

**A/E MANUAL OF PROCEDURES  
for  
ASBESTOS INSPECTIONS  
and  
MANAGEMENT PLANS**



**STATE OF ILLINOIS  
CAPITAL DEVELOPMENT BOARD**

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# I. INTRODUCTION

- A. This manual supplements and is part of the Professional Services Agreement between the Architect/Engineer (A/E) and the Contracting Agency. Any deviation from the requirements of this manual requires prior written approval from the Capital Development Board (CDB).
- B. The general objective of this project is to provide the Using Agency and the Capital Development Board with Inspections and Management Plans which will:
  - 1. Identify and locate all asbestos.
  - 2. Provide budget estimates for funding response actions.
  - 3. Provide a Response Action/Management Plan for the Using Agency.
- C. This protocol has been developed for use by agencies of the State of Illinois. The data collected, procedures used, and reports are designed to comply with the requirements of the Illinois Department of Public Health (IDPH) Rules.
- D. Some steps have been rearranged to allow for early identification of asbestos hazards in state buildings. This protocol consists of the following three phases and if required two supplemental phases:
  - 1. Inspection
  - 2. Sampling
  - 3. Management Planning
  - 4. Reinspection (if contracted)
  - 5. Supplemental Sampling (if contracted)
- E. These procedures require the A/E to develop a complete Management Plan by combining data collected during the above three phases. The A/E is required to revise and add information in each report as qualitative information is discovered.
- F. The A/E in the Inspection Phase shall verify and update the CDB building inventory information, prepare a site plan, and gather data concerning the building and all suspected ACM. The A/E shall identify, quantify, provide drawings, and complete inspection report forms for all suspect homogeneous areas. The inspection report forms contain all data required by IDPH plus the additional data required by the State. The A/E shall also prepare a summary of findings identifying all suspect ACM, sampling recommendations, and removal cost estimates for those homogeneous areas for which abatement can be expected to exceed \$25,000.
- G. The initial review will consist of a review of the inspection reports to determine the extent of sampling desired by the Contracting Agency.

- H. The A/E, in the Sampling Phase, shall obtain samples of the selected homogeneous areas, provide laboratory analysis, photographs, and revise drawings and any previous inconsistencies.
- I. The A/E, in the Management Plan Phase, shall review the inspection report, provide composite location drawings, prepare cost estimates, and, after meeting with the Contracting Agency, prepare recommended response actions. The A/E shall use the standard Management Plan format included herein to develop the Management Plan with the Contracting Agency.
- J. The A/E's field team shall be supervised by a Management Planner or Project Designer. An Inspector shall collect all samples. A Project Designer shall be responsible for all aspects of this contract.
- K. All A/E personnel working on this project shall be licensed by IDPH and shall comply with IDPH Rules (unless indicated otherwise herein or exempted in writing) and maintain rigid quality control and accurate records. Only CDB may grant variances to any requirements contained in this protocol. The A/E shall obtain any variances from CDB.

## II. ADMINISTRATION OF THE CONTRACT

- A. The Contracting Agency's Project Manager (PM) is the contract administrator of this agreement. All correspondence with the Contracting Agency, submittals, pay requests, etc., shall be directed to the PM. The PM shall be copied on all correspondence between the A/E and the Using Agency. Any disputes between the PM and the A/E shall be directed to the PM's immediate supervisor for resolution. No work is to occur until a written Notice to Proceed is issued.
- B. The A/E shall maintain a continuous work force on this project and ensure that all personnel are IDPH licensed in the disciplines specified herein. The A/E and all Consultants of the A/E shall be prequalified with the CDB and maintain their prequalification throughout the term of involvement in the contract.
- C. The A/E shall observe all security and operations regulations of the Using Agency.
- D. The A/E shall make application for payment itemizing additional services, extra charges, or reimbursable items and attach receipts, breakdown of time, cost or charges. Reimbursement for services will be made in accordance with the Professional Services Agreement.
- E. The A/E shall maintain records of approved reimbursable expenses in accordance with generally accepted accounting principles. Upon request, the records shall be made available to the Contracting Agency.
- F. The A/E shall certify authorized signatures to the Contracting Agency by a general partner or principal of the firm.

### **III. POLICIES AND REGULATIONS**

- A. For this contract, the terms herein shall have meaning as defined in Appendix A, DEFINITIONS.
- B. All terms, which are defined in USEPA AHERA and NESHAP Regulations and IDPH Rules, shall have the meaning as described therein.
- C. The A/E shall comply with all personnel protection requirements contained in IDPH Rules (855.80).
- D. In developing response actions, the A/E shall consider and comply with all State Rules and Regulations including the State Fire Code and the State Plumbing Code. Compliance with the National Electric Code is mandatory. The A/E may, if no local code applies, utilize 2006 or later editions of the International Building Code, International Existing Building Code, and International Property Maintenance Code, and the 2008 or later edition of the National Electric Code NFPA70. Reference which code is used when response actions are affected.

## IV. SUBMITTALS

### A. General Requirements

All submittals shall be to the Project Manager unless indicated otherwise. The A/E shall:

1. Submit names and addresses of consultants, including laboratories, prior to signing subcontracts.
2. Submit names, copies of IDPH licenses, and accreditation or reaccreditation certificates for key personnel.
3. Submit a copy of the NVLAP accreditation certificate for the laboratory.

### B. Format and Standard Documents

The A/E shall conform to the format in this manual:

1. Drawings:
  - a. Prepare an 8½" x 11" or 17" x 11" site plan to scale showing all fences, roads, walks, buildings (with CDB Building Numbers), utility tunnels, north arrow and other significant features.
  - b. Prepare an 8½" x 11" or 17" x 11" floor plan with dimensions to scale for each floor. Each plan in a report shall be drawn to the same scale (details are an exception). If a whole floor cannot be contained on a single sheet, include a key plan indicating portion of floor shown. Indicate on the plan when each portion of the building was constructed or remodeled. All floor plans shall be oriented with north in the same direction for each building.
  - c. All lettering shall be a minimum of ⅛" high.
2. Submittal Specifications for Review: All volumes shall be 8½" x 11" format; bound with a 1" margin on the left side, 12 pitch, Letter Gothic or other similar sized sans serif style (dot matrix, italics, etc., are prohibited). Number all pages consecutively within each section. Format the cover in accord with Appendix B, Sample Cover (Form 1). Include a list of each homogeneous area in Table of Contents.
3. Photographs: Color photos or reproductions shall be a minimum of 5" x 3½". Digital photos are acceptable.
4. Assemble as illustrated in Appendix B, Report Format. Include or modify all sections from previous submittals in each successive submittal.

5. The report, including all forms except Chain of Custody (Form 15), shall be typewritten.
6. Signature stamps are not permitted.

C. Samples

All samples shall be retained by the A/E until approval of the sampling phase or until no further analysis may be required. Samples shall be retained by the A/E for 1 month following acceptance of the Management Plan. If no further analysis is required by CDB the A/E may dispose of the samples. The Chain of Custody shall be included in the report.

D. Final Report

Four copies of the final report shall be submitted on CDs in PDF format to CDB.



## **V. REVIEWS/MEETINGS**

### **A. Reviews**

Submit all documents for review. Within ten days of each submittal or resubmittal a Review Meeting will be scheduled by the PM. Reviews are required at each of the following phases unless indicated otherwise in writing by CDB:

1. Inspection
2. Sampling
3. Management Plan
4. Reinspection
5. Supplemental Sampling

### **B. Meetings**

The Project Manager will schedule all meetings. An Orientation Meeting will be scheduled at the site with the Using Agency before the project begins.

### **C. Minutes**

Record minutes of all meetings and distribute copies to the Project Manager and all attending persons within seven days of the meeting. Correct and redistribute the minutes if applicable.

## VI. INSPECTION PHASE

### A. Facility Contacts and Scheduling of Inspections

Each facility will have one designated facility coordinator who will have access to every location within that facility. Note any buildings which cannot be inspected during normal working hours. Before a Notice to Proceed is issued for the Inspection Phase, provide a schedule to the Project Manager which indicates which buildings the inspectors will inspect on each day. The schedule shall be approved by the facility coordinator and shall represent an agreement between the A/E and the facility administration as to when and how the inspection shall be conducted. Any problems encountered in obtaining this agreement shall be reported to the Project Manager by the A/E. The PM will act as a moderator between the A/E and the facility administration to negotiate an acceptable schedule.

### B. On-Site Walk-Through

Conduct an on-site walk-through of all areas of each building which may include the facility coordinator, the Project Manager, the A/E personnel, and/or other personnel. This walk-through is intended to acquaint the A/E with the facility and obtain adequate information to identify homogeneous areas of the suspect materials. Collect sufficient information from visual inspection or through questioning the facility coordinator to verify or correct the building inventory information provided by the CDB and to prepare a site plan of the facility. The A/E shall obtain from the facility coordinator all available drawings, specifications, etc. Additional construction documents may be available from CDB.

Upon completion of the on-site walk-through, the A/E shall:

1. Complete the building inventory information (Form 3). CDB building numbers for buildings may be obtained by calling 217/782-1523 or by completing the on line request form on the CDB web site ([cdb.state.il.us](http://cdb.state.il.us)) in the reference library.
2. Prepare a narrative describing each building in terms of use, type of construction, condition and any other factors considered pertinent. See Appendix B, Instructions for Narrative, for format and content.
3. Prepare a facility site plan showing all buildings and structures labeled with CDB building numbers. A legend on a separate page or on the site plan shall list all buildings or structures by name, show their respective CDB building numbers, and, if applicable, show any numbers used by the facility to identify them.
4. Prepare a floor plan for each floor of the building unless there is no suspect ACM in the entire building.
5. Each building shall be a separate report (two or more CDB building numbers may be applicable to each building).

## C. Inspection Process

Conduct the inspection upon approval of the schedule by the Project Manager. Inspect all accessible areas of the building. A Homogeneous Area Inspection Report (Form 9) shall be completed for each homogeneous area. All spaces on the form shall be completed and each form shall be signed and dated by the inspector. Locate on the floor plans all areas where suspect asbestos-containing materials are not accessible. Note in the comments section of Form 9 recommendations for further investigation. No sampling or management plan is required if there is no suspect ACM.

1. Inspect all areas including areas above suspended ceiling, pipe chases, attics, steam tunnels (may require a separate building report at the discretion of the Contracting Agency), crawl spaces, elevator shafts, HVAC systems, fireproof curtains, porticos and covered exterior hallways and walkways, roofs, and cooling towers.
2. Homogeneous areas shall be designated as provided in Section VII, Sampling Phase. All materials installed after 1988 shall not be considered suspect and shall not be included.
3. Notify the Project Manager immediately of any situation which requires immediate action, such as a major fiber release episode. Include verification of notification in inspection report following the building narrative. The Project Manager will instruct the A/E regarding any actions to be taken by the A/E or make arrangements for a licensed contractor or agency personnel to properly eliminate the hazard.
4. If a quantity of ACM is found "stockpiled", each different material shall be classified as a separate homogeneous area. A Stockpiled ACM Information Report (Form 10) shall be completed for each different material and inserted immediately following the Homogeneous Area Inspection Report (Form 9).
5. Sampling Recommendations:

Prepare a summary of findings in tabular form listing each homogeneous area identified and recommending the number of samples to be taken. Also include the quantity of suspect ACM present in each homogeneous area (square feet, linear feet, or each) and an estimate of the cost of removing this material if over \$25,000. See Appendix B, Instructions for Summaries. Utilize Asbestos Removal Unit Costs (Form 8).

6. Homogeneous Area Floor Plans:
  - a. Prepare as a minimum, single line floor plans to scale for each area containing suspect ACM. Only one plan per area per homogeneous area is permitted. If both walls and ceilings are homogeneous, indicate the walls in addition to the ceilings on the plan. Homogeneous area locations shall be accurately identified with hatching or other means which will photocopy in monochrome. No half tone printing is permitted. See Appendix B, Sample Homogeneous Area Plan.
  - b. If a manufacturer's label or identifying stamp is found, information regarding the manufacturer and the exact location of the label or stamp shall be documented on the Inspection Report Form and the location shown on the floor plan.
  - c. Salient areas shall also be identified on the floor plans and documented on the Inspection Report Form, including the approximate square or linear footage of the salient and notation as to the type of damage or change in material.
  - d. Indicate types of non suspect thermal insulation in building narrative.
  - e. AREAS WHERE ACCESS IS IMPOSSIBLE shall be identified on floor plans. Document in the building narrative the reasons why the area could not be inspected.

## VII. SAMPLING PHASE

### A. General Information

1. Sample and photograph all homogeneous areas as recommended during the review meeting as approved by the Project Manager.
2. Have NVLAP accredited laboratory analyze bulk samples.
3. If additional manufacturer's labels or identifying stamps are found, record the manufacturer and the exact location of the label or stamp by photos and on the drawings.
4. If any situation which requires immediate action is found, notify the Project Manager.
5. If additional stockpiled materials are found that are not documented in the inspection report, complete Forms 9 and 10, sample, and photograph in accord with this protocol. Do not open sealed boxes.

### B. Bulk Sampling Requirements

1. Collect samples when the area is not in use.
2. Each person in the sampling area shall wear NIOSH approved respirators in accord with 29 C.F.R. 1910.1001 and 1910.134 and disposable protective clothing.
3. Place each sample in a write-on Whirl-Pak bag labeled with the sample number, A/E's or inspector's name, and the date. Place all the Whirl-Pak bags containing samples from the same building in a large Ziploc bag(s). Complete Chain of Custody (Form 15) for each building bag(s). Label each bag with a batch number, if there is more than one Chain of Custody.
4. Repair the sample site with methods and materials that are structurally sound, aesthetically compatible with existing conditions, and prevent fiber release. Collect samples from inconspicuous locations to minimize visual damage.
5. Unless otherwise instructed, the following criteria shall be used to determine the number of samples required:
  - a. Surfacing Material: Follow IDPH Rules.
  - b. Thermal System Insulation (TSI): Follow IDPH Rules with the following exceptions:
    - (1) For each homogeneous area of patched insulation less than 20 linear or square feet: collect one bulk sample.
    - (2) Sample cementitious fitting insulation as a separate homogeneous area on all piping insulated with non-ACM material.
    - (3) Aircell: Collect one bulk sample.

c. Miscellaneous Materials:

- (1) Ceiling Panels or Tiles: Follow IDPH Rules.
- (2) Floor Tiles/Resilient Sheet Flooring: No samples are required.
- (3) Transite (interior & exterior): No samples are required.
- (4) Fire Door Insulation: One sample from each damaged fire door.
- (5) Stockpiled Material: One sample, unless the container is sealed or container states material is ACM.
- (6) Built Up Roofing: No samples are required.
- (7) Mastics: No samples are required.
- (8) Joint Compound: Three samples.

d. Assume all suspect materials not sampled as ACM.

C. Homogeneous Area and Photo Designations

Sample all homogeneous areas previously authorized. Identify all sample locations on the floor plans by sample number.

1. Sample all materials in accord with USEPA document "Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials" dated October 1985. Divide the homogeneous area into nine sectors and sample according to the random sample chart. Include a copy of the sampling area chart in accord with IDPH.
2. Utilize the following alpha-numeric system for all homogeneous areas, samples and photo designations.
  - a. The first series is the five character CDB building inventory number (e.g. XX000).
  - b. The second series is the homogeneous area designation as follows:
    - (1) The first letter designates the category:
      - S - Surfacing
      - T - Thermal
      - M - Miscellaneous
    - (2) The second letter designates the material type:
      - Surfacing:
        - C - Acoustical Plaster (soft fluffy) on Ceiling
        - F - Fireproofing
        - P - Hard Plaster
        - W - Acoustical Plaster (soft fluffy) on Walls

Thermal:

- B - Boiler
- D - Duct
- F - Flue or Stack
- J - Pipe Fittings or Joints
- P - Pipes
- T - Tank

Miscellaneous:

- C - Ceiling Tiles or Panels
- F - Floor Coverings and Mastic (1/homogeneous area)
- M - Built-up Roof, Flex Duct Connections, Vibration Dampers, Mastics not included in F, Fire Doors, Loose Fill Insulation, Fire Brick, Elevator Brake Shoes, Gaskets
- S - Stored Materials
- T - Transite
- X - Joint Compound

All built-up roofs, linoleum and mastic, 9" x 9" floor tile and mastic, 12" x 12" floor tile and mastic, and carpet mastic shall be assumed as one homogeneous area. Include each date of installation in description if portions were installed on different dates.

- (3) The third letter designates the homogeneous area starting with A (for each different two letter combination) with additional homogeneous areas indicated by alphabetical sequence (e.g. XX000-TPA, XX000-TPB, etc.).
- c. The sample number consists of the homogeneous area designation with a third series of consecutive numbers starting with one (e.g. XX000-TPA-1, XX000-TPA-2, etc.).
- d. The photo number is the sample number. Photos of salients, stored materials, labels, etc. which have no sample number shall utilize the number zero (e.g. XX000-MFA-0, XX000-MFB-0, etc.) If more than one photo of the same area is taken, the photo number shall be followed by a letter in alphabetical order starting with A (e.g. XX000-TPA-1-A, XX000-TPA-1-B, XX000-MFA-0-A, etc.).
- e. The following (not all inclusive) are materials not considered suspect:
  - (1) Gypsum Wallboard
  - (2) Pyrobar
  - (3) Tectum
  - (4) Vinyl or Rubber
  - (5) For additional guidance see EPA's 100 questions or contact the CDB Project Manager.

D. Floor Plans

Use the floor plans from the inspection phase. Indicate photo, sample, and salient areas on the floor plans. Add any pipes, mechanical equipment, etc. which are included in the homogeneous area that were omitted from the floor plans. See Appendix B, Sample Homogeneous Area Plan.

E. Photographs

Take one photograph, using color film or digital camera, of each sample location. Include in the photograph a placard with the following information: facility name, building name and number, sample number and date. Also photograph salient conditions, stockpiled materials, manufacturers' identifying marks and assumed materials. All photos shall clearly indicate the color, pattern, etc. of each material. See Appendix B, Sample Photo Layout, for format.

F. Chain of Custody

Prepare a Chain of Custody Record (Form 15) for all bulk samples. Only one building per Form 15 is allowed unless several buildings are homogeneous. All signatures on the original Chain of Custody Record shall be made using non-erasable ink; the original Chain of Custody shall remain with the samples. Beginning with the individual collecting the sample, each person having custody of any bulk sample shall provide the information required on the Chain of Custody Record and sign it. Any person transporting samples shall maintain the Chain of Custody. If not hand delivered, the samples shall be sent by 1st Class Certified U.S. Mail, Return Receipt Requested in accord with IV.C. The Chain of Custody shall be signed by the person relinquishing and receiving the samples to or from the Postal Official. The Chain of Custody is complete if no further analysis is requested by CDB one month after acceptance of the report. The samples may then be disposed of by the A/E if no further action is requested.

G. Sampling Report

After receiving the bulk sample analysis results from the laboratories, compile the Sampling Report. Prepare a separate report for each building in accordance with Appendix B.

H. Laboratory Procedures

1. The laboratory performing the bulk sample analysis shall complete the Chain of Custody Record. Analyze samples using polarized light microscopy method. Complete the Bulk Sample Analysis Report (Form 11).
2. Point counting is not required unless directed in writing by the CDB Project Manager. When point counting is directed by CDB, a laboratory designated by CDB shall analyze the samples. Complete Form 11.
3. If TEM analysis is required by the CDB Project Manager, complete Form 12. Analysis shall not be performed by the same laboratory which performed the PLM analysis.



- I. Add laboratory results to Form 9, prepare a Summary of Findings in accord with Instructions for Summaries, and prepare a narrative in accord with Instructions for Narrative.

## VIII. MANAGEMENT PLAN PHASE

### A. General Information

1. Prepare a Management Plan for each building in which ACM is assumed or verified. Include hazard assessment, recommended response actions, cost estimates for recommended response actions, specific O&M Procedures, and removal cost estimates if it is not the recommended response action.
2. The following format has been developed to standardize the report. This format sets forth the minimum that must be included. Include additional information if appropriate.

### B. Format

Assemble as per Appendix B.

### C. Introduction

Provide in accord with Appendix B, Introduction to the Management Plan (Form 4). The Introduction is comprised of four sections: a policy statement, the applicable standards, the health effects of asbestos, and the accreditation of the Management Planner. If there is more than one Management Planner who helped prepare the Plan, additional accreditation forms shall be included.

### D. Narrative Building Description

The building information section shall consist of notations of any changes from the previous phases. Insert a copy of the Decision Tree (Form 5) after the narrative.

### E. Summary of Findings (Form 6)

1. Enter percentage of asbestos by whole number.
2. If ACM is assumed, indicate with an "X" in the appropriate space.
3. Indicate Damage Assessment from analyzing Inspection Report (Form 9) for each homogeneous area.
4. Indicate the response action number and response action for each homogeneous area.

### F. Floor Plan(s)

Obtain blank floor plan(s) from the Inspection Phase Report. On a plan for each floor indicate all ACM homogeneous areas by hatching or other markings. Utilize different hatching or marking for surfacing, thermal, or miscellaneous materials. List homogeneous area designations on the drawing(s) with the page number(s) of the response action(s). The floor plans shall be in order from the lowest floor to the highest floor. Locate these drawings in the report following the site plan.

## G. Hazard Assessment and Recommended Response Actions

Prior to writing a response action, evaluate the Inspection Report (Form 9), the drawings, bulk sample analysis, and photos for each homogeneous area identified in the Sampling Report (Form 11).

1. Select the appropriate response action number and response action utilizing the Decision Tree (Form 5).
2. Prepare the response action section in accordance with Appendix B, Instructions for Response Actions.
3. Complete the Cost Summary (Form 14).

## IX. REINSPECTION PHASE

### A. Introduction

1. The objective of this section is to provide the Using Agency and CDB with a three year Asbestos Reinspection in compliance with IDPH and AHERA Rules.
2. This procedure is to be utilized for facilities which currently have a Management Plan in conformance with the A/E Manual of Procedures for Asbestos Inspections and Management Plans (protocol). This Reinspection Report will be a supplement to the existing Management Plan.
3. The A/E will utilize the existing Management Plan to verify the existence and locations of all ACM materials in each building. In conjunction with the review of the previously completed management plan, the A/E will inspect each homogeneous area and furnish CDB with a Reinspection report in accord with this section.
4. Unless specifically stated in this section, the A/E Manual of Procedures for Asbestos Inspections and Management Plans (protocol) procedures and requirements shall not be negated or modified.

### B. Requirements

1. If previously unreported homogeneous areas are discovered, comply with all sections of the A/E Manual of Procedures for Asbestos Inspections and Management Plans (protocol) including the preparation of response actions.
2. Collect samples only if authorized by CDB in writing.
3. If a previously identified homogeneous area of floor covering is indicated as non-ACM, include it as assumed ACM unless previously sampled and analyzed as positive ACM by either PLM or TEM. If analyzed by PLM and negative, include as assumed ACM. If analyzed by TEM and negative, include as non-ACM. Prepare a response action in accord with section VIII if required.

### C. Report

1. Review the existing management plan and inspect all areas of the building. Complete a Form 9 for all homogeneous areas which have changed since the previous inspection.
2. If the size of a homogeneous area has changed, prepare floor plans in addition to the Form 9.
3. Prepare a narrative which describes any changes in the building or in the homogeneous areas since the previous inspection. Include a summary of any abatement activity.

4. Complete and include Accreditation of Inspector(s) form.
5. Include any other information indicated for reinspections on the Reports Format.
6. Revise the Management Plan for each homogeneous area if the condition of the ACM has changed since the last inspection.
7. The final report shall be a PDF file on CD. If CDB is not the Contracting Agency, a CD shall be submitted to CDB.

## **X. SUPPLEMENTAL SAMPLING PHASE**

### **A. Introduction**

1. The objective of this section is to provide the Using Agency and CDB with a supplemental sampling report which is in compliance with IDPH and AHERA Rules.
2. This procedure is to be utilized for facilities or buildings where ACM may be disturbed by a construction project. Only the materials which will be impacted by the project will be included. This Supplemental Sampling Report will be appended to the existing Management Plan.
3. Unless specifically stated in this section, the A/E Manual of Procedures for Asbestos Inspections and Management Plans (protocol) procedures and requirements shall not be negated or modified.

### **B. Requirements**

1. If previously unreported homogeneous areas are discovered, comply with all sections of the A/E Manual of Procedures for Asbestos Inspections and Management Plans (protocol) including the preparation of response actions unless the entire homogeneous area will be removed.
2. All assumed ACM which will be impacted by the project shall be sampled and the results included in the supplemental sampling report.
3. Collect samples in compliance with the sampling requirements in Section VII.
4. If a previously identified homogeneous area of floor covering is indicated as non-ACM or assumed ACM and it will be disturbed, it shall be sampled and analyzed by either PLM or TEM or both. If analyzed by PLM and negative, it shall be sent to another laboratory and analyzed by TEM. If the TEM analysis is negative, include as non-ACM and include results in the supplemental sampling report. The mastic shall be considered a separate homogeneous area and analyzed by PLM and the results shall be included in the report.

### **C. Supplemental Sampling Report**

1. Prepare a narrative describing the scope of the additional sampling and the results.
2. Include Forms 11 and/or 12 Sampling Results for Homogeneous Areas.
3. Include Chain of Custody in accord with Section VII.
4. Include accreditations of laboratories and inspectors.

# APPENDIX A

## DEFINITIONS

A/E: The CDB prequalified asbestos abatement project design firm contracted as the design professional for a project.

Agency Coordinator: A person designated by the Using Agency to deal with the asbestos.

CDB Asbestos Coordinator: An employee of CDB designated to coordinate asbestos activities and projects between CDB and Using Agencies. CDB Asbestos Coordinator, Programming Section, Capital Development Board, 3rd Floor/Stratton Bldg., 401 S. Spring St., Springfield, Illinois 62706, (217) 782-1523.

Consultant: A CDB prequalified individual, partnership, or corporation hired by the A/E to assist on a project.

Contracting Agency: The Agency which has a contract with the A/E. This may be the Capital Development Board or the Using Agency.

Controlling Agency: The agency that operates and maintains the facility or facilities. The Controlling Agency may be the Using Agency.

Damage: A quantitative and qualitative classification of ACM. Damage is delineated by area (salient, localized or distributed) and condition (damaged or significantly damaged). See definitions for each.

Damaged ACM: ACM that is damaged between 1 to 10% of the entire homogeneous area (distributed) or between 1 to 25% of a specific area (localized).

Distributed Damage: The damaged portion of ACM is dispersed throughout the homogeneous area.

Facility Coordinator: An individual appointed by the controlling or using agency that is familiar with the facility and is able to provide access to all buildings at the facility and is able to assist the A/E and PM.

Gross Square Feet: Area determined by using the measurements from outside wall to outside wall for all floored areas having a floor to ceiling height of 6'-6" or greater.

Hazard Assessment: This is a method of rating the relative asbestos hazards in buildings. The hazard assessment assigns a numerical value to each homogeneous area of ACM. The numerical values are utilized to prioritize response actions. The Decision Tree to be used for Hazard Assessment on this project is included in Appendix B Form 5.

IDPH Licensed: Asbestos professionals licensed in accord with the IDPH Rules.



IDPH Rules: Illinois Department of Public Health Rules for Asbestos Abatement for Public and Private Schools and Commercial and Public Buildings in Illinois, as amended through Public Act 89-143, effective July 14, 1995 (77 Illinois Administrative Code 855); Asbestos Abatement Act (105 ILCS 105); Commercial and Public Building Asbestos Abatement Act (225 ILCS 207).

Licensed: IDPH licensed.

Localized Damage: The damaged portion of ACM is limited to a specific area of the homogeneous area.

Occupied Space: This is a space used by building occupants in the course of normal activities on a frequent or regular basis.

Project Manager: An employee of the contracting agency responsible for the contract's administration.

Restricted Space: A space normally used only by maintenance staff, who can be trained in proper management of ACM, and not normally used by other occupants.

Routine Maintenance Area: An area that is not normally frequented by building occupants except for maintenance employees or contract workers who regularly conduct maintenance activities; i.e. Boiler Rooms, Mechanical Rooms, Mechanical Space, etc.

Salient Area: The portion of a homogeneous area with less than 1% total damage but the damaged part is a significant hazard and warrants a separate response action from the remaining undamaged portion of the area.

Significantly Damaged ACM: ACM where the damage is greater than 25% localized or 10% distributed.

Stockpiled Material: Suspect ACM that is stored and is not incorporated as part of the building structure.

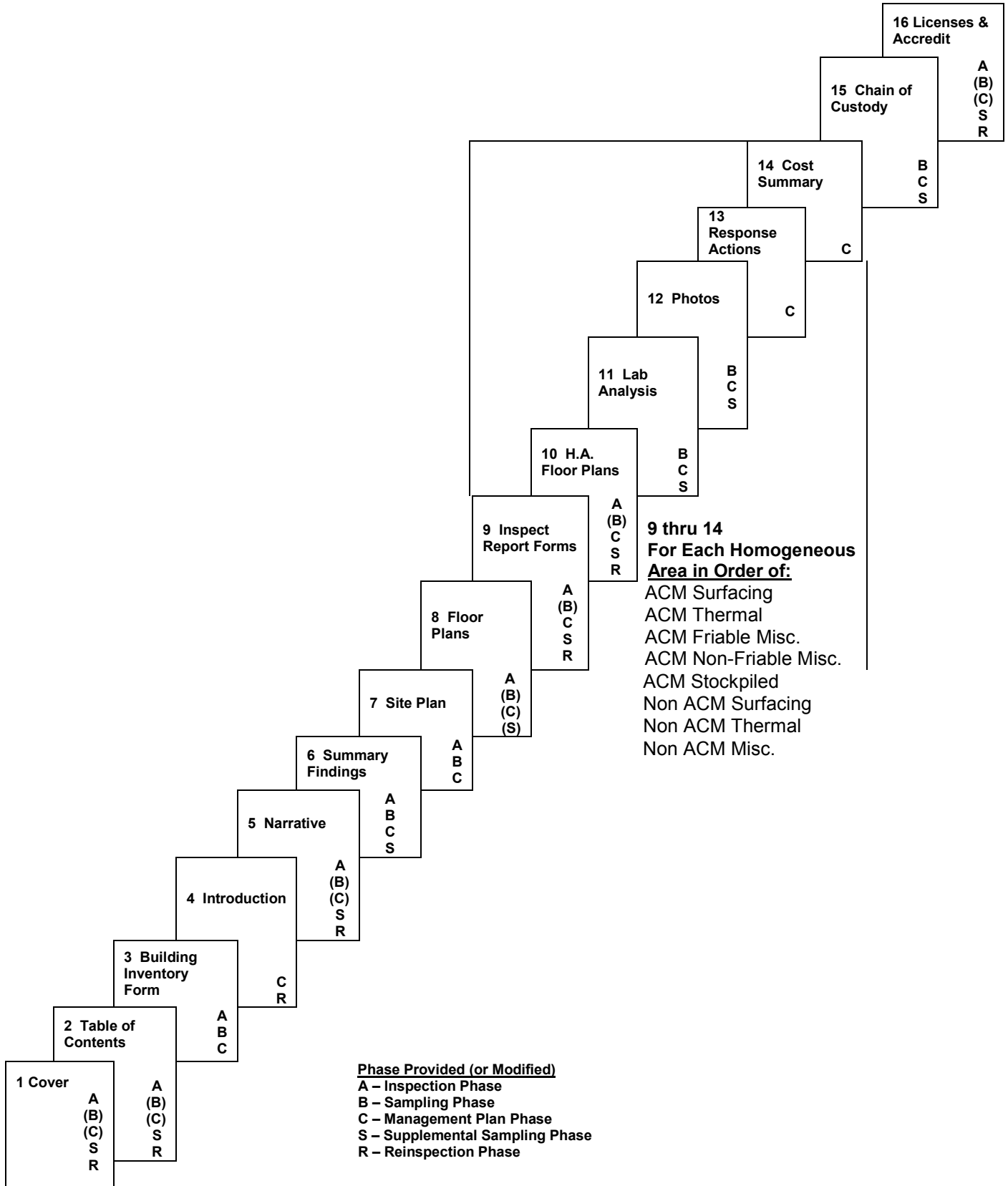
Suspect Material: The material in a building that is likely to contain asbestos.

Unoccupied Space: A space not easily accessible to building occupants and not used by building occupants or maintenance personnel in the course of normal activities.

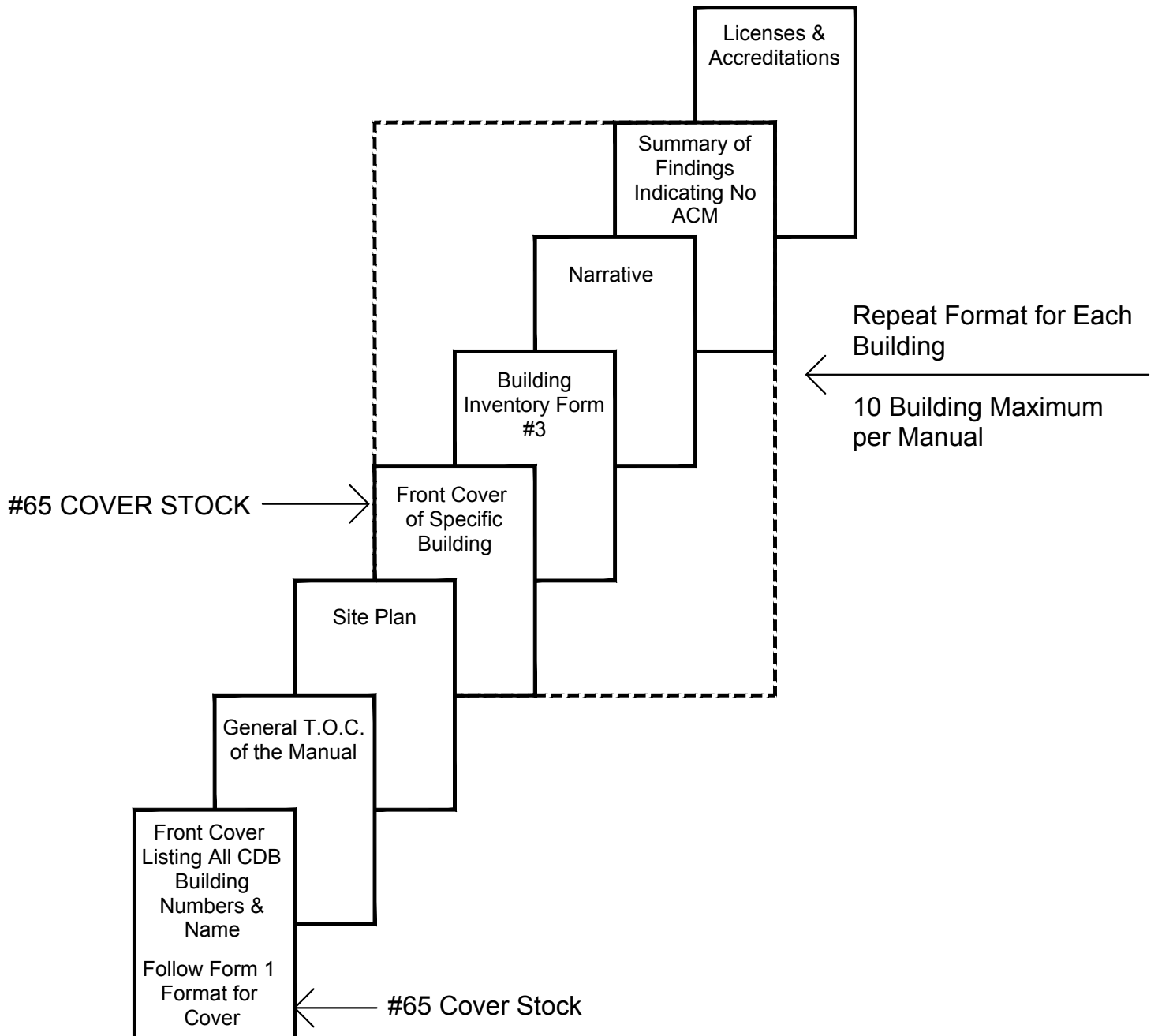
Using Agency: The State Agency which utilizes the facility.

# APPENDIX B

# REPORTS FORMAT



# REPORT FORMAT BUILDINGS WITH NO ACM



**SAMPLE COVER (FORM 1)**

**ASBESTOS \_\_\_\_\_ REPORT**

**CDB PROJECT NUMBER \_\_\_\_\_**

**FACILITY NAME  
USING AGENCY  
BUILDING NAME  
C.D.B. BUILDING NUMBER  
BUILDING ADDRESS  
CITY, COUNTY, ILLINOIS ZIP**

Print on colored stock as follows:  
BLUE – For Code Agencies  
RED – For Higher Education  
YELLOW - For Schools  
(Elementary, Middle, Jr. & Sr. High,  
or Vocational)

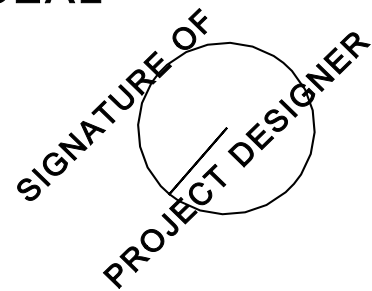
**SAMPLE FORMAT FOR COVER**

STATE OF ILLINOIS

**CAPITAL DEVELOPMENT BOARD**

(OR CONTRACTING AGENCY, IF APPLICABLE)  
SPRINGFIELD, ILLINOIS

**SEAL**



**BY:  
DRAWEM & SPECKEM ASSOCIATES  
3508 TOWER BUILDING ROAD  
SPRINGFIELD, ILLINOIS 62706  
217-593-4263**

DATE OF SUBMITTAL: \_\_\_\_\_

DATE SIGNED: \_\_\_\_\_

EXP. DATE: \_\_\_\_\_

(A/E LICENSE) \_\_\_\_\_

IDPH LICENSE: \_\_\_\_\_



# BUILDING INVENTORY (FORM 3)

C.D.B.  
BUILDING NUMBER: \_\_\_\_\_ BUILDING NAME: \_\_\_\_\_

USING AGENCY: \_\_\_\_\_ LOCATION: \_\_\_\_\_

AGENCY NUMBER: \_\_\_\_\_ LOCATION NUMBER: \_\_\_\_\_

BLDG. ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_

ZIP: \_\_\_\_\_ COUNTY: \_\_\_\_\_ HOUSE DISTRICT: \_\_\_\_\_

YEAR GROSS FLOORS ABOVE & BELOW  
CONSTRUCTED: SQ. FT. BELOW GRADE: GRADE: \_\_\_\_\_

YEAR OWNER  
ACQUIRED: STATUS: \_\_\_\_\_ AHERA: \_\_\_\_\_

USE OF BUILDING WHEN CURRENT CURRENT  
CONSTRUCTED: PRIMARY SECONDARY  
USE: USE: \_\_\_\_\_

PREDOMINATE  
CONSTRUCTION TYPE: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

FOR USING AGENCY  
USE ONLY: \_\_\_\_\_

CDB BUILDING NOTES: \_\_\_\_\_

(FOR C.D.B. USE ONLY)  
ASBESTOS STATUS: \_\_\_\_\_

# INTRODUCTION TO THE MANAGEMENT PLAN (FORM 4)

A. Policy Statement:

This Management Plan is intended to be a working document which will serve as a guide to staff, employees, occupants and visitors in minimizing the risk of exposure to asbestos fibers. The State of Illinois recognizes the serious health hazards associated with asbestos fibers. The State has conducted an inspection of this facility in order to determine whether asbestos is present, and if so, where the asbestos is located.

This Management Plan sets forth the recommended response actions for the ACM (asbestos containing material) within this facility. Separate Standard Operations & Maintenance (O & M) Manual supplements the recommendations established herein. The facility is responsible for implementing all of the recommendations.

This Plan has been reviewed by CDB, the Contracting Agency and the Using Agency and represents the policies and procedures to be implemented with respect to any ACM within this facility.

Representatives:

Dated:

\_\_\_\_\_  
Agency (Designated Person)

Dated:

\_\_\_\_\_  
Management Planner

B. Applicable Standards:

This Management Plan was developed in accordance with CDB's A/E Manual of Procedures for Asbestos Inspections and Management Plans. The IDPH Rules are the minimum standard referenced herein.

C. Asbestos as a Health Hazard:

The adverse health effects of asbestos were first noted in the early 1900s. The early reports described asbestosis, a form of generalized scarring in the lungs, in workers occupationally exposed to asbestos. Later, in 1935, attention was also directed to lung cancer associated with asbestos exposure and, after a report from South Africa in 1960, it became apparent that exposure to asbestos was also associated with mesothelioma, a formerly very rare and unusual cancer of tissues lining the chest and abdominal cavity.

Currently, five important health effects have been associated with asbestos exposure. They are: lung cancer, mesothelioma, gastrointestinal cancer, asbestos related pleural disease, and asbestosis.

Lung Cancer - Lung cancer is now the most common cause of cancer in both men and women in the United States and cigarette smoking is clearly the major risk factor. Numerous epidemiological studies have demonstrated an unequivocal relationship of lung cancer with asbestos exposure in the workplace. Thirty-two studies of different occupationally exposed groups have demonstrated significant association between asbestos exposure and of lung cancer. Furthermore, an increase in asbestos exposure, expressed as concentration of asbestos fibers and duration of exposure in the workplace, appears to increase lung cancer rates. These data suggest that the dose response relationship is probably linear, but it is not yet known whether or not a threshold level of exposure exists below which no increased risk is found.

Of great importance is the observation that cigarette smoking appears to interact with asbestos in a multiplicative manner as to greatly increase the risk of developing lung cancer. Workplace asbestos exposure alone may increase the risk of lung cancer by five times. Asbestos exposure plus smoking, however, appears to increase the risk by about 50 times.

It has been shown that the greatest risk of developing lung cancer occurs at 20 or more years after the initial asbestos exposure. The existence of this latent period or lag time indicates that asbestos associated lung cancers will continue to occur in the future from exposures which happened in the past.



Mesothelioma - Mesothelioma is a cancer of the membranes lining the chest and abdominal cavity. Years ago, mesothelioma was a medical curiosity because it was so rare. When malignant mesothelioma is seen today, asbestos exposure is likely to have previously occurred.

The data linking asbestos exposure to mesothelioma is based upon many of the same epidemiological studies of workers that demonstrated an association between asbestos exposure and lung cancer. The findings are somewhat different than for lung cancer. Lower non-occupational exposures have also been associated with mesothelioma in addition to occupational exposure. Therefore lower levels of exposure to asbestos as found in some non-occupational settings may give rise to mesothelioma. Secondly, the nature of the dose response relationship may be different from that of lung cancer. The risk continues to increase as the number of years since first exposure increases. In many cases, a latent period of more than 40 years has been described.

Gastrointestinal Cancer - Several of the epidemiological studies of workers occupationally exposed to asbestos have shown increased risks of gastrointestinal cancer including cancers of the colon, rectum, stomach and esophagus. The risk, however, does not appear to be as great as for lung cancer. To date, no association has been found between asbestos in drinking water and gastrointestinal cancer.

Asbestos Related Pleural Disease - This category of health effects includes fibrous and sometimes calcified plaques as well as diffuse thickening of the pleura and the pleural effusion. These are non-cancerous changes of the membranes surrounding the lungs and commonly occur many years after asbestos exposure. The presence of plaques suggests prior asbestos exposure but usually does not cause any symptoms or respiratory impairment.

Asbestosis - Asbestosis is a disabling lung disorder consisting of generalized scarring of the lungs which causes shortness of breath on exertion. Asbestosis has been described almost exclusively in workers with occupational exposure to high concentrations of asbestos-containing dusts. In asbestosis, there appears to be a very strong dose response relationship in that the greater the concentration of asbestos fibers, and the longer the duration of exposure, the greater the likelihood and severity of asbestosis.

As with the other asbestos related health effects, there is usually a time lag or latent period of several years before the development of disease. Once acquired, asbestosis tends to progress slowly, sometimes for years after asbestos exposure has ended.

# ACCREDITATION OF MANAGEMENT PLANNER(S)

I, \_\_\_\_\_, prepared or supervised the preparation of this Asbestos Management Plan for \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

at the \_\_\_\_\_ Facility.

I am licensed as a Management Planner by the State of Illinois and have attached verification of such below.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

IDPH LICENSE NO: \_\_\_\_\_

IDPH IDENTIFICATION CARD  
FRONT

IDPH IDENTIFICATION CARD  
BACK

# ACCREDITATION OF INSPECTOR(S)

## ACCREDITATION OF INSPECTOR(S)

I, \_\_\_\_\_, have completed a 3 year reinspection for  
the \_\_\_\_\_  
\_\_\_\_\_

at the \_\_\_\_\_ Facility, verified the number and  
condition of all homogeneous areas and have included all changes in this report.

I am licensed as an Inspector by the State of Illinois and have attached verification of such  
below.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

IDPH LICENSE NO: \_\_\_\_\_

IDPH IDENTIFICATION CARD  
FRONT

IDPH IDENTIFICATION CARD  
BACK

# INSTRUCTIONS FOR NARRATIVE

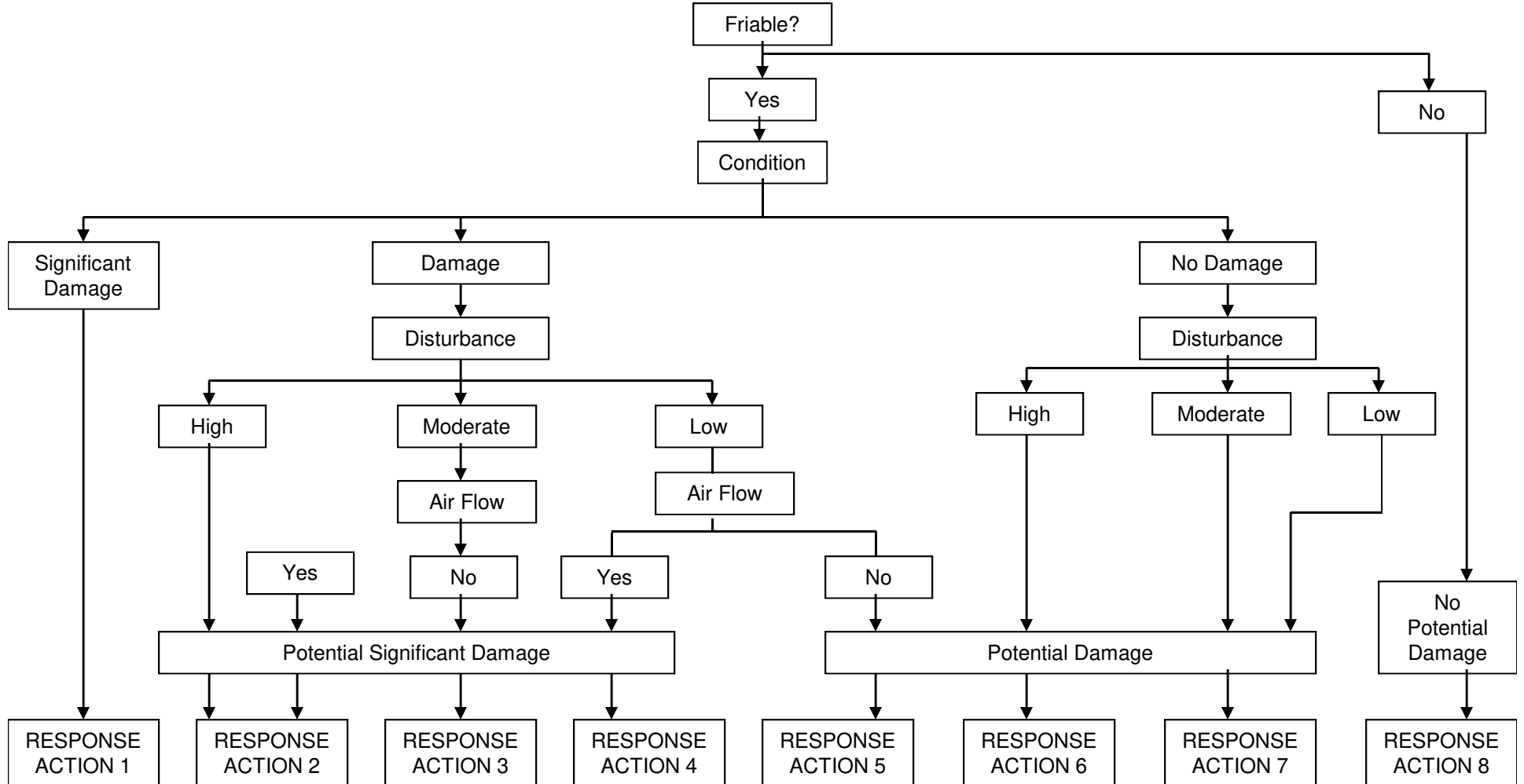
**INSPECTION PHASE I** - Prepare a narrative describing each building.

- A. The narrative shall include:
  - 1. The month and year of the inspection.
  - 2. The dates of construction for original construction, major renovations, and additions.
  - 3. The number of floors and the gross square footage of the building. Identify attics, crawl spaces, basements, etc. with less than a 6'- 6" ceiling height.
  - 4. The building use and occupancy.
  - 5. The exterior surface materials.
  - 6. Type and condition of roof.
  - 7. Type and condition of mechanical systems in building.
  - 8. Non ACM types of pipe insulation.
- B. A history of all previous asbestos detection and abatement efforts.

**SAMPLING PHASE II AND MANAGEMENT PLAN PHASE III** - Include after the original narrative, any discrepancies found from Inspection or Sampling Report Narratives including information regarding any additional asbestos abatement activities. Briefly describe the extent of ACM in the building, along with its relative hazard.

# Decision Tree

(Form 5)



## Response Action Key

1. Isolate area & restrict access. Remove as soon as possible.
2. Continue O & M. Remove as soon as possible or reduce potential for disturbance.
3. Continue O & M. Schedule removal when practical & cost effective or reduce disturbance.
- 4.-5. Continue O & M. Schedule removal when practical & cost effective. Number indicates priority for removal.
- 6.-7. Continue O & M. Take preventive measures to reduce disturbance. Number indicates priority for removal.
8. Continue O & M until major renovation or demolition requires removal under NESHAP or until hazard assessment factors change.

# INSTRUCTIONS FOR SUMMARIES

## INSPECTION PHASE I

Provide the following summary table. List Homogeneous Areas by Surfacing, Thermal, and Miscellaneous.

Facility Name \_\_\_\_\_

CDB Bldg. Name & Number \_\_\_\_\_

CDB Project Number \_\_\_\_\_

### SUMMARY OF FINDINGS

HOMOGENEOUS AREAS	DESCRIPTION	QUANTITY	NUMBER of SAMPLES RECOMMENDED	REMOVAL COST

## SAMPLING PHASE II

Provide the following summary table. List Homogeneous Areas in accord with Form 1.

Facility Name \_\_\_\_\_

CDB Bldg. Name & Number \_\_\_\_\_

CDB Project Number \_\_\_\_\_

### SUMMARY OF FINDINGS

HOMOGENEOUS AREAS	DESCRIPTION	ACM			NOTES
		ASSUMED	POS	NEG	

Insert the number of samples having positive or negative results in the appropriate ACM column.

## MANAGEMENT PLAN PHASE III

Utilize Form 6.

**SUMMARY OF FINDINGS (FORM 6)**

**MANAGEMENT PLAN PHASE III**

C.D.B. PROJECT NO. \_\_\_\_\_

LIST IN ORDER OF RESPONSE ACTIONS NUMBER

BUILDING NAME \_\_\_\_\_

HOMOGENEOUS AREA	MATERIAL DESCRIPTION	ACM CONTENT (%)				DAMAGE ASSESSMENT										
		CHRYSTOTILE	AMOSITE	OTHER	ASSUMED ACM	NO DAMAGE	SALIENT	DAMAGE	SIGNIFICANT DAMAGE	NO POTENTIAL DAMAGE	POTENTIAL DAMAGE	POTENTIAL SIGNIFICANT	DAMAGE	RESPONSE ACTION		
														NUMBER	DESCRIPTION (I.E. REMOVE, REPAIR, ENCLOSE, ENCAPSULATE OR O & M)	

# ASBESTOS REMOVAL UNIT COSTS (FORM 8)

(For Use in Phase I--Inspection Only)

<u>DESCRIPTION</u>	<u>AVERAGE PROJECT COST PER UNIT</u>	<u>UNIT</u>
Bulk Asbestos Removal Including Disposal, Tools, Suits & PAPR Filters		
ACM Plaster ceiling including lath	19.75	SF
ACM Spline ceiling systems	8.85	SF
ACM Acoustical ceilings	8.85	SF
Boiler insulation	18.80	SF
Boiler insulation with metal lath	27.65	SF
Boiler breeching or flue insulation	6.35	SF
Pipe insulation up to 4" dia.	47.50	LF
Pipe insulation, 4" to 8" dia.	80.00	LF
Pipe fitting insulation up to 8" dia.	145.85	EA
Scrape foam fireproofing from flat surfaces	4.65	SF
Scrape from irregular surfaces; large areas	6.80	SF
Scrape acoustical coating from ceilings	6.80	SF
Stage Curtain removal	17.65	SF
Remove VCT from floor by hand, <1000 sf	17.15	SF
Remove VCT from floor by hand, >1000 sf	12.45	SF
Remove VCT from floor by machine	8.00	SF
Remove soil from crawl/tunnel by hand	110.50	CF
Remove Built-up roofs	4.45	SF
Remove Flashings	2.20	LF

These costs include an allowance for total project costs including disposal, transportation costs, overhead and profit, etc.



## HOMOGENEOUS AREA INSPECTION REPORT (FORM 9)

CDB Building #: \_\_\_\_\_ Homogeneous Area: \_\_\_\_\_

Inspection Date: \_\_\_\_\_ CDB Project Number: \_\_\_\_\_

Facility: \_\_\_\_\_

Building Name: \_\_\_\_\_

Building Address: \_\_\_\_\_

A/E Firm: \_\_\_\_\_

Inspector: \_\_\_\_\_ IDPH License #: \_\_\_\_\_

Location: \_\_\_\_\_

Rooms: \_\_\_\_\_

Material Description: \_\_\_\_\_  
(Common designation - i.e. air cell)

Type of System: \_\_\_\_\_  
(i.e. hot water)

Color-Texture, Etc. \_\_\_\_\_

Friable: Yes: \_\_\_\_\_ No: \_\_\_\_\_ Pipe Diameter: \_\_\_\_\_ inches

Total Quantity: \_\_\_\_\_ Sq. Ft \_\_\_\_\_ Lin. Ft. \_\_\_\_\_ each

Quantity in: Occupied: \_\_\_\_\_ Restricted: \_\_\_\_\_ Unoccupied: \_\_\_\_\_

Room Finishes:

Ceiling: \_\_\_\_\_

Walls: \_\_\_\_\_

Floor: \_\_\_\_\_

	No Damage	Damaged	Significant Damage
Damage Assessment:			
Localized: OR	<1% _____	1-25% _____	>25% _____
Distributed:	<1% _____	1-10% _____	>10% _____
If <1% damage, is salient present? Yes _____ No _____			

If yes, describe \_\_\_\_\_

Water Damage: Yes \_\_\_\_\_ No \_\_\_\_\_ Description: \_\_\_\_\_

Physical Damage: Yes \_\_\_\_\_ No \_\_\_\_\_ Description: \_\_\_\_\_

Age Deterioration: Yes \_\_\_\_\_ No \_\_\_\_\_ Description: \_\_\_\_\_

## HOMOGENEOUS AREA INSPECTION REPORT (CONT'D) (FORM 9)

CDB Building #: \_\_\_\_\_ Homogeneous Area: \_\_\_\_\_

**Disturbance Factors:**

Accessible to Occupants: Yes \_\_\_\_\_ No \_\_\_\_\_  
 Maintenance Personnel: Yes \_\_\_\_\_ No \_\_\_\_\_  
 No. of Occupants: 0 \_\_\_\_\_ 1-2 \_\_\_\_\_ 3-10 \_\_\_\_\_ 10+ \_\_\_\_\_  
 Hours of Use: 0 \_\_\_\_\_ 1-2 \_\_\_\_\_ 3-10 \_\_\_\_\_ 10+ \_\_\_\_\_  
 Height From Floor: \_\_\_\_\_ ft  
 Area Above: \_\_\_\_\_  
 Area Adjacent: \_\_\_\_\_  
 Utilization of Area: \_\_\_\_\_

**Serviceable Components (distance in feet)**

Electrical	<1 _____	1-5 _____	>5 _____	Vibration	Yes _____	No _____
Mechanical	<1 _____	1-5 _____	>5 _____	Mech (motor)	Yes _____	No _____
Piping	<1 _____	1-5 _____	>5 _____	Plumb (knock)	Yes _____	No _____
Other _____	<1 _____	1-5 _____	>5 _____	Other _____	Yes _____	No _____
Barrier	Yes _____	No _____	Exterior Door	Yes _____	No _____	
Suspend Ceiling	Yes _____	No _____	Exhaust Fan	Yes _____	No _____	
Encapsulation	Yes _____	No _____	Gravity Vent	Yes _____	No _____	
Enclosure	Yes _____	No _____	Supply Air	Yes _____	No _____	
Other _____	Yes _____	No _____	Return Air	Yes _____	No _____	
			Other _____	Yes _____	No _____	
Air Movement:	Yes _____	No _____				
If yes:	Low _____	Moderate _____	Heavy _____			
Inspector's Assessment	No Potential Damage _____		Potential Damage _____	Potential Significant Damage _____		

Explanation of Assessment (required): \_\_\_\_\_

Damage Prevention Measures: \_\_\_\_\_

Comments: \_\_\_\_\_

Inspector's Signature \_\_\_\_\_ Date: \_\_\_\_\_

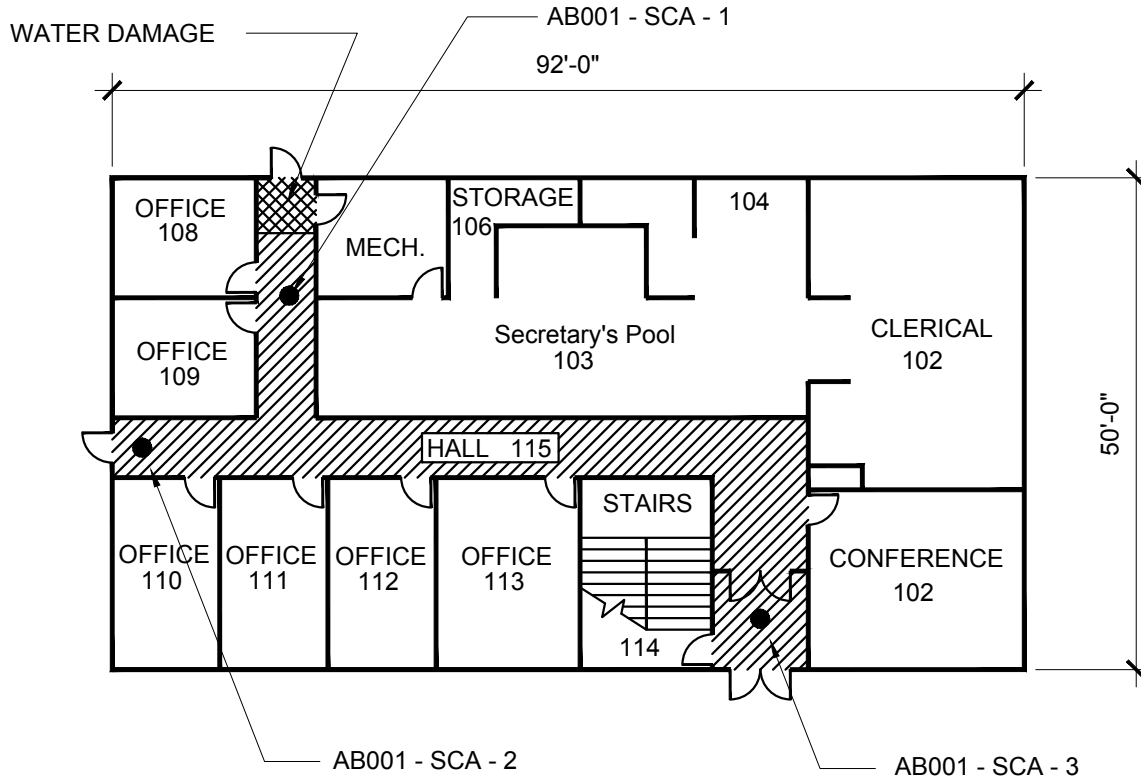
Sample Numbers: \_\_\_\_\_

(sampling phase)  
ACBM: Yes \_\_\_\_\_ No \_\_\_\_\_ Assumed \_\_\_\_\_

## STOCKPILED ACM INFORMATION (FORM 10)

1. Facility Name \_\_\_\_\_ Building Name \_\_\_\_\_
2. Building Address \_\_\_\_\_
3. CDB Building No. \_\_\_\_\_ Homogeneous Area \_\_\_\_\_
4. Product Type (Use) \_\_\_\_\_
5. Product Name \_\_\_\_\_
6. Sealed Container? Yes / No / No Container \_\_\_\_\_  
If Yes, Skip Questions 7, 8 and 9. **Do Not Open**
7. Product Description: Size \_\_\_\_\_
8. Product Description: Other \_\_\_\_\_
9. Product Description: Other \_\_\_\_\_
10. Location \_\_\_\_\_
11. Use Of Location (O, R or U) \_\_\_\_\_ Secured Area? Yes / No \_\_\_\_\_
12. Contents Original? Yes / No / Unknown \_\_\_\_\_ Number of Containers \_\_\_\_\_
13. If Yes, Does Container State Product Contains Asbestos? \_\_\_\_\_
14. If container states Manufacturer's Name And Address, list \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
15. If you saw this product in place in the facility or building, indicate locations by building number, homogeneous area or other specific location information. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
16. Other than by container, do you know that this product contains asbestos and/or the manufacturer?  
If so, please list and explain source of knowledge. \_\_\_\_\_  
\_\_\_\_\_
17. Other Comments: \_\_\_\_\_  
\_\_\_\_\_
18. Inspector's Name \_\_\_\_\_
19. Signature \_\_\_\_\_ Date \_\_\_\_\_

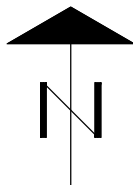
# SAMPLE HOMOGENEOUS AREA FLOOR PLAN



## FIRST FLOOR PLAN

SCALE: 1/16" = 1'-0"

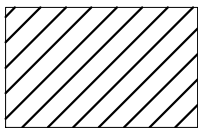
0 4' 8' 16'



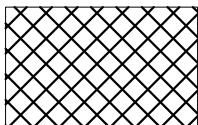
FLOOR \_\_\_\_\_ OF \_\_\_\_\_

CDB BLDG. INV. NO.: \_\_\_\_\_

PROJECT NO.: \_\_\_\_\_



HOMOGENEOUS AREA SCA  
SPRAY-ON CEILING SURFACING  
MATERIAL



AREA OF WATER DAMAGE

# PLM BULK SAMPLE LABORATORY ANALYSIS REPORT (FORM 11)

**A/E COMPLETE ITEMS 1 – 7 & PROVIDE TO LABORATORY**

1. FACILITY: \_\_\_\_\_ CDB BUILDING #: \_\_\_\_\_
2. BUILDING: \_\_\_\_\_ A/E: \_\_\_\_\_
3. ADDRESS: \_\_\_\_\_ PROJECT #: \_\_\_\_\_
4. HOMOGENEOUS AREA (only 1 per form) \_\_\_\_\_

5. Location			
6. Date Collected			
7. Sample No.			
8. Date Received			
9. Lab Sample No.			
10. Color			
11. Fibrous			
12. Layers			
13. Contains Asbestos			
14. Type & % Asbestos			
Chrysotile			
Amosite			
Crocidolite			
Other			
Total Asbestos %			
15. Other Material %			
Fibrous Glass			
Cellulose			
Synthetic Fibers			
Gypsum			
Calcite			
Quartz			
Perlite			
Vermiculite			
Others			
16. Date Analyzed			
17. Analyzed By			

18. Report Approved By: \_\_\_\_\_ Date: \_\_\_\_\_
19. Laboratory Name: \_\_\_\_\_

## POINT COUNTING LABORATORY ANALYSIS REPORT (FORM 11A)

1. FACILITY: \_\_\_\_\_ 2. CDB BUILDING # \_\_\_\_\_  
 3. BUILDING: \_\_\_\_\_ 4. CLIENT (A/E) \_\_\_\_\_  
 5. ADDRESS: \_\_\_\_\_ 6. PROJECT # \_\_\_\_\_  
 7. HOMOGENEOUS AREA (ONLY 1 PER FORM) \_\_\_\_\_  
 (A/E COMPLETE ITEMS 1-10 & PROVIDE TO LABORATORY.)

8. Location						
9. Date Collected						
10. Sample No.						
11. Date Received						
12. Lab Sample No.						
13. Color?						
14. Fibrous?						
15. Layers?						
16. Contains Asbestos?						
17. TYPE AND % ASBESTOS						
Chrysotile						
Chrysotile						
Amosite						
Crocidolite						
Other						
Total Asbestos %						
18. NO. OF SLIDES COUNTED						
	Asbestos Counts	Nonempty Pts Ctd	Asbestos Counts	Nonempty Pts Ctd	Asbestos Counts	Nonempty Pts Ctd
Slide 1						
Slide 2						
Slide 3						
Slide 4						
Slide 5						
Slide 6						
Slide 7						
Slide 8						
19. Comments						
20. Date Analyzed						
21. Analyzed By						

22. Report Approved By: \_\_\_\_\_ 23. Date: \_\_\_\_\_  
(Signature)

24. Laboratory Name: \_\_\_\_\_

# TEM BULK SAMPLE LABORATORY ANALYSIS REPORT (FORM 12)

**A/E COMPLETE ITEMS 1 – 7 & PROVIDE TO LABORATORY**

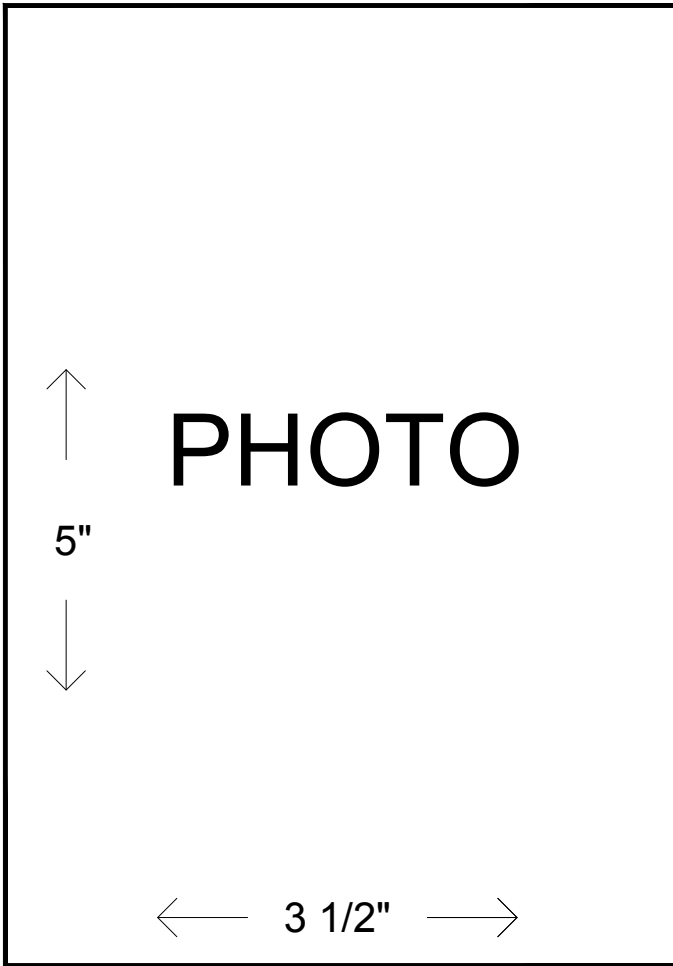
20. FACILITY: \_\_\_\_\_ CDB BUILDING #: \_\_\_\_\_
21. BUILDING: \_\_\_\_\_ A/E: \_\_\_\_\_
22. ADDRESS: \_\_\_\_\_ PROJECT #: \_\_\_\_\_
23. HOMOGENEOUS AREA (only 1 per form) \_\_\_\_\_

24. Location			
25. Date Collected			
26. Sample No.			
27. Date Received			
28. Lab Sample No.			
29. Color			
30. Fibrous			
31. Layers			
32. Contains Asbestos			
33. Type & % Asbestos			
Chrysotile			
Amosite			
Crocidolite			
Other			
Total Asbestos %			
34. Other Material %			
Organics			
Acid Soluble Inorganics			
Non Soluble Inorganics			
35. Upper Value			
Lower Value			
36. Number of Grids			
Area of Openings			
Total Area Analyzed			
37. >Magnification Utilized			
38. Comments			
39. Date Analyzed			
40. Analyzed By			

41. Report Approved By: \_\_\_\_\_ Date: \_\_\_\_\_
42. Laboratory Name: \_\_\_\_\_

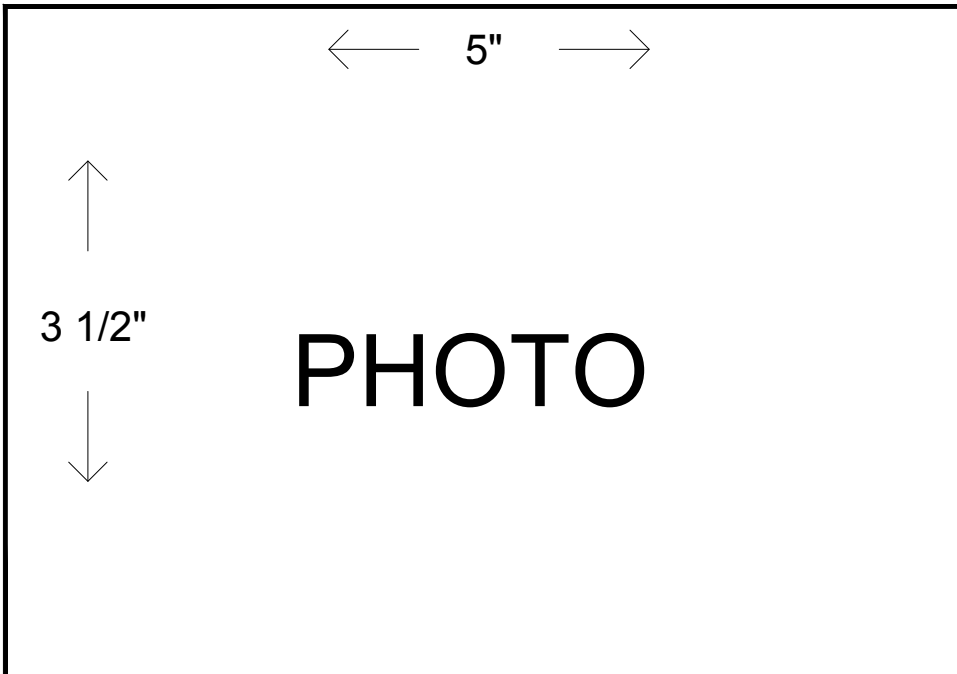
# SAMPLE PHOTO LAYOUT

(ONLY 1 HOMOGENEOUS AREA/PAGE)



XX000-MFA-0-A  
DESCRIPTION OF  
MATERIAL

(NOTE:  
PHOTO BOXES MAY  
APPEAR SMALLER THAN  
REQUIRED SIZES.)



XX000-MFA-0-B DESCRIPTION OF MATERIAL



# INSTRUCTIONS FOR RESPONSE ACTIONS

- A. Response Actions - Include in the sequence listed, the following:
1. Identification:

Identify response actions by the following information included in a title block area.

    - a. Homogeneous Area.
    - b. Quantity of Material.
    - c. Material Description (e.g. Mag Block Steam Pipe Insulation).
    - d. Recommended Response Action Number (e.g. Response Action 2).
  2. Hazard Assessment:
    - a. Describe existing conditions that may create a release of asbestos fibers. Include present condition and potential for damage.
    - b. Describe factors utilized in the Decision Tree to derive the recommended response action.
  3. Recommended Response Action:
    - a. Reasons for Recommendation:
      - (1) Provide an explanation to support the response action recommendation. Answer the question: Why is this response action appropriate for the ACM? Address salients and atypical conditions.
      - (2) Recommended response actions shall include preventative measures appropriate to reduce the potential for damage to the ACM. Examples of such recommendation include: repair of roof, modification or repair of mechanical system or alteration or restriction of building or space utilization.
    - b. O&M Procedures: List any appropriate O & M recommendation which supports the response action.
    - c. Health and Safety Requirements: List specific Health and Safety O&M requirements relevant to the area (i.e. post warning signs and allow only trained personnel using personal protective equipment to enter area).
    - d. After selection of the appropriate Decision Tree number and development of a preliminary response action, a meeting shall be scheduled with the Project Manager and an agency representative to discuss the recommendations. After the meeting,

draft a final recommended response action. Include a narrative of the reasons for recommendation discussing all sources of input and including all factors that affected the final response action decision. The final recommended response action must be adequate to protect human health and the environment.

4. Cost Estimates (minimum level of detail):
  - a. Cost of Removal. Itemize costs and list for each subcomponent:
    - (1) Apply appropriate unit cost to the quantity of ACM, to be removed. Factor in costs for construction of mini-enclosures, containment areas, isolation, or other associated cost.
    - (2) Apply appropriate unit cost to the quantity of material to be installed to replace the ACM. Identify the material to be used as a replacement.
    - (3) Determine appropriate Design Fee to complete project documentation and administration (e.g. % of removal costs or fixed fee).
    - (4) Determine time required to complete the removal (e.g. days required).
    - (5) Determine the Asbestos Project Manager/Air Sampling Professional (APM/ASP) cost per unit of time above (e.g. daily cost).
    - (6) Compute the cost of air sample analysis based upon the estimated number of samples per day, the unit cost per sample and the number of days required.
    - (7) Include TEM clearances costs if the building is a school under IDPH Rules.
    - (8) Compute total removal cost.
  - b. Cost of Recommended Response Action (if removal is not recommended):

Utilize format for Cost of Removal. Compute cost of action based on comparison to previous work, estimating guide or CDB cost data base (if available).
  - c. O&M Cost Estimate:

Compute annual cost for specific O & M measures recommended including annual cost of inspection and administration by the Designated Person.
  - d. Special Conditions:
    - (1) List any conditions which could reduce any cost estimates.
    - (2) List any conditions which are not included in any cost estimate and the potential effect on the total cost (e.g. relocation of occupants during construction).

# RESPONSE ACTION FORM (FORM 13)

A.1 Bldg Name: \_\_\_\_\_ CDB Bldg No.: \_\_\_\_\_

Homo Area: \_\_\_\_\_ Description: \_\_\_\_\_

Response Action: \_\_\_\_\_

\_\_\_\_\_

A.2.a Existing Condition: \_\_\_\_\_

\_\_\_\_\_

Potential for Damage: \_\_\_\_\_

\_\_\_\_\_

A.2.b Friable: \_\_\_\_\_ Condition: \_\_\_\_\_

Disturbance: \_\_\_\_\_ Air Flow: \_\_\_\_\_

A.3.a(1) Why: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

A.3.a(2) Preventative Measures: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

A.3.b O & M Procedures: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

A.3.c Health & Safety: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## RESPONSE ACTION COST SUMMARY (FORM 14)

BUILDING NAME: \_\_\_\_\_

C.D.B. BUILDING NUMBER: \_\_\_\_\_

Homogeneous Area	Material Description	RESPONSE ACTION NUMBER	RESPONSE ACTION DESCRIPTION	COST OF RESPONSE EXCL. O & M	COST OF ANNUAL O & M	COST OF REMOVAL
			BUILDING TOTALS	\$	\$	\$

# Chain of Custody Record for Asbestos Bulk Samples (FORM 15)

- |                             |                                  |
|-----------------------------|----------------------------------|
| 1. CDB Bldg. No.: _____     | 2. Batch #: _____                |
| 3. Facility Name: _____     | 4. CDB Project #: _____          |
| 5. Building Name: _____     | 6. Date Samples Collected: _____ |
| 7. Name of Inspector: _____ | 8. Project Name: _____           |
| 9. License #: _____         | 10. Sample Numbers: _____        |

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ 11. Total # Samples: \_\_\_\_\_

12. Sample numbers relinquished: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Method of Transmission: \_\_\_\_\_  
Date and Time: \_\_\_\_\_

-----  
Sample numbers received: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Received by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Condition of Sample Upon Receipt: \_\_\_\_\_  
Date and Time: \_\_\_\_\_  
Reason for Obtaining Sample: \_\_\_\_\_

13. Sample numbers relinquished: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Method of Transmission: \_\_\_\_\_  
Date and Time: \_\_\_\_\_

-----  
Sample numbers received: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Received by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Condition of Sample Upon Receipt: \_\_\_\_\_  
Date and Time: \_\_\_\_\_  
Reason for Obtaining Sample: \_\_\_\_\_

14. Sample numbers relinquished: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Method of Transmission: \_\_\_\_\_  
Date and Time: \_\_\_\_\_

-----  
Sample numbers received: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Received by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Condition of Sample Upon Receipt: \_\_\_\_\_  
Date and Time: \_\_\_\_\_  
Reason for Obtaining Sample: \_\_\_\_\_

---

18. Sample numbers relinquished: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Method of Transmission: \_\_\_\_\_  
Date and Time: \_\_\_\_\_  
-----  
Sample numbers received: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Received by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Condition of Sample Upon Receipt: \_\_\_\_\_  
Date and Time: \_\_\_\_\_  
Reason for Obtaining Sample: \_\_\_\_\_

---

19. Sample numbers relinquished: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Method of Transmission: \_\_\_\_\_  
Date and Time: \_\_\_\_\_  
-----  
Sample numbers received: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Received by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Condition of Sample Upon Receipt: \_\_\_\_\_  
Date and Time: \_\_\_\_\_  
Reason for Obtaining Sample: \_\_\_\_\_

---

20. Sample numbers relinquished: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Method of Transmission: \_\_\_\_\_  
Date and Time: \_\_\_\_\_  
-----  
Sample numbers received: \_\_\_\_\_ Total # Samples: \_\_\_\_\_  
Received by: \_\_\_\_\_ Representing: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Condition of Sample Upon Receipt: \_\_\_\_\_  
Date and Time: \_\_\_\_\_  
Reason for Obtaining Sample: \_\_\_\_\_