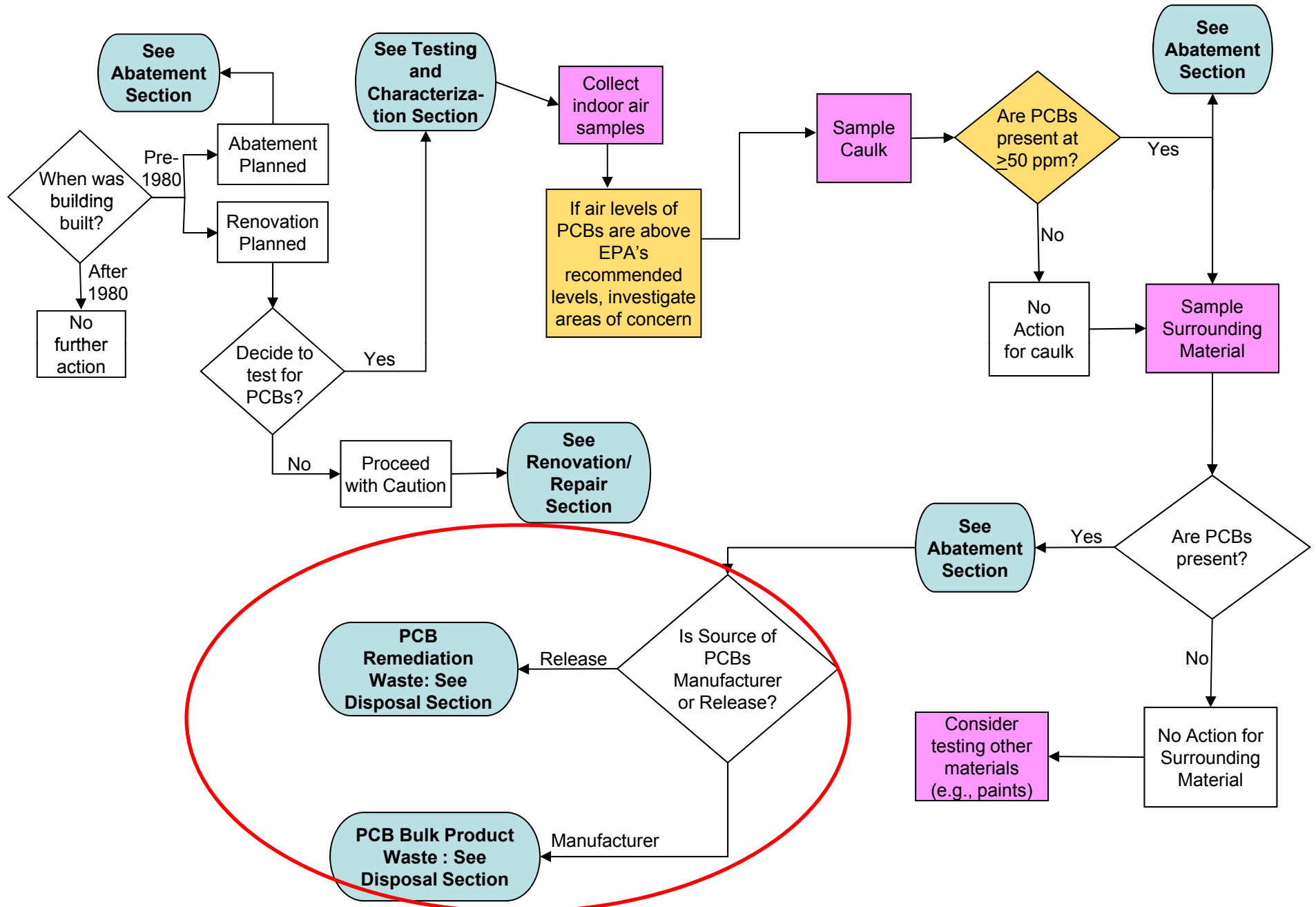
7.7 Housekeeping

Dry sweeping or dry brushing where such activity could contribute to employee exposure to respirable crystalline silica is prohibited. The Contractor shall use techniques such as, wet sweeping, HEPA-filtered vacuuming or other methods that minimize the likelihood of exposure.

Compressed air shall not be used to clean clothing or surfaces where such activity could contribute to employee exposure to respirable crystalline silica unless the compressed air is used in conjunction with a ventilation system that effectively captures the dust cloud created by the compressed air. (Leaf blowers moving leaves around would likely be okay, leaf blowers used to move soil, dust or dirt could cause significant exposures).

Current Version on EPA Website

http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/caulk/guide/flowchart_112012.pdf





OCT 24 2012

MEMORANDUM

SUBJECT: PCB Bulk Product Waste Reinterpretation

TO: Regional TSCA and RCRA Division Directors, EPA Regions 1-10

FROM: Suzanne Rudzinski, Director *Suzanne Rudzinski*
Office of Resource Conservation and Recovery

On February 29, 2012, EPA published in the *Federal Register* a draft reinterpretation of our position regarding PCB-contaminated building materials, specifically addressing the definition of PCB bulk product waste and PCB remediation waste. Based on comments received, we have modified the proposed reinterpretation to improve the ability to implement the reinterpretation. Today, we are announcing that we are finalizing the reinterpretation, which allows building material "coated or serviced" with PCB bulk product waste (e.g., caulk, paint, mastics, sealants) at the time of designation for disposal to be managed as a PCB bulk product waste.

Background

EPA has received several questions from the regulated community regarding the disposal and cleanup requirements for PCB-contaminated building materials. The Toxic Substances Control Act (TSCA) regulations at 40 CFR 761 provide disposal and cleanup requirements for PCBs. The disposal and cleanup requirements for PCB-contaminated building material depend on whether the material is classified as a PCB bulk product waste or PCB remediation waste. Waste derived from caulk or paint containing PCBs at ≥ 50 parts per million (ppm) is defined as PCB bulk product waste in 40 CFR 761.3. The definition of PCB bulk product waste includes "non-liquid bulk wastes or debris from the demolition of buildings and other man-made structures manufactured, coated, or serviced with PCBs." Other PCB bulk product wastes may include, but are not limited to, mastics, sealants, or adhesives containing PCBs at ≥ 50 ppm. PCB remediation waste is defined as "waste containing PCBs as a result of a spill, release, or other unauthorized disposal...", and leaching may be considered a release of PCBs.

Summary

In February 2012, the Agency solicited comment on a draft reinterpretation of its position regarding the status of PCB-contaminated building materials under the definition of PCB bulk product waste. In association with the proposed reinterpretation, EPA identified several guidance documents that would be changed to reflect this reinterpretation. Current EPA guidance states that building material contaminated by the migration of PCBs from PCB bulk product waste, such as caulk or paint, is considered a PCB remediation waste. The proposed reinterpretation would have modified this guidance to specify that only PCB-

contaminated building material from which the PCB bulk product has been removed is a PCB remediation waste. That is, under the proposed reinterpretation, the distinction was in whether or not the PCB bulk product is still attached to the building materials.

The reinterpretation finalized today allows building material (i.e., substrate) “coated or serviced” with PCB bulk product waste (e.g., caulk, paint, mastics, sealants) at the time of designation for disposal to be managed as a PCB bulk product waste, even if the PCBs have migrated from the overlying bulk product waste into the substrate, provided there is no other source of PCB contamination on or in the substrate. However, if the substrate is not “coated or serviced” (i.e., the PCB bulk product waste, such as caulk or paint has been removed from the building material) at the time of designation for disposal, and the substrate is contaminated with PCBs that have migrated from the bulk product waste (or from another unauthorized disposal), the substrate would be considered a PCB remediation waste. This final reinterpretation is being modified from the proposal as described below.

In response to comments, we are modifying the proposed reinterpretation to allow for the possibility that, during a cleanup or demolition process, PCB bulk product waste (e.g., caulk, paint, mastics, and sealants) could separate from the contaminated building material before all of the waste is physically placed in the final disposal facility. At the time of designation for disposal, the contaminated building material would be deemed a PCB bulk product waste if the PCB material (e.g., caulk, paint, mastic or sealant) is still attached. This label as PCB bulk product waste would stay with the contaminated building materials. EPA recommends developing an abatement plan to document the decision to designate building materials as bulk product waste at the time of designation for disposal. If the PCB material has already been removed or flaked off at the time of designation for disposal, the building material would be deemed a PCB remediation waste, as established under the existing interpretations.

Rationale

I believe this reinterpretation will allow for accelerated cleanups of PCB-contaminated building material by providing a more straightforward path for disposal pursuant to the 40 CFR part 761 PCB regulations. Speeding up removal and disposal of the PCB-contaminated material is critical for reducing exposure potential, such as in schools or other locations where such PCB-contaminated building materials are currently in place. The previous interpretation applied different requirements to PCB-contaminated building materials than to the products that were originally manufactured with PCBs (e.g., paint or caulk). Labeling the building materials a different type of PCB waste than PCB bulk product waste (e.g., paint or caulk) can result in slower and more costly removal and disposal. This reinterpretation maintains existing environmental and human health protections, while it removes unnecessary burdens to allow for more expedient cleanups, thus reducing potential exposures, for example, in schools and commercial buildings.

In particular, protecting children’s health from environmental risks is fundamental to EPA’s mission. Caulks and paints containing PCBs were used in building some schools from 1950 to 1978. The reinterpretation will help to promote healthy school environments by reducing exposure to PCBs in schools.

The overwhelming majority of comments received supported the reinterpretation, with no comments in direct opposition. The reinterpretation provides the ability to dispose of any building material, contaminated by adjacent PCB bulk product waste (e.g., caulk, paint, mastics, and sealants), in accordance with the PCB bulk product waste regulations. Contaminated building materials that remain in place, after the PCB bulk product waste (e.g., caulk, paint,

mastics, and sealants) has been removed, should continue to be considered and managed as PCB remediation waste.

If you have any questions regarding the reinterpretation please contact ORCR's Program Implementation and Information Division at 703-308-8404.



Hazardous Material Survey Reports



PMP Environmental Consulting

5325 Elkhorn Blvd. #360, Sacramento, CA 95842
(916) 628-5124 • PMPEnvConsulting@gmail.com

February 23, 2023

Mr. Noe Ramos
Kitchell CEM
c/o Solano Community College District
4000 Suisun Valley Rd
Fairfield, CA 94534

Dear Mr. Ramos:

The purpose of this survey was to verify potentially hazardous materials that may be disturbed as part of an upcoming renovation of Building 1600, located on the Solano Community College Campus, 4000 Suisun Valley Road, Fairfield, California. The visual inspection, bulk sampling, and survey documentation were performed by Shannon Johanson and Edward Hunter. Mrs. Johanson is a Department of Occupational Safety and Health (DOSH) Certified Asbestos Consultant and California Department of Public Health (CDPH) Certified Inspector and Risk Assessor, as required by California regulations. Mr. Hunter is a CDPH certified Lead Sample Technician.

Procedures

PMP performed a visual inspection of the building to identify accessible suspect hazardous materials that may be disturbed during the planned renovation project; Collected bulk samples for asbestos analysis by polarized light microscopy (PLM); and Consolidate data and findings into a report format.

The suspect materials were sampled using a knife or other similar coring device suitable to the type of material sampled to cut through its entire thickness and to ensure that a cross-section of the material was obtained. The material was then placed in an appropriately labeled sample bag that was sealed and submitted to Eurofins EML P&K in Burlingame, California for analysis. A unique sample number was assigned to each sample.

A total of 113 bulk samples were collected from 53 homogeneous materials. All the samples were analyzed using Polarized Light Microscopy with Dispersion Staining (PLM/DS) techniques in accordance with the methodology approved by the U.S. Environmental Protection Agency (EPA). The percentage of asbestos present in the samples was determined based on a visual area estimation. The EPA defines asbestos-containing materials (ACM) as any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM). 40 CFR Part 763 identifies the lower limit of reliable quantification for asbestos using the PLM method as approximately one percent (1%) by volume.

Regulations in California (CAL/OSHA Title 8 CCR 1529) define asbestos-containing construction materials (ACCM) as those materials having asbestos content of greater than one tenth of one percent (> 0.1%). Therefore, for the purpose of this survey, any amount of asbestos detected will be considered positive. In addition to the percentages, the types of asbestos minerals are also reported. The PLM method is the standard method used to analyze asbestos bulk samples.

When "None Detected" (ND) appears in the laboratory results, it should be interpreted as meaning asbestos was not observed in the sample material.

Mr. Noe Ramos
 Kitchell CEM
 c/o Solano Community College District
 February 23, 2023
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The materials listed in the table below were found to contain asbestos during the inspection.

Sample ID	Material	Asbestos Content	EPA Category	Approximate Square Footage
01A-E	Sheetrock w/Wallpaper Covering w/Joint Compound	2% Chrysotile Joint Compound 2% Chrysotile (Texture)	RACM	Unknown
02A-G	Sheetrock - Smooth	2% Chrysotile Joint Compound	RACM	Unknown
03A-C	2'x4' False Ceiling Panels-Old Fissure Pattern	4% Chrysotile	RACM	9,000 SF
08A-B	9" VFT Green w/Brown Streaks & Black Mastic	<1% Chrysotile Tile 3% Chrysotile Mastic	CAT I	1200 SF
09A	9" VFT Brown w/Streaks & Black Mastic	3% Chrysotile Mastic	CAT II	5000 SF
10A-C	9" VFT-Beige & Black Mastic	<1% Chrysotile Tile 3% Chrysotile Mastic	CAT I	2000 SF
19A	Dark Gray Grout associate with Gray/Pink Tile	3% Chrysotile	RACM	100 SF
26A-C	Brown Window Frame Sealant-Interior	<1% Chrysotile	CAT II	500 LF
31A-B	Brown Window Putty-Exterior	<1% Chrysotile	CAT II	500 LF
32A-C	Brown Concrete Expansion Joint at Windows	2% Chrysotile	CAT II	50 LF
39A-D	Canvas Wrap TSI Pipewrap	3% Chrysotile	RACM	200 LF
40A-B	Brown Door Frame Sealant-Exterior	<1% Chrysotile	CAT II	250 LF
43A-C	Red Tile Seam Sealant	2% Chrysotile	CAT II	Unknown



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The following materials were sampled and do not contain asbestos:

- 2'x4' False Ceiling Panel-Pinhole/Fissure
- Tan Cove Base Mastic
- 12" VFT-White and Mastic
- Yellow Carpet Glue associated with Gray Carpet with Lines
- Yellow Carpet Glue Associated with Blue/Gray/Pink Carpet
- Yellow Carpet Glue Associated with Gray/Blue Carpet
- Brown Grout Associated with 2" Tiles
- White Grout Associated with 2" Tiles
- Gray/Brown Grout Associated with 2" Brown Tiles
- Brown Mortar
- White Grout Associated with 4" White Ceramic Tile
- Black Moisture Barrier under Ceramic Floor Tile
- Brown Cove Base Mastic
- Wallpaper Glue
- Gray Concrete Floor
- Accordion Partition Wall
- White Door Frame Sealant
- Gray Sink Coating
- White Fixture Sealant
- Yellow Glue Associated with Yellow Laminate Countertop
- Stucco
- Gray Concrete Expansion Joint at Window
- Brown Expansion Joint Sealant at Ground
- Red Flange Gasket
- Black Flange Gasket
- White Sealant on Paperwrap TSI
- Tape on Paperwrap Fiberglass TSI
- White Duct Seam Tape
- Black Moisture Barrier at Window
- Red Tile Mortar at Roof
- White Vibration Dampener
- Silver Paint
- White Painted Black Penetration Mastic
- Black Coating on Roof Flashing
- Gray Sealant at Top of Brick
- White Sealant at Roof Ladder
- Gray Seam Sealant at HVAC
- White PVC Roofing
- Black Pipe Penetration Mastic
- Clear Vapor Barrier at Clay Tiles



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Recommendations – Asbestos

If more than 100 square feet of asbestos-containing material is to be removed as part of this renovation project, the abatement must be conducted by a contractor registered with Cal/OSHA as an asbestos abatement contractor. The workers will need to have AHERA Worker training with at least one worker trained to the AHERA Contractor-Supervisor level. The workers will need to follow the requirements for asbestos work found in the Cal/OSHA Asbestos Construction Standard, 8 CCR 1529.

The contractor will also be required to file a notification with the local Cal/OSHA office at least 24 hours prior to commencing any asbestos abatement activities.

The US EPA NESHAP regulation, as enforced by the Bay Area Air Quality Management District (BAAQMD), will require a 10-working day notification to be filed for all regulated asbestos containing material (RACM) or category I or II materials that are removed using mechanical means, or are likely to become friable by removal methods. There are fees associated with this notification that must be paid prior to the notification period commencing.

Non-friable materials that are not made friable by removal or are not removed using mechanical means can be disposed of as a non-hazardous asbestos-containing material.

Any suspect materials not included in this inspection must be presumed to be asbestos-containing materials until they are tested and proven not to contain asbestos.

Hazardous Waste

Building materials reported to contain less than one percent (<1%) of asbestos confirmed by point count method are not considered hazardous by the U.S. EPA, and hence, may not require removal and disposal prior to demolition or renovation. Regulations may vary, however, between regional air quality management districts and/or other state agencies responsible for implementing EPA's rules. Therefore, local agencies should be contacted for specific ACM definitions and handling requirements. CAL/OSHA requires special packaging and labeling on containers with asbestos-containing construction materials.

Composite sampling, which may potentially reduce the total asbestos content of the material, is only permitted when sampling joint compound, tape, and gypsum wallboard according to EPA's Asbestos NESHAP Clarification Regarding Analysis of Multi-Layered Systems (40 CFR Part 61 FRL-4821-7).

Lead

A total of 24 paints and/or coatings were sampled on various components expected to be disturbed during the upcoming renovation. Of the 24 paints and/or coatings, 17 were found to be below the limit of detection for lead during the inspection:

- Beige paint on Sheetrock in Corridor
- Beige Paint on Sheetrock in Office
- Green Paint on Metal Door Frame
- White Paint on Sheetrock in Classroom
- White Paint on Metal Door Frame
- Beige Paint on Metal Door Frame/Door



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Paints below the limit of detection continued:

- Beige Paint on Sheetrock in Restroom
- Red Paint on Concrete-Exterior
- White/Light Gray Paint on Concrete-Exterior
- Gray Paint on Stucco/Concrete-Exterior
- White Paint on Concrete Exterior
- Red Paint on Concrete/Stucco
- Yellow Paint on Concrete/Stucco
- Orange Paint on Metal Roof Ladder
- White Paint on Metal Roof Flashing

All other paints and/or coatings found at this site contain at a minimum of lead-containing levels.

The Cal/OSHA Lead in Construction Standard (8 CCR 1532.1) should be followed for any activities that will disturb the painted coatings in the project area. This is recommended as the standard applies to lead-related construction activities containing any detectable amount of lead. Elements of the standard that will be applicable include but may not be limited to training, exposure assessment monitoring, preparation of a site-specific lead compliance plan, use of personal protective equipment and hygiene facilities.

Silica

Silica in concrete, and other cement-containing materials (stucco, tile grout, brick and CMU mortar, etc.) and in materials such as sheetrock, is not a hazardous material nor a hazardous waste, but can present a hazard for construction workers' health.

Cal/OSHA regulation 8 CCR 1530.1 requires workers to either wear suits and respirators while handling materials such as concrete (for installation, removal, or clean up after installation or removal) or to collect personal air samples on workers and prove the protective suits and respirators are not necessary.

Polychlorinated biphenyls

A total of 11 bulk samples were collected from materials suspected of containing polychlorinated biphenyl (PCB's). PCB's are organic chlorine compounds. Polychlorinated biphenyls were once widely deployed as dielectric and coolant fluids in electrical apparatus, carbonless copy paper and in heat transfer fluids. They were also added as an unauthorized use into bulk materials such as sealants/caulking, paints/coatings, fiberglass, etc. between 1950 and 1979. Of the 11 samples collected six were found to contain PCB's. The levels range from 720 micrograms/kilogram to 130,000,000.



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c/o Solano Community College District
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Page Six

The following materials shall only be disturbed using proper training and work practices for handling PCB's:

Brown Window Frame Sealant-Interior
Tan Window Putty – Exterior
Brown Expansion Joint Sealant-Exterior
Brown Concrete Expansion Joint Sealant-Exterior
Black Coating on Roof Flashing
Gray Door/Window Frame Sealant-Exterior

If PCB's are to be managed in place the following are the best management practices outlined by the EPA:

- Ensure ventilation systems are operating properly and regularly inspected and maintained according to system manufacturer instructions and guidelines or ANSI/SHRAE/ACCA standard 180-2012.
- Clean inside the building frequently to reduced dust or residue.
- Use a wet or damp cloth to mop or clean surfaces.
- Use vacuums with high efficiency particulate air (HEPA) filters.
- Wash hands with soap and water before eating.

All disposal of PCB's should meet the EPA requirement under 40 CFR part 761. All PCB waste must have a waste profile/characterization completed prior to disposal. If sampling shows PCB concentrations of >50 PPM all waste will need to be disposed of at a hazardous waste landfill permitted by the EPA under section 3004 of RCRA or by the state authorized under section 3006 of RCRA, or a PCB disposal facility approved under this part.

Mold

Water damaged materials and mold contamination was found in various locations within Building 1600. Some of these locations include 1642 ceiling, 1658 sheetrock wall, 1610 ceiling, and 1625 has delaminating wallpaper and mold growth at the window. It is possible that mold may be growing on hidden surfaces, such as the back side of sheetrock, wallpaper, paneling, top of ceiling tiles, and the underside of carpets and pads.

It's recommended that the materials with visible water damage and/or mold contamination be abated by the abatement contractor to ensure proper containment set-up, removal, and disposal. If done improperly it can allow the mold spores to migrate and start growing in different areas.

Limitations

This investigation is limited to the conditions and practices observed and information made available to PMP, Inc. The methods, conclusions and recommendations provided are based on PMP, Inc.'s consultants judgment, expertise, and the standard of practice for professional service. They are subject to the limitations and variability inherent in the methodology employed. As with all environmental investigations, this investigation is limited to the defined scope and does not purport to set forth all hazards, nor indicate that other hazards do not exist.



Mr. Noe Ramos
Kitchell CEM
c/o Solano Community College District
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Thank you for the opportunity to perform this inspection. If you have any questions, or need further assistance with this project, please contact me at (916) 628-5124 or by e-mail at pmpenvconsulting@gmail.com.

Sincerely,

A handwritten signature in blue ink that reads "Shannon Johanson".

Shannon Johanson
President
Cal/OSHA CAC 14-5310
CDPH I/A, PM 24367

Enclosures:

PMP

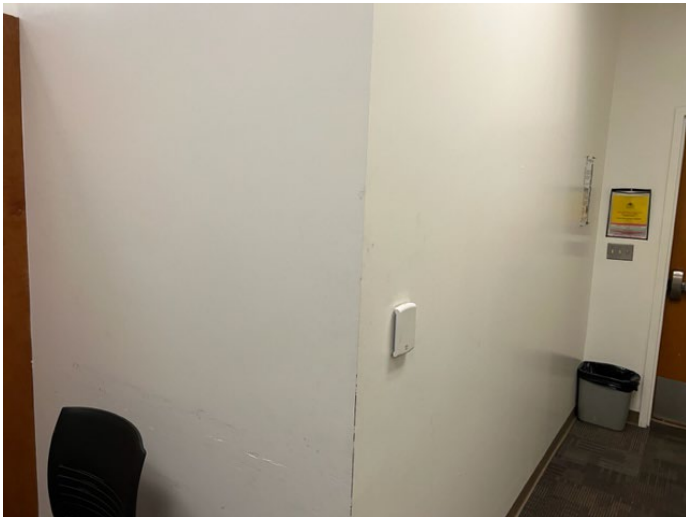
Photographs



2'x4' False Ceiling Panels-Old -Asbestos



Delaminating Sheetrock with Mold in Mechanical Room



Sheetrock-Smooth - Asbestos



Brown Window Frame Sealant-Asbestos & PCB



Attic Space



9" VFT Brown & Mastic-Asbestos



9" VFT Green & Mastic-Asbestos



Water Leaks found in Classroom



Mold Found Behind Wallpaper in Classroom



Red Seam Sealant at Tile Roof



Attic Space with TSI Pipewrap-Asbestos



Gray Sealant - PCB

PMP

Certifications
(Consultant and Lab)

DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health-Asbestos Certification
1750 Howe Avenue, Suite 460
Sacramento, CA 95825
(916) 574-2993 Office <http://www.dir.ca.gov/dosh/asbestos.html> actu@dir.ca.gov



410035310C

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September 27, 2022

PMP Environmental Consulting, Inc.
Shannon M Johanson
5325 Elkhorn Blvd. #360
Sacramento CA 95842

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. To maintain your certification, you must abide by the rules printed on the back of the certification card.

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

Please contact our office at the above address or email w any changes in your contact/mailling information within 15 days of the change.

Sincerely,

Jeff Ferrell
Senior Safety Engineer

Attachment: Certification Card

cc: File

Renewal - Card Attached





LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:	CERTIFICATE TYPE:	NUMBER:	EXPIRATION DATE:
	Lead Inspector/Assessor	LRC-00003375	11/16/2023
	Lead Project Monitor	LRC-00003374	11/16/2023

Shannon Johanson

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at www.cdph.ca.gov/programs/clpbh or calling (800) 597-LEAD



STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS



CALIFORNIA STATE

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

**CERTIFICATE OF
ENVIRONMENTAL LABORATORY ACCREDITATION**

Is hereby granted to

Eurofins EMLab P&K - Irvine

17461 Derian Avenue #100

Irvine, CA 92614

Scope of the certificate is limited to the
"Fields of Accreditation"
which accompany this Certificate.

Continued accredited status depends on compliance with applicable laws and regulations,
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: **3047**

Effective Date: **5/1/2021**

Expiration Date: **4/30/2023**

A handwritten signature in blue ink, appearing to read "Christine Sotelo".

Sacramento, California
subject to forfeiture or revocation

Christine Sotelo, Chief
Environmental Laboratory Accreditation Program



**CALIFORNIA STATE
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Fields of Accreditation**



Eurofins EMLab P&K - Irvine

17461 Derian Avenue #100
Irvine, CA 92614
Phone: 5232981015

**Certificate Number: 3047
Expiration Date: 4/30/2023**

Field of Accreditation: 121 - Bulk Asbestos Analysis of Hazardous Waste

121.010	001	Bulk Asbestos	EPA 600/M4-82-020
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PMP

Laboratory Reports and Chain of Custody

PMP Environmental Consulting

5325 Elkhorn Blvd., Sacramento, CA 95642

(916) 628-5124 • PMPEnvConsulting@gmail.com



003160770

Bulk Request Analysis Form

Client: Solano Community College Dist.
Job Site: Solano Community College-
Bldg, 1600
Project ID: 23-017
Project: Shannon Johanson
Date Collected: 2/2/23-2/6/23
Collected by: Shannon Johanson
Date Submitted: 2/7/23
Laboratory: Eurofins EML P & K

Analysis Requested:
 PLM with Dispersion Staining Flame AA
 TEM (Bulk) Other:
Turnaround Time: Same Day 24 Hour
 Other: 2-Day
Special Instructions:
 Please fax results to
 Please email results to: pmpenvconsulting@gmail.com
 Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
1	01A	Sheetrock w/Wallpaper Covering w/Joint Compound Room 1633 at Northwest Corner	
2	01B	Sheetrock w/Wallpaper Covering w/Joint Compound Room 1610 at Southeast Corner	
3	01C	Sheetrock w/Wallpaper Covering w/Joint Compound Room 1642 at Southeast Corner	
4	01D	Sheetrock w/Wallpaper Covering Corridor at Room 1638	
5	01E	Sheetrock w/Wallpaper Covering (Field) Classroom 1625, East Wall	
6	02A	Sheetrock-Smooth w/Joint Compound Office 1626 at Northeast Corner	
7	02B	Sheetrock-Smooth w/Joint Compound Corridor Upper Wall at Southwest Corner	
8	02C	Sheetrock-Smooth Room 1615 Ceiling	
9	02D	Sheetrock-Smooth w/Joint Compound Room 1629 - Janitor Closet, Southeast Corner	
10	02E	Sheetrock-Smooth (Field) Room 1645 at Upper Wall	

Submitted by: Shannon Johanson

Date: 2-7-23

Submitted via: Dropoff FedEx Courier Other:

Received by: [Signature]

Date: 2/8/23 949

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	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
11	02F	Sheetrock-Smooth w/Joint Compound Classroom 1638, Southwest Corner	
12	02G	Sheetrock-Smooth (Field) Room 1658 at Water Damage South Wall	
13	03A	2'x4' False Ceiling Panels -Old Fissure Pattern Classroom 1633	
14	03B	2'x4' False Ceiling Panels -Old Fissure Pattern 1633 Electrical/IT Ceiling	
15	03C	2'x4' False Ceiling Panels -Old Fissure Pattern Classroom 1610 at Center Rooms	
16	03D	2'x4' False Ceiling Panels -Old Fissure Pattern Office 1620	
17	04A	2'x4' False Ceiling Panels -Pinhole/Fissure Pattern Office 1643	
18	04B	2'x4' False Ceiling Panels -Pinhole/Fissure Pattern 1625 at South Wall	
19	04C	2'x4' False Ceiling Panels -Pinhole/Fissure Pattern Office 1644	
20	05A	Sheetrock-Unfinished w/Joint Compound Attic Space of 1643	

Submitted by: Shannon Johanson

Date: 2-7-23

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Date: _____

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Other: 2-Day

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Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
11	05B	Sheetrock-Unfinished w/Joint Compound Corridor above False Ceiling	
12	05C		
13	06A	Tan Cove Base Mastic Room 1633, West Wall	
14	06B	Tan Cove Base Mastic Classroom 1625 at Exterior Entry	
15	06C	Tan Cove Base Mastic Classroom 1635 at Entry	
16	06D	Tan Cove Base Mastic Room 1645 at Entry	
17	06E	Tan Cove Base Mastic Room 1638 at Entry	
18	07A	12" VFT-White & Mastic Classroom 1625 at Damaged Tile by Entry	
19	07B	12" VFT-White & Mastic Room 1626 at Entry	Approx. 3000 SF
20	07C	12" VFT-White & Mastic Entry to 1640	---

Submitted by: Shannon Johanson
Submitted via: Dropoff FedEx Courier Other:

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 Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
21	07D	12" VFT-White & Mastic Classroom 1645 at Entry	---
22	08A	9" VFT-Green/Brown Streaks & Black Mastic Classroom 1633	1500 SF
23	08B	9" VFT-Green/Brown Streaks & Black Mastic Room 1633 at West Wall	---
24	09A	9" VFT-Brown Streaks & Black Mastic (Patch) Classroom 1633	Approx. 50 SF
25	10A	9" VFT-Beige and Black Mastic Room 1613	Approx. 3200 SF
26	10B	9" VFT-Beige and Black Mastic Classroom 1610 at West Side	---
27	10C	9" VFT-Beige and Black Mastic Classroom 1610 Closet by Hair Station	---
28	11A	Yellow Carpet Glue-Gray Tile w/Lines Classroom 1635 in Storage	2700 SF
29	11B	Yellow Carpet Glue-Gray Tile w/Lines Classroom 1638	---
30	11C	Yellow Carpet Glue-Gray Tile w/Lines Office 1644 at Damage	---

Submitted by: Shannon Johanson
Submitted via: Dropoff FedEx Courier Other:
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Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
31	12A	Yellow Carpet Glue – Blue/Gray/Pink Carpet Room 1640	500 SF
32	12B	Yellow Carpet Glue – Blue/Gray/Pink Carpet Office 1620 at Entry	--
33	13A	Yellow Carpet Glue-Gray/Blue Carpet Tiles Office 1643 at Entry	200 SF
34	13B	Yellow Carpet Glue-Gray/Blue Carpet Tiles Office 1622 at Entry	---
35	14A	Brown Grout Associated with 2" Tile Staff Restroom at Entry	700 SF
36	14B	Brown Grout Associated with 2" Tile Student Gender Neutral Restroom	--
37	15A	White Grout Associated with 2" White Tiles Staff Restroom Walls	700 SF
38	16A	Gray/Brown Grout Associated with 2" Brown Tiles 1628 Restroom	---
39	17A	2" Ceramic Tile Mortar Staff Restroom Floor	40 SF
40	18A	4" Ceramic Tile Grout -White 1630 Restroom Walls	Approx. 1280 SF

Submitted by: Shannon Johanson

Date: 2-7-23

Submitted via: Dropoff FedEx Courier Other:

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TEM (Bulk) Other:

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Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
41	18B	4" Ceramic Tile Grout -White 1628 Restroom Walls	---
42	18C	4" Ceramic Tile Grout -White 1616 Restroom (Classroom 1610)	---
43	19A	Dark Gray Grout associated with Gray/Pink Tile 1613 Restroom	700SF
44	19B	Dark Gray Grout associated with Gray/Pink Tile 1630 Restroom	---
45	20A	Black Moisture Barrier Staff Restroom at damaged Tile by Drain	200 SF
46	21A	Brown Cove Base Mastic Classroom 1610	Approx. 400 LF
47	22A	Wallpaper Glue Classroom 1610 at Window	Unknown
48	23A	Gray Concrete Floor 1658 Mechanical Rom Near Entry	
49	23B	Gray Concrete Floor Janitor Closet by Crack	
50	24A	Accordion Partition Wall Classroom 1610	240 SF

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Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
51	25A	White Door Frame Sealant Interior Classroom 1633	
52	26A	Brown Window Frame Sealant Interior Window of 1625	Unknown
53	26B	Brown Window Frame Sealant 1616 Restroom at Window (Classroom 1610)	---
54	26C	Brown Window Frame Sealant Classroom 1638	---
55	27A	Gray Sink Coating Classroom 1645	Unknown
56	28A	White Fixture Sealant 1628 Restroom at Sink	50 LF
57	28B	White Fixture Sealant Staff Restroom at Sink	
58	29A	Yellow Glue associated with Yellow Countertop Classroom 1610 Reception Area	50 SF
59	30A	Stucco Exterior 1600 at South End by Entry	
60	30B	Stucco Exterior 1600, Near Classroom 1635	

Submitted by: Shannon Johanson

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Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
61	30C	Stucco Exterior 1600 Near Classroom 1625	
62	30D	Stucco Exterior 1600, East Side Near 1610	
63	30E	Stucco Exterior 1600 Near 1646	
64	30F	Stucco Exterior North Side 1645	
65	30G	Stucco Exterior South Side at Gazebo	
66	31A	Brown Window Putty Exterior Window 1625	
67	31B	Brown Window Putty Exterior, North Side by Room 1625	
68	32A	Gray/Black Concrete Expansion Joint at Window Exterior West Wall	
69	32B	Gray/Black Concrete Expansion Joint at Window Exterior Main Entry at South End	
70	32C	Gray/Black Concrete Expansion Joint at Window Exterior North Wall at West End	

Submitted by: Shannon Johanson

Date: 2-7-23

Submitted via: Dropoff FedEx Courier Other:

Received by: _____

Date: 2/8/23 949

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Bulk Request Analysis Form

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Job Site: Solano Community College-
Bldg, 1600

Project ID: 23-017

Project: Shannon Johanson

Date Collected: 2/2/23-2/6/23

Collected by: Shannon Johanson

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Laboratory: Eurofins EML P & K

Analysis Requested:

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TEM (Bulk) Other:

Turnaround Time: Same Day 24 Hour

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Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
71	33A	Brown Expansion Joint at Ground Exterior Near 1646	
72	34A	Red Flange Gasket Mechanical Room 1658	
73	35A	Black Flange Gasket Mechanical Room 1658	
74	36A	White Sealant on Paperwrap Joint TSI Mechanical Room 1658	
75	36B	White Sealant on Paperwrap Joint TSI Mechanical Room 1658	
76	36C	White Sealant on Paperwrap Joint TSI Mechanical Room 1658	
77	37A	Tape on Paperwrap Fiberglass TSI Mechanical Room 1658	
78	37B	Tape on Paperwrap Fiberglass TSI Mechanical Room 1658	
79	37C	Tape on Paperwrap Fiberglass TSI Attic at Center of Corridor	
80	38A	White Duct Seam Tape Attic of Corridor, North End	

Submitted by: Shannon Johanson

Date: 2-7-23

Submitted via: Dropoff FedEx Courier Other:

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Date: 2/8/23 gwg

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	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
81	38B	White Duct Seam Tape Attic of Corridor at Center	
82	38C	White Duct Seam Tape Attic of Corridor at South End	
83	39A	Canvas Wrap TSI Attic, North End of Corridor	
84	39B	Canvas Wrap TSI Attic, North End of Corridor	
85	39C	Canvas Wrap TSI Attic, South End of Corridor	
86	39D	Canvas Wrap TSI Attic Space of Corridor	
87	40A	Brown Door Frame Sealant Exterior South Side Door Near 1625	
88	40B	Brown Door Frame Sealant Exterior North Side	
89	41A	Black Moisture Barrier Classroom 1638 at Window	
90	42A	Red Tile Mortar North End of Roof	

Submitted by: Shannon Johanson
Submitted via: Dropoff FedEx Courier Other:
Received by: [Signature]

Date: 2-7-23

Date: 2/8/23 9:49

Received by [Signature] 2/8/23 10:19 AM

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	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
91	42B	Red Tile Mortar South Side of Roof	
92	42C	Red Tile Mortar East Side of Roof	
93	43A	Red Tile Seam Sealant Upper Roof East Side	
94	43B	Red Tile Seam Sealant Lower Roof at East Side	
95	43C	Red Tile Seam Sealant Upper Roof at North Side	
96	44A	White Vibration Dampener Upper Roof at Damage	
97	45A	Silver Paint Upper Roof at Access Hatch	
98	46A	White Painted Black Penetration Mastic Upper Roof, Roof Vent	
99	46B	White Painted Black Penetration Mastic Middle Roof at Roof Vent	
100	47A	Black Coating on Roof Flashing Upper Roof, South Side	

Submitted by: Shannon Johanson
 Submitted via: Dropoff FedEx Courier Other:
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Received [Signature] 2/14/23 10:14 AM

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	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
101	48A	Gray Sealant at Top of Brick Roof, Northwest Corner	
102	48B	Gray Sealant at Top of Brick Northwest Corner	
103	49A	White Sealant on Roof Ladder	
104	50A	Gray Seam Sealant Upper Roof at HVAC Ducting	
105	50B	Gray Seam Sealant Upper Roof at HVAC Ducting	
106	50C	Gray Seam Sealant Upper Roof at HVAC Ducting	
107	51A	White PVC Roofing Middle Roof, Southeast Corner	
108	51B	White PVC Roofing Middle Roof, Northwest Corner	
109	51C	White PVC Roofing Upper Roof, Near Center	
110	51D	White PVC Roofing Middle Roof at Center	

Submitted by:

Shannon Johanson

Date:

2-7-23

Submitted via: Dropoff FedEx Courier Other:

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[Signature]

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Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
111	51E	White PVC Roofing Lower Roof at Southwest Corner	
112	52A	Black Pipe Penetration Mastic Lower Roof at Pipe/Vent	
113	53A	Clear Vapor Barrier Upper Roof at Red Clay Tiles	

Submitted by: Shannon Johanson

Date: 2-7-23

Submitted via: Dropoff FedEx Courier Other:

Received by: [Signature]

Date: 2/8/23 949

received by me 2/10/23 @ 10:14am

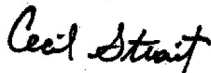
Report for:

Shannon Johanson
PMP Environmental Consulting
5325 Elkhorn Blvd #360
5325 Elkhorn Blvd, #360
Sacramento, CA 95842

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: 23-017; Solano Community College Dist, Solano Community College Bldg 1600
EML ID: 3160770

Approved by:

Dates of Analysis:
Asbestos PLM: 02-10-2023 and 02-13-2023



Approved Signatory
Cecil Strait

Service SOPs: Asbestos PLM (EPA 40CFR App E to Sub E of Part 763 & EPA METHOD 600/R-93-116, SOP EM-AS-S-1267)
NVLAP Lab Code 600282-0

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. The results relate only to the samples as received and tested. The results include an inherent uncertainty of measurement associated with estimating percentages by polarized light microscopy. Measurement uncertainty data for sample results with >1% asbestos concentration can be provided when requested.

Eurofins EPK Built Environment Testing, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Total Samples Submitted:	122
Total Samples Analyzed:	122
Total Samples with Layer Asbestos Content > 1%:	23

Location: 01A, Sheetrock with wallpaper covering with joint compound, room 1633 at Northwest corner

Lab ID-Version‡: 15285365-1

Sample Layers	Asbestos Content
White Wallpaper	ND
Beige Adhesive	ND
Gray Wallpaper	ND
Off-White Joint Compound	2% Chrysotile
Cream Tape	ND
Off-White Joint Compound #2	2% Chrysotile
White Drywall with Brown Paper	ND
Composite Asbestos Fibrous Content:	< 1% Asbestos
Composite Non-Asbestos Content:	20% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Poor

Comments: Composite asbestos content provided is only for Drywall/Joint compound. Composite content provided for this analysis has been performed by following the NESHAP guidelines.

Location: 01B, Sheetrock with wallpaper covering with joint compound, room 1610 at Southeast corner

Lab ID-Version‡: 15285366-1

Sample Layers	Asbestos Content
White Wallpaper	ND
Beige Adhesive	ND
Gray Wallpaper	ND
Off-White Joint Compound	2% Chrysotile
White Drywall with Brown Paper	ND
Composite Asbestos Fibrous Content:	< 1% Asbestos
Composite Non-Asbestos Content:	20% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Poor

Comments: Composite asbestos content provided is only for Drywall/Joint compound. Composite content provided for this analysis has been performed by following the NESHAP guidelines.

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Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 01C, Sheetrock with wallpaper covering with joint compound, room 1642 at Southeast corner

Lab ID-Version‡: 15285367-1

Sample Layers	Asbestos Content
White Wallpaper	ND
White Joint Compound	ND
Beige Adhesive	ND
Off-White Joint Compound	ND
Cream Tape	ND
White Joint Compound #2	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	20% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Poor

Location: 01D, Sheetrock with wallpaper covering, corridor at room 1638

Lab ID-Version‡: 15285368-1

Sample Layers	Asbestos Content
White Wallpaper	ND
Beige Adhesive	ND
White Joint Compound	ND
White Drywall	ND
Composite Non-Asbestos Content:	10% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Poor

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Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 01E, Sheetrock with wallpaper covering, field, classroom 1625, East wall Lab ID-Version‡: 15285369-1

Sample Layers	Asbestos Content
White Wallpaper	ND
Beige Adhesive	ND
Brown Fiberboard	ND
Composite Non-Asbestos Content:	80% Cellulose
Sample Composite Homogeneity:	Moderate

Comments: Drywall was not detected

Location: 02A, Sheetrock, smooth with joint compound, office 1626 at Northeast corner Lab ID-Version‡: 15285370-1

Sample Layers	Asbestos Content
White Joint Compound with Paint	ND
Cream Tape	ND
White Joint Compound	ND
White Drywall	ND
Composite Non-Asbestos Content:	15% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Poor

Location: 02B, Sheetrock, smooth with joint compound, corridor upper wall at Southwest corner Lab ID-Version‡: 15285371-1

Sample Layers	Asbestos Content
White Joint Compound with Paint	ND
Cream Tape	ND
White Drywall	ND
Composite Non-Asbestos Content:	15% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Poor

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 C/O: Shannon Johanson
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 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 02C, Sheetrock, smooth, room 1615 ceiling

Lab ID-Version‡: 15285372-1

Sample Layers	Asbestos Content
Beige Joint Compound with Paint	2% Chrysotile
White Drywall	ND
Composite Asbestos Fibrous Content:	< 1% Asbestos
Composite Non-Asbestos Content:	2% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Poor

Comments: Composite asbestos content provided is only for Drywall/Joint compound. Composite content provided for this analysis has been performed by following the NESHAP guidelines.

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Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 02D, Sheetrock, smooth with joint compound, room 1629, janitor closet, Southeast corne

Lab ID-Version‡: 15285373-1

Sample Layers	Asbestos Content
Beige Joint Compound with Paint	2% Chrysotile
Cream Tape	ND
White Drywall	ND
Composite Asbestos Fibrous Content:	< 1% Asbestos
Composite Non-Asbestos Content:	15% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Poor

Comments: Composite asbestos content provided is only for Drywall/Joint compound. Composite content provided for this analysis has been performed by following the NESHAP guidelines.

Location: 02E, Sheetrock, smooth, field, room 1645 at upper wall

Lab ID-Version‡: 15285374-1

Sample Layers	Asbestos Content
White Joint Compound with Paint	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	7% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Moderate

Location: 02F, Sheetrock, smooth with joint compound, classroom 1638, Southwest corner

Lab ID-Version‡: 15285375-1

Sample Layers	Asbestos Content
White Joint Compound with Paint	ND
Cream Tape	ND
White Joint Compound	ND
Composite Non-Asbestos Content:	50% Cellulose
Sample Composite Homogeneity:	Moderate

Comments: Drywall was not detected

Location: 02G, Sheetrock, smooth, field, room 1658 at water damage South wall

Lab ID-Version‡: 15285376-1

Sample Layers	Asbestos Content
Beige Joint Compound	2% Chrysotile
Sample Composite Homogeneity:	Moderate

Comments: Drywall was not detected

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 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 03A, 2'x4' false ceiling panels, old fissure pattern, classroom 1633

Lab ID-Version‡: 15285377-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	4% Chrysotile
Composite Non-Asbestos Content:	65% Glass Fibers 10% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 03B, 2'x4' false ceiling panels, old fissure pattern, 1633 electrical/IT ceiling

Lab ID-Version‡: 15285378-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	4% Chrysotile
Composite Non-Asbestos Content:	65% Glass Fibers 10% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 03C, 2'x4' false ceiling panels, old fissure pattern, classroom 1610 at center rooms

Lab ID-Version‡: 15285379-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	4% Chrysotile
Composite Non-Asbestos Content:	65% Glass Fibers 10% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 03D, 2'x4' false ceiling panels, old fissure pattern, office 1620

Lab ID-Version‡: 15285380-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	4% Chrysotile
Composite Non-Asbestos Content:	65% Glass Fibers 10% Cellulose
Sample Composite Homogeneity:	Moderate

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Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 04A, 2'x4' false ceiling panels, pinhole/fissure pattern, office 1643

Lab ID-Version‡: 15285381-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	45% Cellulose 5% Glass Fibers
Sample Composite Homogeneity:	Moderate

Location: 04B, 2'x4' false ceiling panels, pinhole/fissure pattern, 1625 at South wall

Lab ID-Version‡: 15285382-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	45% Cellulose 5% Glass Fibers
Sample Composite Homogeneity:	Moderate

Location: 04C, 2'x4' false ceiling panels, pinhole/fissure pattern, office 1644

Lab ID-Version‡: 15285383-1

Sample Layers	Asbestos Content
Beige Ceiling Tile with White Surface	ND
Composite Non-Asbestos Content:	45% Cellulose 5% Glass Fibers
Sample Composite Homogeneity:	Moderate

Location: 05A, Sheetrock, unfinished with joint compound, attic space of 1643

Lab ID-Version‡: 15285384-1

Sample Layers	Asbestos Content
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	5% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Moderate

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 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 05B, Sheetrock, unfinished with joint compound, corridor above false ceiling Lab ID-Version‡: 15285385-1

Sample Layers	Asbestos Content
White Joint Compound	ND
White Drywall with Brown Paper	ND
Composite Non-Asbestos Content:	5% Cellulose < 1% Glass Fibers
Sample Composite Homogeneity:	Poor

Location: 06A, Tan cove base mastic, room 1633, West wall Lab ID-Version‡: 15285387-1

Sample Layers	Asbestos Content
Beige Mastic	ND
White Woven Material (Mesh)	ND
Composite Non-Asbestos Content:	5% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 06B, Tan cove base mastic, classroom 1625 at exterior entry Lab ID-Version‡: 15285388-1

Sample Layers	Asbestos Content
Beige Mastic	ND
Sample Composite Homogeneity:	Moderate

Location: 06C, Tan cove base mastic, classroom 1635 at entry Lab ID-Version‡: 15285389-1

Sample Layers	Asbestos Content
Beige Mastic	ND
White Joint Compound with Paint	ND
Sample Composite Homogeneity:	Moderate

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Client: PMP Environmental Consulting
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 Community College Bldg 1600

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 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 06D, Tan cove base mastic, room 1645 at entry

Lab ID-Version‡: 15285390-1

Sample Layers	Asbestos Content
Beige Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: 06E, Tan cove base mastic, room 1638 at entry

Lab ID-Version‡: 15285391-1

Sample Layers	Asbestos Content
Tan Baseboard	ND
Beige Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: 07A, 12" VFT, white and mastic, classroom 1625 at damaged tile by entry

Lab ID-Version‡: 15285392-1

Sample Layers	Asbestos Content
White Floor Tile	ND
Sample Composite Homogeneity: Moderate	

Comments: Mastic was not detected

Location: 07B, 12" VFT, white and mastic, room 1626 at entry

Lab ID-Version‡: 15285393-1

Sample Layers	Asbestos Content
White Floor Tile	ND
Semi-Transparent Mastic	ND
Sample Composite Homogeneity: Moderate	

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Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 07C, 12" VFT, white and mastic, entry to 1640

Lab ID-Version‡: 15285394-1

Sample Layers	Asbestos Content
White Floor Tile	ND
Semi-Transparent Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: 07D, 12" VFT, white and mastic, classroom 1645 at entry

Lab ID-Version‡: 15285395-1

Sample Layers	Asbestos Content
White Floor Tile	ND
White Leveling Compound	ND
Sample Composite Homogeneity: Moderate	

Comments: Mastic was not detected

Location: 08A, 9" VFT, green/brown streaks and black mastic, classroom 1633

Lab ID-Version‡: 15285396-1

Sample Layers	Asbestos Content
Beige Floor Tile	< 1% Chrysotile
Black Mastic	3% Chrysotile
Yellow Mastic	ND
Sample Composite Homogeneity: Poor	

Location: 08B, 9" VFT, green/brown streaks and black mastic, room 1633 at West wall

Lab ID-Version‡: 15285397-1

Sample Layers	Asbestos Content
Beige Floor Tile	< 1% Chrysotile
Sample Composite Homogeneity: Poor	

Comments: Mastic was not detected

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 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 09A, 9" VFT, brown streaks and black mastic, patch, classroom 1633

Lab ID-Version‡: 15285398-1

Sample Layers	Asbestos Content
Gray Floor Tile	ND
Black Mastic	3% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 10A, 9" VFT, beige and black mastic, classroom 1613

Lab ID-Version‡: 15285399-1

Sample Layers	Asbestos Content
Off-White Floor Tile	< 1% Chrysotile
Black Mastic	3% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 10B, 9" VFT, beige and black mastic, classroom 1610 at West side

Lab ID-Version‡: 15285400-1

Sample Layers	Asbestos Content
Off-White Floor Tile	< 1% Chrysotile
Black Mastic	3% Chrysotile
Yellow Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: 10C, 9" VFT, beige and black mastic, classroom 1610 closet by hair station

Lab ID-Version‡: 15285401-1

Sample Layers	Asbestos Content
Off-White Floor Tile	< 1% Chrysotile
Black Mastic	3% Chrysotile
Yellow Mastic	ND
Sample Composite Homogeneity: Moderate	

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 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 11A, Yellow carpet glue, gray tile with lines, classroom 1635 in storage Lab ID-Version‡: 15285402-1

Sample Layers	Asbestos Content
Yellow Mastic with Grey Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Comments: Sample layers inseparable without cross contamination.

Location: 11B, Yellow carpet glue, gray tile with lines, classroom 1638 Lab ID-Version‡: 15285403-1

Sample Layers	Asbestos Content
Yellow Mastic with Grey Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Comments: Sample layers inseparable without cross contamination.

Location: 11C, Yellow carpet glue, gray tile with lines, office 1644 at damage Lab ID-Version‡: 15285404-1

Sample Layers	Asbestos Content
Yellow Mastic	ND
Multicolored Carpet	ND
Composite Non-Asbestos Content: 97% Synthetic Fibers	
Sample Composite Homogeneity: Moderate	

Location: 12A, Yellow carpet glue, blue/gray/pink carpet, room 1640 Lab ID-Version‡: 15285405-1

Sample Layers	Asbestos Content
Yellow Glue	ND
Sample Composite Homogeneity: Moderate	

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Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 12B, Yellow carpet glue, blue/gray/pink carpet, office 1620 at entry

Lab ID-Version‡: 15285406-1

Sample Layers	Asbestos Content
Yellow Glue	ND
Multicolored Carpet	ND
Composite Non-Asbestos Content:	60% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

Location: 13A, Yellow carpet glue, gray/blue carpet tiles, office 1643 at entry

Lab ID-Version‡: 15285407-1

Sample Layers	Asbestos Content
Yellow Glue	ND
Sample Composite Homogeneity:	Moderate

Location: 13B, Yellow carpet glue, gray/blue carpet tiles, office 1622 at entry

Lab ID-Version‡: 15285408-1

Sample Layers	Asbestos Content
Beige Mastic	ND
Sample Composite Homogeneity:	Moderate

Location: 14A, Brown grout associated with 2" tile, staff restroom at entry

Lab ID-Version‡: 15285409-1

Sample Layers	Asbestos Content
Brown Grout	ND
Sample Composite Homogeneity:	Moderate

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 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 14B, Brown grout associated with 2" tile, studen gender neutral restroom Lab ID-Version‡: 15285410-1

Sample Layers	Asbestos Content
Brown Grout	ND
White Ceramic Tile with Yellow Mastic	ND
Sample Composite Homogeneity: Moderate	

Comments: Some layers in the sample were inseparable without cross contamination.

Location: 15A, White grout associated with 2" tiles, staff restroom walls Lab ID-Version‡: 15285411-1

Sample Layers	Asbestos Content
Beige Grout	ND
Sample Composite Homogeneity: Moderate	

Location: 16A, Gray/brown grout associated with 2" brown tiles, 1628 restroom Lab ID-Version‡: 15285412-1

Sample Layers	Asbestos Content
Gray Grout	ND
Sample Composite Homogeneity: Moderate	

Location: 17A, 2" ceramic tile mortar, staff restroom floor Lab ID-Version‡: 15285413-1

Sample Layers	Asbestos Content
Brown Mortar	ND
White Ceramic Tile	ND
Sample Composite Homogeneity: Moderate	

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Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 18A, 4" ceramic tile grout, white, 1630 restroom walls

Lab ID-Version‡: 15285414-1

Sample Layers	Asbestos Content
White Grout	ND
Sample Composite Homogeneity: Moderate	

Location: 18B, 4" ceramic tile grout, white, 1628 restroom walls

Lab ID-Version‡: 15285415-1

Sample Layers	Asbestos Content
White Grout	ND
Sample Composite Homogeneity: Moderate	

Location: 18C, 4" ceramic tile grout, white, 1616 restroom, classroom 1610

Lab ID-Version‡: 15285416-1

Sample Layers	Asbestos Content
White Grout	ND
Sample Composite Homogeneity: Moderate	

Location: 19A, Dark gray grout associated with gray/pink tile, 1613 restroom

Lab ID-Version‡: 15285417-1

Sample Layers	Asbestos Content
Gray Non-Fibrous Material	3% Chrysotile
Sample Composite Homogeneity: Moderate	

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 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 19B, Dark gray grout associated with gray/pink tile, 1630 restroom

Lab ID-Version‡: 15285418-1

Sample Layers	Asbestos Content
Gray Grout	ND
Sample Composite Homogeneity: Moderate	

Location: 20A, Black moisture barrier, staff restroom at damaged tile by drain

Lab ID-Version‡: 15285419-1

Sample Layers	Asbestos Content
Gray Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Location: 21A, Brown cove base mastic, classroom 1610

Lab ID-Version‡: 15285420-1

Sample Layers	Asbestos Content
Brown Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: 22A, Wallpaper glue, classroom 1610 at window

Lab ID-Version‡: 15285421-1

Sample Layers	Asbestos Content
White Glue	ND
Tan Wallpaper	ND
Composite Non-Asbestos Content: 20% Synthetic Fibers	
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 23A, Gray concrete floor, 1658 mechanical room near entry

Lab ID-Version‡: 15285422-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity: Moderate	

Location: 23B, Gray concrete floor, janitor closet by crack

Lab ID-Version‡: 15285423-1

Sample Layers	Asbestos Content
Gray Concrete	ND
Sample Composite Homogeneity: Moderate	

Location: 24A, Accordion partition wall classroom 1610

Lab ID-Version‡: 15285424-1

Sample Layers	Asbestos Content
Beige Wallpaper	ND
Brown Paper	ND
Composite Non-Asbestos Content:	95% Cellulose
Sample Composite Homogeneity: Moderate	

Location: 25A, White door frame sealant, interior classroom 1633

Lab ID-Version‡: 15285425-1

Sample Layers	Asbestos Content
White Sealant	ND
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 26A, Brown window frame sealant, interior window of 1625

Lab ID-Version‡: 15285426-1

Sample Layers	Asbestos Content
Brown Sealant	< 1% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 26B, Brown window frame sealant, 1616 restroom at window, classroom 1610

Lab ID-Version‡: 15285427-1

Sample Layers	Asbestos Content
Brown Sealant	< 1% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 26C, Brown window frame sealant, classroom 1638

Lab ID-Version‡: 15285428-1

Sample Layers	Asbestos Content
Brown Sealant	< 1% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 27A, Gray sink coating, classroom 1645

Lab ID-Version‡: 15285429-1

Sample Layers	Asbestos Content
Gray Sink Undercoating	ND
Composite Non-Asbestos Content: 2% Cellulose	
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 28A, White fixture sealant, 1628 restroom at sink

Lab ID-Version‡: 15285430-1

Sample Layers	Asbestos Content
White Sealant	ND
Sample Composite Homogeneity: Moderate	

Location: 28B, White fixture sealant, staff restroom at sink

Lab ID-Version‡: 15285431-1

Sample Layers	Asbestos Content
White Sealant	ND
Sample Composite Homogeneity: Moderate	

Location: 29A, Yellow glue associated with yellow countertop, classroom 1610 reception area

Lab ID-Version‡: 15285432-1

Sample Layers	Asbestos Content
Yellow Glue with Yellow Tile	ND
Sample Composite Homogeneity: Moderate	

Comments: Sample layers inseparable without cross contamination.

Location: 30A, Stucco, exterior 1600, at South end by entry

Lab ID-Version‡: 15285433-1

Sample Layers	Asbestos Content
Gray Stucco with Paint	ND
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 30B, Stucco, exterior 1600, near classroom 1635

Lab ID-Version‡: 15285434-1

Sample Layers	Asbestos Content
Brown Stucco with Paint	ND
Sample Composite Homogeneity: Moderate	

Location: 30C, Stucco, exterior 1600, near classroom 1625

Lab ID-Version‡: 15285435-1

Sample Layers	Asbestos Content
Brown Stucco with Paint	ND
Sample Composite Homogeneity: Moderate	

Location: 30D, Stucco, exterior 1600, East side near 1610

Lab ID-Version‡: 15285436-1

Sample Layers	Asbestos Content
Brown Stucco with Paint	ND
Sample Composite Homogeneity: Moderate	

Location: 30E, Stucco, exterior 1600, near 1646

Lab ID-Version‡: 15285437-1

Sample Layers	Asbestos Content
Brown Stucco with Paint	ND
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 30F, Stucco, exterior North side 1645

Lab ID-Version‡: 15285438-1

Sample Layers	Asbestos Content
Brown Stucco with Paint	ND
Sample Composite Homogeneity: Moderate	

Location: 30G, Stucco, exterior South side of gazebo

Lab ID-Version‡: 15285439-1

Sample Layers	Asbestos Content
Brown Stucco with Paint	ND
Sample Composite Homogeneity: Moderate	

Location: 31A, Brown window putty, exterior window 1625

Lab ID-Version‡: 15285440-1

Sample Layers	Asbestos Content
Tan Window Putty	< 1% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 31B, Brown window putty, exterior, North side by room 1625

Lab ID-Version‡: 15285441-1

Sample Layers	Asbestos Content
Tan Window Putty	< 1% Chrysotile
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 32A, Gray/black concrete expansion joint at window, exterior West wall Lab ID-Version‡: 15285442-1

Sample Layers	Asbestos Content
Brown Expansion Joint	2% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 32B, Gray/black concrete expansion joint at window, exterior main entry at South end Lab ID-Version‡: 15285443-1

Sample Layers	Asbestos Content
Gray Expansion Joint	ND
Sample Composite Homogeneity: Moderate	

Location: 32C, Gray/black concrete expansion joint at window, exterior North wall at West end Lab ID-Version‡: 15285444-1

Sample Layers	Asbestos Content
Gray Expansion Joint	ND
Sample Composite Homogeneity: Moderate	

Location: 33A, Brown expansion joint at ground, exterior near 1646 Lab ID-Version‡: 15285445-1

Sample Layers	Asbestos Content
Brown Expansion Joint	ND
Composite Non-Asbestos Content:	90% Cellulose
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 34A, Red flange gasket, mechanical room 1658

Lab ID-Version‡: 15285446-1

Sample Layers	Asbestos Content
Red Gasket	ND
Sample Composite Homogeneity: Moderate	

Location: 35A, Black flange gasket, mechanical room 1658

Lab ID-Version‡: 15285447-1

Sample Layers	Asbestos Content
Black Gasket	ND
Sample Composite Homogeneity: Moderate	

Location: 36A, White sealant on paperwrap joint TSI, mechanical room 1658

Lab ID-Version‡: 15285448-1

Sample Layers	Asbestos Content
White Sealant	ND
Sample Composite Homogeneity: Moderate	

Location: 36B, White sealant on paperwrap joint TSI, mechanical room 1658

Lab ID-Version‡: 15285449-1

Sample Layers	Asbestos Content
White Sealant	ND
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 36C, White sealant on paperwrap joint TSI, mechanical room 1658

Lab ID-Version‡: 15285450-1

Sample Layers	Asbestos Content
White Sealant	ND
Sample Composite Homogeneity: Moderate	

Location: 37A, Tape on paperwrap fiberglass TSI, mechanical room 1658

Lab ID-Version‡: 15285451-1

Sample Layers	Asbestos Content
Silver Tape	ND
Composite Non-Asbestos Content:	90% Cellulose 3% Glass Fibers
Sample Composite Homogeneity: Moderate	

Location: 37B, Tape on paperwrap fiberglass TSI, mechanical room 1658

Lab ID-Version‡: 15285452-1

Sample Layers	Asbestos Content
Silver Tape	ND
Composite Non-Asbestos Content:	90% Cellulose 3% Glass Fibers
Sample Composite Homogeneity: Moderate	

Location: 37C, Tape on paperwrap fiberglass TSI, attic at center of corridor

Lab ID-Version‡: 15285453-1

Sample Layers	Asbestos Content
Silver Tape	ND
Yellow Fibrous Material (Mesh)	ND
Composite Non-Asbestos Content:	90% Cellulose 10% Glass Fibers
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 38A, White duct seam tape, attic of corridor, North end

Lab ID-Version‡: 15285454-1

Sample Layers	Asbestos Content
White Tape	ND
Composite Non-Asbestos Content:	70% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

Location: 38B, White duct seam tape, attic of corridor at center

Lab ID-Version‡: 15285455-1

Sample Layers	Asbestos Content
White Tape	ND
Composite Non-Asbestos Content:	70% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

Location: 38C, White duct seam tape, attic of corridor at South end

Lab ID-Version‡: 15285456-1

Sample Layers	Asbestos Content
White Tape	ND
Composite Non-Asbestos Content:	70% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

Location: 39A, Canvas wrap TSI, attic, North end of corridor

Lab ID-Version‡: 15285457-1

Sample Layers	Asbestos Content
White Fibrous Material (Mesh)	ND
White Insulation	3% Chrysotile
Composite Non-Asbestos Content:	95% Synthetic Fibers
Sample Composite Homogeneity:	Moderate

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ASBESTOS PLM REPORT

Location: 39B, Canvas wrap TSI, attic, North end of corridor

Lab ID-Version‡: 15285458-1

Sample Layers	Asbestos Content
White Insulation	10% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 39C, Canvas wrap TSI, attic, South end of corridor

Lab ID-Version‡: 15285459-1

Sample Layers	Asbestos Content
White Insulation	10% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 39D, Canvas wrap TSI, attic space of corridor

Lab ID-Version‡: 15285460-1

Sample Layers	Asbestos Content
White Insulation	10% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 40A, Brown door frame sealant, exterior South side door near 1625

Lab ID-Version‡: 15285461-1

Sample Layers	Asbestos Content
Brown Sealant	< 1% Chrysotile
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 40B, Brown door frame sealant, exterior Norh side

Lab ID-Version‡: 15285462-1

Sample Layers	Asbestos Content
Brown Sealant	< 1% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 41A, Black moisture barrier, classroom 1638 at window

Lab ID-Version‡: 15285463-1

Sample Layers	Asbestos Content
Black Vapor Barrier	ND
Composite Non-Asbestos Content: 60% Cellulose	
Sample Composite Homogeneity: Moderate	

Location: 42A, Red tile mortar, North end of roof

Lab ID-Version‡: 15285464-1

Sample Layers	Asbestos Content
Red Tile	ND
Sample Composite Homogeneity: Moderate	

Location: 42B, Red tile mortar, South side of roof

Lab ID-Version‡: 15285465-1

Sample Layers	Asbestos Content
Red Tile	ND
Sample Composite Homogeneity: Moderate	

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ASBESTOS PLM REPORT

Location: 42C, Red tile mortar, East side of roof

Lab ID-Version‡: 15285466-1

Sample Layers	Asbestos Content
Red Tile	ND
Sample Composite Homogeneity: Moderate	

Location: 43A, Red tile seam sealant, upper roof East side

Lab ID-Version‡: 15285467-1

Sample Layers	Asbestos Content
Red Tile	ND
Red Sealant	2% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 43B, Red tile seam sealant, lower roof East side

Lab ID-Version‡: 15285468-1

Sample Layers	Asbestos Content
Red Tile	ND
Red Sealant	2% Chrysotile
Sample Composite Homogeneity: Moderate	

Location: 43C, Red tile seam sealant, upper roof North side

Lab ID-Version‡: 15285469-1

Sample Layers	Asbestos Content
Red Sealant	2% Chrysotile
Sample Composite Homogeneity: Moderate	

Comments: No tile was detected.

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ASBESTOS PLM REPORT

Location: 44A, White vibration dampener, upper roof at damage

Lab ID-Version‡: 15285470-1

Sample Layers	Asbestos Content
White Semi-Fibrous Material	ND
Composite Non-Asbestos Content:	5% Glass Fibers
Sample Composite Homogeneity:	Moderate

Location: 45A, Silver paint, upper roof at access hatch

Lab ID-Version‡: 15285471-1

Sample Layers	Asbestos Content
Silver Paint	ND
Sample Composite Homogeneity:	Moderate

Location: 46A, White painted black penetration mastic, upper roof, roof vent

Lab ID-Version‡: 15285472-1

Sample Layers	Asbestos Content
White Paint and Black Mastic	ND
Sample Composite Homogeneity:	Moderate

Comments: Sample layers inseparable without cross contamination.

Location: 46B, White painted black penetration mastic, middle roof, roof vent

Lab ID-Version‡: 15285473-1

Sample Layers	Asbestos Content
White Paint and Black Mastic	ND
Sample Composite Homogeneity:	Moderate

Comments: Sample layers inseparable without cross contamination.

The test report shall not be reproduced except in full, without written approval of the laboratory. The report must not be used by the client to claim product certification, approval, or endorsement by any agency of the federal government. The Company reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 47A, Black coating on roof flashing, upper roof, South side

Lab ID-Version‡: 15285474-1

Sample Layers	Asbestos Content
Black Coating	ND
Sample Composite Homogeneity: Moderate	

Location: 48A, Gray sealant at top of brick, roof, Northwest corner

Lab ID-Version‡: 15285475-1

Sample Layers	Asbestos Content
Gray Sealant with Red Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Comments: Sample layers inseparable without cross contamination.

Location: 48B, Gray sealant at top of brick, Northwest corner

Lab ID-Version‡: 15285476-1

Sample Layers	Asbestos Content
Gray Sealant with Red Cementitious Material	ND
Sample Composite Homogeneity: Moderate	

Comments: Sample layers inseparable without cross contamination.

Location: 49A, White sealant on roof ladder

Lab ID-Version‡: 15285477-1

Sample Layers	Asbestos Content
White Sealant	ND
Sample Composite Homogeneity: Moderate	

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 50A, Gray seam sealant, upper roof at HVAC ducting

Lab ID-Version‡: 15285355-1

Sample Layers	Asbestos Content
Gray Sealant	ND
Black Mastic	ND
Sample Composite Homogeneity: Moderate	

Location: 50B, Gray seam sealant, upper roof at HVAC ducting

Lab ID-Version‡: 15285356-1

Sample Layers	Asbestos Content
Gray Sealant	ND
Sample Composite Homogeneity: Moderate	

Location: 50C, Gray seam sealant, upper roof at HVAC ducting

Lab ID-Version‡: 15285357-1

Sample Layers	Asbestos Content
Gray Sealant	ND
Sample Composite Homogeneity: Moderate	

Location: 51A, White PVC roofing, middle roof, Southeast corner

Lab ID-Version‡: 15285358-1

Sample Layers	Asbestos Content
White Roofing Material	ND
Composite Non-Asbestos Content: 4% Glass Fibers	
Sample Composite Homogeneity: Moderate	

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 51B, White PVC roofing, middle roof, Northwest corner

Lab ID-Version‡: 15285359-1

Sample Layers	Asbestos Content
White Roofing Material	ND
Composite Non-Asbestos Content:	4% Glass Fibers
Sample Composite Homogeneity:	Moderate

Location: 51C, White PVC roofing, upper roof, near center

Lab ID-Version‡: 15285360-1

Sample Layers	Asbestos Content
White Roofing Material	ND
Composite Non-Asbestos Content:	4% Glass Fibers
Sample Composite Homogeneity:	Moderate

Location: 51D, White PVC roofing, middle roof at center

Lab ID-Version‡: 15285361-1

Sample Layers	Asbestos Content
White Roofing Material	ND
Composite Non-Asbestos Content:	4% Glass Fibers
Sample Composite Homogeneity:	Moderate

Location: 51E, White PVC roofing, lower roof at Southwest corner

Lab ID-Version‡: 15285362-1

Sample Layers	Asbestos Content
White Roofing Material	ND
Composite Non-Asbestos Content:	4% Glass Fibers
Sample Composite Homogeneity:	Moderate

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Dist, Solano
 Community College Bldg 1600

Date of Sampling: 02-07-2023
 Date of Receipt: 02-08-2023
 Date of Report: 02-13-2023

ASBESTOS PLM REPORT

Location: 52A, Black pipe penetration mastic, lower roof at pipe/vent

Lab ID-Version‡: 15285363-1

Sample Layers	Asbestos Content
Black Mastic	ND
Composite Non-Asbestos Content:	10% Cellulose
Sample Composite Homogeneity:	Moderate

Location: 53A, Clear vapor barrier, upper roof at red clay tiles

Lab ID-Version‡: 15285364-1

Sample Layers	Asbestos Content
Transparent Non-Fibrous Material	ND
Sample Composite Homogeneity:	Moderate

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Inhomogeneous samples are separated into homogeneous subsamples and analyzed individually. ND means no fibers were detected. When detected, the minimum detection and reporting limit is less than 1% unless point counting is performed. Floor tile samples may contain large amounts of interference material and it is recommended that the sample be analyzed by gravimetric point count analysis to lower the detection limit and to aid in asbestos identification.

‡ A "Version" indicated by "-x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".



CALIFORNIA LABORATORY SERVICES

Committed. Responsive. Flexible.

February 21, 2023

CLS Work Order #: 23B0346

COC #:

Shannon Johanson
PMP Environmental Consulting
5325 Elkhorn Blvd.
Sacramento, CA 95642

Project Name: 23-017

Enclosed are the results of analyses for samples received by the laboratory on 02/07/23 13:58. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,

James Liang, Ph.D.
Technical Director

CA SWRCB ELAP Accreditation/Registration number 1233



23 B0346 PMP Environmental Consulting

5325 Elkhorn Blvd., Sacramento, CA 95612

(916) 628-5124 • PMPEnvConsulting@gmail.com

Bulk Request Analysis Form

Client: Solano Community College Dist.
Job Site: Solano Community College
Building 1600
Project ID: 23-017
Project Manager: Shannon Johanson
Date Collected: 2-2-23/2-6-23
Collected by: Shannon Johanson
Date Submitted: 2-7-23
Laboratory: CLS

Analysis Requested:
 PLM with Dispersion Staining Flame AA
 TEM (Bulk) Other: PCB
Turnaround Time: Same Day 24 Hour
 Other: 5 Days
Special Instructions:
 Please fax results to
 Please email results to: pmpenvconsulting@gmail.com
 Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
1	01PCB	Brown Window Fame Sealant Interior Window Classroom 1638	
2	02PCB	Fiberglass Pipewrap Attic of Corridor	
3	03PCB	Fiberglass Pipwrap Room 1658	
4	04PCB	Fiberglass Batts Attic of Corridor, North End	
5	05PCB	Fiberglass Batts Attic of Room 1643	
6	06PCB	Fiberglass Batts Office 1620 Attic	
7	07PCB	Tan Window Putty Exterior West Side	
8	08PCB	Brown Expansion Joint Sealant Exterior of Room 1646	
9	09PCB	Brown Concrete Expansion Joint Exterior at East Side Window	
10	10PCB	Black Coating on Flashing Upper Roof	

Submitted by: Shannon Johanson
 Submitted via: Dropoff FedEx Courier Other:
 Received by: [Signature]

Date: 2-7-23 1:5
 Date: 2/7/23 13:

23.0 / 23.0



PMP Environmental Consulting

5325 Elkhorn Blvd., Sacramento, CA 95842

(916) 628-7124 • PMPEnvConsulting@gmail.com

Bulk Request Analysis Form

Client: Solano Community College Dist.
Job Site: Solano Community College
Project ID: Building 1600
 23-017
Project Manager: Shannon Johanson
Date Collected: 2-2-23/2-6-23
Collected by: Shannon Johanson
Date Submitted: 2-7-23
Laboratory: CLS

Analysis Requested:

PLM with Dispersion Staining Flame AA
 TEM (Bulk) Other: PCB
Turnaround Time: Same Day 24 Hour
 Other: 5 Days

Special Instructions:

Please fax results to
 Please email results to: pmpenvconsulting@gmail.com
 Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION	SQUARE FOOTAGE
11	11PCB	Gray Door/Window Frame Sealant Main South Entrance	

Submitted by: Shannon Johanson

Date: 2-7-23
1:58

Submitted via: Dropoff FedEx Courier Other:

Received by: [Signature]

Date: 2/7/23 1:58

23.0 / 23.0



CALIFORNIA LABORATORY SERVICES

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PMP Environmental Consulting 5325 Elkhorn Blvd. Sacramento, CA 95642	Project: 23-017 Project Number: [none] Project Manager: Shannon Johanson	CLS Work Order #: 23B0346 COC #:
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Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
03PCB Fiberglass Pipwrap Room 1658 (23B0346-03) Soil Sampled: 02/02/23 00:00 Received: 02/07/23 13:58 QRL-2									
Aroclor 1268	ND	2000	µg/kg	1	2301081	"	02/10/23	EPA 8082	
<i>Surrogate: Decachlorobiphenyl</i>		80 %	50-150		"	"	"	"	
04PCB Fiberglass Batts Attic of Corridor, North End (23B0346-04) Soil Sampled: 02/02/23 00:00 Received: 02/07/23 13:58 QRL-2									
Aroclor 1016	ND	440	µg/kg	1	2301081	02/08/23	02/10/23	EPA 8082	
Aroclor 1221	ND	440	"	"	"	"	"	"	
Aroclor 1232	ND	440	"	"	"	"	"	"	
Aroclor 1242	ND	440	"	"	"	"	"	"	
Aroclor 1248	ND	440	"	"	"	"	"	"	
Aroclor 1254	ND	440	"	"	"	"	"	"	
Aroclor 1260	ND	440	"	"	"	"	"	"	
Aroclor 1268	ND	440	"	"	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>		114 %	50-150		"	"	"	"	
05PCB Fiberglass Batts Attic of Room 1643 (23B0346-05) Soil Sampled: 02/02/23 00:00 Received: 02/07/23 13:58 QRL-2									
Aroclor 1016	ND	1300	µg/kg	1	2301081	02/08/23	02/10/23	EPA 8082	
Aroclor 1221	ND	1300	"	"	"	"	"	"	
Aroclor 1232	ND	1300	"	"	"	"	"	"	
Aroclor 1242	ND	1300	"	"	"	"	"	"	
Aroclor 1248	ND	1300	"	"	"	"	"	"	
Aroclor 1254	ND	1300	"	"	"	"	"	"	
Aroclor 1260	ND	1300	"	"	"	"	"	"	
Aroclor 1268	ND	1300	"	"	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>		114 %	50-150		"	"	"	"	



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PMP Environmental Consulting 5325 Elkhorn Blvd. Sacramento, CA 95642	Project: 23-017 Project Number: [none] Project Manager: Shannon Johanson	CLS Work Order #: 23B0346 COC #:
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Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
06PCB Fiberglass Batts Office 1620 Attic (23B0346-06) Soil									QRL-2
Sampled: 02/02/23 00:00 Received: 02/07/23 13:58									
Aroclor 1016	ND	670	µg/kg	1	2301081	02/08/23	02/10/23	EPA 8082	
Aroclor 1221	ND	670	"	"	"	"	"	"	
Aroclor 1232	ND	670	"	"	"	"	"	"	
Aroclor 1242	ND	670	"	"	"	"	"	"	
Aroclor 1248	ND	670	"	"	"	"	"	"	
Aroclor 1254	ND	670	"	"	"	"	"	"	
Aroclor 1260	ND	670	"	"	"	"	"	"	
Aroclor 1268	ND	670	"	"	"	"	"	"	

Surrogate: Decachlorobiphenyl 116 % 50-150 " " " "

07PCB Tan Window Putty Exterior West Side (23B0346-07) Soil									QRL-2
Sampled: 02/02/23 00:00 Received: 02/07/23 13:58									
Aroclor 1016	ND	230	µg/kg	1	2301081	02/08/23	02/10/23	EPA 8082	
Aroclor 1221	ND	230	"	"	"	"	"	"	
Aroclor 1232	ND	230	"	"	"	"	"	"	
Aroclor 1242	ND	230	"	"	"	"	"	"	
Aroclor 1248	ND	230	"	"	"	"	"	"	
Aroclor 1254	15000	2300	"	10	"	"	"	"	
Aroclor 1260	ND	230	"	1	"	"	"	"	
Aroclor 1268	ND	230	"	"	"	"	"	"	

Surrogate: Decachlorobiphenyl 102 % 50-150 " " " "

08PCB Brown Expansion Joint Sealant Exterior of Room 1646 (23B0346-08) Soil									QRL-2, QRL-8
Sampled: 02/02/23 00:00 Received: 02/07/23 13:58									
Aroclor 1016	ND	3800	µg/kg	5	2301081	02/08/23	02/10/23	EPA 8082	
Aroclor 1221	ND	3800	"	"	"	"	"	"	
Aroclor 1232	ND	3800	"	"	"	"	"	"	
Aroclor 1242	ND	3800	"	"	"	"	"	"	
Aroclor 1248	ND	3800	"	"	"	"	"	"	
Aroclor 1254	150000	38000	"	50	"	"	"	"	
Aroclor 1260	ND	3800	"	5	"	"	"	"	



CALIFORNIA LABORATORY SERVICES

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PMP Environmental Consulting 5325 Elkhorn Blvd. Sacramento, CA 95642	Project: 23-017 Project Number: [none] Project Manager: Shannon Johanson	CLS Work Order #: 23B0346 COC #:
--	--	-------------------------------------

Polychlorinated Biphenyls by EPA Method 8082

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
08PCB Brown Expansion Joint Sealant Exterior of Room 1646 (23B0346-08) Soil Sampled: 02/02/23 00:00 Received: 02/07/23 13:58 QRL-2, QRL-8									
Aroclor 1268	ND	3800	µg/kg	5	2301081	"	02/10/23	EPA 8082	
<i>Surrogate: Decachlorobiphenyl</i>		111 %	50-150		"	"	"	"	
09PCB Brown Concrete Expansion Joint Exterior at East Side Window (23B0346-09) Soil Sampled: 02/02/23 00:00 Received: 02/07/23 13:58 QRL-2, QRL-8									
Aroclor 1016	ND	72000	µg/kg	100	2301081	02/08/23	02/10/23	EPA 8082	
Aroclor 1221	ND	72000	"	"	"	"	"	"	
Aroclor 1232	ND	72000	"	"	"	"	"	"	
Aroclor 1242	ND	72000	"	"	"	"	"	"	
Aroclor 1248	ND	72000	"	"	"	"	"	"	
Aroclor 1254	130000000	14000000	"	20000	"	"	"	"	
Aroclor 1260	ND	72000	"	100	"	"	"	"	
Aroclor 1268	ND	72000	"	"	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>		%	50-150		"	"	"	"	QS-1
10PCB Black Coating on Flashing Upper Roof (23B0346-10) Soil Sampled: 02/02/23 00:00 Received: 02/07/23 13:58 QRL-2									
Aroclor 1016	ND	600	µg/kg	1	2301081	02/08/23	02/10/23	EPA 8082	
Aroclor 1221	ND	600	"	"	"	"	"	"	
Aroclor 1232	ND	600	"	"	"	"	"	"	
Aroclor 1242	ND	600	"	"	"	"	"	"	
Aroclor 1248	ND	600	"	"	"	"	"	"	
Aroclor 1254	720	600	"	"	"	"	"	"	
Aroclor 1260	ND	600	"	"	"	"	"	"	
Aroclor 1268	ND	600	"	"	"	"	"	"	
<i>Surrogate: Decachlorobiphenyl</i>		75 %	50-150		"	"	"	"	



PMP Environmental Consulting 5325 Elkhorn Blvd. Sacramento, CA 95642	Project: 23-017 Project Number: [none] Project Manager: Shannon Johanson	CLS Work Order #: 23B0346 COC #:
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Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2301081 - LUFT-DHS GCNV

Blank (2301081-BLK1)											
					Prepared: 02/08/23 Analyzed: 02/10/23						
Aroclor 1016	ND	20	µg/kg								
Aroclor 1221	ND	20	"								
Aroclor 1232	ND	20	"								
Aroclor 1242	ND	20	"								
Aroclor 1248	ND	20	"								
Aroclor 1254	ND	20	"								
Aroclor 1260	ND	20	"								
Aroclor 1268	ND	20	"								
<i>Surrogate: Decachlorobiphenyl</i>	11.5		"	8.33		138	50-150				
LCS (2301081-BS1)											
					Prepared: 02/08/23 Analyzed: 02/10/23						
Aroclor 1260	88.8	20	µg/kg	83.3		107	29-131				
<i>Surrogate: Decachlorobiphenyl</i>	11.4		"	8.33		137	50-150				
LCS Dup (2301081-BSD1)											
					Prepared: 02/08/23 Analyzed: 02/10/23						
Aroclor 1260	87.7	20	µg/kg	83.3		105	29-131	1	30		
<i>Surrogate: Decachlorobiphenyl</i>	11.3		"	8.33		136	50-150				
Matrix Spike (2301081-MS1)											
			Source: 23B0302-01		Prepared: 02/08/23 Analyzed: 02/10/23						QRL-7, QRL-8
Aroclor 1260	53.6	200	µg/kg	167	ND	32	29-131				
<i>Surrogate: Decachlorobiphenyl</i>	5.72		"	16.7		34	50-150			QS-4	
Matrix Spike Dup (2301081-MSD1)											
			Source: 23B0302-01		Prepared: 02/08/23 Analyzed: 02/10/23						QRL-7, QRL-8
Aroclor 1260	56.5	200	µg/kg	167	ND	34	29-131	5	30		
<i>Surrogate: Decachlorobiphenyl</i>	6.49		"	16.7		39	50-150			QS-4	



PMP Environmental Consulting 5325 Elkhorn Blvd. Sacramento, CA 95642	Project: 23-017 Project Number: [none] Project Manager: Shannon Johanson	CLS Work Order #: 23B0346 COC #:
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Notes and Definitions

- QS-4 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- QS-1 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interferences.
- QRL-8 The extract of this sample was dark and/or oily. Therefore, the sample was analyzed with a dilution and the reporting limit was raised for all target compounds.
- QRL-7 The initial volume was decreased or the final volume of the extract was increased due to matrix interference, which resulted in higher reporting limits.
- QRL-2 Elevated reporting limits due to limited sample volume.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- * Analyte and/or method is not currently on the CLS ELAP Certification

PMP Environmental Consulting

(916) 628-5124 • PMPEnvConsulting@gmail.com



003160244

Bulk Request Analysis Form

Client: Solano Community College Dist.
Job Site: Solano Community College
Building 1600
Project ID: 23-017
Project Manager: Shannon Johanson
Date Collected: 2/6/23
Collected by: Shannon Johanson
Date Submitted: 2/7/23
Laboratory: Eurofins EML P&K

Analysis Requested:

PLM with Dispersion Staining Flame AA

TEM (Bulk) Other:

Turnaround Time: Same Day 24 Hour

Other: _____

Special Instructions:

Please fax results to

Please email results to: pmpenvconsulting@gmail.com

Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION
1	01Pb	Beige Paint on Sheetrock Upper East Wall of Corridor
2	02Pb	Beige Paint on Sheetrock Near Entry of 1658
3	03Pb	Green Paint on Metal Door Frame Room 1658 Doorway
4	04Pb	2" Ceramic tile Staff Restroom at Drain
5	05Pb	White Paint on Drywall Classroom 1638 at East Wall
6	06Pb	White Paint on Metal Door Frame Room 1638
7	07Pb	Blue Paint on Metal Door Frame 1616 Restroom (Classroom 1610)
8	08Pb	Yellow Laminate Countertop Classroom 1610 at Damaged Reception Top
9	09Pb	Green Paint on Wood Trim Classroom 1625 at Upper Wall
10	10Pb	Green Paint on Wood Panel 1629 Janitor Closet

Submitted by: Shannon Johanson

Date: 2/7/23

Submitted via: Dropoff FedEx Courier Other:

Received by: John Tang 2/8/23

Date: _____

9:45am

PMP Environmental Consulting

(916) 628-5124 • PMPEnvConsulting@gmail.com



003160244

Bulk Request Analysis Form

Client: Solano Community College Dist.
Job Site: Solano Community College
Building 1600
Project ID: 23-017
Project Manager: Shannon Johanson
Date Collected: 2/6/23
Collected by: Shannon Johanson
Date Submitted: 2/7/23
Laboratory: Eurofins EML P&K

Analysis Requested:

PLM with Dispersion Staining Flame AA

TEM (Bulk) Other:

Turnaround Time: Same Day 24 Hour

Other: _____

Special Instructions:

Please fax results to

Please email results to: pmpenvconsulting@gmail.com

Other: _____

	SAMPLE #	MATERIAL DESCRIPTION/LOCATION
21	21Pb	Orange Paint on Metal Roof Ladder and Handrail
22	22Pb	Red Paint on Metal Flashing Middle Roof
23	23Pb	White Paint on Metal Flashing Roof
24	24Pb	White/Silver Paint Upper Roof Access Hatch

Submitted by: Shannon Johanson

Date: 2-7-23

Submitted via: Dropoff FedEx Courier Other:

Received by: [Signature] Johntang 2/8/23

Date: _____

9:45am

Report for:

Shannon Johanson
PMP Environmental Consulting
5325 Elkhorn Blvd #360
5325 Elkhorn Blvd, #360
Sacramento, CA 95842

Regarding: Eurofins EPK Built Environment Testing, LLC
Project: 23-017; Solano Community College Building 1600
EML ID: 3160244

Approved by:



Laboratory Manager
Danny Li

Dates of Analysis:

Lead - Flame AA: 02-09-2023

Service SOPs: Lead - Flame AA (EM-BC-S-8443)
AIHA-LAP, LLC accredited service, Lab ID #178697

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the samples as received and tested. Sample size, as it relates to Wipe samples only, is supplied by the client.

Eurofins EPK Built Environment Testing, LLC ("the Company"), a member of the Eurofins Built Environment Testing group of companies, shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Eurofins EPK Built Environment Testing, LLC's LabServe® reporting system includes automated fail-safes to ensure that all AIHA-LAP, LLC quality requirements are met and notifications are added to reports when any quality steps remain pending.

Eurofins EPK Built Environment Testing, LLC

2841 Dow Avenue, Suite 300, Tustin, CA 92780

(866) 888-6653 www.eurofinsus.com/Built

Client: PMP Environmental Consulting
 C/O: Shannon Johanson
 Re: 23-017; Solano Community College Building
 1600

Date of Sampling: 02-06-2023

Date of Receipt: 02-08-2023

Date of Report: 02-09-2023

LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY

Location:	01Pb: Beige Paint On Sheetrock Upper East Wall Of Corridor	02Pb: Beige Paint On Sheetrock Near Entry Of 1658	03Pb: Green Paint On Metal Door Frame Room 1658 Doorway	04Pb: 2" Ceramic Tile Staff Restroom At Drain
Comments (see below)	None	None	None	None
Lab ID-Version‡:	15284413-1	15284414-1	15284415-1	15284416-1
Analysis Date:	02/09/2023	02/09/2023	02/09/2023	02/09/2023
Sample type	Paint Chip sample	Paint Chip sample	Paint Chip sample	Bulk sample
Method*	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	68 ppm	59 ppm	470 ppm	39 ppm
Sample size	0.1461 grams	0.1684 grams	0.0213 grams	0.2586 grams
§ Total Lead Result	< 68 ppm	< 59 ppm	< 470 ppm	< 39 ppm

Comments:

Sample results have not been corrected for blank values.

Bulk samples are not covered under the AIHA-LAP, LLC service accreditation.

Wipe samples must meet ASTM E1792 criteria. Method Reporting Limits may not be valid for non-ASTM E1792 wipe samples.

*Sample preparation and analytical methods are based upon NIOSH 7082 and EPA 7000B.

† The Method Reporting Limit is the minimum concentration of Lead that the laboratory can confidently detect in the sample.

§ Total Lead Result has been rounded to two significant figures to reflect analytical precision.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

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 1600

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Date of Receipt: 02-08-2023

Date of Report: 02-09-2023

LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY

Location:	05Pb: White Paint On Drywall Classroom 1638 At East Wall	06Pb: White Paint On Metal Door Frame Room 1638	07Pb: Blue Paint On Metal Door Frame 1616 Restroom (Classroom 1610)	08Pb: Yellow Laminate Countertop Classroom 1610 At Damaged Reception Top
Comments (see below)	None	None	None	None
Lab ID-Version‡:	15284417-1	15284418-1	15284419-1	15284420-1
Analysis Date:	02/09/2023	02/09/2023	02/09/2023	02/09/2023
Sample type	Paint Chip sample	Paint Chip sample	Paint Chip sample	Bulk sample
Method*	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified
‡ Method Reporting Limit	63 ppm	96 ppm	130 ppm	39 ppm
Sample size	0.1580 grams	0.1044 grams	0.0771 grams	0.2537 grams
§ Total Lead Result	< 63 ppm	< 96 ppm	870 ppm	2400 ppm

Comments:

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LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY

Location:	09Pb: Green Paint On Wood Trim Classroom 1625 At Upper Wall	10Pb: Green Paint On Wood Panel 1629 Janitor Closet	11Pb: Beige Paint On Metal Door Frame Room 1627	12Pb: Beige Paint On Sheetrock 1638 Restroom
Comments (see below)	None	None	None	None
Lab ID-Version‡:	15284421-1	15284422-1	15284423-1	15284424-1
Analysis Date:	02/09/2023	02/09/2023	02/09/2023	02/09/2023
Sample type	Paint Chip sample	Paint Chip sample	Paint Chip sample	Paint Chip sample
Method*	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	93 ppm	55 ppm	220 ppm	150 ppm
Sample size	0.1074 grams	0.1832 grams	0.0460 grams	0.0680 grams
§ Total Lead Result	2700 ppm	< 55 ppm	< 220 ppm	< 150 ppm

Comments:

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LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY

Location:	13Pb: White Paint On Upper Wall Classroom 1633	14Pb: Red Paint On Concrete Exterior 1600	15Pb: White/Light Gray Paint On Concrete Exterior Window Sill	16Pb: Gray Paint On Concrete/Stucco Exterior Building 1600
Comments (see below)	None	None	None	None
Lab ID-Version‡:	15284425-1	15284426-1	15284427-1	15284428-1
Analysis Date:	02/09/2023	02/09/2023	02/09/2023	02/09/2023
Sample type	Paint Chip sample	Paint Chip sample	Paint Chip sample	Paint Chip sample
Method*	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	43 ppm	40 ppm	50 ppm	97 ppm
Sample size	0.2312 grams	0.2505 grams	0.1996 grams	0.1034 grams
§ Total Lead Result	530 ppm	< 40 ppm	< 50 ppm	< 97 ppm

Comments:

Sample results have not been corrected for blank values.

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Date of Receipt: 02-08-2023

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LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY

Location:	17Pb: White Paint On Concrete Exterior Building 1600	18Pb: White Paint On Wood Exterior Gazebo	19Pb: Red Paint On Concrete/Stucco Exterior Building 1600	20Pb: Yellow Paint On Concrete/ Stucco Exterior Building 1600
Comments (see below)	None	None	None	None
Lab ID-Version‡:	15284429-1	15284430-1	15284431-1	15284432-1
Analysis Date:	02/09/2023	02/09/2023	02/09/2023	02/09/2023
Sample type	Paint Chip sample	Paint Chip sample	Paint Chip sample	Paint Chip sample
Method*	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	110 ppm	39 ppm	110 ppm	140 ppm
Sample size	0.0872 grams	0.2543 grams	0.0913 grams	0.0716 grams
§ Total Lead Result	< 110 ppm	200 ppm	< 110 ppm	< 140 ppm

Comments:

Sample results have not been corrected for blank values.

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Date of Receipt: 02-08-2023

Date of Report: 02-09-2023

LEAD: FLAME ATOMIC ABSORPTION SPECTROMETRY

Location:	21Pb: Orange Paint On Metal Roof Ladder And Handrail	22Pb: Red Paint On Metal Flashing Middle Roof	23Pb: White Paint On Metal Flashing Roof	24Pb: White/Silver Paint Upper Roof Access Hatch
Comments (see below)	None	None	None	None
Lab ID-Version‡:	15284433-1	15284434-1	15284435-1	15284436-1
Analysis Date:	02/09/2023	02/09/2023	02/09/2023	02/09/2023
Sample type	Paint Chip sample	Paint Chip sample	Paint Chip sample	Paint Chip sample
Method*	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified	NIOSH 7082 & EPA 7000B modified
† Method Reporting Limit	52 ppm	40 ppm	40 ppm	39 ppm
Sample size	0.1927 grams	0.2514 grams	0.2508 grams	0.2555 grams
§Total Lead Result	< 52 ppm	24000 ppm	< 40 ppm	54 ppm

Comments:

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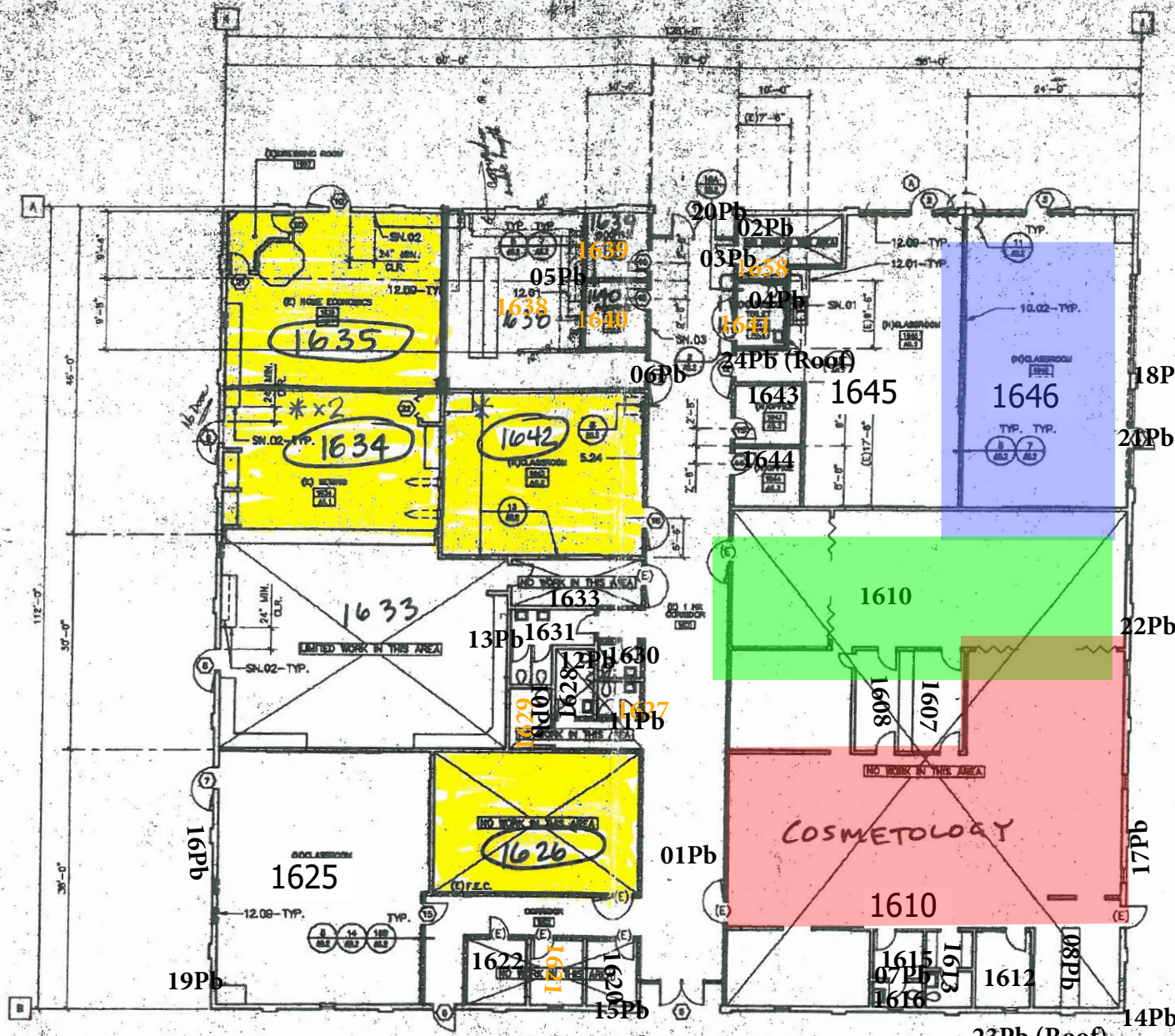
PMP

Sample Maps

Lead Bulk Sample Locations

STAFFORD, KING & ASSOCIATES ARCHITECTS

3041 SARFOS C-208
 GORDON L. KING C-200
 4881 G STREET SUITE 100
 SACRAMENTO, CALIFORNIA 95834
 EXIST DATE: 09/20/13 TIME: 13:00:00

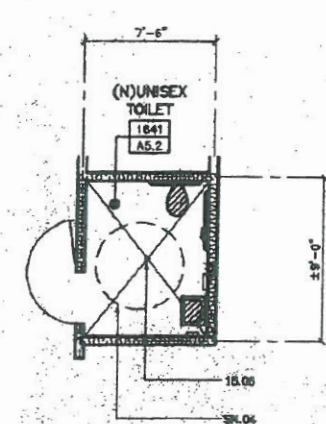


- LEGEND:**
- 1 HOUR WHERE OCCURS
 - NEW WALL OR PORTION OF WALL
 - EXISTING WALL OR FEATURE TO REMAIN
 - EXISTING 1 HOUR WALL
 - NEW ACOUSTICAL INSULATION

- SHEET NOTES:**
- SN.01 6" PLUMBING CHASE
 - SN.02 PROVIDE FINISHED END PANELS & P.L.M. EDGE BANDING TO MATCH (E) FINISHES AS REQUIRED WHERE PORTIONS OF (E) CASEWORK AND COUNTERTOPS HAVE BEEN REMOVED.
 - SN.03 RELOCATE EXISTING FIRE EXTINGUISHER CABINET. SEE DET. 5/AQ.2 FOR INSTALLATION.
 - SN.04 5'-0" MIN. CLEAR

- KEY NOTES:**
- 6.24 METAL LADDER & COVER
 - 9.53 VINYL WALL COVERING
 - 10.02 DRY MARKERBOARD
 - 12.01 PREFINISHED WOOD CASEWORK
 - 12.08 VENETIAN BLINDS
 - 15.06 FLOOR DRAIN

- GENERAL NOTES:**
1. ALL NEW WOOD STUD WALLS ARE TO BE OF 2x6 CONSTRUCTION.
 2. ALL NEW PORTIONS OF WALLS ARE TO BE CONSTRUCTED WITH WOOD STUDS (AND OR FURRING STRIPS) OF EQUAL SIZE TO EXISTING ADJACENT WALLS.
 3. ALL NEW DOOR OPENINGS IN EXISTING WOOD STUD WALLS ARE TO BE LOCATED BETWEEN EXISTING COLUMNS. COORDINATE LOCATIONS OF NEW OPENINGS AS REQUIRED.



EARLY COLLEGE CR 2018

2 ENLARGED PLAN 1/8" = 1'-0"

1 FLOOR PLAN BUILDING #1600 1/8" = 1'-0"

APPROVAL	
REVISIONS	
KEY PLAN	
DATE	09/20/13
BY	JK
CHECKED BY	JK
SCALE	A2.2

Asbestos Bulk Sample locations
Roof Only
PMP, Inc
2/16/23



PMP

CDPH Form

LEAD HAZARD EVALUATION REPORT

Section 1 – Date of Lead Hazard Evaluation _____

Section 2 – Type of Lead Hazard Evaluation (Check one box only)

Lead Inspection Risk assessment Clearance Inspection Other (specify) _____

Section 3 – Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]		City	County	Zip Code
Construction date (year) of structure	Type of structure <input type="checkbox"/> Multi-unit building <input type="checkbox"/> School or daycare <input type="checkbox"/> Single family dwelling <input type="checkbox"/> Other _____		Children living in structure? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't Know	

Section 4 – Owner of Structure (if business/agency, list contact person)

Name		Telephone number		
Address [number, street, apartment (if applicable)]		City	State	Zip Code

Section 5 – Results of Lead Hazard Evaluation (check all that apply)

No lead-based paint detected
 Intact lead-based paint detected
 Deteriorated lead-based paint detected
 No lead hazards detected
 Lead-contaminated dust found
 Lead-contaminated soil found
 Other _____

Section 6 – Individual Conducting Lead Hazard Evaluation

Name		Telephone number		
Address [number, street, apartment (if applicable)]		City	State	Zip Code
CDPH certification number	Signature		Date	

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Section 7 – Attachments

- A. A foundation diagram or sketch of the structure indicating the specific locations of each lead hazard or presence of lead-based paint;
- B. Each testing method, device, and sampling procedure used;
- C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector
 Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:
 California Department of Public Health
 Childhood Lead Poisoning Prevention Branch Reports
 850 Marina Bay Parkway, Building P, Third Floor
 Richmond, CA 94804-6403
 Fax: (510) 620-5656

Solano Community College District Project Labor Agreement

The following guidelines are provided to assist you with understanding the Solano Community College District Project Labor Agreement (“PLA”). This is meant to be an overview to assist contractors and is not intended to modify or supersede in any way the specific provisions of the PLA.

1. Read the entire Project Labor Agreement.
2. Administrative Requirements:
 - a. All contractors must complete and sign the Addendum A-Letter of Assent in order to be awarded work on the project. This binds you to the Project Labor Agreement.
 - b. All contractors must participate in a Pre-job Conference **prior to** commencing on-site work on the project. This meeting will include the contractor making specific craft union work assignments of the work processes within the scope of work of its contract. The contractor should complete and submit a Pre-job Form prior to the Pre-job Meeting. (See Article 5, Section 5.2 of the PLA)
 - c. All craft workers performing work on the project must be referred through the applicable union referral procedures with a preference for graduates of Solano County School District school, residents of the City of Winters and residents of Solano County. (See Article 8, Section 8.1 and Section 8.2 and 8.3 regarding the use of “Core Workers” and Article 15, Local Hire)
 - d. All contractors must pay the wages and benefits for the classification of worker as set forth in the applicable prevailing wage determination established by the California Department of Industrial Relations. The benefits must be contributed to the applicable union benefit funds. (See Article 9, Section 9.1)
 - e. All contractors are required to utilize apprentices from jointly administered state approved apprentice programs in the ratios set forth by the California Labor Code and prevailing wage laws with a preference for any apprentice that is a Solano Community College student or graduate. (See Article 14)
 - f. Drug and Alcohol testing of construction craft workers will be performed in accordance with the applicable craft union Schedule A Master Labor Agreement. (See Article 18)
3. Questions regarding the Project Labor Agreement should be directed to the Project Manager, Noe Ramos at Noe.Ramos@solano.edu and the PLA Coordinator, Michael Vlaming at mjv@vlaming-associates.com .