

TABLE OF CONTENTS

Section 1	Introduction.....	1-1
Section 2	Plan Availability and Notifications	2-1
	2.1 Plan Availability	2-1
	2.2 Parent/Guardian Notification	2-1
	2.3 Employee Notification	2-1
	2.4 Short-Term Worker Notification	2-1
	2.5 Labeling	2-1
Section 3	Contact Information	3-1
	3.1 Local Educational Agency Information	3-1
	3.2 Designated Person Information.....	3-1
	3.3 Management Planner Information.....	3-1
Section 4	Designated Person Assurances.....	4-1
Section 5	Facility Summary.....	5-1
Section 6	Asbestos Inspections and Periodic Surveillance.....	6-1
	6.1 Initial Asbestos Inspections	6-1
	6.2 Asbestos Reinspection Program	6-1
	6.3 Periodic Surveillance	6-2
	6.4 Asbestos Sampling Documentation	6-3
	6.5 Evaluation of Available Resources	6-3
Section 7	Response Actions	7-1
	7.1 Response Actions.....	7-1
	7.2 Response Action Selection	7-1
	7.3 Project Design.....	7-3
	7.4 Response Action Final Clearance	7-3
	7.4.1 Visual Inspection.....	7-3
	7.4.2 Clearance Air Sampling	7-3
	7.5 Response Action History	7-4
Section 8	Operations and Maintenance	8-1
	8.1 Cleaning	8-1
	8.2 Training.....	8-1
	8.2.1 Awareness Training	8-1
	8.2.2 Maintenance Training	8-2
	8.3 Maintenance Permit System.....	8-2
	8.3.1 Planned Work Activities.....	8-2
	8.3.2 Unexpected Discovery of ACBM.....	8-3
	8.3.3 Emergency Work Activities.....	8-3
	8.4 Work Practices	8-3
	8.4.1 General Operations and Maintenance Work Practices.....	8-3

TABLE OF CONTENTS

8.5	Emergency Response Procedures	8-4
8.5.1	Minor Fiber Release Episodes	8-4
8.5.2	Major Fiber Release Episodes.....	8-5
8.6	Asbestos Waste Disposal	8-6
8.7	Employee Exposure Monitoring	8-7
8.8	Medical monitoring Program	8-7

List of Tables

Table 6-1	DMPS Non-Friable ACBM Condition Classification System
Table 7-1	Clearance Air Sampling Criteria

List of Figures

Figure 7-1	Response Action Flow Chart
------------	----------------------------

List of Attachments

Attachment A	Notifications
Attachment B	Reinspection Documentation
Attachment C	Forms

Asbestos is a naturally occurring fibrous mineral once widely used in building materials due to its thermal insulating, fire resistance and high-strength properties. Intact, asbestos-containing building materials (ACBM) generally do not pose a health risk. These materials may become hazardous, however, if they are damaged, disturbed or deteriorate resulting in the release of asbestos fibers into the building air. Prolonged exposures to airborne asbestos fibers may result in the increased potential for individuals to contract illnesses such as asbestosis, mesothelioma or lung cancer.

The Asbestos Hazard Emergency Response Act (AHERA) was established in 1986 by the United States Environmental Protection Agency (EPA) to control the use, maintenance and disposal of ACBM in public and non-profit private schools. Published in the Code of Federal Regulations, Chapter 40, Part 763, Subpart E, the AHERA Rule requires that Local Educational Agencies (LEAs) develop programs to manage asbestos-containing material (ACM) within their facilities.

LEAs are responsible for identifying a Designated Person (DP) to oversee asbestos-related issues within the school district and ensure that the LEAs responsibilities, as defined in AHERA, are satisfied. The DP is an individual who has received sufficient training on the uses and health-effects of asbestos to enable them to competently oversee the implementation of federal, state and local asbestos regulations, including AHERA, within the school district.

The purpose of this updated asbestos operations and management (O&M) plan is to describe the Des Moines Independent Community School District's (DMPS') program for controlling exposures to asbestos within its school buildings and facilities. The principal components of this program include the requirements and responsibilities for surveying DMPS buildings for asbestos-containing materials, providing employee training and notifications, identifying appropriate work procedures for activities that may disturb ACM and proper ACM disposal procedures.

This O&M Plan is a public document and is available for public review. This document has been prepared for AHERA compliance and will be available, upon request, provided the requesting individual(s) or group reimburses the DMPS for costs associated with its reproduction.

2.1 PLAN AVAILABILITY

The DMPS district-wide O&M Plan will be located in the office of the DP. O&M Plan for individual DMPS school buildings and facilities will be available in the administrative office of the respective facility and will be available for review by requesting permission of the DP, facility administrator or their designee(s).

2.2 PARENT/GUARDIAN NOTIFICATION

The DMPS will notify, on an annual basis, the parents or legal guardians of all DMPS students of the presence, or lack thereof, of ACM within the buildings their children attend and the periodic asbestos reinspection and surveillance programs in place. This written notification may be made through school newsletters, information posted on the DMPS Internet site, local newspaper or other media outlets. An example of the asbestos notification distributed to the parents or legal guardians of DMPS students is included in Attachment A of this Plan.

2.3 EMPLOYEE NOTIFICATION

The DMPS will notify, on an annual basis, each DMPS employee in writing of the presence, of lack thereof, of asbestos-containing materials in the building to which they are assigned and the periodic asbestos reinspection and surveillance programs in place. An example of the asbestos notification distributed to DMPS employees is included in Attachment A of this Plan.

2.4 SHORT-TERM WORKER NOTIFICATION

Individuals working in DMPS facilities who are not employed by the DMPS and may come in contact with asbestos-containing materials will be notified in writing of the locations of known, or assumed, asbestos-containing materials within the building. An example of the asbestos notification distributed to workers in DMPS facilities not employed by the DMPS is included in Attachment A of this Plan.

2.5 LABELING

Signage will be placed in routine maintenance areas of each DMPS building where employees may come in contact with asbestos-containing materials warning them of the potential hazards associated with disturbing the materials. Routine maintenance areas may include boiler rooms, tunnels and crawl spaces or other building areas that may frequently be entered by DMPS custodial and maintenance employees. An example of the asbestos notification signage is included in Attachment A of this Plan.

3.1 LOCAL EDUCATIONAL AGENCY INFORMATION

Local Education Agency: Des Moines Independent Community School District

Address: 1917 Dean Avenue

City: Des Moines **State:** Iowa **Zip:** 50316

Telephone: 515-242-7706 **Fax:** 515-265-8998

3.2 DESIGNATED PERSON INFORMATION

Designated Person: James Wilkerson

Address: 1917 Dean Avenue

City: Des Moines **State:** Iowa **Zip:** 50316

Telephone: 515-242-7717 **Fax:** 515-265-8998

Course Name	Training Agency	Date	Hours of Training

3.3 MANAGEMENT PLANNER INFORMATION

The following management planner(s) has developed/contributed to this plan and is accredited under the state accreditation program or another state’s accreditation program or an EPA-approved course.

Name: Brian Wight **Firm:** URS Corporation

Address: 2670 106th Street Suite 180

City: Urbandale **State:** Iowa **Zip:** 50322

Telephone: 515-284-5500 **Fax:** 515-284-5300

State of Accreditation: Iowa **Accreditation Number:** 05-1794MP

SECTION FOUR

Designated Person Assurances

In accordance with 40 CFR 763.93(i) of the Environmental Protection Agency Asbestos-Containing Materials in Schools regulation, the undersigned LEA DP hereby certifies that the following general responsibilities of the LEA under 40 CFR 763.84 have been or will be met:

1. Ensure that the activities of any persons, who perform inspections, reinspections, and periodic surveillance, develop and update management plans, and develop and implement response actions, including operations and maintenance, are carried out in accordance with Part 763, Subpart E.
2. Ensure that all custodial and maintenance employees are properly trained as required by Part 763, Subpart E and other applicable Federal and/or State regulations (e.g., the Occupational Safety and Health Administration asbestos standard for construction, the EPA worker protection rule, or applicable State regulations).
3. Ensure that workers and building occupants, or their legal guardians, are informed at least once each school year about inspections, response actions, and post-response action activities, including periodic inspections and surveillance activities that are planned or are in progress.
4. Ensure that short-term workers (e.g., telephone repair workers, utility workers, or exterminators) who may come in contact with asbestos in a school are provided information regarding the locations of ACBM and suspected ACBM.
5. Ensure that warning labels are posted in accordance with 40 CFR 763.95.
6. Ensure that management plans are available for inspection and notification of such availability has been provided as specified in the management plan under 40 CFR 763.93(g).
7. Designate a person to ensure that requirements under 763.84 are properly implemented and ensure that the designated person receives adequate training to perform duties assigned under 763.84. Such training shall provide, as necessary, basic knowledge of: health effects of asbestos; detection, identification, and assessment of ACM; options for controlling ACBM; asbestos management programs; relevant Federal and State regulations concerning asbestos, including those in Part 763, Subpart E and those of the Occupational Safety and Health Administration, U.S. Department of Transportation and the U.S. Environmental Protection Agency.
8. Consider whether any conflict of interest may arise from the inter-relationship between accredited personnel and whether that should influence the selection of accredited personnel to perform activities under Part 763, Subpart E.

James Wilkerson

Name of Designated Person

Designated Person's Signature

Date

SUMMARY OF ACBM IN DMPS FACILITIES

School/Facility	Address	Construction Date(s)	Is Friable ACBM Present?	Is Non-Friable ACBM Present?	Is Suspected/Assumed Friable ACBM Present?	Is Suspected/Assumed Non-Friable ACBM Present?
Adams Elementary School	3720 East 29 th Street	1924, 1951, 1960, 1971	No	No	Yes	Yes
Aviation Laboratory	2610 McKinley Avenue	1975	Yes	Yes	Yes	Yes
Brody Middle School	2501 Park Avenue	1969	Yes	Yes	Yes	Yes
Brubaker Elementary School	2900 East 42 nd Street	2003	No	No	No	No
Callanan Middle School	3010 Center Street	1927, 1954, 1992, 2002	Yes	Yes	No	No
Capitol View Elementary School	320 East 16 th Street	2001	No	No	No	No
Casady Administration Building	1801 16 th Street	1905, 1926, 1953	Yes	No	Yes	Yes
Cattell Elementary School	3101 East 12 th Street	1992	No	No	Yes	Yes
Central Campus	1800 Grand Avenue	1956, 1959	Yes	No	Yes	Yes
Central Kitchen	1125 2 nd Avenue	1930, 2003	No	No	Yes	Yes
Cowles Elementary School	6401 College Avenue	1958, 1961	Yes	Yes	Yes	Yes
Douglas Elementary School	3800 East Douglas Avenue	1910, 1920, 1965	Yes	Yes	Yes	Yes
Downtown School	500 Grand Avenue	2001	No	No	Yes	Yes
East High School	815 East 13 th Street	1912, 1955, 1967, 1972, 1992, 2004	Yes	Yes	Yes	Yes
Edmunds Academy	1601 Crocker Street	1974	No	No	Yes	Yes
Facilities Management	1658 East Euclid	1929	No	No	Yes	Yes
Findley Elementary School	3000 Cambridge Street	1966, 1972	Yes	Yes	Yes	Yes
Garton Elementary School	2820 East 24 th Street	1958, 1965	Yes	Yes	No	No
Goodrell Middle School	3300 East 29 th Street	1955, 1961	Yes	Yes	No	No
Granger Elementary School	1000 SW Porter Avenue	1954, 1957	Yes	No	No	No
Greenwood Elementary School	316 37 th Street	1901, 1924, 1961, 1972, 2001	No	No	No	No
Grounds Maintenance Facility	1800 East Euclid Avenue	c.a. 1945	Yes	No	Yes	Yes
Hanawalt Elementary School	225 56 th Street	1913, 1919, 1972, 2003	No	No	No	No
Harding Middle School	203 East Euclid Avenue	1926, 1961, 1992	Yes	Yes	Yes	Yes
Hiatt Middle School	1214 East 15 th Street	1925, 1992	No	Yes	Yes	Yes
Hillis Elementary School	25401 56 th Street	1953, 1961	Yes	Yes	Yes	Yes
Hoover High School	4800 Aurora Avenue	1967, 1972, 1975, 1992,	Yes	Yes	Yes	Yes

SUMMARY OF ACBM IN DMPS FACILITIES

School/Facility	Address	Construction Date(s)	Is Friable ACBM Present?	Is Non-Friable ACBM Present?	Is Suspected/Assumed Friable ACBM Present?	Is Suspected/Assumed Non-Friable ACBM Present?
		2003				
Howe Elementary School	2900 Indianola Road	1919, 1925, 1957	Yes	Yes	No	Yes
Hoyt Middle School	2700 East 42 nd Street	1966, 1972, 1975, 1992, 2003	Yes	Yes	Yes	Yes
Hubbell Elementary School	800 42 nd Street	1910, 1917, 1925, 1971, 2003	No	No	No	No
Hutchen's Field	2600 Southwest 9 th Street	1963	No	No	Yes	No
Jackson Elementary School	3825 Indianola Avenue	1961, 1972	No	No	Yes	Yes
Jefferson Elementary School	2425 Watrous Avenue	1972	No	No	Yes	Yes
King Elementary School	1849 Forest Avenue	1974, 1992	Yes	Yes	Yes	Yes
Kurtz	1000 Porter Avenue	1959	Yes	Yes	Yes	Yes
Lincoln High School	2600 SW 9 th Street	1923, 1958, 1961, 1966, 1972, 1975, 1992	Yes	Yes	Yes	No
Longfellow Elementary School	1101 East 6 th Avenue	1961 (Demolished 2005)	No	No	No	No
Lovejoy Elementary School	801 East Kenyon Avenue	1972	No	Yes	Yes	Yes
Madison Elementary School	806 East Hoffman Street	1953, 1957	Yes	Yes	Yes	Yes
McKee Elementary School	2115 East 39 th Street	1949, 1960	Yes	Yes	Yes	Yes
McCombs Middle School	201 County Line Road	1973	Yes	No	Yes	Yes
McKinley Elementary School	1610 SE 6 th Street	1904, 1927, 1992	No	No	No	Yes
Meredith Middle School	4827 Madison Avenue	1962, 1972	Yes	Yes	Yes	Yes
Merrill Middle School	5301 Grand Avenue	1961	Yes	Yes	Yes	Yes
Mitchell Elementary School	111 Porter Avenue	1958	No	No	Yes	Yes
Monroe Elementary School	2250 30 th Street	1924, 1950, 1959, 2001	No	No	No	Yes
Moore Elementary School	3725 52 nd Street	1950, 1954, 1959	Yes	Yes	Yes	Yes
Morris Elementary School	1401 Geil Avenue	1954, 1957, 2001	No	No	No	No
Moulton Elementary School	1541 8 th Street	1895, 1914, 1915, 1930, 1962, 2001	Yes	Yes	Yes	Yes
North High School	501 Holcomb Avenue	1957, 1971, 1992	Yes	Yes	Yes	Yes
Oak Park Elementary School	3928 6 th Avenue	1891, 1900, 1925, 1954, 1976, 1992, 2003	No	Yes	No	Yes

SUMMARY OF ACBM IN DMPS FACILITIES

School/Facility	Address	Construction Date(s)	Is Friable ACBM Present?	Is Non-Friable ACBM Present?	Is Suspected/Assumed Friable ACBM Present?	Is Suspected/Assumed Non-Friable ACBM Present?
Orchard Place	5412 SW 9 th Street	Unknown	No	No	Yes	Yes
PACE	620 8 th Street	Unknown	No	No	No	Yes
Park Avenue Elementary School	3141 SW 9 th Street	1909, 1914, 1950, 1972	Yes	Yes	Yes	Yes
Perkins Elementary School	4301 College Avenue	1918, 1925, 1951, 1975, 2005	Yes	No	No	Yes
Samuelson	3929 Bel-Aire Road	1965	Yes	Yes	Yes	Yes
Phillips Elementary School	1701 Lay Street	1914, 1916, 1925, 1951, 1976	Yes	Yes	Yes	Yes
Pleasant Hill Elementary School	4801 East Oakwood Drive	1972	Yes	No	Yes	Yes
Red Horse Armory	1915 Prospect Road	1900's, 1983, 1990	No	No	Yes	Yes
River Woods Elementary School	2929 SE 22 nd Street	2000	No	No	No	No
Roosevelt High School	4419 Center Street	1923, 1962, 1972, 1975, 1992	Yes	Yes	No	No
Smouse Elementary School	2820 Center Street	1931, 1954, 1963	Yes	Yes	Yes	Yes
Stowe Elementary School	1411 East 33 rd Street	1915, 1924, 1943, 1953, 1960	Yes	Yes	No	Yes
Studebaker Elementary School	300 East County Line Road	1965, 1972	No	No	Yes	Yes
Van Meter High School	710 28 th Street	1973	No	No	Yes	Yes
Wallace Elementary School	1401 East 12th Street	1910, 1923, 1954, 1992	No	No	Yes	Yes
Walnut Street School	907 Walnut Street	1975, 2003, 2006	Yes	Yes	Yes	Yes
Weeks Middle School	901 East Park Avenue	1954, 1966, 1975, 2003	Yes	No	No	Yes
Willard Elementary School	2941 Dean Avenue	1917, 1925, 2002	Yes	No	No	Yes
Windsor Elementary School	5912 University Avenue	1918, 1929, 1949, 1954	Yes	Yes	No	No
Woodlawn Elementary School	4000 Lower Beaver Drive	1953, 1958, 1965	Yes	Yes	Yes	Yes
Wright Elementary School	5001 SW 14 th Street	1961	Yes	Yes	Yes	Yes

6.1 INITIAL ASBESTOS INSPECTIONS

Initial asbestos inspections have been completed in all DMPS schools and facilities pursuant to 40 CFR 763.85. Documentation relating to the initial inspection of each DMPS facility is maintained in the office of the DP. Initial inspections were completed by accredited asbestos inspectors licensed by the State of Iowa to complete AHERA asbestos inspections and included the following:

1. Identification of suspected ACBMs categorized by homogenous areas.
2. Separation of homogenous areas into distinct functional spaces.
3. Assumption of all homogenous areas as ACBMs.
4. Classification of each assumed ACBM into one of the following Physical Assessment Categories:
 - a. Damaged or significantly damaged thermal system insulation (TSI) ACBM.
 - b. Damaged friable surfacing ACBM.
 - c. Significantly damaged friable surfacing ACBM.
 - d. Damaged or significantly damaged friable miscellaneous ACBM.
 - e. ACBM with potential for damage.
 - f. ACBM with potential for significant damage.
 - g. Any remaining friable ACBM or friable suspected ACBM.

6.2 ASBESTOS REINSPECTION PROGRAM

Asbestos reinspections are completed in all DMPS school buildings and facilities every three years as required by 40 CFR 763.85. Documentation relating to each reinspection is available in the office of the DP. During each reinspection, an accredited asbestos inspector completes the following activities:

1. Visually reinspect and reassess the condition of all friable and non-friable known or assumed ACBM.
2. Visually inspect material that was previously considered non-friable to determine whether it has become friable since the last reinspection.
3. Identify any homogenous area in which material has become friable since the last reinspection.
4. Perform a physical assessment, in accordance with 40 CFR 763.88, of the condition of newly friable material in areas where samples are collected or materials are assumed to be ACBM.
5. Reassess the condition of known or assumed ACBM previously identified.
6. Record and submit information required by 40 CFR 763.85 to the DP for inclusion in the Asbestos Management Plan.

The results of each reinspection are reviewed by an accredited asbestos management planner to identify any new hazard potential and revise the existing asbestos records to address newly identified hazards. The management planner’s responsibilities during each reinspection include the following:

1. Review the results of each reinspection and visit each school building or facility, as required, to make effective response action recommendations.
2. Develop written response action and preventative measure recommendations for all known and assumed ACBM.
3. Review the adequacy of the Operations and Maintenance Plan.
4. Sign and affirm the content of the reinspection report as required by 40 CFR 763.85 prior to submission of the completed document(s) to the DP.

Asbestos reinspections are completed in approximately one-third of all DMPS school buildings and facilities each calendar year. A summary of the school buildings and facilities reinspected on an annual basis is included in Appendix B. A copy of the most-recent reinspection coversheet, signed by both the asbestos inspector and management planner, for each DMPS school building and facility is also included in Attachment B.

The DMPS has developed a proprietary series of physical assessment classifications for non-friable ACBM. The classification of non-friable ACBM is not required by AHERA and has been done to provide additional information regarding the condition of ACBM in DMPS schools and facilities. The DMPS classification system for non-friable ACBM is as follows:

Table 6-1: DMPS Non-Friable AMBC Condition Classification System		
Classification	Condition	Damage Extent
A	Good	None or very little damage or deterioration
B	Damaged	<10% Localized (or) <25% Total
C	Significantly Damaged	>10% Localized (or) >25% Total

6.3 PERIODIC SURVEILLANCE

Periodic surveillance of ACBM must be completed at least once every six months in all DMPS school buildings and facilities. The purpose of surveillance is to visually inspect all known and assumed ACBM to determine if there are any changes in the condition of the material. The surveillance does not need to be completed by an accredited person, however it should be completed by the DP or by someone who is appropriately trained on asbestos (i.e., custodial staff

member, craftsperson, etc.). Copies of the reinspection reports for each DMPS school and facility are available in the office of the DP.

6.4 ASBESTOS SAMPLING DOCUMENTATION

Bulk asbestos samples have been collected from a number of DMPS school buildings and facilities by accredited asbestos inspectors. Only laboratories that meet the accreditation requirements of 40 CFR 763.87(a) of the AHERA Rule are utilized. All asbestos laboratories analyzing asbestos samples for DMPS inspections participate in the National Voluntary Laboratory Accreditation Program (NVLAP). Historical asbestos sampling records including sample locations, analytical results and documentation identifying the accredited inspector who collected the samples are available in the office of the DP.

6.5 EVALUATION OF AVAILABLE RESOURCES

The DMPS is equipped the sufficient resources to complete most response actions, reinspections, operations and maintenance, periodic surveillance and training activities. A number of DMPS Facilities Management and Operations staff have received the appropriate AHERA maintenance, worker and/or supervisor training and are accredited to complete work activities to the extent of their training. The DMPS is equipped with the necessary equipment and supplies to properly complete most asbestos related work activities. Licensed asbestos abatement contractors complete response actions beyond the scope of the DMPS' capabilities. Independent consultants typically complete reinspection and periodic surveillance activities.

7.1 RESPONSE ACTIONS

Following the completion of each inspection or reinspection of DMPS school building or facilities, an accredited management planner must recommend an appropriate response action for all areas of TSI or friable ACBM. According to AHERA, the selected response action must be “sufficient to protect human health and the environment”, however the final decision as to which response action is selected lies upon the LEA. The LEA may select the response action that is the “least burdensome.” The five possible response actions for TSI and friable ACBM identified in AHERA include the following:

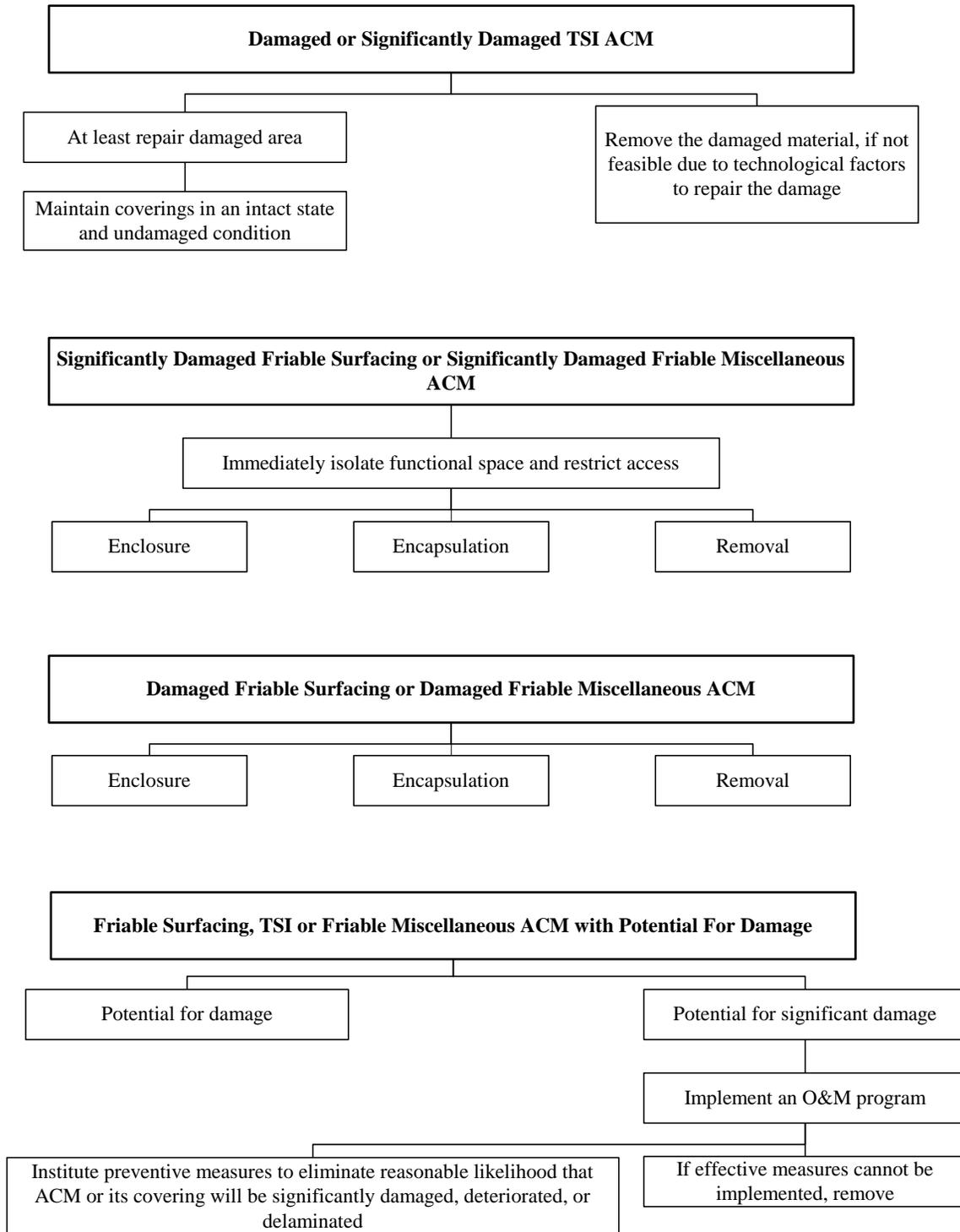
1. **O&M Program** – The O&M program consists of work practices designed to maintain friable ACBM in good condition and ensure cleanup of asbestos fibers previously released.
2. **Repair** – Repair activities involve returning damaged ACBM to an undamaged condition or to an intact state by replacing limited sections or patching damaged areas.
3. **Encapsulation** – Encapsulation involves treating ACBM with a material that surrounds or embeds asbestos fibers in an adhesive matrix to prevent the release of asbestos fibers. The encapsulant either creates a membrane over the surface (bridging encapsulant) or penetrates the material and binds its components (penetrating encapsulant).
4. **Enclosure** – Enclosure involves creating an airtight, impermeable, permanent barrier around ACBM to prevent the release of asbestos fibers into the air. The barrier is typically attached or sprayed on. An example of enclosure methods would be installation of a rigid PVC or metal shroud around asbestos-insulated piping or the application of a sprayed material to fireproofing on structural members that cures to a hard shell.
5. **Removal** – Removal involves physically substantially removing or stripping ACBM from a damaged area, functional space or homogenous area.

While the DMPS has developed physical assessment classifications for non-friable ACBM, as identified in Section 6.2, AHERA does not require that response actions be assigned to these materials.

7.2 RESPONSE ACTION SELECTION

The LEA is required to implement an O&M program whenever friable ACBM is present, or assumed to be present, in a school building or facility. The O&M program, however, is not an appropriate initial response action for any damaged or significantly damaged material. Figure 7-1 identifies acceptable response actions. The DMPS O&M program is described in detail in Section 8 of this Plan

**FIGURE 7-1
RESPONSE ACTION FLOWCHART**



7.3 PROJECT DESIGN

All response actions involving the repair, encapsulation, enclosure or removal (other than small-scale, short duration activities) of ACBM from a DMPS school building or facility must be developed by an accredited project designer. Activities that create a high-probability that ACBM will be damaged or weakened resulting in the release of asbestos fibers are also considered response actions.

7.4 RESPONSE ACTION FINAL CLEARANCE

Final clearance of a functional space is required following the completion of a response action to remove, encapsulate or enclose known or assumed ACBM. Final clearance involves: 1) a thorough visual inspection of the work area and 2) the collection and analysis of clearance air samples. To avoid a potential conflict of interest, an independent third party that does not have a financial interest in the outcome of the response action activities should complete all final clearance activities.

7.4.1 Visual Inspection

A thorough visual inspection should be completed within an asbestos-removal area prior to the collection of clearance air samples. The visual inspection should evaluate the entire work area to determine if residual ACBM debris is present on any containment surfaces and may involve the following:

1. Inspecting hard to reach areas with ladders, scaffolding or lifts.
2. Brushing or wiping surfaces to detect dust.
3. Using a damp cloth to detect dust.
4. Inspecting the surfaces of permanent fixtures such as lights, pipes and ceiling tile grids.
5. Inspecting for asbestos-laden water, which may have leaked from the asbestos-removal containment.
6. Evaluating the surfaces of crawlspaces and tunnels to determine if pulverized asbestos debris is present on, or in, earthen floors.

The discovery of residual asbestos debris within the removal area requires the recleaning of the work area followed by an additional thorough visual inspection.

7.4.2 Clearance Air Sampling

40 CFR 763.90 requires that final air clearance samples must be collected to document the completion of all asbestos removal, encapsulation or enclosure projects. Asbestos projects that involve less than 160-square feet or 260-linear feet of ACBM may be cleared using phase contrast microscopy (PCM). Projects involving more than 160-square feet or 260-linear feet of ACBM must be cleared using transmission electron microscopy (TEM). All clearance air sample collection and analysis must be completed in accordance with Appendix A, Section III (B)(7) of

the AHERA Rule. A summary of AHERA final air clearance sampling criteria is presented in Table 7-1 below.

Table 7-1: Clearance Air Sampling Criteria

Quantity of ACBM Included in Response Action	Clearance Air Sample Analysis Method	Sample Collection Locations and Quantities	Clearance Criteria
<p>< 160 square feet (or) < 260 linear feet (or) < 35 ft³</p>	<p>Phase Contrast Microscopy (PCM)</p>	<p>5 samples within regulated work area</p>	<p>All PCM samples collected within the work area < 0.01f/cc1</p>
<p>> 160 square feet (or) > 260 linear feet (or) > 35 ft³</p>	<p>Transmission Electron Microscopy (TEM)</p>	<p>5 samples in regulated work area 5 samples outside of regulated work area 1 field blank sample 1 work blank sample 1 laboratory blank sample</p>	<p>Average concentration of samples collected within work area < 70 s/mm²*</p>

* f/cc = Fibers per cubic centimeter
s/mm² = Structures per square millimeter

The work area must be recleaned and resampled if the airborne fiber concentrations exceed the clearance levels for the respective analytical method.

7.5 RESPONSE ACTION HISTORY

Documentation identifying the nature and extent of response actions completed in DMPS school buildings and facilities is maintained the office of the DP. Response action records include the name of the school building or facility in which the work was completed, the location and extent of the work, the dates during which the response action was completed, the names and contact information for the individuals or firms involved with the response action, waste disposal records and information regarding the individuals or firms involved with confirming that the response actions was completed in accordance with all applicable regulations.

The purpose of the DMPS asbestos O&M plan is to prevent the release of asbestos fibers through careful management of asbestos-containing building materials. The policies and procedures identified within the O&M plan are intended to be universal in nature and applicable to asbestos-related work activities within all DMPS school buildings and facilities.

8.1 CLEANING

In accordance with 40 CFR 763.91, all areas of a building where friable ACBM, suspected ACBM or significantly damaged TSI ACBM is present must be cleaned at least once after the completion of the initial AHERA inspection or reinspection. Cleaning is also to be done prior to the beginning of any response action (other than O&M activities or repair). Cleaning must include the following work practices:

1. HEPA-vacuuming or steam cleaning all carpets.
2. HEPA-vacuuming or wet-cleaning all other floors and horizontal surfaces.
3. Disposal of all debris, filters, mopheads and cloths in sealed, leak-tight containers.

An accredited management planner may also recommend that cleaning be completed following a review of ACBM reinspection data. Cleaning activities are to be recorded on the DMPS Asbestos Cleaning Record included in Attachment C. Historical records of cleaning activities and recommendations for DMPS school buildings and facilities are maintained in the office of the DP.

8.2 TRAINING

8.2.1 Awareness Training

All DMPS custodial staff members are required to annually receive at least 2-hours of asbestos-related awareness training. Training is to include, but not be limited to:

1. Information regarding asbestos and its various uses and forms.
2. Information on the health effects associated with asbestos exposure.
3. Information regarding the location of information detailing the location(s) of ACBM within the building to which they are assigned.
4. Recognition of damaged, deterioration and delamination of ACBM.
5. Name and telephone number of the DMPS DP.

Records identifying the DMPS employees that have received the annual 2-hour awareness training, the date(s) of the most recent training classes and the information presented are available in the office of the DP.

8.2.2 Maintenance Training

All DMPS maintenance and custodial staff who conduct any activities that will result in the disturbance of ACBM shall receive a total of 16-hours of training, including the 2-hour Awareness Training described in Section 8.2.1. The content of the additional Maintenance Training is to include, but not be limited to:

1. Descriptions of the proper methods of handling ACBM.
2. Information on the use of respiratory protection equipment and other personal protective equipment.
3. The specific provisions of 40 CFR 763, 40 CFR 61 and 29 CFR 1926.58 as detailed in 40 CFR 763.92(a)(2)(iii).

Records identifying the DMPS employees that have received the annual 16-hour Maintenance Training, the date(s) of the most recent training classes and the information presented are available in the office of the DP.

8.3 MAINTENANCE PERMIT SYSTEM

Requests for maintenance activities are to be registered through the DMPS Facilities Management Department. Maintenance activities are not to proceed without prior written approval by the DP. All maintenance or construction activities that may impact ACBM are to be approved by the DP prior to the beginning of work. The DP is responsible for determining if ACBM will be disturbed by the proposed work activities and for coordinating the appropriate response action.

8.3.1 Planned Work Activities

The following permitting procedures are to be followed for planned maintenance activities in all DMPS school buildings and facilities:

1. Request(s) for maintenance activities are to be submitted through the DMPS automated Work Order system.
2. The DP will determine if ACBM will be disturbed during the proposed work.
3. If ACBM will be disturbed during the work, the DP will initiate a DMPS Asbestos Work Ticket Request Form and forward the Form to the appropriate DMPS asbestos-trained craftsperson identifying the appropriate response action. An example of the Asbestos Work Ticket Request Form is included in Attachment C.
4. Upon completion of the response action, the DMPS Asbestos Work Ticket Request Form will be completed by the asbestos-trained DMPS craftsperson and returned to the DP.
5. The O&M Plan will be updated by the DP to reflect the completed work activities.

8.3.2 Unexpected Discovery of ACBM

The following permitting procedures are to be used following the discovery of ACBM or suspected ACBMs during maintenance activities:

1. The maintenance or craftsperson discovering the ACBM or suspected ACBM will contact the appropriate DMPS Crafts foreman.
2. The Crafts foreman will complete a DMPS Asbestos Work Ticket Request Form and forward the Form to the DP.
3. The DP will determine if the material in question is ACBM. The maintenance activity will continue if the material in question is determined not to contain asbestos.
4. If ACBM will be disturbed by the work, the DP will forward the DMPS Asbestos Work Ticket Request Form to the appropriate asbestos-trained DMPS craftsperson identifying the appropriate response action.
5. Upon completion of the response action, the DMPS Asbestos Ticket Request Form will be completed by the asbestos-trained DMPS craftsperson and returned to the DP.
6. The O&M Plan will be updated by the DP to reflect the completed work activities.

8.3.3 Emergency Work Activities

The maintenance permit requirements for work activities associated asbestos-related emergency response actions are identified in Section 8.6 of this Plan.

8.4 WORK PRACTICES**8.4.1 General Operations and Maintenance Work Practices**

The following general procedures are to be implemented whenever O&M activities will disturb ACBM in any DMPS school building or facility. Asbestos-related work is to be completed only by appropriately trained personnel.

1. Restrict entry into the work area by persons other than those necessary to complete the maintenance project.
2. Post signs to prevent entry to unauthorized persons.
3. Shut off or temporarily modify the air-handling system and restrict other sources of air movement.
4. Use work practices or other controls, such as wet methods, protective clothing, HEPA vacuums, mini-enclosures, and glove bags, as necessary to inhibit the spread of any released asbestos fibers.
5. Clean all fixtures or other components in the immediate work area.
6. Place asbestos debris and other cleaning materials in a sealed, leak-tight container and label the container as identified in Section 8.6.

Asbestos-related work practices are to be completed in accordance with the Second Edition of the National Institute of Building Sciences' Asbestos Operations and Maintenance Work Practices Guidance Manual (NIBS Guide). The NIBS Guide details specific work practices associated with repair, maintenance and cleaning operations involving thermal system insulation (TSI), surfacing, resilient flooring or other miscellaneous ACBM. The recommended work practices presented in the NIBS Guide for a specific O&M activity are available from the DP and should be obtained prior to the beginning of any asbestos-related work activity.

8.5 EMERGENCY RESPONSE PROCEDURES

DMPS custodial and maintenance staff members should be made aware of the potential for the accidental release of asbestos fibers in any school building or facility in which ACBM is assumed, or known, to exist. The DP should be notified of any of the following occurrences:

- Any debris found on the floor or other horizontal surfaces.
- Any water or physical damage to known, or assumed, ACBM.
- Any other evidence of a possible asbestos fiber release.

8.5.1 Minor Fiber Release Episodes

40 CFR 763.91 defines a Minor Fiber Release Episode as the “falling or dislodging of 3-square feet or linear feet or less of friable ACBM.” When such an event occurs, the person discovering the release should complete the following tasks:

1. Secure the area of the release and prohibit access except to appropriately trained DMPS personnel or outside contractor(s).
2. Notify the DP of the release.
3. Complete the DMPS – Fiber Release Notification Form and fax the form to DMPS Facility Management at 515-242-7701. An example of the Fiber Release Notification form is included in Attachment C.

The following response activities are to be completed by appropriately trained DMPS staff, or outside contractor(s):

1. Air purifying respirators equipped with HEPA filters, at a minimum, must be worn by all personnel involved with the response to a fiber release episode.
2. Don a disposable suit prior to entering the area affected by the fiber release.
3. Thoroughly saturate the debris using wet methods.
4. Clean the area as described in Section 8.4.
5. Place the asbestos debris in a sealed, leak-tight container and label the container as described in Section 8.6.

6. Repair the area or damaged ACBM as appropriate for the type of ACBM affected or immediately implement the appropriate response action as defined in Section 7 of this Plan and 40 CFR 763.90.
7. Upon completion of the response activities, workers are to vacuum their disposable suits prior to leaving the work site (or remove them, discard as asbestos waste, and don a clean disposable suit), proceed to the shower area and shower while wearing respiratory protection. Respirators are to be cleaned while in the shower.
8. Complete the DMPS – Asbestos Work Ticket Request Form and forward the completed Form to the DP.
9. The O&M Plan will be updated by the DP to reflect the completed work activities.

8.5.2 Major Fiber Release Episodes

40 CFR 763.91 defines a Major Fiber Release Episode as the “falling or dislodging of more than 3-square feet or linear feet of friable ACBM.” An accredited project designer must design the response to a Major Fiber Release Episode. When such an event occurs, the person discovering the release should complete the following tasks:

1. Secure the area of the release and post signs to prevent entry into the area by persons other than those necessary to complete the response action. Where the area can be sealed by doors, they should be locked from the inside (emergency exit routes must remain in operation).
2. Shut off or temporarily modify the air-handling system to prevent the distribution of fibers to other areas in the building.
3. Notify the DP of the release.
4. Complete the DMPS – Fiber Release Notification Form and fax the form to DMPS Facilities Management at 515-242-7701.
5. The DP will evaluate the extent and nature of the appropriate response action and notify the local Nation Emission Standard for Hazardous Air Pollutants (NESHAPS) administrator, if required.

The following response activities are to be completed by appropriately trained DMPS staff, or outside contractor(s):

1. Air purifying respirators equipped with HEPA filters, at a minimum, must be worn by all personnel involved with the response to a fiber release episode.
2. Post appropriate signage stating “DANGER – ASBESTOS; CANCER AND LUNG DISEASE HAZARD; AUTHORIZED PERSONNEL ONLY; RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA” at all access points leading into the area affected by the fiber release.
3. Initiate employee exposure monitoring as described in Section 8.7.
4. Don a disposable suit prior to entering the area affected by the fiber release.
5. Seal all doors, windows, and air registers with 6-mil plastic sheeting and tape.

6. Install and/or construct the appropriate containment barriers, negative pressure ventilation, and decontamination facilities as required.
7. Thoroughly saturate the debris using wet methods.
8. Clean the area as described in Section 8.4.
9. Place the asbestos debris in a sealed, leak-tight container and label the container as described in Section 8.6.
10. Repair the area or damaged ACBM as appropriate for the type of ACBM affected or immediately implement the appropriate response action as defined in Section 7 of this Plan and 40 CFR 763.90.
11. Upon completion of the response activities, workers are to vacuum their disposable suits prior to leaving the work site (or remove them, discard as asbestos waste, and don a clean disposable suit), proceed to the shower area and shower while wearing respiratory protection. Respirators are to be cleaned while in the shower.
12. Upon completion of the response action, notify the DP who will coordinate the collection of clearance air samples as described in Section 7.4.2.
13. The DP will determine if decontamination of the entire building, or portions of it, is required. A thorough decontamination includes HEPA-vacuuming and/or wet wiping carpets, furniture and other surfaces. Decontamination of the building's air-supply system would require the disassembly and cleaning (HEPA-vacuuming and wet wiping) ducts, ventilators, registers, and other system components. Air-supply system filters should also be removed and replaced.
14. The DP will coordinate the collection of clearance air sampling upon completion of the additional decontamination activities.
15. Complete the DMPS – Asbestos Work Ticket Request Form and forward the completed Form to the DP.
16. The O&M Plan will be updated by the DP to reflect the completed work activities.

8.6 ASBESTOS WASTE DISPOSAL

The following procedures are to be followed when preparing and transporting asbestos wastes for disposal:

1. The disposal of asbestos wastes is to be completed only by appropriately trained personnel. Protective suits and respiratory protection are to be worn at all times during the loading and unloading of vehicles transporting asbestos debris for disposal.
2. Asbestos debris is to be placed in marked 6-mil plastic bags or leak-tight drums. The debris is to be thoroughly saturated to prevent the release of asbestos fibers in the event that the disposal container is damaged or destroyed.
3. DMPS Asbestos Waste Tracking Tags are to be affixed to all asbestos-waste containers generated during O&M activities in DMPS school buildings and facilities. The Tags are to

be completed, in full, by the DMPS project supervisor prior to removal from the work site. An example of the Asbestos Waste Tracking Tag is included in Attachment C.

4. Asbestos waste containers are to be loaded in to a secured vehicle or dumpster lined with 6-mil plastic sheeting and transported to an approved landfill. The landfill operator must be informed that the waste contains asbestos debris. The landfill operator is required to bury the asbestos waste within 24-hours of receipt.
5. Following unloading, the transport vehicle or dumpster must be inspected to verify that there is no visible residue remaining.
6. Complete a DMPS Asbestos Waste Shipment Record Form for each shipment of asbestos waste generated during O&M activities and forward the completed form to the DP. The Form is to be completed in full and identify the waste generator, transporter and disposal site operator(s). An example of the Asbestos Waste Shipment Record Form is included in Attachment C.

8.7 EMPLOYEE EXPOSURE MONITORING

Personal air monitoring samples are to be collected for all DMPS employees who complete asbestos-related work activities in environments where the airborne concentration of asbestos fibers may exceed the OSHA permissible exposure level (PEL) of 0.1 f/cc. Personal air samples are to be collected and analyzed in accordance with 29 CFR 1910 and 29 CFR 1926. Laboratory analysis of the sample is to be completed by an NVLAP-certified laboratory using PCM methods.

A DMPS Employee Exposure Monitoring Form is to be completed for each personal air-monitoring sample collected. An example of the Form is included in Attachment C. The DMPS employee collecting the personal air-monitoring sample is to complete the Employee Exposure Monitoring Form at the time of sample collection and forward the Form and air sample cassette to the DP. Upon receipt of the results of the laboratory analysis of the sample, the DP will enter the results of the analysis on the Form and notify the employee of the monitoring results. Adjustments to the level of personal protective equipment (PPE) required to complete a task may be required based on the analytical results.

8.8 MEDICAL MONITORING PROGRAM

All DMPS employees who work in an environment where the airborne concentration of asbestos fibers may exceed the PEL of 0.1 f/cc or who wear a negative-pressure respirator as part of their job will participate in a respiratory protection program that includes annual medical monitoring. Medical monitoring will be completed in accordance with 29 CFR 1926.1101 and 40 CFR 763.

Records confirming an employee's physical fitness to complete their assigned work activities while wearing respiratory protection are maintained in the office of DP and the DMPS Human Resources Department. All DMPS employees who participate in the medical monitoring program are informed of the results of their annual examinations. The DMPS strictly adheres to all applicable medical privacy rules and regulations.

DMPS FIBER RELEASE NOTIFICATION FORM

Facility Name: _____

Facility Address: _____

Date of Release: _____ **Date Reported:** _____

Reported By: _____

Type of Release Episode

Minor Release (Less than 3 ft²/3 linear feet)

Major Release (More than 3 ft²/3 linear feet)

Describe the fiber release episode, including location, type of material disturbed, DMPS employees affected, students/parents affected and initial actions taken:

Describe the response action:

Provide the names of each person completing the response action:

**AHERA 3-YEAR REINSPECTION SCHEDULE
DES MOINES PUBLIC SCHOOL DISTRICT**

Year 1	Year 2	Year 3
Elementary	Elementary	Elementary
Cattell	Adams	Jefferson
Findley	Brubaker	Park Avenue
Garton	Capital View	Howe
Greenwood	Cowles	River Woods
Hanawalt	Downtown School	Pleasant Hill
Hubbell	Edmunds	Jackson
Madison	Hillis	Granger
McKee	King	Wright
McKinley	Longfellow	Mitchell
Monroe	Perkins	Lovejoy
Morris	Smouse	Mann
Moulton	Stowe	Studebaker
Oak Park	Wallace	Samuelson
Perkins	Walnut Street	Woodlawn
Phillips	Windsor	Moore
Willard		
Middle	Middle	Middle
Callanan	Callanan	Merrill
Harding	Goodrell	Brody
Meredith	Hiatt	McCombs
Weeks	Hoyt	
High	High	High
Hoover	East	Central Campus
North	Roosevelt	Scavo
	Van Meter	Lincoln
Other	Other	Other
Casady Administration	Central Kitchen	Orchard Place
Facilities Operations	Pace Academy	Kurtz
Grounds Maintenance		
Red Horse Armory		

DMPS ASBESTOS CLEANING RECORD

Facility Name: _____

Facility Address: _____

Date: _____

Cleaning

- Additional cleaning approved by the LEA and completed as part of an O&M program
- Cleaning after initial inspection

Location of Cleaning

Cleaning Methods Used

Names of Persons Completing Cleaning Activities

**FIGURE 7-1
RESPONSE ACTION FLOWCHART**

