ABATEMENT PLAN FOR REMOVAL OF ASBESTOS, LEAD-BASED PAINT, PCB LIGHT BALLAST AND LIGHT TUBES

Science and Technology Buildings
Santa Monica High School
601 Pico Boulevard
Santa Monica, California 90405

Prepared for:

Santa Monica-Malibu Unified School District
1651 Sixteenth Street
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PART 1 - GENERAL

1.1 INTRODUCTION

Santa Monica High School is a public high school located at 601 Pico Boulevard, Santa Monica, California 90405 and is operated by the Santa Monica Malibu Unified School District (District).

A building related hazardous materials survey was conducted to identify the presence of asbestos, lead-based paint, polychlorinated biphenyl (PCB) containing light ballasts and mercury light tubes and has been reported in a separate document. This abatement plan should be used in conjunction with the survey report to complete this project.

1.2 PROPOSED PROJECT

The Science and Technology Buildings are two story classroom buildings of concrete construction. The District plans to undertake a project to fully demolish the buildings.

1.3 REMOVAL SCOPE OF WORK

The general intent of this abatement plan is to establish the minimum requirements to be used by a licensed abatement contractor or asbestos and lead trained workers, of minimum requirements for handling hazardous materials which will be impacted by the demolition of the Science and Technology Buildings, including the removal, and disposal of identified asbestos-containing materials (ACMs), lead-based paint (LBP), light ballasts which may contain PCBs and fluorescence light tubes which may contain mercury vapor.

If a specified minimum procedure described in this document cannot be utilized, a request shall be made in writing to District's Authorized Representative providing details of the potential conflict/constructability issues and provide recommended alternatives.

The awarded abatement contractor (Abatement Contractor) will be required to comply to all applicable regulatory requirements including, but not limited to, worker training, personal protection equipment and disposal of waste. The Abatement 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 Abatement Contractor warrants it's intent to conduct said work properly using qualified personnel employed by licensed contractors.

A. Scope of work includes all areas of work where hazardous materials have been identified, as outlined in the tables below.

B. All removal and disturbance of ACM and subsequent waste disposal shall be performed by the Abatement Contractor, using 40-hour asbestos trained workers (Asbestos Worker trained as outlined in 40 CFR 763). Abatement Contractor's workforce shall be supervised by experienced trained workers, knowledgeable and qualified in the techniques of asbestos abatement, handling and disposal of asbestos-containing and/or asbestos-contaminated materials, and the subsequent cleaning of contaminated areas, including, at a minimum, Competent Person/Contractor Supervisor training as outlined in 40 CFR 763.

C. All removal and disposal of LBPs and coatings and subsequent waste disposal shall be performed by a state-licensed contractor, using CDPH-certified workers with at least one CDPH-certified Supervisor. Abatement Contractor's workforce shall be supervised by experienced trained workers, knowledgeable and qualified in the techniques of lead abatement, handling and disposal of lead-containing and/or lead-contaminated materials, and the subsequent cleaning of contaminated areas.

D. When exposure monitoring of a particular lead-related task indicates that the permissible exposure level is or will be exceeded, the Abatement Contractor shall use CDPH-certified lead workers to complete the task.

E. The removal of PCB containing light ballasts, and mercury-containing light tubes shall be completed by Cal/OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) trained technicians, outlined in 29 CFR 1910.120 and 8 CCR 5192.

F. Abatement Contractor shall furnish all labor, materials, services, insurance specifically covering the handling and transportation of ACMs, LBP, PCBs, mercury- containing light ballast, and equipment which is specified, shown or reasonably implied for the removal, transport, and disposal of the hazardous materials identified in Tables 1.3.1, 1.3.2, 1.3.3 and below..

G. Material quantities included in this report are provided as an estimate only and are for information only and shall not be used as a reliable quantity for preparing removal bids. The Abatement Contractor shall be solely responsible for assessing the type, extent, and quantity of material to be removed in each area of the project in preparing each project bid. Estimated quantities listed in this report were based on observed material in areas impacted by the scope of work.

1.3.1 SUMMARY OF ASBESTOS CONTAINING MATERIALS

(Table 1.3.1)

MATERIAL	LOCATION	SCOPE OF IMPACT	SPECS SECTION
Science Building			
Window putty	All exterior windows	Full removal	3.7.2
Technology Building			
Exterior stucco	Exterior east and west ends and stairways	Full removal	3.7.1

1.3.2 SUMMARY OF LEAD IN PAINT

(Table 1.3.2.1)-Lead-Based Paint

COMPONENT	LOCATION	SCOPE OF IMPACT	SPECS SECTION
Science Building			
Window casings-white and blue-metal	All exterior and interior window casings in the building	Paint stabilization	3.7.3
Wood window transoms-blue-wood	All exterriors	Paint stabilization	3.7.3
Eletricla conduit-blue-metal	All in the building	Paint stabilization	3.7.3
Door frames-blue-metal	All door frames in the hallways	Paint stabilization	3.7.3
Technology Building			
Sink-white-porcelain	Custodian room	Paint stabilization	3.7.3
Water pipe-white-metal	Custodian room	Paint stabilization	3.7.3
Doorframe-blue-metal	Room T105C	Paint stabilization	3.7.3
Downspout-white-metal	All exteriors	Paint stabilization	3.7.3

(Table 1.3.2.2)-Lead-Containing Paints

COMPONENT	LOCATION	SCOPE OF IMPACT	SPECS SECTION
Science and Technology Buildings			
In general, all other paints were reported with detectable levels of lead but below 5,000 ppm. Construction work activities impacted LCP are subject to Cal/OSHA regulation.			3.7.4

1.3.3 SUMMARY OF POLYCHLORINATED BIPHENYL (PCB) LIGHT BALLAST

The Abatement Contractor shall determine if the light ballast contains PCBs during demolition activities. If the unit does not contain a label clearly indicating “No PCBs,” the ballast/transformer is assumed to contain PCBs and should be segregated disposed of properly.

The Abatement Contractor will be required to segregate, package and properly dispose of light ballast which may contain PCBs. Removal and disposal shall be completed in accordance with CCR 22 4.5 and 40 CFR 761.

(Table 1.3.2.3)

Science and Technology Buildings			
COMPONENT	**LOCATION**	**SCOPE OF IMPACT**	**SPECS SECTION**
Light ballast which may contain PCBs	All building light fixtures	Removal and proper disposal	3.7.5

1.3.4 SUMMARY OF MERCURY-CONTAINING LIGHT TUBES

Prior to demolition of the buildings, the Abatement Contractor will be required to segregate, package and properly dispose of mercury light tubes.

Mercury is present in small amounts in florescent light tubes. California State Law defines “significant quantities” as more than 15 tubes.

(Table 1.3.2.4

Science and Technology Buildings			
COMPONENT	**LOCATION**	**SCOPE OF IMPACT**	**SPECS SECTION**
Mercury-containing light tubes	All building light fixtures	Removal and proper disposal	3.7.6

1.4 WORK TO BE PERFORMED BY OTHERS

A. As per Project Specifications.

1.5 RESPONSIBILITIES OF DISTRICT

A. TheDistrict may provide daily oversight and environmental monitoring surrounding the abatement/removal operations.

1.6 REQUIRED LICENSURE

A. Abatement Contractor shall be licensed by the State of California, Contractors State License Board and be registered to perform asbestos related work with the Division of Occupational Safety and Health, Department of Industrial Relations. At a minimum Abatement Contractor shall hold the following license classification:

1. ASB - Asbestos Certification
2. CSLB-C-22

B. Transportation of friable and non-friable asbestos containing materials: Abatement Contractor shall itself be, or have a subcontractor who is, a registered hazardous waste transporter with the State of California, Department of Toxic Substances Control.

C. Subcontractors shall hold all licenses applicable to specified trade work.

1.7 PERMITS

A. As required by local agencies for specific tasks (i.e., temporary power, etc.)

1.8 NOTIFICATIONS

A. Abatement Contractor shall make all required written notifications to regulatory agencies including the following:

1. South Coast Air Quality Management District
2. Cal/OSHA
3. Cal/DPH, if necessary

1.9 INSURANCE REQUIREMENTS

A. Provide as per Project Specifications.

1.10 BONDING REQUIREMENTS

A. Provide as per Project Specifications.

1.11 PROJECT SCHEDULE

A. Project Start Date: As specified by District
Project Completion Date: As specified by District

B. All work shall be performed as per agreement between Abatement Contractor and District.

1.12 APPLICABLE REGULATIONS

A. Abatement Contractor shall perform all work in compliance with current, applicable federal, state, and local regulations, standards and codes including District specifications governing asbestos abatement, transport, and disposal of asbestos containing/contaminated materials, lead-based/containing surface coatings and contaminated materials, and all other hazardous materials.

1. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

B. Regulations, Standards, and Codes (General):

1. General applicability of federal, state, and local regulations, standards and codes governing hazardous materials abatement, demolition, transport, and disposal, except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable regulations, standards, and codes have the same force and effect and are made a part of the contract documents as if copied directly into the contract documents, or as if published copies are bound herewith.

C. Abatement Contractor Responsibility: The Abatement Contractor shall assume full responsibility and liability for the compliance with all applicable federal, state, and local regulations including District Specifications pertaining to work practices, transport, disposal, and protection of workers, visitors to the Site, and persons occupying areas adjacent to the Site.

1. The Abatement Contractor is responsible for providing training, medical examinations and maintaining training/medical records of personnel as required by the applicable federal, state, and local regulations.

2. The Abatement Contractor shall hold the District and Project Environmental Consultant harmless for failure to comply with any applicable hazardous materials abatement, transport, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

1.13 SUBMITTALS

A. Prior to commencement of work, Abatement Contractor shall submit to the Project Environmental Consultant (District's Representative) documentation that includes, without limitation, the following:

1. Copies of licenses and registrations required by Article 1.6 Required Licensure (include copies of subcontractors' licenses).

2. Copies of written notification to the following regulatory agencies:

   a. South Coast Air Quality Management District (SCAQMD)
   b. Cal/OSHA
   c. Cal/DPH

3. Manufacturer's certification that HEPA vacuums, differential pressure air filtration devices and other local exhaust ventilation equipment conform to ANSI Z9.2-79 and have been permitted by the SCAQMD.

4. Documentation showing that the Abatement Contractor's employees, including foreman, 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 asbestos abatement activities, have received training as required by 29 CFR 1926.1101 and 8 CCR 1529.

5. Documentation showing that the Abatement Contractor's employees, including foreman, supervisor, and any other company personnel or agents who may be exposed to airborne lead dust or who may be responsible for any aspects of lead abatement activities, have received training as required by 29 CFR 1926.62 and 8 CCR 1532.1.

6. Documentation from Physician (signed by an M.D.) showing that all employees or agents who may be exposed to airborne asbestos fibers in excess of background levels have received medical monitoring to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects. 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.

7. Documentation of respirator fit-testing for all Abatement Contractor employees and agents who must enter the work area. This fit-testing shall be conducted annually and in accordance with procedures as required by 29 CFR 1910.134 and 8 CCR 5144.

8. An emergency preparedness plan as required by Article 1.16 - Emergency Planning.

B. During abatement activities, Abatement Contractor shall maintain on-site records and submit to Project Environmental Consultant at the completion of the project documentation that includes, without limitation, the following:

1. Copies of the work area entry/exit log book.

2. Copies of logs documenting filter changes on respirators, HEPA vacuums,

differential pressure air filtration devices, water filtration device, and other engineering controls.

3. Copies of Safety Data Sheets (SDS) for solvents, encapsulants, wetting agents, replacement materials, and other substances brought by Contractor to the Project Site. SDSs shall be available the first day that subject materials/substances are present on the project Site.

4. Results of all required Cal/OSHA compliance air monitoring. Results shall be available for review by Consultant and District within 24 hours the sampling.

5. Copies of all accident/incident reports where injury or damage has occurred on or to the District's property.

6. Copies of daily logs indicating location(s) worked, type of materials removed, quantity of materials removed and number of personnel conducting the aforementioned activities.

7. Copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the site.

1.14 NOTICES

A. Post in the clean room area of the worker decontamination enclosure, or an otherwise acceptable location at the Site, a list containing the names, and telephone numbers of District, Construction Manager, Abatement Contractor, and Project Environmental Consultant.

B. Additional postings shall include:

1. Visitor Entry and Exit Log
2. Employee Daily Sign in Log
3. Entry and Exit Procedures
4. Emergency Procedures
5. Copies of permits required in Article 1.7 of this document, and copies of notifications required in Article 1.8 of this document.
6. As required by the Department of Labor

1.15 SITE USE AND SECURITY

A. Confine operations at the Site to the areas permitted under the Contract. Portions of the Site beyond areas on which work is indicated are not to be disturbed.

B. The work area shall be restricted only to authorized, trained and protected personnel, including Contractor, Abatement Contractor's employees, District's employees, District, Construction Manager, Project Environmental Consultant, State and Local Inspectors.

C. Entry into the work area by unauthorized individuals shall be reported immediately to the Project Environmental Consultant.

D. Abatement Contractor shall be responsible for Project site security during abatement operations.

1.16 EMERGENCY PLANNING

A. Emergency planning and procedures shall be developed by Abatement Contractor prior to abatement initiation.

B. Emergency procedures shall be in written form and prominently posted. Abatement Contractor shall ensure that all persons entering the work area read these procedures and understand the Project site layout, location of emergency exits and emergency procedures.

C. Emergency planning shall include considerations of fire, explosion, electrical hazards, slips, trips and falls, confined spaces, and heat related injury. Written procedures shall be developed and employee training in procedures shall be provided by Contractor.

D. Employees shall be trained in evacuation procedures in the event of work place emergencies.

1. For non-life threatening situations, employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the work place to obtain proper medical treatment.

2. For life threatening injury or illness, worker decontamination shall take least priority. After measures to stabilize the injured worker, remove him from the work place and secure proper medical treatment.

3. Telephone numbers of all emergency response personnel shall be prominently posted in the clean and equipment rooms.

1.17 FIRE PROTECTION

A. All plastic, spray-on strippable coatings, and structural materials used in the asbestos abatement process shall be UL-approved and certified as fire retardant or noncombustible.

B. Wood shall be pressure impregnable and certified as fire retardant.

C. Safety Data Sheets (SDS) for fire retardant materials shall be made available upon request.

D. All combustible rubbish and debris, including asbestos waste shall be properly packaged, labeled and stored in a District designated lockable storage facility at the end of each working day.

E. A minimum of one (1) 4A/60BC dry-chemical extinguisher shall be maintained at each of the following locations:

1. At each corner of the work area. Where no clear corners exist, four (4) extinguishers shall be placed around the exterior wall of the work area so that they are approximately 25 percent of the total distance apart.

a. Exception: Where total contained work area is less than 1,000 square feet, two (2) 4A/60BC extinguishers shall be provided. All extinguishers shall be clearly identified with red tape.

2. Contractor shall ensure that on site personnel are aware of the location and proper use of all extinguishers and other fire/life safety equipment.

F. All existing fire detection, alarm systems, connections and standpipes shall remain in place, active and unobstructed. Any alteration to this equipment must be approved by the District.

PART 2 - PRODUCTS

2.1 MATERIALS

A.Abatement Contractor shall carefully adhere to the following:

1. All plastic, spray-on strippable coatings and structural materials used shall be UL-certified as fire retardant or non-combustible.

2. Fire-retardant polyethylene sheeting utilized for worker decontamination and construction/containment barriers shall be a minimum of six-mil in thickness.

3. Disposal bags used to package hazardous waste shall be of six-mil polyethylene, pre-printed with labels as required by EPA regulation 40 CFR 61.152 (b) and 8 CCR 1529.

4. Warning signs as required by Cal/OSHA shall be utilized.

B. Removal and Encapsulation:

1. Apply surfactant during removal work activities. The surfactant shall be 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed in proportion of 1 fluid once to 5 gallons.

2. Apply an encapsulating agent to the substrate surfaces from which asbestos-containing material has been stripped.

3. Mastic removal solvents shall be of the low odor variety.

2.2 EQUIPMENT

A. General:

1. A sufficient quantity of air filtration devices equipped with HEPA filtration shall be used to control asbestos fibers during the removal of asbestos containing materials. To calculate total air flow requirement:

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

To calculate the number of units needed for the abatement:

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

2. A sufficient quantity of HEPA equipped vacuums shall be provided for proper, continuous cleaning of the work work area.

3. At a minimum, full-face powered air-purifying respirators (PAPRs) equipped with HEPA filters cartridges shall be utilized during all friable/Class I asbestos removal and for all removal of lead-containing paints/substances involving abrasive removal techniques.

4. At a minimum, half-face air-purifying respirators with P-100 cartridges shall be utilized for the removal of all non-friable/Class II asbestos removal, and lead coated, ceramic tile, and impacted damaged lead-based paint except abrasive removal.

5. Respirators shall be furnished to the abatement workers by Abatement Contractor. The respirators shall have been tested and approved by National Institute of Occupational Safety and Health (NIOSH) for use in asbestos-contaminated atmospheres.

6. Full body disposable protective clothing, including head, body, and foot coverings shall be furnished to workers, and visitors by the abatement contractor. The clothing shall include adequate sizes to accommodate movement without tearing.

7. Additional safety equipment as supplied in accordance with 8 CCR 1514, (e.g. hard hats meeting the requirements of 8 CCR 1515, eye protection meeting the requirements of 8 CCR 1516, safety shoes meeting the requirements of 8 CCR 1517, hand protection meeting the requirements of 8 CCR 1520, hearing protection meeting the requirements of 8 CCR 1521 and body protection meeting the requirements of 8 CCR 1522), as necessary, shall be furnished to all workers and authorized visitors.

B. Removal:

1. Removal shall be performed using manual means and methods. Perform removal in manageable section and perform continuous clean up of debris. Mechanical removal shall only be performed in conjunction with District approved HEPA air filtration systems.

2. Perform detail cleaning using HEPA vacuuming and wet wiping methods. No brooms shall be used during asbestos and lead-based paint related work.

C. Encapsulation: Encapsulants shall be sprayed using airless spray equipment or hand pressurized sprayer.

PART 3 - EXECUTION

3.1 CLEAN-UP PROCEDURES

A. Remove and containerize all visible accumulations of asbestos-containing material, and asbestos/lead-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 within contained work areas.

Asbestos-containing/contaminated waste shall be packaged and label in accordance with EPA regulation 40 CFR 61.152 (b) (I) (iv), Cal/OSHA (Title 8 CCR Sections 1529 and 5208), SCAQMD Rule 1403, and if applicable Title 22 CCR Section 66504.

Lead-waste wastes shall be packaged and label as required by 8 CCR 1532.1 and 22 CCR 66504.

All other hazardous wastes shall be containerized as appropriate and disposed of in a manner that satisfies the requirements for waste characterization and disposal in accordance with the requirements of Title 22 of the California Code of Regulations, Sections 66243, et seq., and Sections 25157.8, et al, of the California Health and Safety Code.

B. Whether cleaning an asbestos work area or a lead work area (or both), wet clean all surfaces in the work area using a HEPA-vacuum, as appropriate.

C. After gross cleaning of the work area, HEPA-vacuum and wet clean all objects and surfaces in the work area are completed, remove all containerized waste from the work area.

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

E. Project Environmental Consultant and the abatement contractor representative will inspect the work area for visible residue. If any accumulation of residue is observed, a second settling period and cleaning cycle repeated at no additional cost to t District.

F. Following the satisfactory completion of clearance air monitoring or clearance wipe testing, the remaining barriers may be removed and prepared for proper disposal. A final visual inspection by Project Environmental Consultant and the abatement contractor representative will be performed. Unsatisfactory conditions may require additional cleaning and air monitoring/wipe sampling, at no additional cost to District.

3.2 WORKER DECONTAMINATION SYSTEMS

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

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

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

D. 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.

E. 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.

3.3 DISPOSAL PROCEDURES

A. All Class I friable asbestos waste shall be disposed as hazardous, waste and disposed at an appropriate landfill facility. The waste shall be manifested using a Uniform Hazardous Waste Manifest.

B. All Class II non-friable asbestos waste shall be disposed of as Non-Hazardous, Non-Friable Asbestos Waste. A non-hazardous material data form will be required.

C. All asbestos-containing waste shall be placed and stored in clear, sealed, leak-tight and appropriately labeled containers, in accordance with 8 CCR 1529 and SCAQMD Rule 1403, and transported to an appropriate landfill for disposal.

D. The Abatement Contractor will be responsible for segregating lead waste (LBP and LCP) into separate waste streams. The Abatement Contractor will be required to collect a sufficient number of samples to adequately characterize the waste stream. Sample analysis will include at a minimum, Total Threshold Limit Concentration (TTLC), Soluble Threshold Limit Concentration (STLC) and Toxicity Characteristic Leaching Procedure (TCLP).

The Abatement Contractor shall develop and submit for review a waste sampling and management plan to the District and the Project Environmental Consultant.

E. All hazardous wastes (including non-hazardous asbestos wastes) must be transported by a certified waste hauler and disposed off at a waste facility approved by the District.

F. Obtain the EPA Hazardous Waste Generator Identification Number and State of California Hazardous Waste Tax Identification Number from the District for hazardous waste disposal.

G. All hazardous waste manifests or non-hazardous material data forms shall be delivered to the District. Record keeping format shall utilize a chain of custody form which includes the names and addresses of the Generator (District), Abatement Contractor, Waste Hauler, pickup site, disposal site, the estimated quantity of the asbestos waste and the type of containers used. The form shall be signed by the Generator, Abatement Contractor, Waste Hauler and the Disposal Site Operator, as the responsibility for the material changes hands.

3.4 REESTABLISHMENT OF THE WORK AREAS

3.4.1 VISUAL INSPECTION

Upon completion of the removal process, the District Representative and the Abatement Contractor will conduct a post-abatement visual inspection. If any material designated for removal, including loose debris, is observed, the Abatement Contractor will be required to re-clean that specific area

3.4.2 ABATEMENT CLEARANCE CRITERIA

1. Following the completion of final clean-up operations, notify the Project Environmental Consultant that work areas are ready for final inspection and clearance air monitoring.

2. Project Environmental Consultant will then sample the air in the work area for airborne fiber concentrations.

3. The samples will be analyzed using Phase Contrast Microscopy (PCM) utilizing the NIOSH 7400 method. Minimum of five samples from inside the work area will be collected. Clearance will be issued when all samples results show that the airborne fiber concentrations inside the abatement work area are equal to or less than 0.01f/cc or the background level, whichever is greater.

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

5. For lead-based removal work, wipe sampling shall be performed within the controlled work areas following completion of demotion work.

    a. Release Criteria: Decontamination of the work area is complete when at least one representative sample per work area is analyzed and reveals lead concentrations below 40 micrograms of lead per square foot of area on interior floors, 250 micrograms of lead per square foot of area on window channels/sills and 800 micrograms of lead per square foot of area on exterior floors.

    b. If these conditions are not met then the decontamination is incomplete and the cleaning procedures noted in Article 3.6 above shall be repeated. The area shall be re-tested at no additional cost to District until satisfactory levels are obtained.

    c. For removal/demolition of lead-based painted components where the component was removed intact, without creating a disturbance to the LBP, clearance will be issued upon passing of a final visual inspection completed as described in section 3.4.1 of this work plan.

3.5 ENVIRONMENTAL MONITORING

A. Air monitoring will be carried out by the Project Environmental Consultant on behalf of the District to verify that the building beyond the contamination area and the outside environment remains uncontaminated.

B. Area Air Monitoring: The Project Environmental Consultant will conduct in-progress air monitoring daily to determine area airborne contaminant concentrations within the confines of the work area.

1. Environmental Air Sampling: Ambient air samples are taken and analyzed to indicate fiber migration from containment to the environment. Should any environmental sample outside work areas exceed the base line of 0.01 f/cc of air or established background concentrations as determined by PCM analysis, all work will immediately halt except for corrective work. The PEC shall determine the source of the high fiber count and notify the Abatement Contractor with directions for the corrective action.

3.6 OSHA PERSONNEL AIR MONITORING

Air monitoring required by Cal/OSHA is the responsibility of the contractor. The Abatement Contractor is responsible for providing daily Cal/OSHA compliance monitoring as per 8 CCR 1529 for asbestos and *CCR 1532.1 for lead.*

A. At minimum, Abatement Contractor shall conduct representative breathing zone personal air monitoring of its employees and repeated daily or until a "negative exposure assessment", as derived in accordance with 29 CFR 1926.1101 (f)(2)(iii) and 8 CCR 1529 for asbestos.

B. Employers must assess the amounts of lead breathed by workers on a regular basis for each trigger task as per 8 CCR 1532.1. This is usually done by employee breathing zone air sampling. Air sampling results are used to determine the protective measures needed as well as the type of respirator that must be worn for protection.

1. ***Level 1 trigger tasks*** Any of the following with lead-containing coatings or materials: spray painting, manual demolition, manual scraping or sanding, use of heat gun, power tool cleaning with dust collection system. Minimum required respirator: half-mask respirator with N-100, R-100 or P-100 filters.

2. ***Level 2 trigger tasks*** Any of the following with lead-containing coatings or materials: using lead-containing mortar, lead burning, rivet busting, power tool cleaning without dust collection system, clean-up activities using dry expendable abrasives, abrasive blasting enclosure movement or removal. Minimum required respirator: air-supplied hood or helmet, or loose fitting hood or helmet powered air purifying respirator with N-100, R-100 or P-100 filters.

3. ***Level 3 trigger tasks*** Abrasive blasting, welding, cutting, or torch burning on structures where lead-containing coatings or materials are present. Minimum required respirator: half-mask supplied air respirator operated in a positive pressure mode.

C. Monitoring shall be conducted by a qualified air professional experienced and knowledgeable about the methods of air monitoring and in accordance with 29 CFR 1926.1101, 8 CCR 1529 and 8 CCR 1532.1.

D. Monitoring results and appropriate laboratory analysis work shall be posted **within forty-eight (48) hours of the monitoring work.**

3.7 REMOVAL WORK PROCEDURES

Work activities included in Sections 3.7.1, 3.7.2, and 3.7.3 are intended to be completed by a licensed abatement contractor. The work in Section 3.7.4 may be performed by lead trained workers.

3.7.1 FRIABLE ASBESTOS REMOVAL-EXTERIOR STUCCO

Engineering Controls:

1. Install a full containment work area including a 3-stage worker decontamination facility with a shower unit and temporary negative pressure differential.

Min. Resp. Protection:

1. Powered Air Purifying Respirators (PAPR). Perform the required CAL-OSHA worker exposure air monitoring.
2. Half Face Air Purifying Respirators where the Abatement Contractor has completed a worker negative exposure assessment and demonstrated that the Cal-OSHA permissible exposure will not be exceeded.

Removal:

1. Apply a surfactant, allow surfactant to soak into material and remove in manageable sections.
2. Remove the material using manual means and methods.

Preparation/Transport:

1. Package and label the waste immediately. Keep wet and cover during transport to dumpster. Store all waste in a lockable storage dumpster.

Disposal:

1. Dispose of as friable, hazardous asbestos-containing waste. A waste shipment (manifest) will be required.

3.7.2 NON-FRIABLE ASBESTOS REMOVAL- WINDOW PUTTY

Engineering Controls:

1. Install critical barriers, a 3-stage worker decontamination facility and negative pressure differential.

Min. Resp. Protection:

1. Half-face negative pressure respirators with HEPA-P100 filters.
2. Perform the required CAL-OSHA worker exposure air monitoring.

Removal:

1. Remove the material using manual means and wet methods. Allow surfactant to soak into material and remove in manageable sections.

Preparation/Transport:

1. Package and label the waste immediately. Store all waste in a lockable storage dumpster.

Disposal:

1. Dispose of as non- friable, non-hazardous asbestos-containing waste. A waste shipment (manifest) will be required

3.7.3 *LEAD-BASED PAINT- PAINT STABILIZATION*

Engineering Controls:

1. Install demarcation signage; drop floors, and critical barriers as necessary and a 2-stage worker decontamination facility with a wash station.

Min. Personal Protection:

1. Half-face air-purifying respirators equipped with HEPA-P100 filters. Disposable clothing (Tyvek [or equivalent] suits) and hand, foot, and eye protection is required.
2. Perform the required CAL-OSHA worker exposure air monitoring.

Removal:

1. Remove and stabilized all damaged loose and flaky paint prior to demolition of the building. Apply a paint sealer to the stabilized painted areas.
2. No cutting, or torching through lead-based paint shall be conducted. Painted components which may require cutting shall first be spot abated. The paint in the area to be cut shall first be removed entirely at a minimum 2 inches to each direction of the cut point.

Preparation/Transport:

1. Package the waste generated by the paint stabilization and separate the waste into waste streams. Conduct the required waste characterization for disposal. (Refer to Section 3.3 of this document).

Disposal:

1. Dispose of all lead waste in accordance with Federal, State, and Local regulations.
2. Additional requirements:
    a. Lead-based painted components will remain in the building following the paint stabilization. Workers who perform any of the Cal/OSHA Trigger task (refer to section 3.6 in this report) remain subject to Cal/OSHA worker exposure requirements (8 CCR 1532.1) including the use of respirators, protective clothing, training, air monitoring, waste disposal, etc. It is the responsibility of the Abatement Contractor to fully comply with the requirements of the Cal/OSHA regulation.
    b. Wastes representative of lead-based painted components left in place following paint stabilization shall be characterized for disposal by TTLC, STLC or TCLP as required. (Refer to Section 3.3 of this document). Waste streams failing the regulatory levels must not be commingled with construction debris.

3.7.4 LEAD-CONTAINING PAINTS

1. All construction work activities impacting lead-containing paints (LCP) (paints reported below 5,000 ppm) completed for this project, such as but not limited to demolition, removal, renovation etc. remain subject to Cal/OSHA worker exposure requirements (8 CCR 1532.1) including the use of respirators, protective clothing, training, air monitoring, waste disposal, etc. Further, it is the Abatement Contractors responsibility to ensure that his workers are adequately protected to potential lead exposure during the initial monitoring period. It is the responsibility of the Abatement Contractor to fully comply with the requirements of the Cal/OSHA regulation summarized below:

    a. Employers must assess the concentration of lead breathed by workers on a regular basis for each trigger task as per Section 1532.1(d). This is usually done by employee breathing zone air sampling. Air sampling results are used to determine the protective measures needed as well as the type of respirator that must be worn for protection.

        i. ***Level 1 trigger tasks*** Any of the following with lead-containing coatings or materials: spray painting, manual demolition, manual scraping or sanding, use of heat gun, power tool cleaning with dust collection system. Minimum required respirator: half-mask respirator with N-100, R-100 or P-100 filters.

ii. ***Level 2 trigger tasks*** Any of the following with lead-containing coatings or materials: using lead-containing mortar, lead burning, rivet busting, power tool cleaning without dust collection system, clean-up activities using dry expendable abrasives, abrasive blasting enclosure movement or removal. Minimum required respirator: air-supplied hood or helmet, or loose fitting hood or helmet powered air purifying respirator with N-100, R-100 or P-100 filters.

c. ***Level 3 trigger tasks*** Abrasive blasting, welding, cutting, or torch burning on structures where lead-containing coatings or materials are present. Minimum required respirator: half-mask supplied air respirator operated in a positive pressure mode.

3.7.5 POLYCHLORINATED BIPHENYLS (PCBS) IN LIGHT BALLAST

The Abatement Contractor shall determine if the light ballast contains PCBs during demolition activities. If the unit does not have a "No PCBs" label, the ballast/transformer is assumed to contain PCBs and should be segregated disposed of properly.

The Abatement Contractor will be expected to segregate, package and properly dispose of PCBs light ballast, as part of this scope of work.

3.7.6 MERCURY-CONTAINING LIGHT TUBES

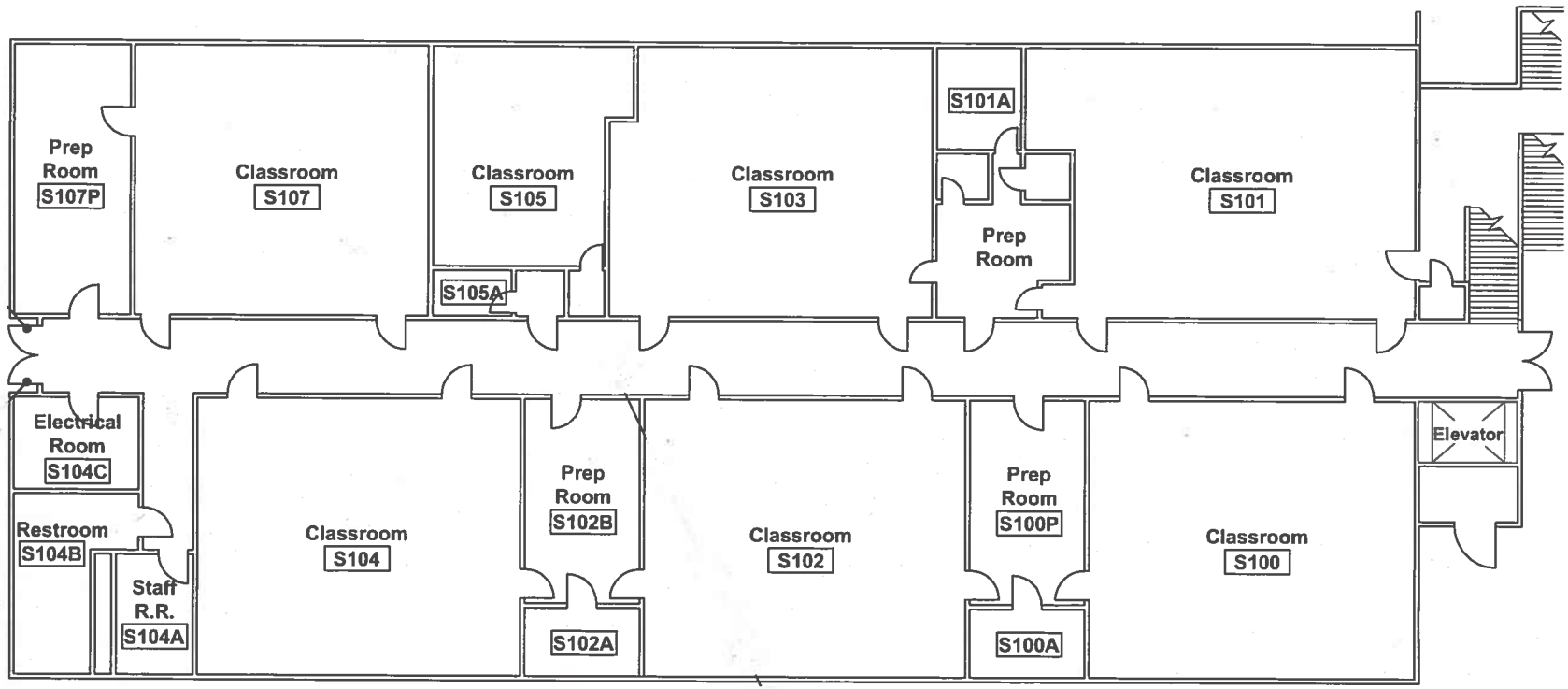
Prior to demolition of the buildings, the Abatement Contractor will be expected to segregate, package and properly dispose of mercury light tubes associated with light fixtures as part of this scope of work.

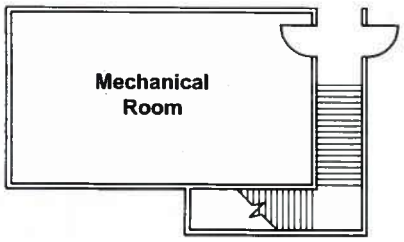
Mercury is present in small amounts in florescent light tubes. California State Law defines "significant quantities" as more than 15 tubes.

End of Section

ATTACHMENT A

SITE MAPS

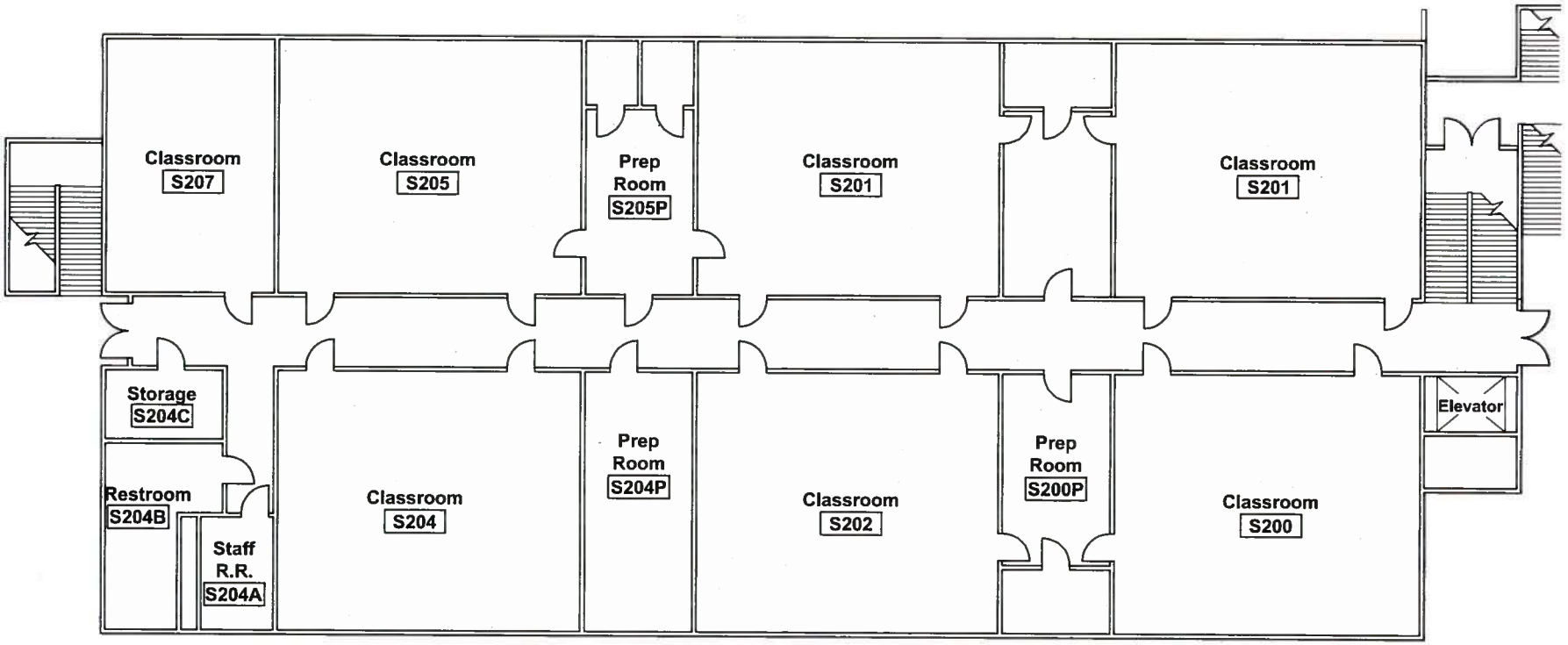




Science Building First Floor - Asbestos Survey

NOT TO SCALE

North



Science Building Second Floor - Asbestos Survey

NOT TO SCALE

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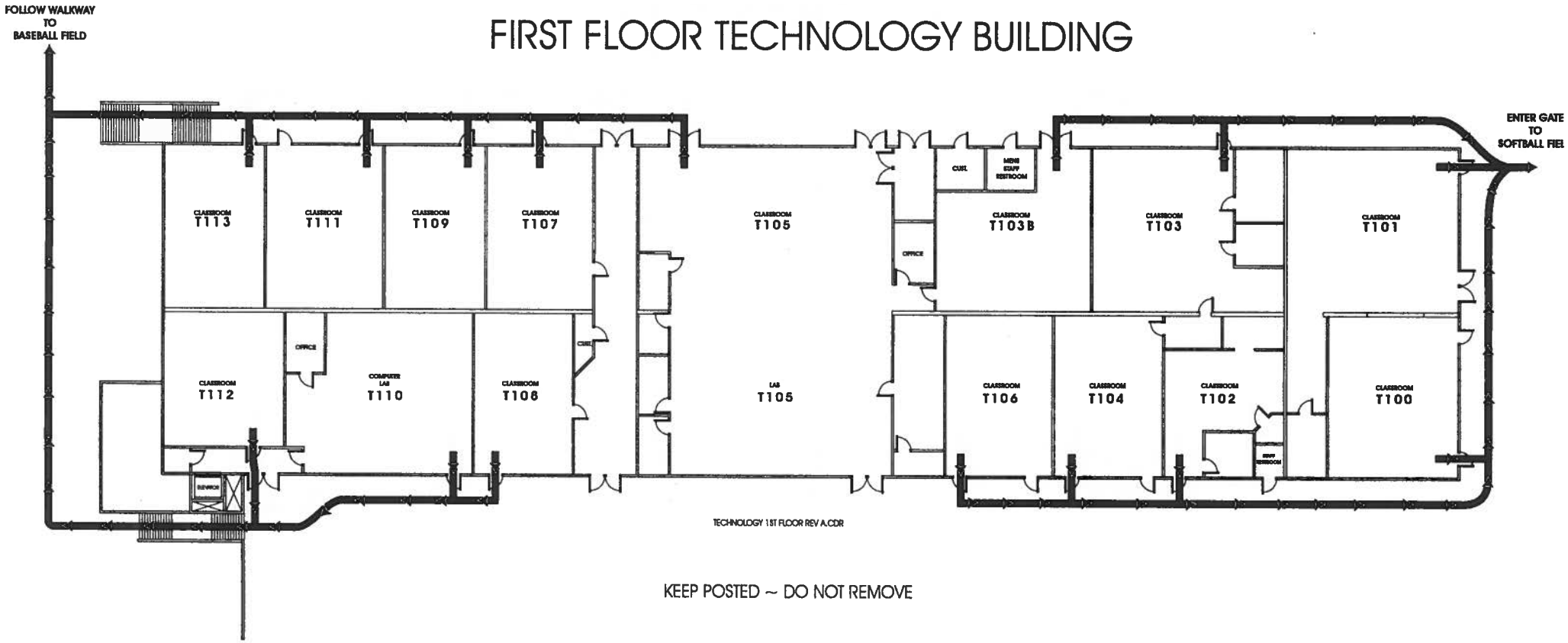
FIRST FLOOR TECHNOLOGY BUILDING



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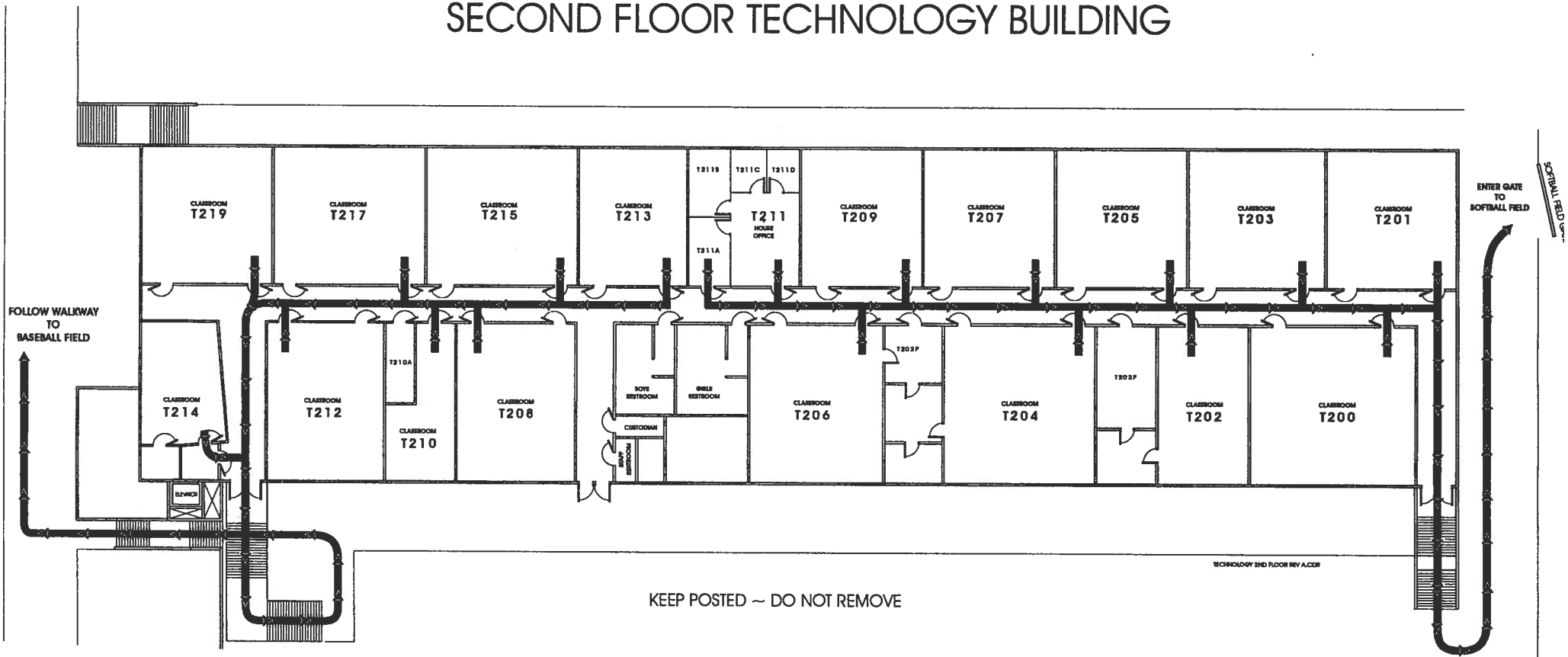
SECOND FLOOR TECHNOLOGY BUILDING



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