



SPECIFIC PCB REMOVAL/REMEDIATION PLAN

Demolition Project, Buildings E
Malibu High School
30215 Morning View Drive
Malibu, California 90265

Prepared for:

Santa Monica-Malibu Unified School District
1651 Sixteenth Street
Santa Monica, California 90404

Project No.: SMSD-16-6543
Date: February 13, 2017
Revised: March 30, 2017

Alta Environmental
3777 Long Beach Boulevard Annex Building
Long Beach CA 90807 United States of America
T 562 495 5777 F 562 495 5877
Toll-free (US only) 800 777-0605 altaenviron.com

TABLE OF CONTENTS

| SECTION | PAGE | |
|---------|--|----|
| 1 | INTRODUCTION | 1 |
| 2 | PCB REMOVAL/REMEDICATION PROCEDURES | 2 |
| 2.1 | Removal / Remediation Scope of Work | 2 |
| 2.2 | Contingency | 3 |
| 2.3 | Waste Characterization | 3 |
| 2.4 | Engineering Controls | 4 |
| 2.5 | Air Monitoring | 5 |
| 2.6 | Worker Protection | 6 |
| 2.7 | Worker Decontamination Systems | 6 |
| 2.8 | Equipment Decontamination | 6 |
| 2.9 | Window and door caulking and window glazing and adjacent porous construction material removal | 6 |
| 2.10 | Proposed Procedures for Encapsulation of Porous Building Materials | 7 |
| 2.11 | Proposed Procedures for Decontamination of Non-Porous Substrates in Contact with >50 ppm Materials | 7 |
| 2.12 | Proposed Procedures for Removal of Potentially Impacted PCBs Soils | 8 |
| 3 | POST-REMEDICATION/CONTAINMENT AREA CLEARANCE REQUIREMENTS | 8 |
| 3.1.1 | Confirmation final visual inspection | 8 |
| 3.1.2 | Nonporous Building Materials | 8 |
| 3.1.3 | Wipe Sampling | 8 |
| 4 | QUALITY CONTROL | 9 |
| 5 | WASTE MANAGEMENT AND DISPOSAL | 9 |
| 6 | RECORDKEEPING AND DOCUMENTATION | 10 |
| 7 | CERTIFICATION | 10 |

1 INTRODUCTION

The Santa Monica Unified School District (District) will undertake a project to fully demolish Building E (Site) at Malibu High School located at 30215 Morning View Drive, Malibu, California 90265.

The District has retained Alta Environmental (Alta) to prepare this Site Specific Polychlorinated Biphenyl (PCB) Work Plan (Plan) to be implemented for the removal and disposal of construction materials such as, but not limited to, door and window caulking and window glazing which are known or assumed to be PCB Bulk Product Waste and PCB Remediation Waste.

According to District records, the window caulking in Classrooms 1, 3, 5, 7 and 8 was previously sampled, analyzed, and reported to contain levels of PCBs exceeding 50 parts per million (ppm). Based on this information, all pre-1980 window and door caulking and window glazing is assumed to be PCB Bulk Product Waste. Adjacent porous materials such as, but not limited to, concrete, stucco, plaster, drywall, wood etc. are assumed to be PCB Remediation Waste.

The District intends to complete a full characterization of building materials which may contain PCBs such as, but not limited to, paint, mastics, and sealants etc. prior to demolition of the building. Results of the characterization will be made available to the contractor when completed.

The work included in this Plan shall be completed by a remediation contractor (Remediation Contractor) qualified to perform PCB removal/remediation work using Hazardous Waste Operations and Emergency Response (HAZWOPER) trained workers. Further, it should be noted that asbestos containing materials (ACM) and lead based paints (LBP) have also been identified within the boundaries of the PCB related work. Requirements for ACM and LBP remediation work are not included in this Plan. The remediation contractor should consult with the District to obtain the ACM and LBP abatement work plan.

The PCB removal work may be completed concurrently and in conjunction the ACM and LBP removal work where necessary and if feasible and cost effective. All PCB related work shall be completed using proper worker protection including air purifying respirators, disposable clothing, hand, foot, eye and head protection as required.

PCB removal/remediation work should be completed in accordance with all applicable regulations. Waste must be properly segregated, characterized, labeled, transported and disposed at an approved waste disposal facility.

If a specified minimum procedure described in this document cannot be utilized, a request shall be made in writing to Owner's Authorized Representative providing details of the issues encountered and recommended alternatives.

The Remediation Contractor is required to comply with all applicable regulatory requirements including but not limited to worker training, personal protection equipment and waste disposal. The selected Remediation Contractor will be required to provide a written work plan specifically addressing conditions specific to the Site including compliance with this specification.

By submitting a bid, the Remediation Contractor warrants its intent to conduct said work properly using qualified personnel.

The Remediation Contractor shall furnish all labor, materials, services, insurance specifically covering the handling and transportation of PCBs, and equipment which is specified, shown or reasonably implied for the removal, transport, and disposal of PCB impacted waste.

2 PCB REMOVAL/REMEDIATION PROCEDURES

2.1 Removal / Remediation Scope of Work

The District has recently completed step-out sampling to determine if PCBs (assumed to be present in window and door caulking) may have migrated into adjacent porous substrates. The step-out sampling included the collection of representative samples from porous surfaces to a depth of one-half of an inch (0.5”), starting at twelve (12) inches away from the door or window. All samples collected at the initial 12” distance locations were reported as “Not Detected or Below the Actual Detection Limit” or below one (1) parts per million (ppm) by the laboratory. Based on these screening results, the PCB scope of work included in this Plan includes the removal of 0-12 inches of porous materials adjacent to windows and doors and full-removal of all impacted window and door caulking and window glazing.

According to Environmental Protection Agency (EPA), Memorandum, “PCB Bulk Product Waste Reinterpretation” dated October 24, 2012, building materials “Coated or serviced” with PCB bulk product waste (e.g., caulk, paint, mastic, sealants) at the time of designation for disposal to be manage as a PCB bulk product waste. The reinterpretation document allows for disposal of both PCB Bulk Product Waste and PCB Remediation Waste together as a single waste stream (PCB Bulk Product Waste).

Table 1-Summary of PCB Scope of Work

| Building | Location | Component/Description | Scope of Impact | Current Classification |
|----------|---------------------------------------|-----------------------|---|---|
| E | All exterior and interiors components | All door casing | Full Removal of exterior and interior door casings containing suspected PCB door caulking | Assumed Bulk Product Waste) |
| | | | Removal of 0-12” of porous materials adjacent to the potentially impacted door casings | Assumed to be PCB Remediation Waste (12”) |
| E | All exterior and interiors components | All window casings | Full Removal of exterior and interior door casings containing suspected PCB door caulking | Assumed Bulk Product Waste) |
| | | | Removal of 0-12” of porous materials entirely | Assumed to be PCB |

| Building | Location | Component/Description | Scope of Impact | Current Classification |
|----------|----------|-----------------------|--|-------------------------|
| | | | around the potentially impacted doors casing | Remediation Waste (12") |

2.2 Contingency

1. The removal/remediation scope of work may also include other materials such as, but not limited to: paint, mastics, sealant, etc. that are reported as PCB Bulk Product Waste and or PCB Remediation Waste during the full characterization of building materials suspect to contain PCBs in Building E.
2. If unanticipated higher PCB concentrations or wider distribution of PCB impacted materials are found, or other conditions require changes in the clean-up approach, remediation contingencies will be developed and included in the remediation Plan.

2.3 Waste Characterization

According to Environmental Protection Agency (EPA), Memorandum, "PCB Bulk Product Waste Reinterpretation" dated October 24, 2012, building materials "Coated or serviced" with PCB bulk product waste (e.g., caulk, paint, mastic, sealants) at the time of designation for disposal are to be managed as a PCB bulk product waste. The reinterpretation document allows for disposal of both PCB Bulk Product Waste and PCB Remediation Waste together as a single waste stream (PCB Bulk Product Waste). Porous substrates assumed or confirmed to be PCB Remediation Waste are to be categorized as PCB Bulk Product Waste for offsite disposal per 2012 EPA Reinterpretation.

Window and door caulking and window glazing are assumed to be PCB Bulk Product waste unless testing is performed prior to demolition indicating that the caulking contains PCBs in concentrations of less than fifty (<50) milligrams per kilograms (mg/kg).

Adjacent surfaces surrounding the PCB Bulk Product Waste such as, but not limited to, concrete, wood, stucco, plaster and drywall shall be characterized as PCB Remediation Waste unless testing of the substrates is performed prior to demolition indicating that the associated porous substrate is less than one (1) milligrams per kilograms (mg/kg).

Waste generated during this project should be segregated and classified in the following categories as outlined in 40 CFR 761.3. Refer to Table 2 below.

Table 2-PCB Waste Categories

| Waste Category ⁽¹⁾ | Materials | Concentration PCB ppm |
|-------------------------------|--|-----------------------|
| PCB Bulk Product Waste | Source material-window and door caulking, and window glazing, and surrounding porous materials 12" away from doors and windows | ≥ 50 |
| Excluded PCB Product Waste | Source material-window and door caulking | <50 |
| PCB Remediation Waste | Personal protection equipment and polyethylene sheeting | >50 |
| PCB Remediation Waste | personal protection equipment, and polyethylene sheeting containing | >1 but < 50 |

⁽¹⁾ Porous substrates assumed or confirmed to be PCB Remediation Waste are to be categorized as PCB Bulk Product Waste for offsite disposal per 2012 EPA Reinterpretation. (<https://www.epa.gov/pcbs/polychlorinated-biphenyl-pcb-guidance-reinterpretation>).

Nonporous building materials which were in direct contact with PCBs Bulk Product Waste may be decontaminated in a manner consistent with 40 CFR 761.79.

2.4 Engineering Controls

An integral step in implementing effective protective measures is to build a containment area at each location where removal/remediation work is completed in a manner to minimize airborne dust from migrating outside the abatement area. The containment area(s) shall be maintained under constant negative air pressure by installing localized fan equipment equipped with a high efficiency particulate air filters (HEPA). The filtered exhaust from the fans will be routed outside the containment area and vented outside of the building. A minimum pressure differential of 0.02 inches water column shall be maintained at all times during the work and documented using a recording manometer.

The containment should include the following:

1. All plastic, spray-on strippable coatings and structural materials used shall be UL-certified as fire retardant or non-combustible. Fire-retardant polyethylene sheeting utilized for worker decontamination and construction/containment barriers shall be a minimum of six-mil in thickness.
2. Disposal bags or containers used to package hazardous waste shall be of six-mil polyethylene, pre-printed with labels.
3. Warning signs as required by Cal/OSHA shall be utilized at all entrances to the containment.
4. A sufficient quantity of HEPA vacuums and/or differential pressure air filtration devices equipped with HEPA filtration shall be used to during the removal/remediation work activities.

To calculate total air flow requirement:

$$\frac{\text{Total ft}^3/\text{min} = \text{Vol. of work area (in ft}^3\text{)}}{15 \text{ min}}$$

To calculate the number of units needed for the abatement:

$$\frac{\text{Number of units needed} = \text{[total ft}^3/\text{min]}}{\text{[capacity of unit in ft}^3/\text{min]}}$$

Additionally, all powered tools should be equipped with appropriate tool guards and dust/debris collection point of captures HEPA filtration systems.

All waste including shower water and water used for dust suppression generated during the project must be disposed in accordance with Section 2.14 of this document and all applicable regulatory requirements.

2.5 Air Monitoring

To verify the effectiveness of dust minimization, and engineering controls, air monitoring for respirable airborne particulates will be conducted using data-logging, real-time monitors. Following the California Division of Occupational Safety and Health (Cal-OSHA) permissible exposure limits (PELs), based on an 8-hour, time-weighted average (8-hour TWA) will be considered applicable for this work.

- Total Dust: 10 milligrams per cubic meter (mg/m³)
- Respirable Fraction: 5 mg/m³
- PCBs (42% Chlorine): 1 mg/m³
- PCBs (54% Chlorine): 0.5 mg/m³

A total airborne particulate action limit for the areas outside of the exclusion zone has been established for the PCB remediation work to be conducted at the Site with consideration of the specific receptors, PCB concentrations, work activities, and Cal/OSHA permissible exposure limits. The action limit applies only to air monitoring at the perimeter of the work zone; an action has not been set for the active work zones (exclusion zones) as engineering controls will be used within these zones.

An action limit of 0.1 milligrams per cubic meter (mg/m³) above background will be maintained during site work. Air monitoring at a location representative of background air conducted (i.e. a location upwind of the work area) will be conducted at the same frequency as the monitoring to obtain data representative of real-time background conditions at a minimum once per hour. The action limit will be used to determine when additional engineering controls and/or work stoppages will be necessary.

Should the action level be exceeded during remediation, work procedures will be evaluated for recommendations for possible additional engineering controls or modified work practices to control dust generations. Any recommended changes to work practices will be documented.

Air monitoring stations will be established at the exterior perimeter upwind and downwind locations, and within, the designated work area, if feasible. Air monitoring will be conducted at all times during PCB remediation activities. Alta will review monitoring data at minimum of once per hour during the work. The logged data will be downloaded and reviewed daily so that changes to the work practices can be recommended based on observable trends in airborne dust concentrations.

If monitoring indicates that particulate matter concentrations are not maintained below the action level, remediation activities shall cease until work practices can be evaluated and adjusted.

Air monitoring equipment will be calibrated per manufacturer's specifications.

2.6 Worker Protection

The Remediation Contractor shall select the most appropriate respirators for the task. At a minimum, the workers should wear an air purifying respirator equipped with High Efficiently Particulate Air (HEPA) (HEPA) P100 filter. Disposable Tyvek suits (non-porous full-body) , and appropriate hand (chemical resistant), foot, eye and hear protection should be worn at all times.

2.7 Worker Decontamination Systems

Worker decontamination enclosure systems shall be provided at all locations where workers will enter or exit PCBs impacted work areas.

Worker decontamination enclosure systems constructed at the Project site shall utilize six-mil, fire-retardant polyethylene sheeting, or other approved materials for privacy.

Personnel Decontamination Units shall not be located inside the work area(s) unless specifically authorized by the Project Environmental Consultant.

Alternate methods of providing Decontamination facilities may be submitted to the Project Environmental Consultant for approval. Do not proceed with any such method(s) without the written authorization.

The worker decontamination enclosure system shall consist of at least a cleansing station in accordance with the requirements of 8 CCR 1527 and 8 CCR 1529, equipped with adequate water, towels and cleansing agents to accommodate the entire crew and visitors.

2.8 Equipment Decontamination

Equipment used for the removal/remediation of PCB Bulk Product Waste and PCB Remediation Waste materials included in this Plan must be properly decontaminated by used wet-wiping and HEPA vacuuming techniques.

Prior to removing equipment from the impacted work area, the HEPA filters should be removed and disposed of in accordance with Section 2.15 of this document, and all applicable regulations. The filter compartment should be thoroughly wet-wiped and HEPA vacuums.

Equipment should be inspected by both the Supervisor supervising the remediation/removal work, and the Project Environmental Consultant.

The equipment will be removed from the area only after the equipment has been inspected and found to be acceptably clean from visible dust and debris.

2.9 Window and Door Caulking and Window Glazing and Adjacent Porous Construction Material Removal

The removal/remediation scope of work included in this section includes the removal and off-site disposal of materials identified in Table 1, Section 2.1 of this report. The work should be completed as follows:

- Pre-clean all surfaces within the proposed work area by HEPA vacuuming and wet-wiping.
- Establish a containment work area including negative pressure enclosure as described in Section 2.3 above.

- At locations where caulking or glazing will be removed, polyethylene sheeting will be placed on the ground surface and removal will be conducted using hand tools to achieve removal to the maximum extent practicable while minimizing dust or other airborne particulates generated from the removal of caulking, glazing, or adjacent materials. No mechanical grinding or saw cutting performed directly in contact with the caulking or glazing will be allowed.
- Surface preparation for caulking and glazing removal will include surficial wetting of visibly dry and/or deterioration material to minimized dust generation.
- For glazing removal-avoid disturbing glazing and creating debris. This can be completed by sealing the glazing to the windows by using duct tape or polyethylene sheeting.
- Upon the completion of the initial removal activities, the joints will be visually inspected for the presence of any residual caulking or glazing. If residual caulking or glazing is observed, it will be removed from the adjacent material to the maximum extent practicable. This may include scrapping or chemical means to removal all visible remnants from the material.
- During the project, equipment and tools used in the process will be decontaminated through spraying and wet wiping. At the completion of the project, any non-disposable equipment and tools that involved in handling PCB impacted material will be decontaminated following the procedures described in 40 CFR 761.79.
- Door and window caulking and window glazing debris generated during this project will be immediately collected in waste bags or similar container and stored in a labeled PCB Bulk Product Waste container at the end of each work shift. Waste shall be disposed of according to all applicable regulatory requirements. Conduct the required waste profiling and characterization as per Section 2.15 in this document.
- After use, disposable PPE and polyethylene sheeting waste generated during this project will be collected, and stored in a labeled PCB Remediation Waste container. Waste shall be disposed of according to all applicable regulatory requirements. Conduct the required waste profiling and characterization as per Section 2.15 in this document. All removed waste materials will be stored on site in lined, marked, and covered roll-off containers (or similar containers) or Department of Transportation (DOT) 55 gallon drums prior to off-site

2.10 Proposed Procedures for Encapsulation of Porous Building Materials

No encapsulation of porous material is anticipated to be completed during this project. All identified PCBs will be removed prior to demolition.

2.11 Proposed Procedures for Decontamination of Non-Porous Substrates in Contact with >50 ppm Materials

The task described below includes decontamination of nonporous materials such as, metal, glass, vinyl etc. and other non-porous materials installed adjacent to >50 ppm PCB-impacted materials identified during characterization activities, or materials assumed to contain >50 ppm PCBs for the purpose of disposal.

- When possible, all nonporous materials to be decontaminated will be disassembled and transported to a secure decontamination area and staged on polyethylene sheeting. If the material cannot be easily removed, a containment area lined with polyethylene sheeting, and temporary negative pressure differential and worker decontamination facility will be used to contain all liquids generated from the decontamination process.

- Nonporous materials will be decontaminated via chemical washing with a chemical extraction solvent following the manufactures' recommended procedures for hand applications: the product will be applied and scrubbed using hand brushes; during the agitation, the surface of the material will be kept wet with a chemical extraction solvent at all times. Following the five-minute dwell time, all free liquid will be vacuumed from the surface; rinse water will be applied to the material and then vacuumed; this procedure will be repeated three times following by a triple water rinse after the final application.
- Surface wipe samples will then be collected as described in Section 2.12.5.2 in this document.

2.12 Proposed Procedures for Removal of Potentially Impacted PCBs Soils

Removal of PCB impacted soils is not anticipated to be completed during this project. All exposed soil surfaces located within or directly below the area affected by any PCBs remediation work must be protected to ensure that the soil does not become impacted with PCBs as a results of remediation work.

3 POST-REMEDICATION/CONTAINMENT AREA CLEARANCE REQUIREMENTS

Each work area must meet the following requirements prior to removal of the containment.

1. Contractor has completed full removal of identified PCB Bulk Product Waste and PCB Remediation Waste itemized in, Section 2.1, Table 1,
2. The containment work area has passed a through visual inspection completed as required in section 3.1.1 below, and
3. Wipe sample laboratory analysis have satisfactory passed the recommended clearance levels state in Sections 3.1.2 (if applicable), and 3.1.3 below.

3.1.1 Confirmation final visual inspection

Upon completion of the PCB related work in each containment work area, the Project Environmental Consultant and the Remediation Contractor will conduct a post-remediation visual inspection. If any material designated for removal, including loose dust and debris, is observed, the Contractor will be required to re-clean the area until the area is deemed to be acceptably clean.

3.1.2 Nonporous Building Materials

For nonporous surfaces that are decontaminated, surface wipe samples will be collected in accordance with Section 3.1.3 of this document from location on the material formerly in contact with the PCB impacted waste. If results indicate that the PCB concentration is less than the clean-up levels, then no additional clean-up is required. If a verification sample is reported with PCB concentrations above, this surface will be cleaned again. All samples will be extracted using USEPA Method 3540C (Soxhlet Extraction) and analyzed for PCBs using USEPA Method 8082.

3.1.3 Wipe Sampling

Wipe samples will be collected on gauze pads (or similar sampling media) using the Standard Wipe Test described in 40 CFR 761.123 and will be analysed using USEPA Method 8082 for Aroclors.

In containment work area, at least two PCB wipe samples will be collected, one from a window sill (if feasible) and one from an interior smooth floor.

A comparison threshold of 1 microgram per 100 square centimeters ($1\mu\text{g}/100\text{ cm}^2$) must be met for wipe samples collected at the Site. Clearance will be issued when all samples results have met these levels.

If these conditions are not met, decontamination shall be deemed incomplete and the cleaning procedures shall be repeated. The area shall be re-cleaned and re-tested at no additional cost to Owner until satisfactory levels are obtained.

The contractor is advised that wipe sample analysis may be delayed as long as 48 hours. The containment areas must be maintained until the samples are received from the laboratory.

4 QUALITY CONTROL

A quality control (QC) assessment of all samples will be completed. This assessment will include a complete check of field documentation including sample collection and preservation methods, a completeness check of the laboratory data and documentation, a review of the internal laboratory QA/QC procedure and results including surrogate recoveries, MS/MSD results, blank results, and laboratory control standard results, and an evaluation of sample holding times, and field duplicate results, as necessary.

5 WASTE MANAGEMENT AND DISPOSAL

Waste management and disposal includes on-site handling, accumulation, containerizing, labelling, off-site transporting (including providing and preparing manifest, bills of lading, etc.) and properly disposing of PCB waste streams. The PCB waste will be transported by a licensed waste hauler to a permitted hazardous waste disposal facility.

Secured, lined, and covered waste containers (roll-off containers or equivalent) or 55-gallon DOT-approved will be staged for the collection of PCB wastes generated during the work activities in accordance with applicable requirements in 40 CFR 761.65 and 40 CFR 761, Subpart K. All containers will be properly labelled and marked in accordance with 40 CFR 761.40 and 22 CCR 66262.34.

The Remediation Contractor will be required to develop and submit for review a Waste Sampling and Management Plan to the Owner and the Project Environmental Consultant for review and approval prior to commencement of the project. At a minimum, this plan shall include: name, location and contact information for the Disposal Facility, Certification by the Disposal Facility that the PCB waste will be accepted, approved hazardous waste transporter information, a plan for disposal of PCB waste streams, a description of the sampling procedures and sample frequencies, etc. for acceptance by the Disposal Facility.

Upon completion of waste profiling and acceptance at the respective facilities, PCB waste will be loaded in to transportation vehicles for shipment to the disposal facility.

PCB Bulk Product Waste such as caulking, glazing (sources) and adjacent porous materials impacted by, or assumed to be impacted by the PCB source will be segregated for disposal and transported under a manifest to a disposal facility in accordance with 40 CFR 761.62 and 22 CCR 66262.23.

PCB Remediation Waste (PPE, polyethylene sheeting) will be segregated for disposal and transported under a hazardous waste manifest to a hazardous waste landfill in accordance with 40 CFR 761.61 and 22 CCR 66262.23.

Water generated during decontamination activities (or as part of dust suppression) that is collected on polyethylene sheeting will be containerized onsite, sampled for PCBs other potential constituents, and designated for off-site disposal in accordance with 40 CFR 761.79 and/or California hazardous waste regulations, as applicable. Polyethylene sheering, PPE, and non-liquid cleaning materials will be managed and disposed of offsite in accordance with 40 CFR 761.61 (a)(5)(v).

Note-Wastes generated as a result of the renovation work as described herein may also be considered a mixed hazardous waste due to regulated concentrations of asbestos and lead being present.

6 RECORDKEEPING AND DOCUMENTATION

Following completion of the work activities, applicable records and documents will be generated and maintained at one location. A post-remediation report will be prepared which will contain a detailed description of the remediation activities, post clean up samples, appropriate figures and drawings, and analytical data tables presenting results and post-cleanup samples. In addition, the report will include volumes and disposed materials, and all waste disposal records. The post-remediation report will be prepared to provide a full accounting of all activities performed and documentation necessary to support the conclusion that the remedial activities met the objective of the project.

7 CERTIFICATION

As required by 40 CFR 761.61 (a)(3)(i), a written certification is provided as an attachment to this workplan. This certification is signed by both the owner of the property where the cleanup site is located, and the party conducting the cleanup, and states that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess or characterize the PCB contamination at the cleanup site are on file at a location designated in the certificate, and are available for USEPA inspection.