



PCB REMOVAL/REMEDICATION PROCEDURES UPDATE

Building C – Select Restroom Windows
McKinley Elementary School
2410 Santa Monica Boulevard
Santa Monica, California 90404

Prepared for:

Santa Monica-Malibu Unified School District
Facilities Improvements Projects
2828 4th Street
Santa Monica, California 90405

Project No.: SMSD-18-8096

Date: February 2, 2018

Revised: April 18, 2019

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1 INTRODUCTION

This document supersedes the previous PCB Removal/Remediation Procedures work plan dated February 2, 2018.

The Santa Monica-Malibu Unified School District (District) will undertake a project to remove and replace select window frames impacted with polychlorinated biphenyl (PCBs) from Building C at McKinley Elementary School located at 2410 Santa Monica Boulevard, Santa Monica, California 90404. Specifically, the windows installed in the Adult Restroom (Room 93) and the Girls Restroom (Room 92), located in the northwest corner of Building C (herein identified as the NW Restrooms).

The procedures included in this remediation work plan (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 limits 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 with 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.

If a specified minimum procedure described in this document cannot be utilized, a request shall be made in writing to the District's authorized representative which provides details of the issues encountered and recommended alternatives.

The Remediation Contractor will be 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 Plan.

By submitting a bid, the Remediation Contractor warrants its intent to properly conduct said work utilizing appropriately 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 PCBs identified herein.

2 BACKGROUND

The District completed an investigation of doors and windows scheduled for removal at McKinley Elementary School (PCB Delineation and Source Bulk Sampling Report, Alta Environmental, February 1, 2018). The investigation assessed the presence of detectable PCB concentrations in caulking material and adjoining porous material within Buildings A, B, C and D. According to the report, caulking material from the northern most window within Room 93 (adult restroom) was reported with PCB concentrations above 50 parts per million (ppm) and the step-out delineation samples were reported with PCB concentrations above 1ppm at a distance of 1-inch. The 3-inch and 6-inch delineation samples were reported as non-detected for

PCBs. At the time of the investigation, this window was identified as a Type-K window. However, further examination determined that this window and the two other windows associated with the NW Restrooms were a different and unique design.

In addition, the District recently completed additional PCB bulk sampling of the remaining two restroom windows within the NW Restrooms, one in the girls' restroom and one in the adult restroom (PCB Source Window Sampling Report, Alta Environmental, March 1, 2019). Both windows were found to contain caulking with reported PCB concentrations greater than 50 ppm.

Based on these findings, the 3 windows unique to the NW Restrooms are the only windows within Building C identified with caulking material greater than 50ppm.

3 PCB REMOVAL/REMEDATION PROCEDURES

3.1 Scope of Work

Based on the source sample and delineation sample results, the PCB scope of work included in this Plan includes the removal of window caulking and surrounding porous materials in Building C as listed in Table 1 below:

Table 1

Building	Component/Description	Scope of Impact	Waste Classification
C	NW Restrooms Windows: WC101, WC102, WC103 Impacted components are identified in the drawing attached in Appendix A	Full removal of window frames and 3" of surrounding porous materials (stucco on concrete, and plaster)	PCB Bulk Product Waste

3.2 Waste Characterization

Waste generated during this project should be sorted and classified in the following categories, in accordance with 40 CFR 761.3.

Table 2

Waste Category	Materials
PCB Bulk Product Waste	Window caulking and adjacent porous materials at a minimum zero-three inch (0-3") away from all Type K window frames in Building C
PCB Remediation Waste	Personal protection equipment and polyethylene sheeting

Note: 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) (<https://www.epa.gov/pcbs/polychlorinated-biphenyl-pcb-guidance-reinterpretation>).

3.3 Engineering Controls

The abatement contractor will be required 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) will 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 of water shall be maintained at all times during the work and documented using a manometer with data-logging.

The containment should include the following:

1. All polyethylene sheeting, spray-on strippable coatings and structural materials used shall be UL-certified as fire retardant or non-combustible.
2. A three-stage worker decontamination facility shall be provided to the containment work area.
3. Warning signs shall be posted 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.

3.4 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. The Remediation Contractor is required to document compliance with California Division of Occupational Safety and Health (Cal-OSHA) permissible exposure limits (PELs).

A total airborne particulate action limit of 0.1 milligrams per cubic meter (mg/m³) above background has been established for areas outside of the PCB remediation project exclusion zone, based on specific receptors, identified PCB concentrations and planned work activities. This action limit applies only to air monitoring at the perimeter of the work zone; an action limit has not been set for the active work zones (exclusion zones) as engineering controls will be used within these zones.

Should the action level be exceeded during remediation, work procedures will be evaluated for 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 work area perimeter in upwind and downwind locations, and within the designated work area, if feasible. Air monitoring will be conducted at all times during

demolition activities. Alta will review monitoring data a minimum of once per hour during the work. Logged data will be downloaded on a regular basis and archived.

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.

3.5 Worker Protection

The Remediation Contractor shall select the most appropriate respiratory protection for tasks being performed. At a minimum, personnel within the exclusion zone should wear an air purifying respirator equipped with High Efficiently Particulate Air (HEPA) P100 filter. In addition, disposable Tyvek suits (non-porous full-body) and appropriate hand (chemical resistant), foot, eye and hear protection should also be worn at all times within the exclusion zone.

3.6 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, equipped with adequate water, towels and cleansing agents to accommodate the entire crew and visitors.

3.7 Equipment Decontamination

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

Prior to removing equipment from the impacted work area, HEPA filters should be removed and disposed of in accordance with all applicable regulations at an approved licensed to accept PCB waste facility. In addition, the filter compartment should be thoroughly wet-wiped and HEPA vacuumed.

3.8 Window and Door Caulking and Adjacent Porous Materials Removal

The removal/remediation scope of work included in this section includes the removal and off-site disposal of materials identified in Section 3.1 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 3.3 above.
- At locations where caulking 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 removal will include surficial wetting of visibly dry and/or deterioration material to minimized dust generation.
- 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 handled PCBs material will be decontaminated following the procedures described in 40 CFR 761.79.
- Window caulking, and adjacent porous materials waste 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 will be properly disposed in accordance with all applicable regulatory requirements.
- Disposable PPE and polyethylene sheering generated during this project will be collected and stored in a labeled PCB Remediation Waste container. Waste will be properly disposed in accordance with all applicable regulatory requirements.
- All removed waste materials will be stored on site in lined, marked, and covered roll-off containers (or similar containers) or 55-gallon drums prior to off-site disposal.

3.9 Proposed Procedures for Removal of Potentially Impacted PCBs Soils

Removal of PCB impacted soil is not anticipated during this project. All exposed soil surfaces located within or directly below the area affected by any PCB remediation work must be secured and adequately protected to ensure that the soil is not cross-contaminated with PCBs as a result of remediation activities.

4 POST-REMEDATION/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 itemized in Section 3.1;
2. The containment work area has passed a thorough visual inspection completed in accordance with Section 4.1; and
3. Wipe sample analysis results meet the recommended clearance levels stated in Section 4.3.

4.1 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.

4.2 Confirmation Sampling

Upon completion, wipe samples will be collected and analyzed to confirm adequate decontamination measures were performed. Wipe samples will be collected from nonporous surfaces using the Standard Wipe Test method described in 40 CFR 761.123; and the samples will be subsequently analyzed for PCBs by using EPA Method 8082.

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-surface 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 integrity of all containment areas must be maintained until the results of the confirmation wipe sampling indicate acceptable conditions.

5 POST-REMEDATION RE-OCCUPANCY CONFIRMATION SAMPLING

Following the completion of the project, after the containment has been removed and after all work areas have been restored, additional air and wipe samples will be collected from the renovated rooms.

5.1 Air Sampling

Post-remediation confirmation air sampling will be conducted prior to re-occupancy. The air samples will be collected without a pre-filter and will be analyzed for PCBs using USEPA Method TO-10A. Each air sample will be collected on a polyurethane foam cartridge with a constant flow rate of approximately 5 liters per minute.

In each room, one air sample will be collected over a period of 24 hours. Each room will be sampled under "closed" conditions, with all doors and windows closed, the heating and ventilation system turned off and the lights turned on.

Air sample results shall meet the criteria as outlined in the USEPA's document Exposure Levels for Evaluating Polychlorinated Biphenyls (PCBs) in Indoor School Air prior to re-occupancy. The criteria are as follows:

Age Range	1 to <2	2 to <3	3 to <6	6 to <12	12 to <15	15to <19	19 +
PCB Screening Level (ng/m ³)	100	100	200	300	500	600	500

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 air sample analysis may be delayed as long as two weeks. The containment areas must be maintained until the sample results are received from the laboratory and reviewed by the District.

5.2 Wipe Sampling

Post-remediation confirmation wipe samples will be collected prior to re-occupancy. The wipe samples will be collected on gauze pads (or similar sampling media) using the Standard Wipe Test method described in

40 CFR 761.123 and the samples will be analyzed using USEPA Method 8082 for PCBs. Sampling will be conducted at a minimum frequency of two wipe samples per room, with one sample collected from a window sill and one from an interior, non-porous floor surface.

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. 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.

6 CONTINGENCY PLAN

If unanticipated higher PCB concentrations or wider distribution of PCB impacted materials are found, or other obstacles require changes to the means and methods described herein, remediation contingencies will be developed, and the remediation Plan updated.

7 QUALITY CONTROL

Quality control measures will be implemented during the confirmation sampling process, including a review of field documentation including sample collection and preservation methods; a review of laboratory data and documentation; a review of the internal laboratory QA/QC procedure and results; and an evaluation of sample holding times and field duplicate results, as applicable.

8 WASTE MANAGEMENT AND DISPOSAL

Waste management and disposal includes on-site handling, accumulation, containerizing, labelling, and off-site transporting (including providing and preparing manifest, bills of lading, etc.) and disposal of PCB waste streams. The PCB waste streams 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 drums will be staged for the collection of PCB wastes generated during work activities, in accordance with applicable requirements in 40 CFR 761.65 and 40 CFR 761, Subpart K. All waste 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 from the disposal facility confirming that the PCB wastes will be accepted; approved hazardous waste transporter information; a plan for disposal of PCB waste streams; and a description of the waste characterization requirements of the disposal facility.

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

The various PCB waste streams generated during the remediation project will be appropriately segregated and temporarily stored onsite pending disposal. All PCB-impacted waste streams will be shipped for disposal under the appropriate waste manifest chain-of-custody, in accordance with 40 CFR 761.62, 40 CFR 761.61 and 22 CCR 66262.23.

Liquid waste 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 State and Federal 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 renovation work described herein may also be considered a mixed hazardous waste due to regulated concentrations of asbestos and lead being present.

9 RECORDKEEPING AND DOCUMENTATION

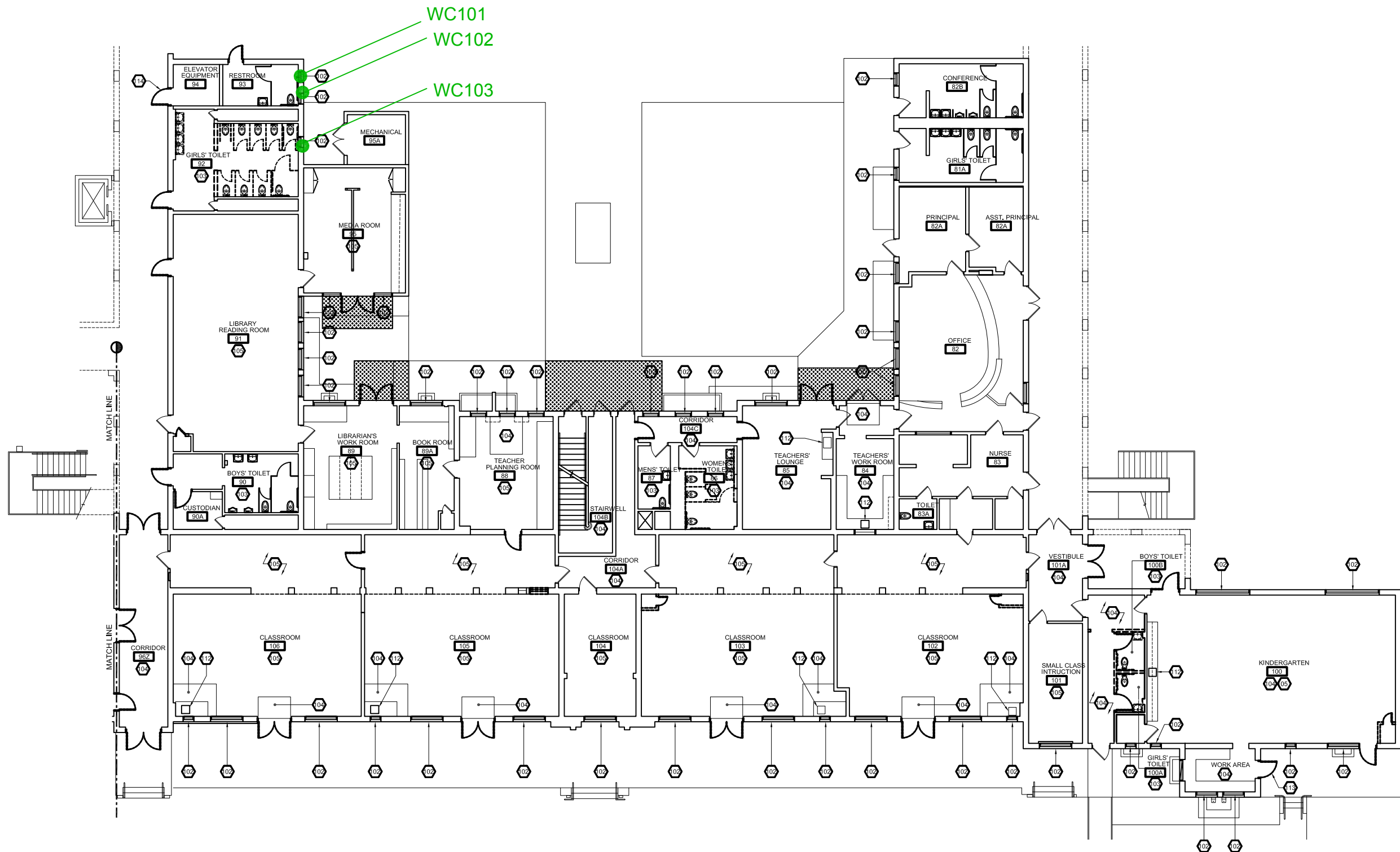
Following completion of the work activities, applicable records and documents will be generated and maintained at one location. A post-remediation report will be prepared which will contain a detailed description of the remediation activities, post clean up samples, appropriate figures and drawings, and analytical data tables presenting results and post-cleanup samples. In addition, the report will include documentation of waste stream types and quantities disposed. The post-remediation report will be prepared to provide an overview of all remediation activities performed and will include documentation necessary to support the conclusions presented in the report.

10 CERTIFICATION

As required by 40 CFR 761.61 (a)(3)(i), a written certification acknowledging that that all sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures are maintained on file at a specific designated location which is available for USEPA inspection. This certification will be signed by both the owner of the property where the cleanup site is located and the party conducting the remediation work.

Appendix A

PCB Component Location Map



PCB Component Location Map - Building C

McKinley Elementary School
2401 Santa Monica Boulevard
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