CITY OF FLINT, MICHIGAN
Water Pollution Control
Aeration System Improvements
Contract Number 200-156238-19001-S-1
SRF No. 5696-01

Addendum No. 2
June 18, 2020

To Prospective Bidders:

Information disclosed and/or questions raised since issuing Bidding Documents require that changes in or interpretations of these Bidding Documents be made as noted below. This Addendum No. 1 forms a part of the Contract Documents and modifies the original Bidding Documents dated May 2020. All provisions of the Bidding Documents, which are not so amended, remain in full force and effect.

CHANGE TO BIDDING REQUIREMENTS

1. Section 00400, delete section and replace with Section 00400 BID FORM included as Enclosure No. 1.

CHANGES TO SPECIFICATIONS

1. Section 11376, page 6, Battery B Channels schedule, change Aeration Influent Total Nozzles from "98" to "84".

2. Section 11376, page 7, 2.02.A.1 delete paragraph and replace as follows:

    1. Main air header supply piping between compressors and receivers shall be provided by the compressed gas mixing system manufacturer. Main air header supply piping between receivers and valve modules shall be provided by the Contractor."

3. Section 11376, page 9, 2.03.A.7, delete subparagraph.

4. Section 11376, page 13, 2.06.A.1, replace "air cooled oil cooler" with "oil cooler".

5. Section 11376, page 13, 2.06. A.2, delete following sentence: "System manufacturer shall provide open/close and status feedback to the supply valve from their control system."

6. Section 11376, page 13, 2.06.A.2. add the following:

    Units equipped with water cooling systems shall come equipped with a water-cooled aluminum oil cooler and aftercooler and a solenoid-actuated automatic water shut off valve furnished by system compressed gas mixing system manufacturer that opens and closes with the starting and stopping of the machine.

The following accessories shall also be provided by the compressed gas mixing system manufacturer to be installed by the Contractor on the 1.5" diameter cooling water supply and discharge for each compressor:
(1) pressure reducing valve (supply)
(1) y-strainer (supply)
(1) flow regulation valve (supply)
(2) pressure gauges (supply; discharge)
(2) temperature gauges (supply; discharge)
(4) isolation ball valves (supply; discharge)
(1) 1/4" pipe drain with isolation valve (discharge)
unions as required for disassembly"

7. Section 11376, page 14, 2.06.A.16 change "Model GA18" to "Model GA18VSD".

8. Section 11376, page 16, 2.06.H.1 change Compressor No. 3 Type 2 capacity from "120" to "32-131".

9. Section 15100, page 3, 2.01.A.12, add paragraph as follows:

13. Diaphragm Control Valve (DCV):
a. Egger Iris

10. Section 15100, page 5, 2.03.E add paragraph as follows:
F. Diaphragm Control Valve (DCV)
1. Diaphragm control valve shall central hexagonal aperture for precise stable control of liquid and gaseous material. The aperture shall retract completely from the valve body to provide full nominal pipe cross section. The valve shall be compact and robust construction.
2. The body of the valve shall be cast irons and fasteners shall be stainless steel construction. The aperture shall be bronze with chrome plating.
3. Valve shall be capable of full range of travel from open to close.

11. Section 15110, page 3, 2.03.A delete paragraph in entirety and replace as follows:

A. Industrial Butterfly Valve (IB):
a. Valve shall be lug type with iron body, 316 stainless steel disc, 416 stainless stem and viton seal.

CHANGES TO DRAWINGS

1. Sheet D-001, GENERAL DEMOLITION NOTES, add note as follows:

15. A UNIT PRICE ALLOWANCE TABLE IS PROVIDED IN SECTION 00400 BID FORM FOR REMOVAL OF ASBESTOS PIPE GASKETS. THE UNIT PRICE SHALL INCLUDE THE COST FOR PROPER REMOVAL AND DISPOSAL OF ASBESTOS MATERIAL. THIS UNIT PRICE SHALL BE THE ADDITIONAL COST ABOVE NON-ABESTOS GASKET REMOVAL AND DISPOSAL.

2. Sheet DD-101, UPPER FLOOR BLOWER PLAN, change note at Blower No. 4 as follows:

"REMOVE EXISTING BLOWER NO. 4 AND ATTACHED PIPING AND CONDUIT. BLOWER NO. 4 CONCRETE BASE MAY REMAIN. REMOVE EXISTING DISCHARGE/INTAKE PIPING TO NEAREST FLANGE BELOW FLOOR AND INSTALL BLIND FLANGE."

3. Sheet E-103, Change size of three blower fuses from "150E" to "200E".

4. Sheet E-310, Delete Pressure Transmitters PIT 1 and PIT 2 and associated conduit and wire to BPP.

5. Sheet E-316, AERATION TANK OUTDOOR PLAN, add following clarification notes to drawings as follows:

    4. MIXING PROCESSOR PANEL INDICATED IN BATTERY A AND B AERATION INFLUENT AND EFFLUENT CHANNELS ARE COMBINED INTO ONE PANEL PER BATTERY. COORDINATE WITH MANUFACTURERS DRAWINGS.

6. Sheet E-316, AERATION TANK OUTDOOR PLAN, make following changes:
    1) MIXING CONTROL STATION CHANNEL NO. 1 combined with Battery A Influent/Effluent panel.
    2) MIXING CONTROL STATION CHANNEL NO. 4 AND 5 combined with other station shown on Final Tank Influent Channel.
    3) Coordinate PRIMARY CHANNEL CONTROL STATION location with Sheet D-109.

7. Sheet E-317, revise location of indicated level transmitter as follows:
    1) LE 3 shall be located in Battery A influent channel upstream of BG.100.1.

8. Sheet I-200, revise location of indicated level transmitters as follows:
    1) Location of LIT LE 1 and LE 2 shall match location indicated on E-317.
    2) Location of LIT LE 3 shall be location in Battery A influent Channel upstream of proposed gate BG.100.1.

9. Sheet I-201, delete pressure transmitter PIT-1 and 2.

10. Sheet I-305, revise as follows: The analog inputs at rack 0 slot 13 inputs 2 shall be labeled as spare.

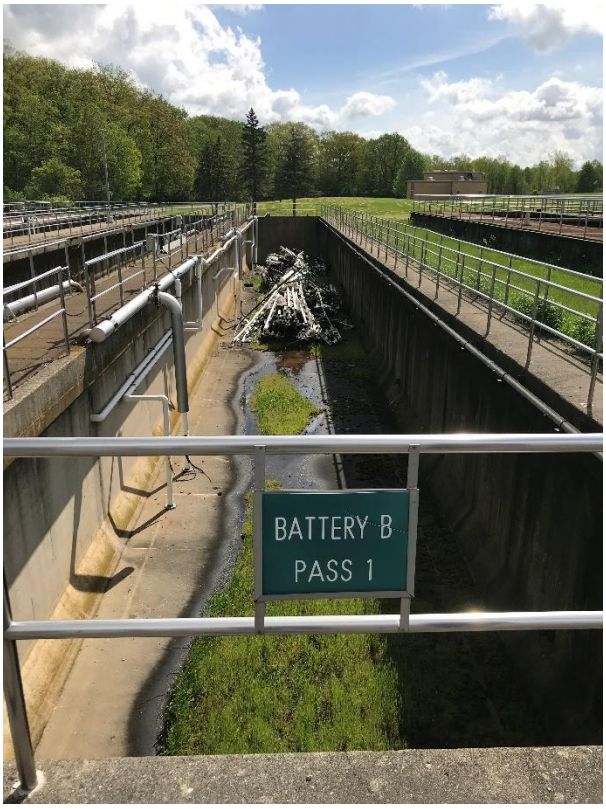
QUESTIONS RAISED DURING BIDDING

1. What are the number of expansion joints that need to be repaired per detail on S-301?

    Answer: *The repair shall be performed at the location of the leaking expansion joint in gallery, one per tank as indicated by the location of section cut shown on S-103 and 104.*

2. Is CONTRACTOR responsible for disposal of the diffuser pipe and other material that is left in Battery B Tank 1 Pass 1?

    Answer: *The existing diffuser piping and equipment shall be disposed of by Contractor.*



3. Can the existing abandoned equipment pads and piping in Battery A gallery be removed to provide CONTRACTOR will an open access way through the galleries?

   Answer: *Yes, the CONTRACTOR can remove existing concrete pads and abandoned piping in gallery indicated in photo below. CONTRACTOR must properly dispose of this material per the Contract Documents. Photos of area are included.*

4. Can the WPC Asbestos Testing report be provided for review?

   Answer*: Yes, the Asbestos Testing Report performed by Testing Engineers and Consultants Inc., March 15, 1990, is included in this addendum as Enclosure No. 2.*

END OF ADDENDUM

Tetra Tech

This Addendum No. 2 consists of:

5 pages of Addendum Text
7 pages revised Section 00400 Bid Form
300 pages Asbestos Testing Report, March 15, 1990

SECTION 00400 - BID FORM

City of Flint
Water Pollution Control
Aeration System Improvements
SRF No. 5696-01

Contract 200-156238-19001

THIS BID IS SUBMITTED TO:

City of Flint – Finance Department Division of Purchase and Supplies
Owner
1101 S. Saginaw St., Room 203, 2nd Floor
Address
Flint, MI 48502
City, State, Zip

1.01 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. The Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of OWNER.

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of all which is hereby acknowledged.

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Federal, State, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all:

1. Reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or

contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 4.02 of the General Conditions, and

2. Reports and drawings of a Hazardous Environmental Condition, if any, which has been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions.

E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

H. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.

I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

J. In preparation of this Bid, Bidder acknowledges that it will not discriminate against any employee or applicant for employment with respect to hire, tenure, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, marital status, or a disability that can be reasonable accommodated. OWNER will require this covenant be placed in the Contract with any subcontractor employed in the performance of this Contract.

K. OWNER will utilize funds from the State Revolving Loan Fund (SRF) on the Project. Bidders acknowledge that they must:

1. Revolving Loan Fund projects require the use of Prevailing Wages as explained in Section 00450.

2. Revolving Loan Fund projects require the use of the Buy American Contract requirements as explained in Section 00458.

3. Complete the Certification Regarding Debarment, Suspension and Other Responsibility Matters form in Section 00450, or explanation why it cannot certify the terms included in the certification, within seven (7) days after a request from OWNER.

    a. In addition, each prospective subcontractor and supplier must submit a completed certification or explanation to CONTRACTOR for all procurement transactions of $25,000

or more. The submission of the certification or explanation is also required for all subtier subcontractors.

L. OWNER will require the use of prevailing wage rates on this Project. Bidders acknowledge that

M. All claims and disputes arising from related Work at Site by other contractors shall be settled in accordance with Paragraph 7.03 of the Supplementary Conditions.

4.01 Bidder further represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

A. BASE BID PRICE _____ ($_____)
(use words) (figures)

B. All specific allowances are included in the price(s) set forth above and have been computed in accordance with Paragraph 11.02 of the General Conditions.

1. Included in the Bid Price is a Lump Sum Allowance for WPC system integration programming in the amount of $ 150,000.
2. Included in the Bid Price is a Lump Sum Allowance for Unforeseen Conditions in the amount of $125,000.

C. Alternates for this Contract are set forth in Section 01230. The price for each Alternate will be the amount added to or deleted from the base Bid if OWNER selects the Alternate. Alternates will be applied in the order as they appear below:

1. Alternate 1:

   Alternate No. 1 generally consists of deletion of all work associated with Battery B Aeration Tank No. 1

   (add) (deduct) _____ ($_____)
   (circle one) words figures

2. Alternate No. 2 generally consists of deletion of compressed air mixing system in Battery B Aeration Tanks No. 1 thru 5.

   (add) (deduct) _____ ($_____)
   (circle one) words figures

D. Unit Price Adjustments to the Lump Sum Bid Price for this Contract are set forth in the Specifications. The cost for installing quantities listed below shall be included in the Lump Sum Bid Price. If increases or decreases in these quantities occur, the Contract Price will be adjusted by Change Order on the basis of the following:

Item and Location in Specifications	Number of Units to be Included with Bid	Unit for Adjustment	Adjustment Price Per Unit
Pipe Gasket Replacement			
8”-10” Diameter	10	Ea	
12”-18” Diameter	20	Ea	
20”-36” Diameter	10	Ea	
Wall Penetration Repair			
20” Diameter	10	Ea	
Pipe Wall Repair			
12”-18” Diameter	10	Sft	
20”-36” Diameter	10	Sft	
Concrete Repair			
Concrete Repair, Type A	20,000	Ft	
Concrete Repair, Type B	60	Cft	
Concrete Repair, Type C	100	Cft	

Item and Location in Specifications	Number of Units to be Included with Bid	Unit for Adjustment	Adjustment Price Per Unit
Pipe Asbestos Gasket Removal and Disposal			
8”-10” Diameter	10	Ea	
12”-18” Diameter	20	Ea	
20”-36” Diameter	10	Ea	

1. Adjustment prices are subject to acceptance by OWNER, and rejections of one or more adjustment prices will not invalidate acceptance of this Bid.
2. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities provided, determined as provided in the Contract Documents.

6.01 Equipment Evaluation. OWNER reserves the right to evaluate the "EQUIPMENT EVALUATION" data and prices received for the products listed below in accordance with Paragraphs 14.04 and 19.07 of the Instructions to Bidders.

Section	Equipment Item	Manufactured By	Price
11371	Blower		$
11376	Compressed Gas Mixing		$

7.01 CONTRACTOR shall list subcontractors proposed for the following Work:

Discipline	Subcontractor Name
Demolition	_____
Concrete	_____
Concrete Repair	_____
Painting	_____
Process Piping and Equipment	_____
HVAC	_____
Electrical	_____
Instrumentation	_____

8.01 Bidder agrees that the Work will be substantially completed and completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

9.01 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Agreement.

10.01 The following documents are attached to and made a condition of this Bid:

A. Evidence of Bidder's qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract; and

B. Required Bid Security in the form of a certified check, bank check, or a Bid Bond; and

C. Section 00450 – Certificate Regarding Debarment, suspension, and other Responsibility Matters

D. Section 00450 – Complete Good Faith Effort Worksheet.

11.01 The terms used in this Bid with initial capital letters have the meanings indicated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

SUBMITTED on _____, 20____.

State Contractor License No. _____ (If applicable)

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____(SEAL)

(Individual's signature)

Doing business as: _____

Business address: _____

_____

Phone No.: _____ FAX No.: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____

(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Business address: _____

Phone No.: _____ FAX No.: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability):_____

By: _____

(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(CORPORATE SEAL)

Attest _____

(Signature of Corporate Secretary)

Business address: _____

_____

Phone No.: _____ FAX No.: _____

Date of Qualification to do business is _____

A Joint Venture

Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

_____

Phone No.: _____ FAX No.: _____

Joint Venturer Name: _____ (SEAL)

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business address: _____

_____

Phone No.: _____ FAX No.: _____

Phone and FAX Number, and Address for receipt of official communications:

_____

_____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

END OF SECTION

ASBESTOS INSPECTION AND MANAGEMENT PLAN
CITY OF FLINT/
WATER POLLUTION CONTROL FACILITY
G-4652 BEECHER ROAD
FLINT, MICHIGAN 48504

Testing Engineers & Consultants, Inc.
P.O. Box 249
1333 Rochester Road
Troy, Michigan 48099
(313) 588-6200 or Dial T-E-S-T-I-N-G

15 March 1990

Testing Engineers & Consultants, Inc.

P.O. Box 249 • 1333 Rochester Road • Troy, Michigan 48099
313-588-6200 or Dial 313-T-E-S-T-I-N-G
Fax 313-588-6232

T.E.C. Report Number: 18509-2
Date Issued: 15 March 1990

City of Flint
Water Pollution Control Facility
G-4652 Beecher Road
Flint, Michigan 48504

Attention: Mr. Mark A. Fulks
Plant Engineer

Re: Water Pollution Control Facility
Inspection And Management Plan

Dear Mr. Fulks:

Enclosed is the Management Plan which was prepared for the City of Flint/Water Pollution Control Facility in accordance with the requirements of Federal Regulation 40 CFR 763, Asbestos Hazard Emergency Response Act (AHERA). This document contains all of the information necessary to satisfy the City of Flint/Water Pollution Control Facility's responsibilities in the event they are required to comply with current AHERA regulations.

Testing Engineers & Consultants, Inc. provide a full array of asbestos related services. We are ready to serve your future needs in the areas of training, inspections, sample analysis, removal project design and abatement specifications, air monitoring and abatement supervision, and other environmental consultation.

Should you have any question, or require further information, please call at your earliest convenience.

Respectfully submitted,

TESTING ENGINEERS & CONSULTANTS, INC.

Stuart Yankee
Regional Manager, Asbestos Services

Gerald M. Belian, P.E.
Executive Vice President

SY/GMB/zs
Enclosure

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

INTRODUCTION

This document is provided by Testing Engineers & Consultants, Inc. (T.E.C.) to the City of Flint/Water Pollution Control Facility in the event they are required to satisfy the requirements of the 40 CFR Part 763, "Asbestos-Containing Materials in Schools", enacted by the Asbestos Hazard Emergency Response Act (AHERA), Final rule and Notice as published in the Federal Register/Vo. 52, No. 210/Friday October 30, 1987/Rules and Regulations.

This document, a Management Plan, is intended to detail the required elements for a Local Education Agency (LEA) Asbestos Management Plan, but in this case it is to be used by the City of Flint/Water Pollution Control Facility.

The purpose of this Management Plan is to provide relevant information which defines the areas and building systems contaminated by hazardous materials, specifically, asbestos-containing materials, to outline an appropriate abatement plan and establish a budget.

This Management Plan provides critical information to all parties which have cause to work for, with and/or in the areas and building systems at: City of Flint/Water Pollution Control Facility.

The table of contents following this introduction outlines the various sections and pages where all of the required elements of the City of Flint/Water Pollution Control Facility Asbestos Management Plan can be found.

The following items would need to be addressed in the event that the City of Flint/Water Pollution Control Facility would have to comply with (40 CFR 763) AHERA regulations.

AHERA requires that a "Designated Person" be chosen by the City of Flint/Water Pollution Control Facility to ensure compliance with the regulations. The City of Flint/Water Pollution Control Facility would notify workers and employee organizations in writing of availability of the Management Plan. This notification becomes part of the plan and kept on file.

A copy of this report, including updates for all buildings, must be located in the administrative office. Appendix E contains forms reserved for recordkeeping, updates and additions.

It is stated that the response plan of actions/dates herein represent the optimistic agenda of City of Flint Water Pollution Control Facility. The Implementation of these actions, in this or in any sequence/time frame, is totally dependent upon legislative funding.

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

TABLE OF CONTENTS

I. LEA Responsibilities

-Notification Letter I-3

II. Building Inspection Description

A. Functional Spaces II-1

B. Homogeneous Areas II-1

C. Sampling Methodology II-2

D. Material Classification II-3

E. Analytical Methodology II-5

III. Management Plan Description

A. Hazard Ranking III-1

B. Response Actions III-3

C. Management Actions III-8

1. Communication to the Public III-8

2. Warning Labels III-9

3. Training III-10
a. Custodial Maintenance III-10
b. Designated Person III-10

4. Reassessment III-11
a. Periodic Surveillance III-11
b. Reinspection III-11

5. Recordkeeping III-11

a. Centralized Location III-12
b. Response Actions III-12
c. Air Sampling III-12
d. Training III-12
e. Periodic Surveillance III-13
f. Reinspection III-13
g. Cleaning III-13
h. Operations and Maintenance III-14
i. Major Maintenance Activity III-14
j. Fiber Release Episode III-15

6. Conflicts of Interest III-15

TABLE OF CONTENTS (cont'd)

D. Cost Estimation and Financing Abatement Projects III-15

1. Cost of Alternative Response Actions III-15

a. General Factors Affecting Cost III-15
b. Elements of Cost Estimation III-15
c. Cost Estimates III-16
d. O & M Programs III-18

2. Comparing Costs and Effectiveness of Alternatives III-19

3. Financing Response Actions III-19

IV. Inspection Reports

V. Recommended Response Actions

VI. Diagrams

VII. Cost Profiles

-Resource Evaluation VII-1

-Complex Summary of Recommended Removal and O & M VII-3

VIII. Professional Certification

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

TABLE OF CONTENTS (cont'd)

IX. Appendices

A. Operations and Maintenance Program

B. AHERA References

C. Recommended Publications

D. Asbestos Regulations

E. Michigan Department of Public Health Recordkeeping Forms A-I

SECTION I

RESPONSIBILITIES

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

I. RESPONSIBILITIES (according to AHERA regulations 40 CFR 763.84)

1. Compliance Activities

-Ensure that all activities carried out in response to AHERA and ACM are in accordance with AHERA regulations.

2. Custodial and Maintenance Training

-Ensure that all custodial and maintenance employees are properly trained as required by AHERA regulations.

3. Notification to Workers and Building Occupants

-Ensure that workers and building occupants are informed at least once each year about inspections, response actions, and post-response actions activities, including periodic reinspection and surveillance activities that are planned or in progress.

4. Notification to Short-Term Workers

-Ensure that short-term workers (utility workers, exterminators, etc.) who may come in contact with ACBM are provided information regarding the location of ACBM.

5. Warning Labels

-Ensure that warning labels are worded and posted in accordance with AHERA regulations.

6. Management Plans

-Ensure that Management Plans are available for inspection by EPA and State officials, employees and the public in accordance with AHERA regulations.

-Ensure that proper notification of availability of Management Plans has been accomplished.

7. Designated Person

-Ensure that the designated person receives "adequate training" to carry out all the "general responsibilities".

8. Conflicts of Interest

-Consider whether any conflict of interest may arise from the interrelationship among accredited personnel and whether that should influence the selection of accredited personnel to perform activities under AHERA.

* * * * * *

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

To: All Building Workers and Employees

From:

Date:

Re: ASBESTOS INSPECTION AND MANAGEMENT PLAN

An Asbestos Inspection and Managemetn Plan has been performed at:

City of Flint/Water Pollution Control Facility.

The purpose of this survey was to identify, quantify and assess the Asbestos-Containing Building Materials (ACBM) present at this location.

After this inspection was performed, a Management Plan was written in accordance with the requirements of the Asbestos Hazard Emergency Response Act.

This plan details:

1) inspection and re-inspection information and requirements;

2) response actions and post response action activities.

The Management Plan is available for review at the Administration Building.

SECTION II

BUILDING INSPECTION DESCRIPTION

A. Functional Spaces

B. Homogeneous Areas

C. Sampling Methodology

D. Material Classification

E. Analytical Methodology

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

II. BUILDING INSPECTION DESCRIPTION

This section provides a description of the AHERA building inspection process with definitions of terminology, specifications for material condition and hazard potential, material classification, sampling methodology, and analytical methodology.

A. Functional Spaces

Each building is divided into smaller units called "Functional Spaces". A functional Space is defined as a room, group of rooms, or other spatially distinct building unit such as a classroom, cafeteria, gymnasium, hallway, crawl space, pipe chase, tunnel, etc. as designated by an EPA accredited asbestos building inspector. Each Functional Space is assigned a number and described (eg. F-26; Room 101, first floor classroom). The Functional Space approach is an attempt to insure that no area of the building is overlooked and to allow for a more precise description of ACBM locations.

B. Homogeneous Areas

A homogeneous area contains material that is uniform in texture, color, function, construction/application date, and appears identical in every other aspect. Homogeneous areas are limited spatially unless there is good reason to believe that the material in question is identical throughout a building. For instance, material present in different wings or on separate floors may need to be considered as individual homogeneous areas. A list and description of the homogeneous areas are presented in Appendix I of the Inspection Report.

Homogeneous areas are separated into three (3) classifications: Surfacing Material (SM), Thermal System Insulation (TSI) and Miscellaneous Material (MM). Surfacing material includes acoustical ceiling plaster and sprayed-on fireproofing. Thermal system insulation is comprised of mechanical system and domestic water system pipe insulation as well as boiler insulation and hot water heater insulation. Miscellaneous materials consist of numerous items including ceiling tiles, floor tiles and other building material. Each homogeneous area is assigned a particular number and described by color, texture and appearance (eg. SM-1; spray-on, structural steel insulation, TSI-2; straight pipe insulation with powdery interior, MM-3; 9" x 9" brown floor tile with beige streaks).

For each functional space, materials are assigned to a particular homogeneous area (building material type). Certain materials are not required to be sampled by AHERA regulations and so would not be assigned to a homogeneous area. These materials include: concrete, steel, terrazzo, ceramic tile, quarry tile, fiberglass, concrete block, marble, tectum, armorflex rubber, exterior building materials, and on-building materials such as curtains, carpeting, lab table tops, etc.

A functional space is used to identify, by location, all materials which may contain asbestos. Homogeneous areas are used to group together building materials of the same type. Material condition and potential for disturbance are determined for each material within a functional space. Structurally distinct buildings are not grouped together in the process of assigning homogeneous areas.

C. Sampling Methodology

Bulk samples of suspected ACBM's were collected using the required procedures of 40 CFR 73.86 Asbestos Hazard Emergency Response Act (AHERA) and the recommended procedures outlined in the EPA guidance publication "Simplified Sampling Scheme for Friable Surfacing Materials" (EPA 85-030a-560/5-Oct. 1985). The methods described in this publication were adapted to include the sampling of thermal system insulation and friable miscellaneous building materials.

Briefly, this method consists of dividing homogeneous sampling areas into nine (9) equal sections. Each section is assigned a number (1-9) in a random manner following publication guidelines. The number of samples to be collected is determined and the samples are collected from the appropriate sections. For instance, if five (5) samples were determined to be the required amount for the homogeneous area in question, the samples would be collected from the center of the sections assigned the number 1 through 5. To determine the number of samples to be collected, the following EPA guidelines were used.

Size of the Sampling Area	Recommended Number of Samples	Minimum Number of Samples
Less than 1000 Square Feet	9	3
Between 1000 and 5000 Square Feet	9	5
Greater than 5000 Square Feet	9	7

In certain circumstances, taking a sample can be needlessly destructive and hazardous. This is the case with material that is in very good condition, very hard or highly exposed to building occupants. In these circumstances, samples would be collected from alternative sections of the homogeneous area or assumed to be asbestos-containing building materials. Therefore, leaving the material intact will avoid creating a potentially hazardous situation. Examples of such materials include: electrical insulation, boiler interiors, duct expansion joints, etc. These materials are assumed to be asbestos-containing materials due to the difficult and destructive nature of sampling them. However, if any of these materials will be disturbed (removed, demolished, renovated, repaired, etc.) they must be tested or removed as ACBM.

Although not specifically required by AHERA regulations, an attempt is made to identify items which may contain asbestos even though they are not part of the building structure. Examples of these items are: auditorium curtains, brake pads, bunsen burner pads, carpeting, chalkboards, fire blankets, glassware pegboards, kiln bricks and mortar, lab gloves, lab table tops, laminated or particle boards, roofing shingles, stone wash tubs, and welding equipment. Personnel who have access to these types of material should be notified by the "designated person" to conduct an inventory of supplies and equipment. For the sake of their safety and liability it may be beneficial to have some items tested or to assume they are asbestos-containing. They may then be incorporated into an Operations and Maintenance Plan or have them removed as ACBM.

D. Material Condition Assessment

The physical condition of the asbestos-containing materials present was assessed for each functional space. A functional space is defined as a room, group of rooms or homogeneous area (including crawl spaces and air plenums), such as classrooms, cafeterias, gymnasiums, hallways, etc... as designated by an accredited management planner. The purpose of assessing the material condition in a functional space is to allow the management planner to determine the hazard presented by the ACBM's present and develop the appropriate response actions to the identified hazard.

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

Three categories of condition exist: Good, Fair, and Poor. These categories are defined as follows:

Good Condition - Material with no visible damage or deterioration.

Fair Condition - Material with up to one tenth of the total amount per functional space damaged or deteriorated (up to one quarter if damage localized).

Poor Condition - Material with one tenth or more of the total amount of the material damaged or deteriorated (one quarter or more if damage is localized).

In addition, the potential for disturbance of the suspected material must also be assessed. There are three (3) categories of which define the potential for disturbance. They are:

1. Potential for Contact with the Material
2. Influence of Vibration, and
3. Potential of Air Erosion

These three (3) categories are assessed for each functional space. The Potential for Disturbance is classified as High, Moderate or Low for each category. The criteria for these determinations is as follows:

Potential For Contact With The Material

High - Service workers work in the vicinity of the material more than once a week, or the material is in a public area.

Moderate - Service workers in the vicinity once per month to once per week, or the material is in a room and accessible to the occupants.

Low - Service workers in the vicinity less than once per month, or the material is visible but not accessible to occupants.

Influence of Vibration

High - Large motors or engines present, or intrusive noises or vibrations easily sensed.

Moderate - Motors or engines present but not obtrusive, or occassional loud noises.

Low - None of the above

Potential For Air Erosion

High - High velocity air present.

Moderate - Noticeable movement of air present.

Low - None of the above.

Following the material condition assessment for each functional space, the asbestos-containing building material (ACBM) and suspected ACBM can be placed into one of the following categories:

1) Damaged or significantly damaged thermal system insulation ACBM;
2) Damaged friable surfacing ACBM;
3) Significantly damaged friable surfacing ACBM;
4) Damaged or significantly damaged friable miscellaneous ACBM;
5) ACBM with potential for damage;
6) ACBM with potential for significant damage;
7) Any remaining friable ACBM or suspect friable suspect ACBM.

These categories as well as the material condition assessment for each functional space with asbestos-containing building material (ACBM) present can be found within Appendix(s) III of Section IV.

E. Analytical Methodology

Polarized light microscopy was utilized to determine the presence of asbestos in bulk samples. The samples were analyzed according to the EPA's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples". The limit of detection of asbestos analyzed by polarized light microscopy is approximately one percent (1%) by area. According to AHERA regulations (40 CFR 763.87), an entire homogeneous area must be considered to be ACBM if only one sample from that homogeneous Area contains asbestos. Testing Engineers & Consultants, Inc. is accredited by the EPA to perform these analyses (EPA Laboratory Number 5312, NVLAP Number 1489).

* * * * * *

SECTION III

MANAGEMENT PLAN DESCRIPTION

A. Hazard Ranking

B. Response Action

C. Management Actions

1. Communication to the Public
2. Warning Labels
3. Training
4. Reassessment
5. Recordkeeping
6. Conflicts of Interest

D. Cost Estimation and Financing Abatement Projects

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

III. MANAGEMENT PLAN DESCRIPTION

This section provides a description of the AHERA Management Plan along with hazard ranking, response actions and evaluations of those response actions. Communication to the public, warning labels and other management actions are also defined under 40 CFR 763.

A. Hazard Ranking

The fundamental principle of the hazard assessment methodology herein described is that the tendency of asbestos-containing material (ACM) to release fibers is directly related to the degree that the material has been disturbed or deteriorated. One of the best measures of past and current disturbance and/or deterioration is the condition of the material. ACM in poor condition reflects past and perhaps ongoing disturbance/deterioration, and probably indicates past and ongoing release of fibers into the air. The likelihood of future disturbance can be gauged by the location of the material with respect to:

1) Workers and other building occupants (the frequency of potential contact),
2) Sources of vibration, and
3) Sources of air erosion.

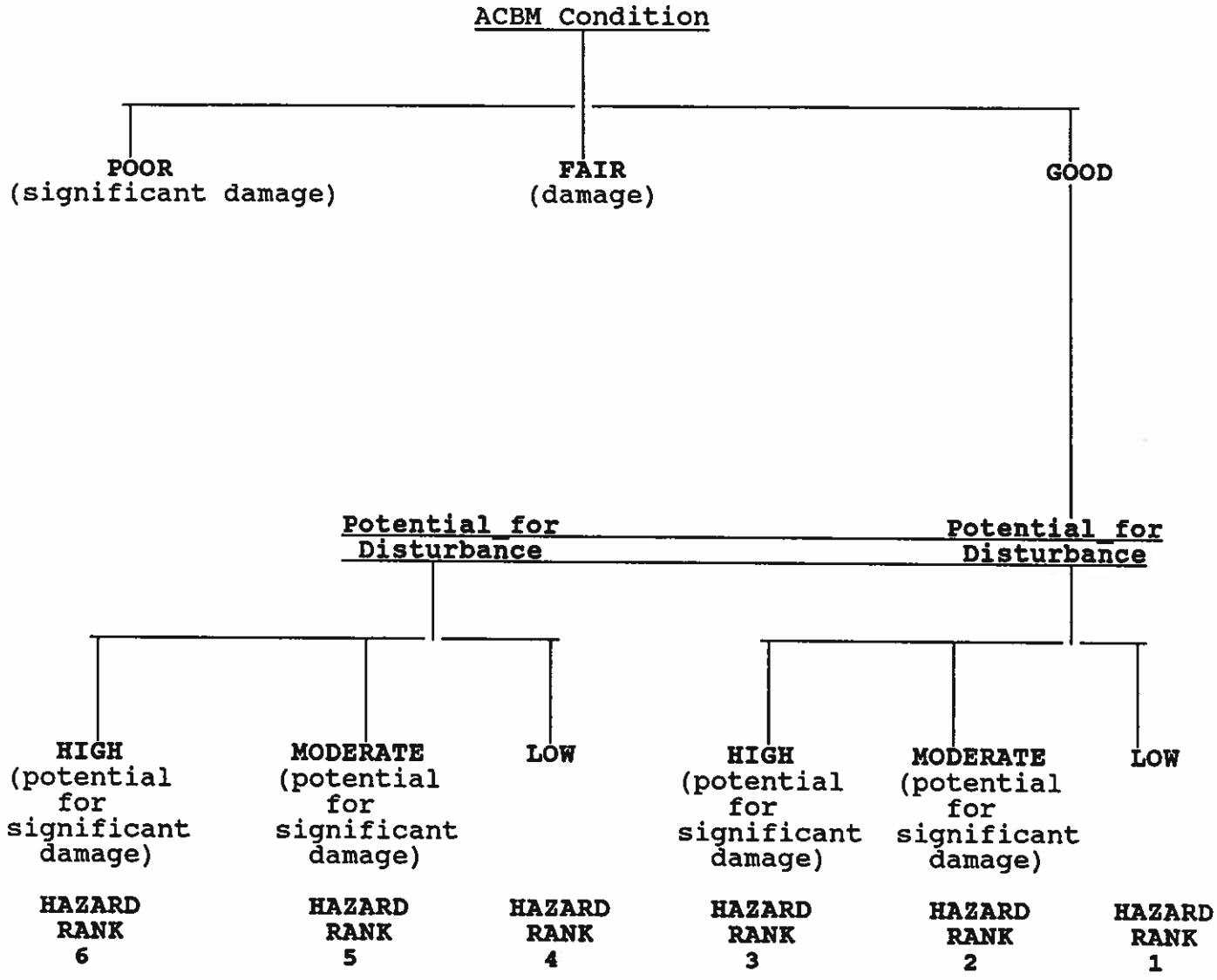
Each building or facility owned or used by the City of Flint/ Water Pollution Control Facility was inspected using these criteria. The results of these physical assessments can be found in the inspection report included as Section V of this document.

The factors used in determining the physical condition of ACM present have been used to ascertain the hazard ACM in each functional space poses to building occupants. In other words, a numerical Hazard Rank is assigned to each type of ACBM present in any given functional space. The appropriate Hazard Rank is determined by combining the current material condition with the level of potential for disturbance.

The method used to derive the appropriate Hazard Rank for a specific material in a specific functional space is the Decision Tree Method. This method is graphically illustrated in Figure 1. The Hazard Rank generated by this method is then used to determine the proper response actions including prioritizing abatements and assisting in the design of an Operations and Maintenance (O & M) program which will be used to minimize exposure until the ACM is eventually removed.

The rankings of potential hazard range from seven (7) - most hazardous, to one (1) - least hazardous. The highest rank is reserved for ACM in poor condition. A review of the definitions of "poor

HAZARD RANK DECISION TREE



condition" reveals that this definition is designed to identify ACM which is so extensively damaged or deteriorated that it constitutes an imminent hazard to persons working or living near it. This is ACBM which is "significantly damaged", in AHERA terms. Hazard ranks four (4) through six (6) reflect ACBM which is in fair condition ("damaged" as defined in AHERA) with rank five (5) indicating a moderate potential for future disturbance ("potential for damage" -- AHERA), and rank six (6) indicating a high potential for future disturbance ("potential for significant damage"--AHERA). Hazard ranks one (1) through three (3) are reserved for ACM currently in good condition, but with a varying potential for future disturbance.

Note that this hazard ranking combines AHERA categories. For example, Rank 6 is damaged ACM with a potential for significant damage. By combining categories, a more complete assessment of abatement priorities can be obtained.

Note also that the hazard assessment produces seven hazard ranks. These seven ranks are different from and should not be confused with the seven AHERA categories of damage and potential for damage listed on page II-5.

EVALUATING RESPONSE ACTIONS

Since the hazard ranks are combinations of AHERA categories, the indicated response actions are likewise combinations. As noted above, hazard rank number seven (7) indicates that immediate steps should be taken to evacuate people in the functional space or isolate the area with an airtight barrier. AHERA allows "repair" as an option for thermal insulation, but only if repair is technologically feasible and "human health and the environment" can be protected. This ranking receives the highest priority for removal.

Hazard ranks two (2) through six (6) are of lower immediate concern, but require specific response actions. The first action should be to institute a comprehensive O & M Program. Other actions depend upon individual circumstances. Note that removal, enclosure, encapsulation, and repair are all potentially allowable actions for

each of the hazard categories. The AHERA Rule also points out that nothing in the Rule should be interpreted as precluding removal of ACBM at any time. In the long run, all friable ACBM must be removed from each building according to the National Emission Standards for Hazardous Air Pollutants (NESHAP). However, the least burdensome strategy may well involve a combination of O & M, repair, enclosure or encapsulation (if technically appropriate) and eventual removal.

B. Response Actions

Response actions are alternatives for controlling the release of fibers from ACBM. AHERA requires certain Response Actions based on Hazard Rank. A list of these required Response Actions is included in Table 2 on page III-5. Response action alternatives, as defined by AHERA, are divided into five categories:

1. Operations and Maintenance Program (O & M) - a program of training, cleaning, work practices, and periodic surveillance to maintain friable ACBM in good condition, ensure cleanup of asbestos fibers previously released, and prevent further release by minimizing and controlling friable ACBM disturbance.

2. Repair - returning damaged ACBM to an undamaged condition or to an intact state through limited replacement and patching.

3. Encapsulation - treating ACBM with a liquid that, after proper application, surrounds or embeds asbestos fibers in an adhesive matrix to prevent fiber release. The encapsulant may be a penetrant which adds cohesion by penetrating the asbestos material, or a bridging encapsulant which covers the surface of the material with a protective coating. Both are applied to the surface of the material with brushes or airless spray equipment at low pressure in order to reduce fiber release during applications.

4. Enclosure - an air-tight barrier that is installed between the friable asbestos and the building environment. It is typically constructed by mechanical attachment or spray application. For example, materials such as PVC or corrugated metal may be fastened and sealed around insulated piping, or a barrier may be constructed around asbestos fireproofing on structural members by spraying material which cures into a hard shell.

5. Removal - stripping ACBM from its substrate. Asbestos material is separated from the underlying surface, collected, and placed in containers for burial in an approved disposal site.

Appropriate applications and advantages/disadvantages of each alternative are described on pages III-6 through III-8.

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

TABLE 2

The following table lists Response Actions, required by AHERA regulations, for each Hazard Rank and Homogeneous Area.

Hazard Rank	Removal Priority	AHERA Categories	Response Actions Required by AHERA
7	1	Significantly Damaged	Evacuate or isolate the area if needed. Remove the ACBM (or enclose or encapsulate if sufficient to contain fibers). Repair of thermal system insulation is allowed if feasible and safe. O & M required for all friable ACBM.
6	2	Damaged and Potential for Significant Damage	Evacuate or isolate the area if needed. Remove, enclose, encapsulate, or repair to correct damage. Take steps to reduce potential for disturbance. O & M required for all friable ACBM.
5	3	Damaged and Potential for Damage	Evacuate or isolate the area if needed. Remove, enclose, encapsulate or repair to correct damage. O & M re-, quired for all friable ACBM.
4	4	Damaged	Same as Hazard Rank 5
3	5	Potential for Significant Damage	Take steps to reduce potential for disturbance. O & M required for all friable ACBM.
2	6	Potential for Damage	O & M required for all friable ACBM.
1	7	No Problem	O & M required for all friable ACBM, but measures need not be as extensive as above.

Note: AHERA does not account for combinations of current and potential damage (i.e., hazard ranks 5 and 6). The response actions shown are combinations of those required for each condition.

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

COMPARISON OF ALTERNATIVE RESPONSE ACTIONS

ALTERNATIVE	ADVANTAGES	DISADVANTAGES
Long Term Use of Operations and Maintenance Plan	1. Usually lowest initial cost. 2. Good interim plan until funding becomes available for removal. 3. May avoid need for removal until renovation or demolition. 4. Allows asbestos removal to occur over a period of years, thus spreading expenditure. 5. Can be implemented quickly. 6. Can usually be done in-house.	1. Asbestos source remains. 2. Surveillance (O & M Plan) is required in occupied areas. 3. Cost of training and maintaining asbestos task air monitoring surveillance may be significant. 4. Long-term life cycle cost may be greater than that of removal. 5. May not be effective where control of worker/building occupant activities is difficult.
Encapsulation	1. May reduce asbestos fiber release from material. 2. Initial cost typically lower than removal or enclosure. 3. Fireproofing or insulating material may not need replacement. 4. Is also a quick temporary corrective action to insulate material on piping and associated mechanical equipment. 5. Allows opportunity for simultaneous improvement of architectural finishes on surfacing ACM.	1. Asbestos source remains and may have to be removed. 2. Inappropriate encapsulating agent may cause asbestos material to delaminate from substrate, or may not prevent fiber release. 3. O & M Plan needs to be kept active; potential for damage may still exist. 4. All the preparation activities for asbestos removal needs to be implemented during encapsulation.

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

COMPARISON OF ALTERNATIVE RESPONSE ACTIONS

ALTERNATIVE	ADVANTAGES	DISADVANTAGES
Enclosure	1. Reduces immediate exposure. 2. Initial cost is typically lower than removal. 3. Fireproofing and insulation materials would not need replacement. 4. Is also a quick, temporary corrective action for damage to insulation material on piping and associated mechanical equipment.	1. Asbestos source remains and may have to be removed at a later date. Enclosure will typically increase future cost. 2. Maintenance to systems behind enclosure would require the removal of enclosure, thereby exposing ACM. 3. O & M Plan still needed unless enclosure (or spray application of encasement) and will, therefore require the same preparation as that of removal and encapsulation. 4. Fibers will be released during construction of enclosure (or spray application of encasement) and will, therefore, require the same preparation as that of removal and encapsulation. 5. Long-term life cycle cost may be greater than removal.

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

COMPARISON OF ALTERNATIVE RESPONSE ACTIONS

ALTERNATIVE	ADVANTAGES	DISADVANTAGES
Removal	1. Eliminated ACM. 2. Eliminates continued need for O & M Plan. 3. Life cycle cost may be lowest of alternatives. 4. Elimanates application of AHERA regulation (if all ACM is removed).	1. Refireproofing or reinsulation will be needed. 2. Improper removal may increase airborne asbestos fiber concentration above prevalent levels. 3. Initial cost is usually highest of all methods. 4. Building operations may have to be shut down temporarily during removal.

C. Management Actions

The management actions as specified in AHERA section 763.84 "general Local Education Agency Responsibilities" are summarized in the following section. For convenience these actions have been grouped into six categories. Although specific requirements are discussed, appropriate sections of the AHERA regulations should be consulted prior to implementations of management actions. The six management actions are:

1. Communication to the public
2. Warning labels
3. Training
4. Reassessment
5. Recordkeeping
6. Conflicts of Interest

1. Communication to the Public (40 CFR 763.84)

Several approaches are available when communicating with the public regarding a controversial issue such as asbestos. An argument can be made that a low profile is preferred in order to reduce emotional outcries and to ensure that problems are handled in a reasonable and fiscally responsible manner. Perhaps a more effective approach is to accept the fact that asbestos is a issue. As such, personnel should be fully informed and any input provided help determine appropriate responses.

At least once each year, it must be communicated to workers and building occupants, information about ACBM in the buildings. Although the regulations do not specifically say "in writing", it is recommended that the communication be in the form of a letter or memo. A copy should be included as part of the buildings updated Management Plan. This communication must include information on inspections and all other activities, either planned or in progress, regarding the ACBM. In general, the public must be informed and brought up to date each year. In accordance with AHERA, a description of steps taken to inform those listed above must be included in the Management Plan.

Employees and employee organizations must be notified in writing of the availability of the Management Plan. This must be done at least once each year. In accordance with AHERA, a description of the steps taken to notify such groups and a dated copy of the notification must also be included in Appendix B of the Management Plan.

Short-term workers who may come in contact with ACBM in the buildings must also be notified. This includes telephone repair workers, exterminators, plumbers and others who are not part of the staff. AHERA does not specify how these people are to be notified, nor does it require documentation of such notification. However, for safety and liability reasons, it is very important that copies of written notifications are included in the Management Plan. The notifications should include the signatures of the short-term workers indicating that they have been informed about the potential hazards associated with ACBM. This information should also become part of the updated Management Plan.

It may be helpful to organize a meeting to discuss AHERA and its ramifications for this facility. It would be helpful to have an expert present at such a meeting to answer questions that may arise.

2. Warning Labels (40 CFR 763.95)

CAUTION: ASBESTOS. HAZARDOUS.
DO NOT DISTURB WITHOUT PROPER
TRAINING AND EQUIPMENT

Warning labels must be worded as shown above. The words must be readily visible because of large size or bright color. Labels must be posted immediately adjacent to any friable and non-friable ACBM located in routine maintenance areas such as boiler rooms. Labels must remain posted until the labeled ACBM is removed.

3. Training (40 CFR 763.92)

The importance of training cannot be overemphasized. In most cases, a trained custodial and maintenance staff is the building occupant's first line of defense against potential exposure to hazardous asbestos fibers. Considering the health and liability risks involved, it is essential that personnel are trained to react to ACBM responsibly and in accordance with the law. Careful consideration should be given to who is trained and which training courses are selected for compliance with AHERA.

a. Custodial and Maintenance (40 CFR 763.92)

Prior to implementation of an O & M program (within 60 days for new employees) all members of the custodial and a maintenance staff who may work in a building that contains ACBM must receive at least two hours of awareness training, regardless of whether or not they are required to work with ACBM. This required basic training includes:

-General information regarding asbestos
-Health effects of asbestos exposure
-Locations of ACBM in the building(s) in which they work
-Recognition of damage, deterioration and delamination of ACM
-Name and telephone number of the "designated person"

Maintenance and custodial staff who conduct any activities that will result in the disturbance of ACBM must receive general awareness training and 14 hours of additional training. The additional training must include:

-Proper methods of handling ACBM*
-Respiratory protection training
-Knowledge of applicable laws and regulations
-Hands-on training* (respiratory protection, personal protection measures, good work practices*)
-O & M training (Section 763.91)

*In Michigan, a state certified instructor is required to teach these subjects.

b. Designated Person (40 CFR 763.84, 92)

The designated person must also receive training. Although AHERA does not quantify the amount of training in terms of hours, it does imply that this person should be well informed on all aspects associated with AHERA as well as other asbestos related regulations. The designated person should have administrative capacities and be able to deal with both technical and liability issues related to asbestos. See O & M program (Appendix A) for more information regarding designated person training.

AHERA states that this training provide "as necessary" basic knowledge of:

-Health effects of asbestos
-Detection, identification and assessment of ACBM
-Options for controlling ACBM
-Asbestos management programs
-Relevant Federal and State regulations concerning asbestos
-Any other training necessary to carry out the duties of the facility as specified in Section 763.84.

4. Reassessment

Reassessment is a vital component of the basic AHERA philosophy: Identify ACBM in buildings, then monitor and otherwise manage these materials until they are removed. AHERA represents a continual process, not a single event. It is important to periodically reassess ACBM to determine if there is any change in condition which might result in a higher hazard rank. Two types of reassessment activities are required by AHERA:

a. Periodic Surveillance (40 CFR 763.92 (b))

At least once every 6 months after the Management Plan is in effect, the facility must conduct a periodic surveillance of all ACBM. This involves the following:

-Visually inspect all ACBM and record any changes in condition

-Reinspect ACBM previously considered non-friable to determine if it has become friable

-Identify homogeneous areas for newly friable ACBM

-Collect samples, if necessary, of newly friable ACBM

b. Reinspection (40 CFR 763.85 (b))

At least once every 3 years after the management plan is in effect, the facility must conduct a reinspection of all ACBM. This inspection must conduct a reainspection of all ACBM. This inspection must be performed by an EPA accredited inspector. The inspector must do the following.

-Submit all records of the reinspection to the facilities designated person for inclusion in the Management Plan within 30 days of the reinspection (see Recordkeeping below)

*Note: The designated person may want to make arrangements to have their entire Management Plan updated as part of the reinspection process.

5. Recordkeeping (40 CFR 763.94)

Consistent recordkeeping is a must when dealing with potentially hazardous materials such as asbestos. Although AHERA lists specific recordkeeping requirements, the designated person is advised to keep records of all activities associated with asbestos as part of the Management Plan. The O & M program (Appendix A) has been reserved for all appropriate records. The following is required by AHERA for recordkeeping.

a. Centralized Location (40 CFR 763.94 (a))

All records must be kept in a centralized location in the administrative office of both the effected building and the Administration Building as part of the Management Plan.

Each building must have its own Management Plan available. The Management Plan data for all the buildings must be available in the Administration Building's administrative office.

b. Response Actions (40 CFR 763.90)

A detailed written description of preventive measures and Response Actions must include the following:

-Methods used
-Location of action
-Reasons for selecting action
-Start and completion dates
-Names and addresses of all contractors involved
-Contractor's state of accreditation and accreditation number (if applicable)
-Name and address of storage or disposal site, if ACBM is removed

c. Air Sampling (40 CFR 763.90)

Air sampling is required after each major removal, encapsulation and enclosure project involving ACBM. If air sampling is required, the following information must be recorded concerning the air samples collected:

-Sample collection locations
-Date(s) of collection
-Name and address of laboratory analyzing samples
-Date(s) of analysis and results
-Method of analysis
-Name and signature of person performing analysis
-Statement that the laboratory meets the requirements of 40 CFR 763.90 (i) (2) (ii)

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

d. Training

The following information must be recorded for each employee (including the designated person) that is required to be trained under AHERA:

-The person's name and title
-The date that training was completed by that person
-The location of the training
-The number of hours completed

e. Periodic Surveillance (40 CFR 763.92 (b))

Each time periodic surveillance is performed, the following must be recorded:

-Name of each person performing surveillance
-Date of surveillance
-Any changes in the condition of ACBM

f. Reinspection (40 CFR 763.85 (b))

Records of any reinspection must be submitted to the designated person for inclusion in the Management Plan within 30 days of the reinspection. These records must include the following:

Visual:

-Date of the reinspection
-Name and signature of inspector
-State of accreditation and accreditation number (if applicable)
-Any changes in condition of ACBM
-Exact sample location

Sampling:

-A description of method used to determine sample locations.
-Name and signature of each inspector who collected samples
-State of accreditation and accreditation number (if applicable)

Assessment:

-Any assessments or reassessments made of friable ACBM
-Name and signature of inspector making assessments
-State of accreditation and accreditation number (if applicable)

g. Cleaning (40 CFR 763.91 (c))

All areas of a building containing friable ACBM must be cleaned at least once after the initial AHERA inspection and before any Response Actions, other than O & M and repair, are initiated. Thereafter, cleaning methods and frequency shall be included with the Response Actions recommendations. Section 763.91 (c) lists the approved cleaning methods.

Each time asbestos related cleaning is performed, the following must be recorded.

-Name of each person performing cleaning
-Date of cleaning
-Locations cleaned
-Cleaning methods used

h. Operations and Maintenance (O & M) (40 CFR 763.91 (d))

All buildings with friable ACBM must have an O & M program to clean up asbestos fibers and maintain ACM in good condition. (Refer to Appendix A for information regarding O & M training). The following must be recorded each time O & M activities are performed:

-Name of each person performing O & M activity
-Start and completion dates of O & M activity
-Locations of O & M activity
-Description of O & M activity, including preventative measures used
-Name and location of storage or disposal site, if ACBM was removed

i. Major Maintenance Activity (40 CFR 763.91 (e))

A major maintenance activity is any maintenance activity not included under small-scale, short duration activities. (See AHERA regulations, Appendix B). Such activities must be designed and conducted by accredited person. The following must be recorded for each major maintenance activity:

-The name and signature of each person performing the activity
-State of accreditation and accreditation number (if applicable)
-Start and completion dates
-Locations where activities occurred
-Descriptions of activity including preventative measures used
-Name and location of storage or disposal site, if ACBM was removed

j. Fiber Release Episode (40 CFR 763.91 (f))

A fiber release episode is any uncontrolled or unintentional disturbance of ACBM resulting in visible emission. For each fiber release episode, the following shall be provided:

-Date and location of episode
-Method of repair
-Preventative measures or Response Actions taken
-Name of each person performing work
-Name and location of storage or disposal facility, if ACBM was removed

6. Conflicts of Interest (40 CFR 763.84)

There was considerable discussion during the formation of the EPA regulations for AHERA about the potential for conflicts of interest between inspectors, management planners, and abatement contractors. The conservative view called for the EPA to require all parties involved to sign a statement certifying that no parties have a financial relationship with other parties involved.

This view was rejected by the EPA in favor of leaving such determinations solely to the discretion of the facility. Although the only requirement of the EPA regulations is that the facility "consider" conflicts of interest between the various parties, the EPA did recommend that the facility "consider" the following:

-A full financial disclosure from all parties involved
-The increased efficiency of the same firm conducting the inspection and developing the Management Plan to promote continuity
-Whether the same firm should develop the Management Plan and conduct Response Actions, since the recommendations in the Management Plan could be influenced by the potential profitability of the recommendation

D. Cost Estimations And Financing Abatement Projects

The Management Planner is charged with recommending the "least burdensome" Response Actions consistent with "protecting human health and the environment". AHERA also specifies that long and short range costs should be considered in evaluation ACBM control options.

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

This section addresses the various factors which affect costs of conducting various Response Actions: removal, encapsulation, enclosure, repair, and O & M (including reinspection). This information should be useful in evaluation and comparing the costs and effectiveness of alternative actions. This section also discusses financing options for response actions.

1. Costs of Alternative Response Actions

Abatement and O & M costs are highly variable. Costs vary by region in the country, type of building, occupancy status of building, type of ACM, amount and location of the ACM area, and the hazard rank of the ACM. These and other general factors are outlined below. Cost elements of each alternative Response Actions are then described:

a. General Factors Affecting Costs

-Size of Project

Since both abatement and O & M are labor-intensive, the larger the job, the greater the cost.

- Complexity of the project

Regardless of the size of the job (with the exception of very small projects), more complex projects imply greater costs. Most abatement jobs will involve relatively high set-up costs for construction of containment structures. If the area is irregular, has high ceilings, special floors to be protected, etc., or if the building is occupied, the initial fixed costs will be higher. Scheduling other building-improvement operations together with abatement-renovation, replacement, redecoration, or demolition-may reduce overall costs. Similarly, costs to develop and implement O & M plans will depend on the number of O & M areas, their location, and the range of activities affecting them.

-Amount and Application of ACM

Costs depend on whether ACM was used on walls, floors, ceiling, structural members, etc., as well as how thick it is, how it was applied, and the type of asbestos used.

-Quality of Contract Specifications

Generally speaking, the more precise the contract specifications (i.e., for service contractors, as part of an O & M program, or for abatement contractors), the more competitive the bids from qualified contractors will be. In addition, selection of a qualified service or abatement contractor reduces the likelihood of cost overruns or subsequent liability costs due to inadequate work.

b. Elements of Cost Estimation

ACM Abatement

Cost estimates are generally expressed in terms which correspond closely to the individual activities needed to be carried out. The specific tasks shown all involve the following categories of expenditures:

Labor - Asbestos abatement is a labor-intensive operation, and labor costs tend to be the largest component of total cost. Typically, labor will constitute from 40%-50% of the total cost of ACM removal. Labor costs include professional fees, wages retirement funds, unemployment, health, general liability insurance special allowances for increased work hazard and potential asbestos disease liability. Union scale wage rates tend to run higher than non-union rates. A typical removal "team" may consist of a foreman and four laborers. The EPA estimates that such a team may be expected to remove 50-100 linear feet or 100-200 square feet of ACM per day, depending most significantly on whether or not work is being performed at floor level.

Equipment - Specialized and often expensive equipment is essential when working with ACM. Much of the protective equipment must be disposed of after a job rather than reused. For reusable equipment, amortized purchase cost, depreciation and maintenance costs contribute to equipment charges. Such equipment includes supplied air compressors, showers, negatives air units, HEPA vacuum cleaners, spray equipment, and scaffolding.

Material Costs - Abatement jobs normally require a considerable quantity and variety of consumables. Personal protective clothing, plastic containment materials, duct tape, glovebags, surfactants, encapsulants, etc., will be required on most jobs. Costs for supplies and materials will normally run approximately 15% of the total bid price.

Potential Liability Costs - Costs to indemnify the contractor for potential losses involving property damage and long-term disease manifestation, may be included as overhead cost factors. if liability insurance is required and available, these costs will be the insurance policy premium.

Profit - A contractor's profit margin must reflect a desirable rate of return after taxes on available working capital. A higher degree of risk or retention of liability in asbestos removal projects relative to other construction projects may justify a higher rate of return.

Other Costs - Air monitoring must be conducted at the conclusion of each abatement project to ensure that fiber levels are sufficiently low. Air sampling may cost $750.00 per day, and laboratory analysis of samples may range from $25.00 to $600.00 per sample, depending on the number of samples and the method of analysis (Phase Contrast Microscopy (PCM) or Transmission Electron Microscopy (TEM).

c. Cost Estimates

The most commonly used yardstick for comparing costs is the cost per square (or linear) foot for ACM removed, replaced or encapsulated. A similar yardstick is used for spray-applied enclosures (encasement). Although actual costs vary widely by region, building, and individual project (based on factors described above), ranges of typical costs as provided by the EPA are:

-Removal and Replacement	
Surfacing Material	$5-25/sq. ft.
Thermal System Insulation	$4-10/linear ft.
-Encapsulation	$5-40/sq. ft.
-Encasement	$5-15/sq. ft.

Costs for enclosures other than spray-applied encasements are even more variable. They depend entirely on the type of enclosure and the means of attaching the enclosure material around the ACM.

The above estimates of ACM abatement costs are approximate. Better estimates can be obtained by contacting a few local contractors, describing the amount, type, and general characteristics of the ACM to be abated, and asking for the "best guess" cost range.

While these cost estimates have been provided by the EPA, their accuracy has been criticized by a number of sources. They are presented here for information only and without endorsement.

d. O & M Programs

Operations and maintenance programs typically have low initial costs, but continuing annual costs. Cost elements of an O & M program include:

Equipment - respirators, HEPA vacuum cleaners, portable enclosures and showers, and air sampling equipment.

Labor - time for worker training, and additional time for maintenance and custodial tasks.

Supplies - cleaning materials, labels, bags and drop cloths, disposable clothing, and other consumables.

Other - training for service workers, and informational meetings for building occupants; high costs for service and construction work by outside contractors; recordkeeping requirements; higher insurance costs.

The costs of an O & M program will be specific to the characteristic of each building. However, a rough estimate of initial and annual costs can be calculated by consulting with an equipment/ supply company, as well as obtaining salary schedules for the affected workers. Training programs may run for 2-3 days for service workers, and costs for outside contractor work may be 10-25% higher than the same work conducted in asbestos-free environments.

Two types of costs - direct and indirect - need to be analyzed. Direct costs include all expenses incurred to assure that the work, whether O & M or removal, is conducted properly. Direct costs have a "hidden" component - temporary relocation of equipment and workers, rental expenses, and other ancillary costs may be significant. Indirect costs reflect productivity and perhaps revenue losses due to disruption of work routines and other types of business interruption. Indirect costs are more difficult to quantify than direct costs. However, indirect costs may be substantial.

2. Comparing Costs and Effectiveness of Alternatives

Advantages and disadvantages exist for each possible Response Actions. In general, quick corrective actions may be cheaper initially. However, as long as ACM remains in a building, it continues to present a potential physical and liability hazard. A long term plan for the eventual removal of all friable ACM will allow the facility to make a reasonable estimate of total expenditures involved and plan funding arrangements well in advance. (See Appendix E for a comparison of advantages/disadvantages of various Response Actions).

City of Flint
Water Pollution Control Facility
Mr. Mark A. Fulks
15 March 1990

T.E.C. Report Number: 18509-2

3. Financing Response Actions

The main source of Federal funding for abatement projects in schools has been the Asbestos School Hazard Abatement Act (ASHAA) of 1984. This act authorized EPA to distribute $600 million in loans and grants to schools who have demonstrated financial need as well as serious hazards in their buildings. To date, EPA has distributed over $100 million in congressionally appropriated funds. To obtain these Federal funds, schools must complete ASHAA application forms and submit these completed forms to their EPA regional office. Because funding for this program has been appropriated on an annual basis, schools should contact their EPA Regional Asbestos Coordinator to determine whether ASHAA funds are currently available.

* * * * * *

SECTION IV/01

INSPECTION REPORT: Building No. 02-01

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Administration Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1965; Addition 1980

SQUARE FOOTAGE: 8,319

NUMBER OF FLOORS: 1

CONSTRUCTION TYPE: Concrete Block/Face Brick Exterior

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Administration Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
MM - 1	2' x 4' Suspended Ceiling Tile	F	N	3,670 Square Feet
MM - 2	1' x 1' Suspended Ceiling Tile	F	N	340 Square Feet
MM - 3	12" x 12" Floor Tile and Adhesive Tan With Brown and White Streaks	N	Y	900 Square Feet
SM - 4*	Hard Plaster (Original Building)	N	N	1,912 Square Feet
MM - 5	9" x 9" Floor Tile and Adhesive Light Green with Brown and White Markings	N	Y	490 Square Feet
SM - 6*	Hard Plaster (Addition)	N	N	2,940 Square Feet

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I (cont'd)

HOMOGENEOUS AREAS

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
MM - 7	Laboratory Fume Hood Panels	N	Y	170 Square Feet
TSI - 8	Cloth Wrapped Duct Insulation on Fan Unit	F	Y	500 Square Feet
MM - 9	Baseboard Molding Domestic/Heating Lines	N	N	642 Linear Feet
TSI - 10	Domestic/Heating Lines Pipe Fitting Insulation (Original Building)	F	Y	170 Pipe Fittings
TSI - 11	Boiler Breeching Insulation	F	Y	100 Square Feet
TSI - 12	Roof Drain Pipe Fitting Insulation (Original Building)	F	Y	1 Pipe Fitting
TSI - 13	Cloth Wrapped Duct Insulation Off Fan Unit	F	N	2,500 Square Feet
MM - 14	Wallboard	N	N	75 Square Feet
MM - 15	Stainless Steel Sink Insulation	N	Y	4 Square Feet
TSI - 16	Boiler Gasket	F	Y	32 Linear Feet
TSI - 17	Domestic/Heating Lines Pipe Fitting Insulation (Addition)	F	N	205 Pipe Fittings
MM - 18	Electrical Cable Wrap	N	N	150 Linear Feet
TSI - 19	Straight Pipe Insulation	F	N	2,000 Linear Feet
MM - 22	Fire Doors	N	N	30 Doors

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 23	Duct Packing/Mud Insulation	F	Y	20 Square Feet
	ASSUMED ACBM			
MM - 20	Duct Expansion Joints	N	Y	6 Expansion Joints
MM - 21	Flange Gaskets	N	Y	9 Gaskets

*Non-Friable, Non-Fibrous

Note: Although not specifically required by AHERA regulations, an attempt is made to identify items which may contain asbestos even though they are not part of the building structure. Sample 02-01-30 is a sample of cloth from laboratory clamps tested per the request of laboratory personnel. This sample tested negative for the presence of asbestos but because of the number and different types of clamps this sample should not be considered representative. Further testing of this material would be required in order to confirm that it is not asbestos-containing. Until that time it is recommended that the below mentioned materials be treated as asbestos-containing.

MATERIAL TYPE	FUNCTIONAL SPACE(S) FOUND
Bunsen Burner Pads	
Kiln Bricks and Mortar	
Lab Table Tops	
Laboratory Clamps	F-22

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Administration Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-20-89 T25205 02-01-001	MM - 3	Room 115 F-5	North Wall, East Side of Door to Room 118, 717'-6" Elevation	Floor Tile	Tan, Hard, Compact (95%): 2% Chrysotil 98% NFP --- Black, Resinous (5%): 100% NFP
09-20-89 T25206 02-01-002	MM - 5	Room 101 F-2	Southeast Corner of Room, 717'-6" Elevation	Floor Tile	Tan, Compact, Hard (95%): 3% Chrysotil 97% NFP --- Black, Resinou (5%): 100% NFP
09-20-89 T25207 02-01-003	SM - 4	Room 104 F-8	6' South of Northeast Corner of Room, On East Wall, 722'-3" Elevation	Wall Plaster	Brown, Plastic (5%): 100% Plastic --- White, Compact Chalky (65%): 100% NFP --- Grey, Compact, Cementitious (30%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-20-89 T25208 02-01-004	MM - 9	Room 115 F-5	South Side of Door Leading into Room From the Hallway, 717'-9" Elevation	Baseboard Molding	Black, Compact, Flexible (90%): 100% NFP --- Brown, Resinous (10%): 100% NFP
09-20-89 T25209 02-01-005	MM - 3	Room 115 F-5	Northwest Corner of Room, 717'-6" Elevation	Floor Tile	Brown, Hard, Compact (98%): 2% Chrysotile 98% NFP --- Black, Resinous (2%): 10% Chrysotile 90% NFP
09-20-89 T25210 02-01-006	MM - 5	Room 116 F-11	East Wall, South Side of Door, 717'-6" Elevation	Floor Tile	Gray, Hard, Compact (95%): 5% Chrysotile 95% NFP --- Black, Compact, Resinous (5%): 1% Chrysotile 10% Cellulose 89% NFP
09-20-89 T25211 02-01-007	MM - 3	Room 118 F-6	Northwest Corner of Room, 717'-6" Elevation	Floor Tile	Brown, Hard, Compact (95%): 3% Chrysotile 97% NFP --- Black, Compact, Resinous (5%): 5% Chrysotile 95% NFP
09-20-89 T25212 02-01-008	MM - 5	Room 116 F-11	Northwest Corner of Room, 717'-6" Elevation	Floor Tile	Brown, Hard, Compact (95%): 5% Chrysotile 95% NFP --- Black, Compact, Resinous (5%): 100% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-20-89 T25213 02-01-009	SM - 6	Room 118 F-6	2'-9" West and 10" North of the Southeast Corner of the Room, 725'-6" Elevation	Ceiling Plaster	White, Compact, Chalky (45%): 100% NFP --- Gray, Compact, Cementitious (55%): 100% NFP
09-20-89 T25214 02-01-010	MM - 9	Room 116 F-11	North Side of Door Along East Wall, 717'-9" Elevation	Base-board Molding	Black, Compact, Flexible (90%): 100% NFP --- Brown, Compact, Flexible (10%): 25% Cellulose 75% NFP
09-20-89 T25215 02-01-011	MM - 1	Room 108 F-22	5'-3" South, 1'-5" East of the North Side of the Door to Room 106, 725'-6" Elevation	Suspended Ceiling Tile	Gray, Compact, Fibrous, Painte White (100%): 65% Cellulose 25% FG/MW 10% NFP/Perlit
09-20-89 T25216 02-01-012	MM - 2	Room 102 F-3	1'-3" South, 3" West of the South Side of the Door Leading to the Secretaries' Office, 726'-0" Elevation	Suspended Ceiling Tile	White, Compact, Fibrous, Painte White (90%): 75% FG/MW 25% NFP --- Brown, Compact, Resinous (10%): 20% FG/MW 80% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-20-89 T25217 02-01-013	MM - 9	Room 101 F-2	Southwest Corner of the Room, 717'-9" Elevation	Base-board Molding	Black, Compact Flexible (95%) 100% NFP --- Brown, Compact Resinous (5%): 10% Cellulose 90% NFP
09-20-89 T25218 02-01-014	MM - 1	Room 128 F-28	9'-10" West, 18'-7" South of the North-east Corner of the Room, 725'-6"	Suspended Ceiling Tile	White, Compact Fibrous, Paint White (100%): 60% Cellulose 25% FG/WM 15% NFP/Perli
09-20-89 T25219 02-01-015	TSI - 8	Room 113 F-30	17'-7" North, 9'-0" West of the Southeast Corner of Room 113, East Side of AHU, 721'-9" Elevation	Duct Insulation	White, Compact Fiberweave, Painted Brown (10%): 100% Cotton --- White, Compact Fibrous, Paper (5%): 75% Cellulose 10% FG/MW 15% NFP --- Silver Foil (5 100% Metal** --- Brown, Compact Fibrous, Paper (5%): 15% Cotton 55% Cellulose 15% Ceramic Wool 5% FG/MW 10% NFP --- Yellow, Consolidated, Fibrous (75%): 70% FG/MW 30% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-20-89 T25220 02-01-016	MM - 1	Room 115 F-5	12'-0" South, 12'-0" West of the Northeast Corner of the Room, 726'-0" Elevation	Suspended Ceiling Tile	Gray, Compact, Fibrous, Painted White (100%): 65% Cellulose 20% FG/MW 15% NFP/Perlit
09-20-89 T25221 02-01-017	TSI - 11	Room 113 F-30	5'-2" East, 3'-0" South of the Northwest Corner of Room 113, Off Boiler B-3, 725'-6" Elevation	Boiler Breeching Insulation	White, Compact, Fiberweave, Painted Silver (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 10% Chrysotile 40% FG/MW 50% NFP
09-20-89 T25222 02-01-018	TSI - 11	Room 113 F-30	4'-0" South, 3'-5" East of the North-west Corner of Room 113 Off Boiler #3, 723'-6" Elevation	Boiler Breeching Insulation	White, Compact, Fiberweave (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 20% Chrysotile 35% FG/MW 45% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-20-89 T25223 02-01-019	TSI - 11	Room 113 F-30	7'-10" South, 4'-7" East of the Northwest Corner of Room 113 Off Boiler B-4, 723'-2" Elevation	Boiler Breeching Insulation	White, Compact, Fiberweave, Painted Silver (10%): 100% Cotton --- Gray, Compact, Fibrous, Papery (5%): 60% Chrysotile 10% FG/MW 30% NFP --- Orange, Compact Fibrous (15%): 15% Ceramic Wool 85% NFP/Perlit --- Gray, Compact, Fibrous (70%): 15% Chrysotile 40% FG/MW 45% NFP
09-20-89 T25224 02-01-020	TSI - 8	Room 113 F-30	West Wall of Room 113, 10'-6" North, 2'-9" East of the Main Electrical Breaker for Steam Generator #3, 722'-6" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Brown (10%): 100% Cotton --- Gray, Compact, Fibrous, Papery (20%): 55% Chrysotile 10% FG/MW 35% NFP --- Gray, Compact, Fibrous (15%): 40% FG/MW 60% NFP --- Yellow, Consolidated, Fibrous (55%): 90% FG/MW 10% NFP/Binder

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-20-89 T25225 02-01-021	SM - 6	Room 124 F-16	Southwest Corner of the North Shower in Room 124, Across From Locker #67, 725'-3" Elevation	Ceiling Plaster	Gray, Compact, Cementitious, Painted White (100%): 100% NFP
09-20-89 T25226 02-01-022	SM - 4	Room 127 F-19	2'-10" East of the Northwest Corner of the Room on the Southeast Corner of the Access Panel, 724'-9" Elevation	Ceiling Plaster	White, Compact, Cementitious, Painted Green (60%): 100% NFP --- Gray, Compact, Cementitious (40%): 100% NFP
09-20-89 T25227 02-01-023	SM - 4	Room 126 F-18	Along East Wall, 3'-8" North of the Southeast Corner of Room 126, Above North Urinal, 722'-10" Elevation	Wall Plaster	White, Compact, Chalky (55%): 100% NFP --- Gray, Compact, Cementitious (45%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25228 02-01-024	SM - 6	Room 123 F-17	10" North of the Southeast Corner of Room 123, Along East Wall, 723'-11" Elevation	Wall Plaster	White, Compact, Chalky, Painted Blue (80%): 100% NFP --- Gray, Compact, Cementitious (20%): 100% NFP
09-27-89 T25229 02-01-025	TSI - 13	Room 116, Janitor Storage F-11	6'-3" South, 2'-0" West of the Northeast Corner of Room 116, 726'-9" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted White (3%): 95% Cotton 5% NFP --- White, Compact, Fibrous, Papery (1%): 95% Cellulose 5% NFP --- White, Fibrous (1%): 100% Glass Wool --- Silver Foil (1%): 100% Metal --- Yellow, Uncompact, Fibrous (94%): 90% FG/MW 10% NFP/Binder
09-21-89 T25230 02-01-026	MM - 2	Room 101 F-2	Along North Wall, 3'-4" East of the Northwest Corner, 726'-3" Elevation	Suspended Ceiling Tile	Gray, Compact, Fibrous, Painted White (100%): 60% FG/MW 40% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25231 02-01-027	MM - 2	Room 101 F-2	3" East of the Southwest Corner of the Air Vent, 726'-3" Elevation	Suspended Ceiling Tile	Gray, Compact, Fibrous, Painte White (90%): 65% FG/MW 35% NFP --- Orange, Compact Fibrous, Papery (10%): 80% Cellulose 10% FG/MW 10% NFP
09-21-89 T25232 02-01-028	MM - 7	Room 108 F-22	Southwest Corner of Hood to Muffled Furnace, 722'-11" Elevation	Transite Panel	Gray, Hard, Compact, Fibrous (100%): 25% Chrysotile 75% NFP
09-21-89 T25233 02-01-029	MM - 7	Room 111 F-25	North Side of Fume Hood Behind Access Panel to Valves, 722'-10" Elevation	Transite Panel	Gray, Compact, Fibrous (100%): 60% Chrysotile 40% NFP
09-21-89 T25234 02-01-030	Requested Sample	Room 108 F-22	Along South Wall, Drawer #54, Elevation Not Applicable	Laboratory Clamp Cloth	White, Compact, Fibrous, Rope-Like (100%): 90% Ceramic Wool 10% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25235 02-01-031	MM - 14	Room 128 F-28	14'-3" West, 3'-8" South of the North-east Corner of Room 128, 717'-10" Elevation	Wall-board	Brown, Compact, Fibrous, Painte Tan (10%): 85% Cellulose 15% NFP --- White, Compact Cementitious (90%): 100% NFP/Binde
09-21-89 T25236 02-01-032	MM - 15	Room 119 F-14	2'-4" South, 1'-2" East of the Northwest Corner of Room 119, Underneath Sink, 719'-10" Elevation	Sink Insulation	Purple, Compact Granular (100%) 2% Chrysotil 98% NFP
09-21-89 T25237 02-01-033	MM - 14	Room 102 F-3	Northwest Corner, Behind Vinyl Molding, 717'-9" Elevation	Wall-board	Brown, Compact Fibrous, Paper (10%): 95% Cellulose 5% NFP --- White, Compact Cementitious (90%): 5% Cellulose 95% NFP
09-21-89 T25238 02-01-034	TSI - 12	Corridor to Blower Building F-31	2'-4" West, 9" South of of Northeast Corner, 725'-8" Elevation	Pipe Joint Insulation	White, Compact Fiberweave, Painted Black (10%): 100% Cotton --- Brown, Compact Fibrous (90%): 20% Chrysotil 40% Fg MW 40% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25239 02-01-035	TSI - 16	Room 113 F-30	South Side of Boiler #3, Inside Door (West Side of Door), 721'-8" Elevation	Boiler Gasket	Gray, Compact, Fibrous, Rope-Like, Painted Brown (100%): 65% Chrysotile 10% Cellulose 25% NFP
09-21-89 T25240 02-01-036	TSI - 16	Room 113 F-30	South Side of Boiler #3 Inside Door (East Side of Door), 721'-8" Elevation	Boiler Gasket	Gray, Compact, Fibrous, Rope-Like, Painted Brown (100%): 65% Chrysotile 20% Cellulose 15% NFP
09-21-89 T25241 02-01-037	TSI - 16	Room 113 F-30	South Side of Boiler #4 Inside (East Side of Door), 721'-8" Elevation	Boiler Gasket	Gray, Compact, Fibrous, Painte Brown (100%): 60% Chrysotile 25% Cellulose 15% NFP
09-21-89 T25242 02-01-038	TSI - 10	Room 113 F-30	Supply Hot Water Line, 6" Outer Diameter, 7'-9" South, 3'-3" West of Northeast Corner, 723'-4" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 15% Cellulose 35% FG/MW 50% NFP
09-21-89 T25243 02-01-039	TSI -10	Room 113 F-30	Hot Water Line, 4" Outer Diameter, 7'-6" West, 2'-0" South of the Northeast Corner, 724'-4" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 40% FG/MW 60% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25244 02-01-040	TSI - 17	Room 113 F-30	Cold Water Line, 3" Outer Diameter, 1'-0" North, 1'-0" East of Southwest Corner, 720'-0" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 35% FG/MW 65% NFP
09-21-89 T25245 02-01-041	TSI - 17	Room 113 F-30	Hot Water Line, 4" Outer Diameter, 14'-1" North, 7'-4" West of Southeast Corner, 724'-11" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 55% FG/MW 45% NFP
09-21-89 T25246 02-01-042	MM - 18	Room 113 F-30	2'-0' East, 1'-0" South of Northwest Corner, 726'-0" Elevation	Cable Wrap	White, Compact, Fibrous, Rope-Like (100%): 100% Cotton
09-21-89 T25247 02-01-043	TSI - 19	Room 113 F-30	Hot Water Line, 6" Outer Diameter, 2'-8" West, 7'-9" South of Northeast Corner, 721'-6" Elevation	Straight Pipe Insulation	White, Compact, Fibrous, Painte Blue (5%): 95% Ceramic Wool 5% NFP --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (90%): 85% FG/MW 15% NFP/Binde

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25248 02-01-044	TSI - 17	Room 118 F-6	Cold Water Line, 2'-0" North, 1'-0" East of Southwest Corner, 719'-10" Elevation	Pipe Joint Insulation	Blue, Compact, Fiberweave (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 45% FG/MW 55% NFP
09-21-89 T25249 02-01-045	TSI - 10	Top Landing of Stairs F-32	Hot Water Pipe, 4" Outer Diameter, 2'-9" West, 8" North of Southeast Corner, 724"-6" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 55% FG/MW 45% NFP
10-06-89 L 6024 02-01-046	TSI - 10	Hallway (East-West) F-7	Domestic Water Line, 4" Outer Diameter, Directly Above West Side of Men's Restroom Entrance, 3" South of North Wall, 725'-10" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave (20%): 95% Cellulose 5% NFP --- White, Compact, Fibrous, (80%): 5% Chrysotile 40% FG/MW 55% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-08-89 L 6025 02-01-047	TSI - 10	(East-west) Hallway F-7	Domestic Water Line, 2" Outer Diameter, 2'-0" North of South Wall, Directly Above Drinking Fountain, 725'-10" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave (20%): 90% Cellulose 5% NFP 5% FG/MW 5% NFP --- Gray, Compact, Fibrous (80%): 50% FG/MW 50% NFP
10-20-89 T26985 02-01-048	TSI - 23	Room 113 F-30	14'-0" West, 12'-11" North of the South-east Corner of the Room, 721'-6" Elevation	Duct Insulation (Packing)	White, Compact, Fiberweave, Painted Brown (10%): 10% Chrysotile 65% Cotton 10% FG/MW 15% NFP --- Gray, Fibrous, Powder (90%): 10% Chrysotile 35% FG/MW 10% Cellulose 45% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-23-89 T26986 02-01-049	TSI - 13	Room 113 F-30	8'-9" West, 10'-9" South of the North-east Corner of the Room, 725'-6" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Brown (10%): 80% Cotton 5% FG/MW 10% Cellulose 5% NFP --- Silver Foil (5%): 100% Metal** --- Brown, Ropelike Fibrous (5%): 65% Ceramic Wool 15% Cellulose 10% Cotton 10% NFP/Binder --- Brown, Compact, Papery (10%): 70% Cellulose 5% FG/MW 25% NFP --- Yellow, Consolidated, Fibrous (70%): 80% FG/MW 5% Cellulose 15% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-23-89 T26987 02-01-050	TSI - 13	Top Landing to Stairs F-32.	1'-8" West of Door Leading Into Boiler Room From Hall, 724'-8" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted White (10%): 85% Cotton 15% NFP --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- Brown, Fibrous (5%): 15% Cellulose 75% Ceramic Wool 10% NFP --- Metal Foil (5%) 100% Metal** --- Yellow, Consolidated (73%): 80% FG/MW 20% NFP/Binder
10-23-89 T26988 02-01-051	TSI - 23	Room 113 F-30	9'-6" West, 1'-0" South of the Northeast Corner of the Room, 725'-6" Elevation	Duct Insulation (Packing)	White, Fiber-weave, Painted Brown (10%): 90% Cotton 10% NFP --- Gray, Compact, Fibrous (90%): 55% Chrysotile 10% FG/MW 35% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-23-89 T26989 02-01-052	TSI - 23	Room 113 F-30	15'-0" South, 5'-0" West of the Northeast Corner of the Room, 726'-6" Elevation	Duct Insulation (Packing)	White, Fiber-weave, Painted Brown (10%): 80% Cotton 5% FG/MW 15% NFP --- Gray, Compact, Fiber (90%): 50% Chrysotile 25% FG/MW 25% NFP

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material conditiona assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Administration Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-). Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1**	MM-1	-	----	----	----	----	----
Room 100	SM-4	-	----	----	----	----	----
	TSI-13	-	----	----	----	----	----
	TSI-23*	5	Good	Low	Low	Low	Low
F-2**	MM-2	-	----	----	----	----	----
Room 101	MM-5	5	Good	High	Low	Low	High
	MM-9	-	----	----	----	----	----
F-3**	MM-2	-	----	----	----	----	----
Room 102	MM-5	5	Good	High	Low	Low	High
	MM-9	-	----	----	----	----	----
	MM-14	-	----	----	----	----	----
F-4	SM-4	-	----	----	----	----	----
Closet	MM-5	5	Good	High	Low	Low	High
Room 102	MM-9	-	----	----	----	----	----
F-5	MM-1	-	----	----	----	----	----
Room 115	MM-3	5	Good	High	Low	Low	High
	MM-9	-	----	----	----	----	----

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-6	MM-3	5	Good	High	Low	Low	High
Room 118	SM-6	-	----	----	----	----	----
	MM-9	-	----	----	----	----	----
	TSI-17	-	----	----	----	----	----
F-7	MM-1	-	----	----	----	----	----
East-West	SM-4	-	----	----	----	----	----
Hallway	TSI-10	5	Good	Low	Low	Low	Low
	TSI-13	-	----	----	----	----	----
	TSI-23*	5	Good	Low	Low	Low	Low
F-8**	SM-4	-	----	----	----	----	----
Room 104	TSI-13	-	----	----	----	----	----
	TSI-23*	5	Good	Low	Low	Low	Low
F-9	MM-1	-	----	----	----	----	----
North-	SM-6	-	----	----	----	----	----
South Hallway							
F-10	MM-1	-	----	----	----	----	----
Foyer	SM-6	-	----	----	----	----	----
North End of North- South Hallway	TSI-17	-	----	----	----	----	----
F-11	MM-5	5	Good	High	Low	Low	High
Room 116	MM-9	-	----	----	----	----	----
	TSI-13	-	----	----	----	----	----
	TSI-23*	5	Good	Low	Low	Low	Low
F-12	MM-1	-	----	----	----	----	----
Room 117							
F-13	MM-1	-	----	----	----	----	----
Room 120	TSI-17	-	----	----	----	----	----
F-14	MM-1	-	----	----	----	----	----
Room 119	MM-9	-	----	----	----	----	----
	MM-15	5	Good	High	Low	Low	High
	TSI-17	-	----	----	----	----	----
F-15**	SM-6	-	----	----	----	----	----
Rooms 124 & 125	TSI-17	-	----	----	----	----	----

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-16 Room 124	SM-6	-	----	----	----	----	----
F-17 Room 123	SM-6	-	----	----	----	----	----
	TSI-17	-	----	----	----	----	----
F-18** Room 126	SM-4	-	----	----	----	----	----
F-19 Room 127	TSI-13	-	----	----	----	----	----
	TSI-23*	5	Good	Low	Low	Low	Low
F-20 Room 105	MM-1	-	----	----	----	----	----
	MM-9	-	----	----	----	----	----
	TSI-13	-	----	----	----	----	----
	MM-14	-	----	----	----	----	----
	TSI-23*	5	Good	Low	Low	Low	Low
F-21 Closet to Room 105	SM-4	-	----	----	----	----	----
F-22 Room 108	MM-1	-	----	----	----	----	----
	MM-7	5	Good	High	Moderate	Moderate	High
	MM-9	-	----	----	----	----	----
	TSI-17	-	----	----	----	----	----
F-23 Room 106	SM-4	-	----	----	----	----	----
F-24 Room 112	MM-1	-	----	----	----	----	----
F-25 Room 111	MM-1	-	----	----	----	----	----
	MM-7	5	Good	High	Moderate	Moderate	High
	MM-9	-	----	----	----	----	----
F-26 Room 110	MM-1	-	----	----	----	----	----
F-27 Room 109	No Suspect ACBM Present.						

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-28	MM-1	-	----	----	----	----	----
Room 128	MM-9	-	----	----	----	----	----
	TSI-10	5	Good	Low	Low	Low	Low
	MM-14	-	----	----	----	----	----
	TSI-17	-	----	----	----	----	----
F-29	MM-1	-	----	----	----	----	----
Office	MM-9	-	----	----	----	----	----
in Room	MM-14	-	----	----	----	----	----
128							
F-30	TSI-8	1	Fair	High	Moderate	Moderate	High
Room 113,	MM-9	-	----	----	----	----	----
Boiler	TSI-10	5	Good	High	Moderate	Moderate	High
Room	TSI-11	5	Good	High	Moderate	Low	High
	TSI-13	-	----	----	----	----	----
	TSI-16	1	Fair	Moderate	Moderate	Low	Moderate
	TSI-17	-	----	----	----	----	----
	MM-18	-	----	----	----	----	----
	MM-20	5	Good	High	Moderate	High	High
	MM-21	5	Good	Low	Low	Low	Low
	TSI-23*	5	Fair	High	Moderate	Moderate	High
F-31	TSI-12	5	Good	High	Low	Moderate	High
East	TSI-17	-	----	----	----	----	----
Corridor							
to Blower							
Building							
F-32	TSI-10	5	Good	High	Low	Low	High
Top	TSI-13	-	----	----	----	----	----
Landing	TSI-17	-	----	----	----	----	----
to Stairs	TSI-23*	5	Good	High	Low	Low	High
F-33		No Suspect ACBM Present					
Bottle							
Gas Room							

*Note: Asbestos-containing duct packing/mud insulation (TSI-23) may be present under the cloth of non-asbestos-containing duct wrap (TSI-13). Due to the inaccessibility of the material and the potential to due damage to material in otherwise good condition it was assumed to be present with TSI-13. If this material is to be disturbed in the future it should be inspected at that time for the presence of the asbestos-containing duct wrapping/packing by an accredited AHERA inspector.

**Note: Areas above drop plaster ceilings or lay-in 12" x 12" ceiling tiles that were inaccessible during the survey.

* * * * * * *

SECTION IV/02

INSPECTION REPORT: Building No. 02-02

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Aeration Laboratory Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1965/1980

SQUARE FOOTAGE: 2,935

NUMBER OF FLOORS: 1 with basement

CONSTRUCTION TYPE: Reinforced Concrete Foundation Walls and Floors

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Aeration Laboratory Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
MM - 1	9" x 9" Gray with White and Black Specks, Floor Tile	N	Y	755 Square Feet
TSI - 2	Cold Water, Protected Water Line, Pipe Fitting Insulation	F	Y	40 Fittings
TSI - 3	Duct Insulation	F	N	18 Square Feet
MM - 5	Gasket Material on Fan Unit	F	Y	1 Linear Foot
MM - 6	Baseboard Molding	N	N	87 Linear Feet
TSI - 7[1]	Fan Unit Access Panel Insulation	F	Y	1 Square Foot
MM - 10	Fire Doors	N	N	5 Doors
	Assumed ACBM			
TSI - 4[2]	Drain Line Pipe Fitting Insulation	F	Y	40 Fittings

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
	Assumed ACBM			
MM - 8	Duct Expansion Joints	F	Y	2 Expansion Joints
MM - 9	Flange Gasket Joint	F	Y	115 Gaskets

[1] Note: This material is associated with the gasket material sampled on the fan units throughout the facility. Due to the accessibility of this material it may not have been sampled at all locations but is likely to be present on the inside cover to the round access panel.

[2] Note: Samples of this material could not be obtained at the time of the survey because of the materials location and elevation above the floor.

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Aeration Laboratory Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-13-89 T27619 02-02-001	MM - 1	Service Shop F-1	Southwest Side of Entrance to Service Shop, Under Drinking Fountain, Elevation 717'-8"	Floor Tile	Gray, Hard, Compact (95%): 5% Chrysotile 95% NFP --- Black, Compact, Resinous (5%): 2% Chrysotile 98% NFP
11-13-89 T27620 02-02-002	MM - 6	Laboratory F-2	Northeast Corner of Laboratory Table Top on North Wall, Elevation 717'-11"	Vinyl Molding	Black, Compact, Flexible (95%): 100% NFP --- Brown, Compact, Resinous (5%): 100% NFP
11-13-89 T27621 02-02-003	MM - 1	Laboratory F-2	Northwest Corner of Room, Elevation 717'-8"	Floor Tile	Gray, Hard, Compact (95%): 3% Chrysotile 97% NFP --- Brown, Compact, Resinous (5%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-13-89 T27622 02-02-004	MM - 6	Service Shop F-1	Northeast Corner of the Room, Elevation 717'-11"	Vinyl Molding	Black, Compact, Flexible (95%): 100% NFP --- Brown, Compact, Resinous (5%): 100% NFP
11-13-89 T27623 02-02-005	TSI - 3	Garage F-5	4'-6" North, 2'-0" West of the Southeast Corner of the Room, Elevation 726'-4"	Duct Insulation	White, Compact, Fiberweave (20%): 100% Cotton --- Yellow, Consolidated, Fibrous (70%): 90% FG/MW 10% NFP/Binder --- Yellow, Compact Papery (5%): 100% Cellulose --- Silver Foil (2%): 100% Metal** --- Yellow, Consolidated, Fibrous (3%): 100% Glass Wool
11-13-89 T27024 02-02-006	MM - 5	Garage F-5	6'-6" West, 4'-6" North of the Southeast Corner of the Room, Elevation 726'-4"	Gasket Material	Gray, Compact, Fibrous (100%) 85% Chrysotile 15% Polymer Fibers

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-13-89 T27625 02-02-007	TSI - 3	Garage F-5	4'-2" North, 2'-0" West of the Southeast Corner of the Room, Elevation 725'-10"	Duct Insulation	White, Compact Fiberweave (10%): 100% Cotton --- Yellow, Consolidated, Fibrous (85%): 60% FG/MW 30% Polymer Fibers 10% NFP/Binde --- Yellow, Compac Papery (3%): 80% Cellulose 20% FG/MW --- Silver Foil (2%): 100% Metal**
11-13-89 T27626 02-02-008	TSI - 7	Garage F-5	6'-6" West, 4'-6" North of the South-east Corner of the Room, Elevation 725'-10"	Access Panel Insulation	White, Compact Fibrous (100%) 80% Chrysotil 20% NFP
11-13-89 T27627 02-02-009	TSI - 3	Garage F-5	3'-0" North, 3'-0" West of the Southeast Corner of the Room, Elevation 724'-8"	Duct Insulation	White, Compact Fiberweave (5% 100% Cotton --- Silver Foil (5%): 100% Metal** --- Brown, Compact Papery (5%): 55% Cellulos 10% FG/MW 35% NFP --- Yellow, Consolidated, Fibrous (85%) 85% FG/MW 15% NFP/Bind

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-13-89 T27628 02-02-010	TSI - 2	Basement F-6	First Landing of Stairway, South Wall of the Basement, 6" Cold Water Line, 6" North, 3'-7" West of the Southeast Corner of the Room, Elevation 712'-11"	Pipe Joint Insulation	White, Compact Fiberweave (5% 100% Cotton --- White, Compact Fibrous (95%): 10% Chrysotil 35% FG/MW 55% NFP/ Diatoma- ceous Ear
11-13-89 T27629 02-02-011	TSI - 2	Basement F-6	Protected Water Line, 16'-9" North, 4'-0" East of Fire Extinguisher #53, Elevation 702'-10"	Pipe Joint Insulation	White, Comapct Fiberweave (5% 100% Cotton --- Gray, Compact, Powder (95%): 40% FG/MW 60% NFP/ Diamtoma- ceous Ear
11-13-89 T27630 02-02-012	TSI - 2	Basement F-6	Protected Water Line, 16'-9" North, 6'-0" West of Fire Extinguisher #53, Elevation 702'-2"	Pipe Joint Insulation	White, Compact Fiberweave (7% 100% Cotton --- Gray, Compact, Fibrous (93%): 3% Chrysotil 37% FG/MW 60% NFP/ Diatoma- ceous Ear

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Aeration Laboratory Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1	MM-1	5	Fair	High	Low	Low	High
Service	MM-6	-	----	--------	--------	---	--------
Shop	MM-10	-	----	--------	--------	---	--------
F-2	MM-1	5	Good	High	Low	Low	High
Laboratory	MM-6	-	----	--------	--------	---	--------
	MM-10	-	----	--------	--------	---	--------
F-3	MM-1	5	Good	High	Low	Low	High
Foyer							
F-4	MM-1	5	Good	High	Low	Low	High
Bathroom	MM-10	-	----	--------	--------	---	--------
F-5	TSI-3	-	----	--------	--------	---	--------
Garage	MM-5	5	Good	High	Moderate	Moderate	High
	TSI-7	5	Good	Low	Moderate	Moderate	Moderate
	MM-8	5	Good	High	Moderate	High	High
	MM-10	-	----	--------	--------	---	--------
F-6	TSI-2	5	Good	Moderate	Moderate	Low	Moderate
Basement	TSI-4	5	Good	Low	Moderate	Low	Moderate
	MM-9	5	Good	Low	Low	Low	Low

* * * * * *

SECTION IV/03

INSPECTION REPORT: Building No. 02-03

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Blower Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1965; Renovation 1980

SQUARE FOOTAGE: 8,673

NUMBER OF FLOORS: 2

CONSTRUCTION TYPE: Reinforced Concrete Basement/With Concrete Block

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumes ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Blower Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Drain Line/Pipe Fitting Insulation	F	Y	23 Pipe Fittings
TSI - 2	Blower Insulation Unit #4	F	N	1,130 Square Feet
TSI - 3	Blower Insulation Units #1-3	F	N	1,394 Square Feet
MM - 4	Baseboard Molding	F	N	310 Linear Feet
TSI - 5	Pipe Fitting Insulation/Protected Water Line (Original)	F	Y	76 Fittings
TSI - 6	Air Makeup Duct Insulation	F	Y	943 Square Feet
SM - 7*	Air Discharge Duct Sound Proofing	F	N	3,110 Square Feet
TSI - 8	Pneumatic Tank for Protected Water	F	Y	157 Square Feet
TSI - 9	Open Tank for Protected Water and Pneumatic Tank for Portable Water	F	N	400 Square Feet

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 10	Pipe Fitting Insulation/Protected Water Line (New)	F	N	21 Fittings
TSI - 11	Fan Unit Duct Insulation	F	N	100 Square Feet
TSI - 12	Blower Duct Insulation Units #1-3 (Elbows)	F	N	207 Square Feet
MM - 13	Ceiling Insulation	F	N	4,070 Square Feet
MM- 16	Fire Doors	N	N	2 Doors
	Assumed ACBM			
MM - 14	Flange Joint Gaskets	N	Y	122 Gaskets
MM - 15	Duct Expansion Joint	N	Y	1 Expansion Joint

*Non-Fibrous/Non-Friable

* * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Blower Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25398 02-03-001	SM - 7	Basement F-1	North Side of Air Discharge Duct, 7'-0" North, 9'-0" West of South-east Corner, 705'-3" Elevation	Air Discharge Sound Proofing	Green, Compact Fibrous (100%) 100% NFP
09-21-89 T25399 02-03-002	SM - 7	Basement F-1	South End of #4 Blower Discharge Silencer, 10'-0" North, 20'-8" West of Southeast Corner, 707'-10" Elevation	Air Discharge Sound Proofing	Green, Compact Fibrous (100%) 100% NFP
09-21-89 T25400 02-03-003	SM - 7	Basement F-1	West End of Air Discharge Duct, 1'-4" North, 8'-7" East of South-west Corner 704'-8" Elevation	Air Discharge Sound Proofing	Green, Compact Fibrous (100%) 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25401 02-03-004	TSI - 9	Basement F-1	South Side of Pneumatic Tank for Portable Water, 4'-4" East, 7'-7" North of South-west Corner, 704'-5" Elevation	Tank Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- White, Compact, Fibrous (3%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (82%): 90% FG/MW 10% NFP/Binder
09-21-89 T25402 02-03-005	TSI - 9	Basement F-1	South Side of Open Tank For Protected Water, 15'-9" North, 3'-3" East of South-west Corner, 704'-0" Elevation	Tank Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- White, Compact, Papery (5%): 85% Cellulose 15% NFP --- White, Compact, Fibrous (3%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (82%): 90% FG/MW 10% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25403 02-03-006	TSI - 9	Basement F-1	North Side of Pneumatic Tank for Portable Water, 3'-0" East, 11'-2" North of Southwest Corner, 705'-7" Elevation	Tank Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- White, Compact, Fibrous (3%): 100% Ceramic Wool --- Silver Foil (5% 100% Metal** --- Yellow, Consolidated, Fibrous (82%): 95% FG/MW 5% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25404 02-03-007	TSI - 9	Basement F-1	East Side of Pneumatic Tank For Portable Water, 5'-0" East, 9'-8" North of South-west Corner, 703'-8" Elevation	Tank Insulation	White, Compact, Fiberweave, Painted Black (5%): 100% Cotton --- Brown, Compact, Fibrous (64%): 15% Cellulose 50% FG/MW 35% NFP --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- White, Compact, Fibrous (1%): 100% Ceramic Wool --- Silver Foil (5% 100% Metal** --- Yellow, Consolidated, Fibrous (20%): 90% FG/MW 10% NFP/Binder
09-21-89 T25405 02-03-008	TSI - 9	Basement F-1	Northeast Underside of Pneumatic Tank for Portable Water, 4'-0" East, 11'-0" North of South-west Corner, 701'-5" Elevation	Tank Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- Gray, Compact, Fibrous (95%): 15% Cellulose 60% FG/MW 25% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25406 02-03-009	TSI - 9	Basement F-1	East Side of Open Tank for Protected Water, 5'-4" East, 18'-2" North of South-west Corner, 708'-0" Elevation	Tank Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- White, Compact, Fibrous (2%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal** --- Gray, Compact, Fibrous (30%): 20% Cellulose 50% FG/MW 30% NFP --- Yellow, Consolidated, Fibrous (53%): 90% FG/MW 10% NFP/Binde

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25407 02-03-010	TSI - 8	Basement F-1	East Side of Pneumatic Tank for Protected Water, 26'-8" North, 4'-8" East of South-west Corner, 709'-11" Elevation	Tank Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous (5%): 70% Chrysotile 5% FG/MW 25% NFP --- White, Compact, Fibrous, Non-Homogeneous (69%): 10% Chrysotile 50% FG/MW 40% NFP/ Diatomaceou Earth --- Yellow, Consolidated, Fibrous (20%): 90% FG/MW 10% NFP/Binder --- Black, Hard, Granular (1%): 100% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25408 02-03-011	TSI - 8	Basement F-1	East Side of Pneumatic Tank for Protected Water, 24'-8" North, 4'-8" East of South-west Corner, 710'-4" Elevation	Tank Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous (5%): 65% Chrysotile 10% FG/MW 25% NFP/ Diatomaceou Earth --- White, Compact, Fibrous, Non-Homogeneous (88%): 5% Chrysotile 75% FG/MW 20% NFP/ Diatomaceou Earth --- Yellow, Consolidated, Fibrous (2%): 90% FG/MW 10% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB # / SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25409 02-03-012	TSI - 8	Basement F-1	South End of Pneumatic Tank for Protected Water, 21'-5" North, 4'-0" East of South-west Corner, 709'-4" Elevation	Tank Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- White, Compact, Fibrous, Non-Homogeneous (65%): 10% Chrysotile 60% FG/MW 30% NFP/ Diatomaceou Earth --- Yellow, Consolidated, Fibrous (30%): 80% FG/MW 20% NFP/Binder
09-21-89 T25410 02-03-013	TSI - 6	Basement F-1	West End of Makeup Air Duct, 6'-10" South, 6'-5" East of North-west Corner, 704'-8" Elevation	Air Makeup Duct Insulation	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- Tan, Compact, Flexible (5%): 100% NFP --- Gray, Compact, Fibrous, Non-Homogeneous (55%) 25% Chrysotile 45% FG/MW 30% NFP/ Diatomaceou Earth --- Black, Cellula (35%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25411 02-03-014	TSI - 6	Basement F-1	South Side of Makeup Air Duct, 21'-2" East, 6'-10" South of Northwest Corner, 704'-11" Elevation 704' Elevation	Air Makeup Duct Insulation	White, Compact, Flexible (5%): 100% NFP --- White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- Gray, Compact, Fibrous (5%): 70% Chrysotile 30% NFP --- Black, Cellular (85%): 100% NFP
09-21-89 T25412 02-03-015	TSI - 6	Basement F-1	South Side of Makeup Air Duct, 30'-5" East, 7'-0" South of Northwest Corner, 704'-11" Elevation	Air Makeup Duct Insulation	White, Compact, Fiberweave, Painted Green, Covered with Plastic (5%): 100% Cotton --- Brown, Compact Fibrous (20%): 20% Chrysotile 30% FG/MW 50% NFP/ Diatomaceous Earth --- Tan, Compact, Fibrous, Non-Homogeneous (70%): 10% Chrysotile 55% FG/MW 35% NFP/ Diatomaceous Earth --- Black, Fibrous Powder (5%): 100% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25413 02-03-016	TSI - 3	Basement F-1	South Side of Blower Inlet Silencer #1, 18'-6" South, 9'-0" East of Northeast Corner, 709'-1" Elevation	Blower Duct Insulation (Units #1-3)	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- White, Compact, Fibrous (3%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (82%): 90% FG/MW 10% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25414 02-03-017	TSI - 3	Basement F-1	Underside of Blower Inlet Silencer #2, 23'-6" East, 10'-4" South of Northwest Corner, 708'-6" Elevation	Blower Duct Insulation (Units #1-3)	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- White, Compact, Fibrous (3%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (82%) 85% FG/MW 15% NFP/Binder
09-21-89 T25415 02-03-018	TSI - 5	Basement F-1	6" Outer Diameter, Protected Water Line, 4'-0" East, 20'-10" North of South-West Corner, 707'-10" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave (5%): 100% Cotton --- White, Compact, Fibrous (95%): 3% Amosite 2% Chrysotile 45% FG/MW 50% NFP/ Diatomaceou Earth

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25416 02-03-019	TSI - 5	Basement F-7	6' Outer Diameter, Protected Water Line, 4'-4" East, 23'-10" North of Southwest Corner, 704'-10" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- Brown, Compact, Fibrous (95%): 5% Amosite 2% Chrysotile 43% FG/MW 50% NFP
09-21-89 T25417 02-03-020	TSI - 11	Basement F-1	2'-6" West, 9'-0" North of the Southeast Corner, 709'-5" Elevation	Duct Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- Black, Compact, Resinous (10%): 5% Cellulose 15% FG/MW 80% NFP --- Yellow, Consolidated, Fibrous (85%): 90% FG/MW 10% NFP/Binder

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25418 02-03-021	TSI - 11	Basement F-1	2'-6" West, 11'-0" North of Southeast Corner, 709'-5" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Cream (5%): 100% Cotton --- White, Compact, Papery (5%): 95% Cellulose 5% NFP --- White, Compact, Fibrous (2%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal** --- Black, Compact, Resinous (10%): 30% Cellulose 15% FG/MW 55% NFP --- Yellow, Consolidated, Fibrous (73%): 90% FG/MW 10% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25419 02-03-022	TSI - 11	Basement F-1	Along East wall, 10'-0" North of South-east Corner, 708'-8" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Cream (5%): 100% Cotton --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- White, Compact, Fibrous (2%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal** --- Black, Compact, Resinous (30%): 20% FG/MW 80% NFP --- Yellow, Consolidated, Fibrous (53%): 90% FG/MW 10% NFP/Binde
09-21-89 T25420 02-03-023	TSI - 1	Basement F-1	18'-0" North, 22'-6" East of Southwest Corner, 713'-11" Elevation	Pipe Joint Insulation	White, Compact Fiberweave, Painted Black (5%): 100% Cotton --- Tan, Compact, Fibrous (95%): 10% Chrysotil 50% FG/MW 40% NFP/ Diatomaceo Earth

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25421 02-03-024	TSI - 3	Basement F-1	South Side of Blower Inlet Silencer #3, 16'-4" South, 39'-6" East of Northwest Corner, 708'-11" Elevation	Blower Duct Insulation (Units #1-3)	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- White, Compact, Fibrous (3%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (87%): 90% FG/MW 10% NFP/Binder
09-21-89 T25422 02-03-025	TSI - 12	First Floor F-2	West Side of Blower Inlet, 7'-2" East, 20'-3" South of Northwest Corner, 720'-8" Elevation	Blower Duct Insulation (Elbows)	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- Gray, Compact, Fibrous (80%): 40% FG/MW 60% NFP --- Yellow, Consolidated, Fibrous (15%): 90% FG/MW 10% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25423 02-03-026	TSI - 12	First Floor F-2	East Side of Blower #2 Inlet, 24'-9" East, 20'-3" South of Northwest Corner, 720'-11" Elevation	Blower Duct Insulation (Elbows)	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- White, Compact, Fibrous (2%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal** --- Gray, Compact, Fibrous (53%): 40% FG/MW 60% NFP --- Yellow, Consolidated, Fibrous (30%): 90% FG/MW 10% NFP
09-21-89 T25424 02-03-027	TSI - 12	First Floor F-2	South End of Blower #3 Inlet, 36'-3" East, 21'-9" South of Northwest Corner, 721'-2" Elevation	Blower Duct Insulation (Elbows)	White, Compact, Fiberweave, Painted Green (5%) 100% Cotton --- Gray, Compact, Fibrous, Powde (95%): 45% FG/MW 55% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25425 02-03-028	TSI - 1	First Floor F-2	5'-5" North, 17'-8" West of Southeast Corner, Original Building, 744'-3" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave (5%) 100% Cotton ---------- Tan, Compact, Fibrous, Non-Homogeneous (95%): 10% Chrysotile 40% FG/MW 50% NFP/ Diatomaceou Earth
09-21-89 T25426 02-03-029	TSI - 1	Addition, First Floor F-3	2'-6" East, 7'-0" North of Southwest Corner of Addition, 728'-0" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave (5%) 100% Cotton ---------- Gray, Compact, Fibrous, Powder (95%): 40% FG/MW 60% NFP/ Diatomaceou Earth
09-21-89 T25427 02-03-030	MM - 13	First Floor F-2	Along East Wall, 14'-0" North of South-east Corner, Original Building, 745'-6" Elevation	Ceiling Insulation	Yellow, Consolidated, Fibrous (100%): 80% FG/MW 20% NFP/Binder
09-21-89 T25428 02-03-031	TSI - 5	First Floor F-2	3" Outer Diameter, Oil Cooling, Water West Side of Blower #3, 34'-0" East, 27'-3" South of Northwest Corner, 719'-5" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton ---------- Gray, Compact, Fibrous, Powder (95%): 10% Chrysotile 45% FG/MW 45% NFP/ Diatomaceou Earth

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25429 02-03-032	MM - 4	First Floor F-2	Southeast Corner, 717'-9" Elevation	Vinyl Molding	Black, Compact, Flexible (98%): 100% NFP --- Brown, Resinous (2%): 5% Cellulose 95% NFP
09-21-89 T25430 02-03-033	MM - 4	Addition, First Floor F-3	Northwest Corner, 717'-9" Elevation	Vinyl Molding	Black, Compact, Flexible (95%): 100% NFP --- Brown, Resinous (5%): 100% NFP
09-21-89 T25431 02-03-034	TSI - 2	First Floor F-2	East Side of Blower Inlet #4, 19'-0" West, 22'-4" South of North-east corner, 722'-10" Elevation	Blower Duct Insulation (Unit #4)	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- White, Compact Fibrous (3%): 100% Ceramic Wool --- Silver Foil (10%): 100% Metal** --- Brown, Compact Papery (5%): 100% Cellulose --- Yellow, Consolidated, Fibrous (72%) 95% FG/MW 5% NFP/Binde

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-21-89 T25432 02-03-035	TSI - 2	First Floor F-2	East Side of Blower Inlet #4, 19'-0" West, 19'-4" South of Northeast Corner, 722'-8" Elevation	Blower Duct Insulation (Unit #4)	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- White, Compact, Papery (5%): 80% Cellulose 20% NFP --- White, Compact, Fibrous (3%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (82%): 90% FG/MW 10% NFP/Binder
09-21-89 T25433 02-03-036	TSI - 2	Basement F-1	South End of Blower Inlet Silencer #4, 17'-8" South, 21'-0" West of Northeast Corner, 708'-8" Elevation	Blower Duct Insulation (Unit #4)	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- Silver Foil (5%): 100% Metal** --- White, Compact, Fibrous (3%): 100% Ceramic Wool --- Yellow, Consolidated, Fibrous (87%): 90% FG/MW 10% NFP/Binde

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-29-89 T28409 02-03-037	TSI - 10	First Floor F-2	3" Outer Diameter, Protected Water Line, Off Blower #4, 14"-8" North, 24'-6" West of the South-east Corner of the Room, 721'-6" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton ---------- Gray, Compact, Fibrous (95%): 10% Cellulose 45% FG/MW 45% NFP/ Diatomaceou Earth
11-29-89 T28410 02-03-038	TSI - 10	First Floor F-2	3" Outer Diameter, Protected Water Line, Off Blower #4, 15'-8" West, 20'-0" North of the Southeast Corner of the Room, 719-0" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton ---------- Gray, Compact, Fibrous (95%): 45% FG/MW Diatomaceou Earth
11-29-89 T28411 02-03-039	TSI - 10	Basement F-1	5" Outer Diameter, Protected Water Line, 5'-0" West of Stairs Leading to Aeration Tunnel, 707'-3" Elevation	Pipe Joint Insulation	Gray, Compact, Fibrous (100%) 40% FG/MW 60% NFP Diatomaceou Earth

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Blower Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 Basement	TSI-1	5	Good	Moderate	Moderate	Low	Moderate
	TSI-2	-	----	----	----	----	----
	TSI-3	-	----	----	----	----	----
	TSI-5	1	Fair	High	Moderate	Low	High
	TSI-6	5	Good	High	Moderate	Low	High
	SM-7	-	----	----	----	----	----
	TSI-8	5	Good	High	Moderate	Low	High
	TSI-9	-	----	----	----	----	----
	TSI-10	-	----	----	----	----	----
	TSI-11	-	----	----	----	----	----
	MM-14	5	Good	Low	Low	Low	Low
	MM-15	5	Good	Moderate	Low	Low	Moderate
F-2 First Floor	TSI-1	5	Good	Moderate	Low	Low	Moderate
	TSI-2	-	----	----	----	----	----
	TSI-3	-	----	----	----	----	----
	MM-4	-	----	----	----	----	----
	TSI-5	1	Fair	High	Moderate	Low	High
	TSI-12	-	----	----	----	----	----
	MM-13	-	----	----	----	----	----
	MM-14	5	Good	Low	Low	Low	Low
	MM-16	-	----	----	----	----	----

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-3 First Floor Addition	TSI-1 MM-4	5 -	Good ----	High ----	Moderate ----	Low ----	High ----
F-4 Basement Addition		No Suspect ACBM Present.					
F-5 Cable Passage-Basement	TSI-1	5	Good	Low	Low	Low	Low

* * * * * *

SECTION IV/04

INSPECTION REPORT: Building No. 02-04

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Chlorine Feeding and Scale Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1965

SQUARE FOOTAGE: 669

NUMBER OF FLOORS: 1

CONSTRUCTION TYPE: Concrete Block

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Chlorine Feeding and Scale Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Domestic Water Line, Pipe Fitting Insulation (Original)	F	Y	42 Pipe Fittings
MM - 2	9" x 9" Floor Tile and Adhesive, Light Gray With Brown, White and Red Streaks	N	Y	288 Square Feet
TSI - 3*	Domestic Waterline, Straight Pipe Insulation	F	N	90 Linear Feet
SM - 4**	Ceiling Plaster	N	N	289 Square Feet
MM - 6	Fire Doors	N	N	3 Doors
TSI - 7	Cold Water Line, Pipe Fitting Insulation (New)	F	N	10 Fittings
	Assumed ACBM			
MM - 5	Flange Joint Gasket	N	Y	55 Gaskets

* One sample of fiberglass straight pipe insulation was taken in order to document its presence.

** Non-Friable/Non-Fibrous

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Chlorine Feeding and Scale Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-18-89 T25250 02-04-001	MM - 2	Chlorine Room F-1	9" East of the Northwest Corner of the Chlorinator, Unit #1, Elevation 717'-6"	Floor Tile	Tan, Hard, Compact (95%): 2% Chrysotile 98% NFP --- Black, Compact, Resinous (5%): 100% NFP
09-18-89 T25251 02-04-002	SM - 4	Chlorine Room F-1	1'-0" North of the Northeast Corner of the West Light Fixture, Elevation 728'-0"	Ceiling Plaster	White, Compact, Cementitious, Painted Gray: 100% NFP
09-18-89 T25252 02-04-003	MM - 2	Chlorine Room F-1	6" West of the Southeast Corner of Evaporator Unit #2, Elevation 717'-6"	Floor Tile	Tan, Hard, Compact (95%): 3% Chrysotile 97% NFP --- Black, Compact, Resinous (5%) 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-18-89 T25253 02-04-004	TSI - 1	Chlorine Room F-1	4" Outer Diameter Water Line, 8'-0" North of Southwest Corner Along the West Wall, Elevation 726'-6"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous, Non-Homogeneous (90%): 10% Chrysotile 30% FG/MW 25% Cotton 35% NFP
09-18-89 T25254 02-04-005	TSI - 3	Chlorine Room F-1	West Wall, 8'-0" North of the Southwest Corner, Elevation 722'-6"	Straight Pipe Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- White, Compact, Fibrous, Papery (10%): 60% Cellulose 15% Ceramic Wool 10% FG/MW 15% NFP --- Silver Foil (10%): 100% Metal** --- Yellow, Consolidated, Fibrous (70%): 85% FG/MW 15% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-18-89 T25255 02-04-006	SM - 4	Chlorine Room F-1	Northeast Corner, Elevation 728'-0"	Ceiling Plaster	White, Compact Cementitious, Painted Gray: 100% NFP
09-18-89 T25256 02-04-007	TSI - 1	Chlorine Room F-1	3'-0" East of Southwest Corner Along South Wall, Elevation 718'-6"	Pipe Joint Insulation	White, Compact Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous, Non-Homogeneous (90%): 15% Chrysotil 35% FG/MW 50% NFP
09-18-89 T25257 02-04-008	MM - 2	Chlorine Room F-1	3" West of the Northeast Corner, Elevation 717'-6"	Floor Tile	Tan, Hard, Compact (95%): 5% Chrysotil 95% NFP --- Black, Compact Resinous (5%): 100% NFP
09-18-89 T25258 02-04-009	SM - 4	Chlorine Room F-1	10'-0" South of Northeast Corner Along East Wall, Elevation 728'-0"	Ceiling Plaster	White, Compact Cementitious, Painted Gray: 100% NFP
09-18-89 T25259 02-04-010	TSI - 7	Scale Room F-2	4'-0" East of the Southwest Corner, Along the South Wall, Elevation 725'-10"	Pipe Joint Insulation	White, Compact Fiberweave (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 40% FG/MW 60% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-06-89 L 6026 02-04-011	MM - 6	Chlorine Room F-1	West Door to Chlorine Room, Elevation 721'-0"	Fire Door	Dark Brown, Homogeneous, Fibrous (100%): 95% FG/MW 5% NFP
11-29-89 T28412 02-04-012	TSI - 7	Scale Room F-2	3" Outer Diameter, Cold Water Line, 2'-6" East, 6" West of the Northwest Corner of the Room, Elevation 721'-6"	Pipe Joint Insulation	White, Compact Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous (95%): 40% FG/MW 60% NFP/ Diatomaceous Ear
11-29-89 T28413 02-04-013	TSI - 7	Blower, Main Floor F-3	3" Outer Diameter, Cold Water Line, 10" East, 1'-0" South of the Northwest Corner of the Room, Elevation 725'-6"	Pipe Joint Insulation	White, Compact Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous (95%): 45% FG/MW 55% NFP/ Diatomaceous Ear

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Chlorine Feeding and Scale Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 Chlorine Room	TSI-1	5	Good	Moderate	Low	Low	Moderate
	MM-2	5	Good	High	Low	Low	High
	TSI-3	-	----	--------	--------	---	--------
	SM-4	-	----	--------	--------	---	--------
	MM-5	5	Good	Low	Low	Low	Low
	MM-6	-	----	--------	--------	---	--------
F-2 Scale Room	TSI-3	-	----	--------	--------	---	--------
	MM-6	-	----	--------	--------	---	--------
	TSI-7	-	----	--------	--------	---	--------
F-3 Blower Building Ground Level	TSI-7*	-	----	--------	--------	---	--------

*This line passes through the wall of the Chlorine Building (Scale Room) into the Blower Building which considered a separate building for all other suspect material.

* * * * * *

SECTION IV/05

INSPECTION REPORT: Building No. 02-05

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Digester Sludge Storage and Compressor Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1965; Addition 1980

SQUARE FOOTAGE: 3,250 Square Feet

NUMBER OF FLOORS: 2

CONSTRUCTION TYPE: Masonry

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Digester Sludge Storage and Compressor Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Roof Drain Pipe Fitting Insulation	F	N	7 Fittings
TSI - 2	Protected Effluent Water Lines-Pipe Fitting Insulation (New Addition)	F	N	61 Fittings
TSI - 3	Duct Insulation	F	N	25 Square Feet
TSI - 4	Boiler Gasket off Sludge Heat Exchanger and Fan Unit Gasket, Access Panel Insulation	F	Y	30 Linear Feet
TSI - 5	Heating Supply/Return Lines/Effluent Lines - Pipe Fitting Insulation	F	Y	83 Fittings
TSI - 6	Heating Supply/Return Lines (West Sludge Heat Exchanger Room)-Straight Pipe/Pipe Joint Insulation	F	Y	258 Linear Feet 43 Joints
TSI - 7	Tank Insulation	F	Y	45 Square Feet
MM - 10	Fire Doors	N	N	2 Doors
	Assumed ACBM			
MM - 8	Flange Joint Gaskets	N	Y	747 Gaskets
MM - 9	Duct Expansion Joints	N	Y	1 Expansion Joint

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Digester Sludge Storage and Compressor Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 T26378 02-05-001	TSI - 3	Compressor Room F-1	7'-4" South, 10" West of the Northeast Corner of the Room, South Side of Fan Unit SF-11, 729'-7" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Silver Foil (5%): 100% Metal** --- White, Compact, Fibrous (2%): 80% Ceramic Wool, 20% NFP --- Brown, Compact, Papery (5%): 70% Cellulose, 25% FG/MW, 5% NFP --- Yellow, Consolidated, Fibrous (83%): 95% FG/MW, 5% NFP/Binde

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 T26379 02-05-002	TSI - 3	Compressor Room F-1	North Side of Fan Unit SF-11, 5'-0" South, 6" West of the Northeast Corner of the Room, 729'-7" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Silver Foil (5%): 100% Metal** --- White, Compact Fibrous (2%): 95% Ceramic Wool 5% NFP --- Brown, Compact Papery (5%): 50% Cellulose 20% FG/MW 30% NFP --- Yellow, Consolidated, Fibrous (83%): 90% FG/MW 10% NFP/Binde
10-09-89 T26380 02-05-003	TSI - 7	West Sludge Heat Exchanger Room F-3	19'-4" East of the Northwest Corner of the Room Off Open Water Tank, 725'-0" Elevation	Tank Insulation	White, Compact Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous, Non-Homogeneou (55%): 35% FG/MW 10% Chrysotil 55% NFP --- Yellow, Consolidated, Fibrous (45%): 85% FG/MW 15% NFP/Binde

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 T26381 02-05-004	TSI - 5	North Sludge Heat Exchanger Room F-2	4" Outer Diameter Heating Return Line South Side of West Heat Exchange Unit, 727'-4" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Gray (5%): 100% Cotton --- Gray, Compact, Fibrous, Non-Homogeneous (95%): 5% Chrysotile 60% FG/MW 35% NFP
10-09-89 T26382 02-05-005	TSI - 7	West Sludge Heat Exchanger Room F-3	19'-4" East of the Northwest Corner of the Room, Off the Open Water Tank, 721'-9" Elevation	Tank Insulation	White, Compact Fiberweave, (5%): 100% Cotton --- Gray, Compact, Fibrous, Non-Homogeneou (55%): 10% Chrysotil 50% FG/MW 40% NFP --- Yellow, Consolidated, Fibrous (40%): 90% FG/MW 10% NFP/Binde
10-09-89 T26383 02-05-006	TSI - 4	North Sludge Heat Exchanger Room F-2	South Side of East Sludge Heat Exchange Unit, Off Gasket to Round Plate, 721'-2" Elevation	Boiler Gasket	White, Compact Fibrous (100%) 50% Chrysotil 40% Polymer Fibers 10% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 T26384 02-05-007	TSI - 4	Compressor Room F-1	North Side of Fan Unit SF-11, 5'-0" South, 4'-0" West of the Northeast Corner of the Room, 730'-0" Elevation	Boiler Gasket	Gray, Compact, Fibrous (100%): 80% Chrysotile 20% NFP
10-09-89 T26385 02-05-008	TSI - 3	Compressor Room F-1	7'-4" South, 3" West of the Northeast Corner of the Room, South Side of Fan Unit SF-11, 732'-5" Elevation	Duct Insulation	White, Compact Fiberweave, Painted Black (5%): 100% Cotton --- Silver Foil (5%): 100% Metal** --- Brown, Compact Papery (5%): 65% Cellulose 15% FG/MW 20% NFP --- Yellow, Consolidated, Fibrous (85%): 85% FG/MW 15% NFP/Binde
10-09-89 T26386 02-05-009	TSI - 7	West Sludge Heat Exchanger Room F-3	19'-4" East of the Northwest Corner of the Room off the Open Water Tank, 725'-0" Elevation	Tank Insulation	White, Compact Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous, Non-Homogeneou (35%): 15% Chrysotil 40% FG/MW 45% NFP --- Yellow, Consolidated, Fibrous (60%): 85% FG/MW 15% NFP/Binde

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 T26387 02-05-010	TSI - 4	North Sludge Heat Exchanger Room F-2	South Side of East Sludge Heat Exchange Unit, Gasket Behind Square Plate, 723'-2" Elevation	Boiler Gasket	Gray, Compact, Fibrous (100%): 55% Chrysotile 25% Polymer Fibers 20% NFP
10-09-89 T26388 02-05-011	TSI - 2	Compressor Room F-1	3" Outer Diameter, Protected Water Line, 7'-10" South, 4" West of the Northeast Corner of the Room, 733'-3" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous (95%): 55% FG/MW 45% NFP
10-09-89 T26389 02-05-012	TSI - 1	Compressor Room F-1	6" Outer Diameter, Roof Drain Line, 11'-2" South, 6'-8" West of the Northeast Corner of the Room, 733'-3" Elevation	Pipe Joint Insulation	White, Compact Fiberweave, Painted White (5%): 100% Cotton --- Gray, Compact, Fibrous, Powde (95%): 40% FG/MW 60% NFP
10-09-89 T26390 02-05-013	TSI - 5	North Sludge Heat Exchanger Room F-2	4" Outer Diameter, Heating Return Line, 16'-0" South, 10'-0" East of Northwest Corner of Room, On the North Side of the West Heat Exchange Unit, 728'-10" Elevation	Pipe Joint Insulation	White, Compact Fiberweave, Painted Gray (5%): 100% Cotton --- Gray, Compact, Fibrous, Non-Homogeneou (95%): 15% Chrysotil 55% FG/MW 30% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 T26391 02-05-014	TSI - 6	West Sludge Heat Exchanger Room F-3	5" Outer Diameter, Heating Supply Line, 9'-6" North, 6'-0" East of the Column at the Top of the Stairs, East Side of North Heat Exchange Unit, 729-'2" Elevation	Straight Pipe Insulation	Brown, Compact, Fiberweave (5%) 100% Cotton --- White, Compact, Fibrous (95%): 15% Chrysotile 35% Amosite 10% Crocidolit 40% NFP
10-09-89 T26392 02-05-015	TSI - 1	North Sludge Heat Exchanger Room F-2	6" Outer Diameter, Roof Drain Line, 21"-0" North, 4'-4" East of the Southwest Corner of the Room. 731'-3" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- Gray, Compact, Fibrous (95%): 45% FG/MW 55% NFP
10-09-89 T26393 02-05-016	TSI - 6	West Sludge Heat Exchanger Room F-3	5" Outer Diameter, Heating Return Line, 4'-3" West, 8'-4" South of Column at the Top of Stairs, Southwest Corner of South Heat Exchange Unit, 724'-11" Elevation	Straight Pipe Insulation	White, Compact, Fiberweave, Painted Brown (5%): 100% Cotton --- White, Compact, Fibrous (95%): 65% Amosite 20% Crocidolit 15% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 T26394 02-05-017	TSI - 2	Compressor Room F-1	5" Outer Diameter, Effluent Water Line, 18'-9" South, 11'-0" West of the Northeast Corner of the Room, 723'-9" Elevation	Pipe Valve Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous (20%): 40% FG/MW 60% NFP --- Silver Foil (5%): 100% Metal** --- White, Compact, Fibrous (2%): 95% Ceramic Wool 5% NFP --- White, Compact, Papery (5%): 90% Cellulose 10% NFP --- Yellow, Compact Cellular (63%): 100% NFP
10-09-89 T26395 02-05-018	TSI - 5	North Sludge Heat Exchanger Room F-2	2" Outer Diameter Heating Supply Line, 24'-4" North, 25'-6" East of the Southwest Corner of the Room, 729'-4" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- Gray, Compact, Fibrous, Non-Homogeneous (95%): 65% FG/MW 5% Chrysotile 30% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 T26396 02-05-019	TSI - 1	Compressor Room F-1	6" Outer Diameter Roof Drain Line, 26'-0" West, 1'-6" South of the Northeast Corner of the Room, 732'-5" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Tan (5%): 100% Cotton --- Gray, Compact, Fibrous (95%): 40% FG/MW 60% NFP
10-09-89 T26397 02-05-020	TSI - 2	North Sludge Heat Exchanger Room F-2	4" Outer Diameter Effluent Water Line, 29'-2" East, 10'-0" North of the Southwest Corner of the Room, 723'-9" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous, Powdery (95%): 40% FG/MW 60% NFP
10-10-89 T26398 02-05-021	TSI - 6	Upstairs Bathroom F - 5	3" Outer Diameter Heating Line, 5'-7" North-east of the Heating Unit, 735'-9" Elevation	Pipe Joint Insulation	White, Compact Fiberweave, Painted Brown (5%): 100% Cotton --- Gray, Compact, Fibrous (5%): 50% Chrysotil 30% Amosite 20% NFP --- White, Compact Fibrous (90%): 75% Amosite 15% Chrysotil 10% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-10-89 T26399 02-05-022	TSI - 5	Old Compressor Room F-6	21'-6" East, 5'-3" South of the Northwest Corner of the Room, 726'-6" Elevation	Pipe Joint Insulation	White, Compact Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous, Powdery (95%): 5% Chrysotil 45% FG/MW 50% NFP/ Diatomaceo Earth
10-10-89 T26400 02-05-023	TSI - 2	Basement Level, West Room F-7	3" Outer Diameter, Protected Water Line, 1'-6" South of South Hand Rail to Stairs, 714'-0" Elevation	Pipe Joint Insulation	White, Compact Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous, Powde (95%): 45% FG/MW 55% NFP/ Diatomaceo Earth

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Digester Sludge Storage and Compressor Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1	TSI-1	-	----	--------	--------	---	--------
Compressor	TSI-2	-	----	--------	--------	---	--------
Room	TSI-3	-	----	--------	--------	---	--------
	TSI-4	5	Good	Moderate	Moderate	Low	Moderate
	MM-8	5	Good	Low	Low	Low	Low
	MM-9	5	Good	Low	High	High	High
	MM-10	-	----	--------	--------	---	--------
F-2	TSI-1	-	----	--------	--------	---	--------
North	TSI-2	-	----	--------	--------	---	--------
Sludge	TSI-4	1	Fair	Moderate	Moderate	Low	Moderate
Heat	TSI-5	1	Fair	Moderate	Low	Low	Moderate
Exchanger	MM-8	5	Good	Low	Low	Low	Low
Room							
F-3	TSI-5	5	Good	Moderate	Low	Low	Moderate
West	TSI-6	5	Good	Moderate	Low	Low	Moderate
Sludge	TSI-7	1	Fair	Moderate	Low	Low	Moderate
Heat	MM-8	5	Good	Low	Low	Low	Low
Exchanger							
Room							

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-4	TSI-6	5	Good	Low	Low	Low	Low
Office	MM-10	-	----	--------	---	---	--------
F-5	TSI-6	1	Fair	Low	Low	Low	Low
Upstairs Bathroom	MM-10	-	----	--------	---	---	--------
F-6	TSI-5	1	Fair	Moderate	Low	Low	Moderate
Old	TSI-6	1	Poor	Moderate	Low	Low	Moderate
Compressor Room	MM-8	5	Good	Low	Low	Low	Low
F-7	TSI-2	-	----	--------	---	---	--------
Basement West Room	MM-8	5	Good	Low	Low	Low	Low
F-8	TSI-2	-	----	--------	---	---	--------
Basement	TSI-5	5	Good	Moderate	Low	Low	Moderate
East Room	MM-8	5	Good	Low	Low	Low	Low
F-9	TSI-2	-	----	--------	---	---	--------
Basement Hallway	MM-8	5	Good	Low	Low	Low	Low

* * * * * * *

SECTION IV/06

INSPECTION REPORT: Building No. 02-06

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: East Pumping Station including East/West Stairwells and Support Buildings

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1982

SQUARE FOOTAGE: 23,197

NUMBER OF FLOORS: 1/with 5 story basement

CONSTRUCTION TYPE: Masonry

COMMENTS:

This building contains:

X - Non-Friable ACBM

X - Assumed ACBM

_ - Friable ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the East Pumping Station, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
SM - 1	Condensate Tar Insulation on Metal Pipe	N	Y	745 Square Feet
MM - 2	Gray/Brown Wallboard	N	N	52 Square Feet
MM - 3	Fire Doors	N	N	3 Fire Doors
	Assumed ACBM			
MM - 4	Flange Joint Gaskets	N	Y	135 Flanges

Note: All accessible straight pipe and pipe joint insulation was foam rubber.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the East Pumping Station, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-15-89 T27922 02-06-001	SM - 1	First Floor F-3	26'-0" West, 3'-0" South of Fire Extinguisher #17, Elevation 705'-6"	Condensate Tar Insulation	Black, Compact, Resinous (100%) 20% Chrysotile 80% NFP
11-15-89 T27923 02-06-002	SM - 1	Second Floor F-4	10'-2" West, 3'-0" North of Fire Extinguisher #19, Elevation 694'-6"	Condensate Tar Insulation	Black, Compact Resinous (100% 10% Chrysotil 90% NFP
11-15-89 T27924 02-06-003	SM - 1	Fifth Floor (Pump Floor) F-7	Off Pump #2, 10'-6" West, 3'-6" North of Fire Extinguisher #22, Elevation 658'-0"	Condensate Tar Insulation	Black, Compact Resinous (95%) 10% Chrysotil 90% NFP --- White, Compact Fibrous (5%) 2% Chrysotil 86% Cellulose 10% NFP 2% Polymer Fibers

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-15-89 T27925 02-06-004	MM - 2	Ground Floor F-2	1'-9" South of Fire Extinguisher #11, Elevation 715'-4"	Wall-board	Brown, Hard, Compact, Fibrous, Painte Blue (100%): 90% Cellulose 10% NFP
11-15-89 T27926 02-06-005	MM - 2	Ground Floor F-2	5'-9" South of Fire Extinguisher #11, Elevation 719'-10"	Wall-board	Brown, Hard, Compact, Fibrous, Painte Gray (100%): 95% Cellulose 5% NFP
11-15-89 T27927 02-06-006	MM - 2	Tunnel Area of East Building F-9	4'-0" East From Unit Heater #12, Elevation 704'-0"	Wall-board	Brown, Hard, Compact, Fibrou (100%): 90% Cellulose 10% NFP

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the East Pumping Station, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 Raking Room			No Suspect ACBM Present.				
F-2 Motor Room Floor	MM-2	-	----	--------	--------	---	--------
	MM-3	-	----	--------	--------	---	--------
F-3 First Floor	SM-1	5	Good	Moderate	Low	Low	Moderate
	MM-4	5	Good	Low	Low	Low	Low
F-4 Second Floor	SM-1	5	Good	Moderate	Low	Low	Moderate
	MM-4	5	Good	Low	Low	Low	Low
F-5 Third Floor	SM-1	5	Good	Moderate	Low	Low	Moderate
	MM-4	5	Good	Low	Low	Low	Low

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III (cont'd)

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-6 Fourth Floor	SM-1	5	Good	Moderate	Low	Low	Moderate
	MM-4	5	Good	Low	Low	Low	Low
F-7 Fifth Floor	SM-1	5	Good	Moderate	Low	Low	Moderate
	MM-4	5	Good	Low	Low	Low	Low
F-8 Electrical Room			No Suspect ACBM Present.				
F-9 East Stairwell and Tunnels	MM-2	-	----	--------	--------	----	--------
	MM-4	5	Good	Low	Low	Low	Low
F-10 Bathroom			No Suspect ACBM Present.				
F-11 East Stairwell Building	MM-3	-	----	--------	--------	----	--------
	MM-4	5	Good	Low	Low	Low	Low

* * * * * * *

SECTION IV/07

INSPECTION REPORT: Building No. 02-07

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Equipment Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1980

SQUARE FOOTAGE: 32,956

NUMBER OF FLOORS: 2

CONSTRUCTION TYPE: Reinforced Concrete

COMMENTS:

This building contains:

X - Friable ACBM

X - Assumed ACBM

X - Non-Friable ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Equipment Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Drain Line Pipe Fitting/Hanger Packing Insulation	F	N	52 Pipe Fittings
SM - 2*	Air Discharge Duct Sound Proofing	N	N	5,749 Square Feet
TSI - 3	Blower Duct Insulation	F	N	3,028 Square Feet
MM - 4	12" x 12" White with Gray Specks Floor Tile and Adhesive	N	Y	349 Square Feet
MM - 5	2' x 4' Suspended Ceiling Tile	F	N	349 Square Feet
SM - 6*	Ceiling Plaster	N	N	66 Square Feet
TSI - 7	Cold/Effluent Water/ Protected Water Lines -Pipe Fitting Insulation	F	N	108 Pipe Fittings
TSI - 8	Air Makeup Duct Insulation - Ends and Joints	F	Y	175 Square Feet

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 9	Duct Insulation on Fan Units	F	Y	200 Square Feet
TSI - 10	Gasket Material/Round Access Panel Fan Units	F	Y	1 Linear Foot
MM - 11	Fire Doors	N	N	6 Doors
	Assumed ACBM			
MM - 12	Duct Expansion Joints	N	Y	6 Expansion Joints
MM - 13	Flange Joint Gaskets	N	Y	395 Gaskets

* Non-Fibrous/Non-Friable

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Equipment Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-25-89 T25683 02-07-001	MM - 4	Foyer, Room 100 F-3	4'-0" West, 1'-0" North of Southeast Corner, 715'-6" Elevation	Floor Tile	White, Compact Hard (98%): 2% Chrysotil 98% NFP --- Black, Compact Resinous (2%): 15% Chrysotil 85% NFP
09-25-89 T25684 02-07-002	MM - 4	Foyer, Room 100 F-3	Along East Wall, 2'-5" South of North- east Corner, 715'-6" Elevation	Floor Tile	White, Hard, Compact (100%) 2% Chrysotil 98% NFP
09-25-89 T25685 02-07-003	MM - 5	Foyer, Room 100 F-3	Along West Wall, 4'-5" South of North- west Corner, 723'-6" Elevation	Suspended Ceiling Tile	White, Compact Fibrous, Paint White (100%): 60% Cellulose 25% FG/MW 15% NFP/Perli

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-25-89 T25686 02-07-004	TSI - 1	Foyer, Room 100 F-3	4'-8" West, 2'-0" North of Southeast Corner, 725'-0" Elevation	Pipe Hanger Packing	Gray, Compact, Fibrous (100%): 45% FG/MW 55% NFP
09-25-89 T25687 02-07-005	MM - 5	Foyer, Room 100 F-3	Southeast Corner, 723'-6" Elevation	Suspended Ceiling Tile	Gray, Compact, Fibrous, Painte White (100%): 55% Cellulose 25% FG/MW 20% NFP/Perlit
09-25-89 T25688 02-07-006	TSI - 3	Blower Equipment, Room 104 F-2	East Side of Blower #1 Intake, 5'-0" West, 37'-0" South of Northeast Corner, 719"-6" Elevation	Blower Duct Insulation	White, Compact, Fiberweave, Painted Orange (10%): 100% Cotton --- White, Compact, Fibrous, Papery (10%): 50% Cellulose 30% Ceramic Wool 20% NFP --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (75%): 80% FG/MW 20% NFP
09-25-89 T25689 02-07-007	TSI - 2	Blower Equipment, Room 104 F-2	East Side of Blower #1 Outlet, 15'-0" West, 45'-0" South of North- east Corner, 717'-0" Elevation	Blower Sound Proofing	Green, Compact, Fibrous, Painte Orange (100%): 100% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-25-89 T25690 02-07-008	TSI - 1	Blower Equipment, Room 104 F-2	8" Outer Diameter, Drain Line, 26'-0" East, 11'-10" South of Northwest Corner, 733-'2" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted White (10%): 100% Cotton --- Yellow, Compact Cellular (20%): 100% NFP --- Gray, Compact, Fibrous (70%): 30% FG/MW 70% NFP
09-25-89 T25691 02-07-009	TSI - 1	Blower Equipment, Room 104 F-2	28'-0" East, 10'-6" South of Northwest Corner, 733'-6" Elevation	Pipe Hanger Packing	Gray, Compact, Fibrous (100%): 35% FG/MW 65% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-25-89 T25692 02-07-010	TSI - 9	Blower Equipment, Room 104 F-2	East Side of West Fan Unit, 18'-0" East, 1'-7" South of Northwest Corner, 731'-6" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Brown (10%): 100% Cotton --- Brown, Compact, Fibrous, Papery (10%): 40% Cellulose 30% Ceramic Wool 30% NFP --- Silver Foil (2%): 100% Metal ** --- Yellow, Consolidated, Fibrous (60%): 80% FG/MW 5% Chrysotile 15% NFP/Binder --- Gray, Compact, Fibrous (18%): 45% Chrysotile 10% FG/MW 45% NFP/Binder
09-25-89 T25693 02-07-011	TSI - 9	Blower Equipment, Room 104 F-2	13'-5" West, 3'-7" South of Northeast Corner, 730'-6" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Brown (20%): 100% Cotton --- Yellow, Consolidated, Fibrous (80%): 85% FG/MW 15% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-25-89 T25694 02-07-012	MM - 4	Storage, Room 101 F-4	Along North Wall, 1'-0" West of Northeast Corner, 715'-6" Elevation	Floor Tile	Tan, Hard, Compact (98%): 2% Chrysotile 98% NFP --- Black, Compact, Resinous (2%): 15% Chrysotile 85% NFP
09-25-89 T25695 02-07-013	MM - 5	Storage, Room 101 F-4	8'-0" West, 1'-8" South of Northeast Corner, 723'-6" Elevation	Suspended Ceiling Tile	Gray, Compact, Fibrous, Painte White (100%): 65% Cellulose 20% FG/MW 15% NFP
09-25-89 T25695 02-07-014	TSI - 9	Blower Equipment, Room 104 F-2	1'-7" South, 10'-5" East of Northwest Corner, 731"-6" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Brown (10%): 100% Cotton --- Silver Foil (2%): 100% Metal** --- Brown, Compact, Fibrous, Papery (5%): 45% Cellulose 20% Ceramic Wool 35% NFP/Binder --- Yellow, Consolidated, Fibrous (83%): 85% FG/MW 15% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-25-89 T25697 02-07-015	TSI - 1	Micro-Strainer Area, Room 106 F-1	8" Outer Diameter Drain Line, 1'-4" West, 11'-7" South of the Northeast Corner, 725'-1" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Tan (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 30% FG/MW 70% NFP/Binder
09-25-89 T25698 02-07-016	TSI - 7	Blower Equipment, Room 104 F-2	4" Outer Diameter Cold Water Line, North Side of Blower Number 1, 32'-6" South, 20'-0" West of Northeast Corner 719'-1" Elevation	Pipe Joint Insulation	White, Compact, Fibrous, Painted Blue (20%): 100% Cotton --- Gray, Compact, Fibrous (80%): 55% FG/MW 45% NFP
09-25-89 T25699 02-07-017	TSI - 7	Basement, Room 001 F-7	3" Outer Diameter Effluent Water Line, 8'-6" East, 11'-10" South of North-West Corner, 711'-0" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 45% FG/MW 55% NFP
09-25-89 T25700 02-07-018	SM - 6	Janitor, Room 102 F-5	Northeast Corner, 714'-1" Elevation	Ceiling Plaster	White, Compact, Cementitious, Painted Tan (60%): 100% NFP --- Gray, Compact, Cementitious Powder (40%): 100% NFP

ity of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-25-89 T25701 02-07-019	SM - 6	Toilet, Room 103 F-6	Southeast Corner, 714'-0" Elevation	Ceiling Plaster	White, Compact, Cementitious, Painted Tan (55%): 100% NFP --- Gray, Powder, (45%): 100% NFP
09-25-89 T25702 02-07-020	SM - 2	Basement, Room 001 F-7	West End of Blower Number 1 Muffler, 20'-0" South, 25'-0" West of Sludge Pump Number 1, 704'-0" Elevation	Blower Sound Proofing	Green, Compact (100%): 100% NFP/ Vermiculit
09-25-89 T25703 02-07-021	TSI - 8	Basement, Room 001 F-7	North End of Air Inlet, 27'-0" South of Sludge Pump Number 1, 699'-9" Elevation	Blower Duct Insulation	White, Compact, Fiberweave Painted Green, (10%): 20% Chrysotile 70% Cotton 10% NFP --- Gray, Compact, Fibrous (90%): 5% Chrysotile 45% FG/MW 50% NFP
09-25-89 T25704 02-07-022	TSI - 8	Basement, Room 001 F-7	South End of Air Inlet, 6'-0" West, 10'-0" North of Southeast Corner, 700'-1" Elevation	Blower Duct Insulation	White, Compact Fiberweave, Painted Green (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 20% Cotton 55% FG/MW 25% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-29-89 T25705 02-07-023	TSI - 8	Basement, Room 001 F-7	West Side of Air Inlet 34'-7" South of Sludge Pump Number 1, 701'-8" Elevation	Blower Duct Insulation	White, Compact, Fiberweave, Painted Green (10%): 100% Cotton --- Gray, Compact, Powder (85%): 60% FG/MW 40% NFP --- Gray, Compact, Fibrous (5%): 75% Chrysotil 25% NFP
09-25-89 T25706 02-07-024	TSI - 7	Basement, Room 001 F-7	3" Outer Diameter, Protected Water Line, Southeast Corner of Microstrainer Pipe Gallery, 702'-2" Elevation	Pipe Joint Insulation	White, Compact Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact Fibrous (90%): 60% FG/MW 40% NFP
09-25-89 T25707 02-07-025	SM - 2	Basement, Room 001 F-7	West End of Blower Number 2 Muffler 30'-6" North, 20'-10" East of Southwest Corner, 704'-4" Elevation	Blower Sound Proofing	Green, Compact, Powder (100%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-25-89 T25708 02-07-026	SM - 2	Basement, Room 001 F-7	West Side of Air Inlet, 32'-3" South of Sludge Pump Number 1, 699'-10' Elevation	Blower Duct Insulation	White, Compact Fiberweave, Painted Green (10%): 100% Cotton --- Silver, Foil (5%): 100% Metal** --- Brown, Compact Fibrous, Paper (5%): 60% Cellulose 25% Ceramic Wool 15% NFP --- Yellow, Consolidated, Fibrous (75%): 90% FG/MW 10% NFP/Binde --- Green, Compact (5%): 15% FG/MW 20% Ceramic Wool 65% NFP/Binde
09-27-89 T25855 02-07-027	MM - 13	Blower Equipment, Room 104 F-2	6'-0" West, 5'-0" South of Northeast Corner, 729'-6" Elevation	Fan Unit Gasket	White, Compact Fibrous, Rope-like (100%): 60% Chrysotil 35% Polymer Fibers 5% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-25-89 T25856 02-07-028	MM - 13	Blower Equipment, Room 104 F-2	6'-0" West, 5'-0" South of Northeast Corner, 729'-6" Elevation	Fan Unit Gasket	White, Compact Fibrous, Rope-Like (100%): 75% Chrysotil 20% Polymer Fibers 5% NFP
10-23-89 T26982 02-07-029	TSI - 8	Basement, Room 001 F-7	27'-10" South, 7'-2" West of Northeast Corner of Room, 705'-4" Elevation	Blower Duct Insulation	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- Gray, Compact, Fibrous (65%): 45% FG/MW 55% NFP --- Yellow, Consolidated, Fibrous (30%): 90% FG/MW 10% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-23-89 T26983 02-07-030	TSI - 3	Basement, Room 001 F-7	39'-1" South, 7'-7" West of Northeast Corner of Room, 705'-0" Elevation	Blower Duct Insulation	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- Yellow, Consolidated, Fibrous (82%): 90% FG/MW 10% NFP/Binder --- Tan, Compact, Fibrous, Papery (5%): 90% Cellulose 10% NFP --- White, Compact, Fibrous (3%): 100% Ceramic Wool --- Silver Foil (5%): 100% Metal**

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-23-89 T26984 02-07-031	TSI - 3	Basement, Room 001 F-7	26'-2" South, 7'-2" West of Northeast Corner of Room, 706'-0" Elevation	Blower Duct Insulation	White, Compact, Fiberweave, Painted Green (5%): 100% Cotton --- Silver Foil (10%): 100% Metal** --- Tan, Compact, Papery (10%): 100% Cellulose --- White, Compact, Fibrous (5%): 100% Ceramic Wool --- Yellow, Consolidated, Fibrous (70%): 90% FG/MW 10% NFP/Binder

* * * * * * * *

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Equipment Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1	TSI-1	-	----	----	----	---	----
Room 106	MM-11	-	----	----	----	---	----
Micro-	MM-12	5	Good	Moderate	High	Moderate	High
strainer	MM-13	5	Good	Low	Low	Low	Low
Equipment							
F-2	TSI-1	-	----	----	----	----	----
Room 104	SM-2	-	----	----	----	----	----
Blower	TSI-3	-	----	----	----	----	----
Equipment	TSI-7	-	----	----	----	----	----
	TSI-9	1	Fair	Moderate	High	Moderate	High
	TSI-10	5	Good	Moderate	High	Moderate	High
	MM-11	-	----	----	----	----	----
	MM-12	5	Good	Moderate	High	Moderate	High
	MM-13	5	Good	Low	Low	Low	Low
F-3	TSI-1	-	----	----	----	----	----
Room 100	MM-4	5	Good	High	Low	Moderate	High
Foyer	MM-5	-	----	----	----	----	----
	MM-11	-	----	----	----	----	-----

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-4	TSI-1	-	----	----	----	---	----
Room 101	MM-4	5	Good	High	Low	Moderate	High
Storage	MM-5	-	----	----	----	----	----
F-5	SM-6	-	----	----	----	----	----
Room 102							
Janitor's							
Closet							
F-6	SM-6	-	----	----	----	----	----
Room 103							
Bathroom							
F-7	TSI-1	-	----	----	----	----	----
Room 001	TSI-2	-	----	----	----	----	----
Basement	TSI-3	-	----	----	----	----	----
	TSI-7	-	----	----	----	----	----
	TSI-8	5	Good	High	Moderate	Low	High
	MM-13	5	Good	Low	Low	Low	Low

* * * * * *

SECTION IV/08

INSPECTION REPORT: Building No. 02-08

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Gas Metering Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1927; Renovated 1965

SQUARE FOOTAGE: 1,369

NUMBER OF FLOORS: 1

CONSTRUCTION TYPE: Concrete/with Glazed Hollow Tile Interior

COMMENTS:

This building contains:

_ - Friable ACBM

_ - Non-Friable ACBM

_ - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Gas Metering Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY

No Suspect ACBM was Present at the Above Referenced Location.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Gas Metering Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 Ground Floor		No Suspect ACBM was Present					
F-2 Crawl Space		No Suspect ACBM was Present					

* * * * * *

SECTION IV/09

INSPECTION REPORT: Building No. 02-09

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Grit Building "B" (East)

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1980

SQUARE FOOTAGE: 7,681

NUMBER OF FLOORS: 2/with basement

CONSTRUCTION TYPE: Concrete and Steel Frame

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Grit Building "B" (East), Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Roof Drain/Waste Line Pipe Fitting Insulation	F	N	42 Fittings
TSI - 2	Duct Insulation	F	N	380 Square Feet
MM - 3	Gasket Material on Fan Unit/Circular Access Panel Insulation	F	Y	7 Linear Feet
TSI - 4	Cold, Service, Effluent, Protected Water Lines/Pipe Fitting Insulation	F	N	40 Fittings
TSI - 5	Duct Insulation Packing	F	N	17 Square Feet
MM - 6	Fire Doors	N	N	2 Doors
	Assumed ACBM			
MM - 7	Flange Joint Gaskets	N	Y	65 Gaskets
MM - 8	Duct Expansion Joints	N	Y	2 Expansion Joints

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Grit Building "B" (East), Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-30-89 T27226 02-09-001	TSI - 5	Basement F-2	16'-4" South, 9'-4" East of Fire Extinguisher #26, Fan Unit SF #5, Elevation 706'-5"	Gasket Material	White, Compact, Painted Black, Fibrous (100%): 60% Chrysotile 40% NFP
10-30-89 T27227 02-09-002	TSI - 5	Basement F-2	25'-11" North, 10'-3" East of the Southwest Corner of the Basement, Fan Unit SF #5, Elevation 705'-0"	Gasket Material	White, Compact, Fibrous, Painte Brown (100%): 95% Chrysotile 5% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-30-89 T27228 02-09-003	TSI - 5	Basement F-2	25'-11" North, 10'-3" East of the Southwest Corner of the Basement Fan Unit SF #5, Elevation 705'1"	Gasket Material	White, Compact, Fibrous, Painte Brown (100%): 95% Chrysotile 5% NFP
10-30-89 T27229 02-09-004	TSI-1	Basement F-2	6" Outer Diameter Waste Line, 4'-4" South, 1'-5" East of Fire Extinguisher #26, Elevation 710'-9"	Hanger Insulation	White, Compact, Fibrous (2%): 100% Glass Wool --- White, Compact, Fibrous, Papery Painted Yellow (3%): 100% Cellulose --- Yellow, Compact Cellular (45%): 100% NFP --- Gray, Compact, Cemenetitious, Fibrous (48%): 30% FG/MW 70% NFP --- Silver Foil (2%): 100% Metal**
10-30-89 T27230 02-09-005	TSI - 4	Garage Loading Area F-1	3" Outer Diameter Protected Water Line, 6'-7" North, 8" West of the South-east Corner of the Garage, Elevation 716'-10"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Cementitious (95%): 20% FG/MW 80% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-30-89 T27231 02-09-006	TSI - 5	Basement F-2	25'-7" North, 2'-9" East of the Southwest of the Basement Fan Unit SF #5, Elevation 707'-4"	Duct Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- Yellow, Compact Fibrous (40%): 95% FG/MW 5% NFP/Binde --- White, Compact, Fibrous, Cementitious (55%): 60% FG/MW 40% NFP/ Diatoma- ceous Ear
10-30-89 T27232 02-09-007	TSI - 1	Basement F-2	17'-5" North, 3'-0" East of the Southwest Corner of the Basement, Elevation 710'-5"	Pipe Joint Insulation	White, Compact Fiberweave (5% 100% Cotton --- Gray, Compact, Cementitious, Fibrous (95%): 45% FG/MW 55% NFP/ Diatoma- ceous Ear

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-30-89 T27233 02-09-008	TSI - 2	Ground Level Control Room F-4	2'-4" North of Fire Extinguisher #25, Elevation 724'-3"	Duct Insulation	White, Compact, Fiberweave, Painted Brown (5%): 100% Cotton --- Silver Foil (5%): 100% Metal** --- White, Compact, Fibrous (2%): 100% Glass Wool --- White, Compact, Papery (5%): 85% Cellulose 15% NFP --- Yellow, Consolidated, Fibrous (83%): 90% FG/MW 10% NFP/Binder
10-30-89 T27234 02-09-009	TSI - 2	Second Floor Control Room F-3	3'-11" South, 1'-6" East of the Northwest Corner of the Room, Elevation 741'-7"	Duct Insulation	White, Compact, Fiberweave, Painted Brown (5%): 100% Cotton --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (90%): 95% FG/MW 5% NFP/Binder

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-30-89 T27235 02-09-010	TSI - 5	Basement F-2	16'-9" South, 2'-9" East of Fire Extinguisher #26 off Fan Unit SF #5, Elevation 706'-10"	Duct Insulation	White, Fiberweave, Painted Gray (10%): 100% Cotton --- Yellow, Consolidated, Fibrous (20%): 90% FG/MW 10% NFP/Binder --- Gray, Compact, Fibrous (70%): 60% FG/MW 40% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-30-89 T27236 02-09-011	TSI - 2	Basement F-2	16'-11" South, 2'-9" East of Fire Extinguisher #26 Off Fan Unit SF-5, Elevation 704'-10"	Duct Insulation	White, Compact, Fiberweave, Painted Tan (5%): 100% Cotton --- Brown, Compact, Papery (5%): 90% Cellulose 10% NFP --- White, Compact, Fibrous (2%): 100% Glass Wool --- Silver Foil (5%): 100% Metal**
10-30-89 T27237 02-09-012	TSI - 5	Basement F-2	16'-9" South, 2'-9" East of Fire Extinguisher #26 Off Fan Unit SF #5, Elevation 708'-5"	Duct Insulation	White, Compact, Fiberweave, Painted Brown (5%): 100% Cotton --- Gray, Compact, Fibrous (95%): 45% FG/MW 55% NFP/ Diamtoma-ceous Eart

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-30-89 T27238 02-09-013	TSI - 4	Basement F-2	3" Outer Diameter Cold Water Line, 8'-3" North, 1'-0" East of the Southwest Corner of the Basement, Elevation 710'-8"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- White, Compact, Fibrous (95%): 40% FG/MW 60% NFP
10-30-89 T27239 02-09-014	TSI - 1	Ground Level Control Room F-4	1'-2" East, 10'-9" South of the North-west Corner of the Room, Elevation 725'-5"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Tan (5%): 100% Cotton --- Gray, Compact, Fibrous (93%): 40% FG/MW 60% NFP/ Diamtoma-ceous Eart --- Yellow, Consolidated, Fibrous (2%): 90% FG/MW 10% NFP/Binder
10-30-89 T27240 02-09-015	TSI - 4	Grit Dewatering Area F-5	9'-5" North, 6'-6" East of the Southwest Corner of the Room, Mezzanine Area, Elevation 734'-11"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous (95%): 20% FG/MW 80% NFP

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Grit Building "B" (East), Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 Garage Loading Area	TSI-4	-	----	--------	--------	----	--------
	MM-7	5	Good	Low	Low	Low	Low
F-2 Basement Level Second Floor	TSI-1	-	----	--------	--------	----	--------
	TSI-2	-	----	--------	--------	----	--------
	MM-3	5	Good	Low	High	Low	High
	TSI-4	-	----	--------	--------	----	--------
	TSI-5	-	----	--------	--------	----	--------
	MM-6	-	----	--------	--------	----	--------
	MM-7	5	Good	Low	Low	Low	Low
	MM-8	5	Good	Low	Low	High	High
F-3 Second Floor Control Room	TSI-2	-	----	--------	--------	----	--------
	MM-3	5	Good	Low	High	Moderate	High
	TSI-5	-	----	--------	--------	----	--------

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-4 Ground Floor Control Room	TSI-1	-	----	--------	--------	----	--------
	TSI-4	-	----	--------	--------	----	--------
F-5 Grit Dewatering Area	MM-7	5	Good	Low	Low	Low	Low

* * * * * * *

SECTION IV/10

INSPECTION REPORT: Building No. 02-10

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Grit Building "A" (West)

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1965

SQUARE FOOTAGE: 1,344

NUMBER OF FLOORS: 1/with basement

CONSTRUCTION TYPE: Concrete Block

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Grit Building "A" (West), Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Open Tank for Protected Water Tank Insulation	F	Y	36 Square Feet
TSI - 2	Protected Water/Cold Water Line, Pipe Fitting Insulation	F	Y	33 Fittings
TSI - 3	Duct Insulation	F	N	106 Square Feet
TSI - 4	Drain Line, Pipe Fitting Insulation	F	N	1 Fitting
MM - 7	Fire Doors	N	N	1 Door
	Assumed ACBM			
MM - 5	Duct Expansion Joints	N	Y	2 Expansion Joints
MM - 6	Flange Joint Gaskets	N	Y	50 Gaskets

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Grit Building "A" (West), Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-08-89 T27472 02-10-001	TSI - 1	Basement F-1	Open Tank for Protected Water, 20'-0" East, 1'-0" South of Fire Extinguisher #29, Elevation 704'-7"	Tank Insulation	Yellow, Consolidated, Fibrous (50%): 90% FG/MW 10% NFP/Binde --- White, Compact Fibrous (50%): 20% Chrysotil 45% FG/MW 35% NFP/ Diamtoma- ceous Ear
11-08-89 T27473 02-10-002	TSI - 2	Basement F-1	3" Outer Diameter, Protected Water Line, 19'-6" East, 3'-4" South of Fire Extinguisher #29, Elevation 704'-9"	Pipe Joint Insulation	White, Compact Fiberweave, Painted Blue (10%): 100% Cotton --- White, Compact Fibrous (90%): 10% Chrysotil 30% FG/MW 60% NFP/ Diatoma- ceous Ear

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-08-89 T27474 02-10-003	TSI - 2	Basement F-1	3" Outer Diameter, Protected Water Line, 13'-0" North, 4" West of the South-east Corner of the Basement, Elevation 704'-9"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Yellow, Compact Cellular (5%): 100% NFP --- Gray, Compact, Fibrous (85%): 40% FG/MW 60% NFP/ Diatoma-ceous Eart
11-08-89 T27475 02-10-004	TSI - 1	Basement F-1	Open Tank for Protected Water, 19'-6" East, 3'-4" South of Fire Extinguisher #29, Elevation 703'-6"	Tank Insulation	Yellow, Consolidated, Fibrous (50%): 90% FG/MW 10% NFP/Binder --- White, Compact, Fibrous, Painte Blue (50%): 5% Chrysotile 10% Cotton 25% FG/MW 60% NFP/ Diatoma-Ceous Eart
11-08-89 T27476 02-10-005	TSI - 1	Basement F-1	Open Tank for Protected Water, 20'-0" East, 3'-4" South of Fire Extinguisher #29, Elevation 704'-9"	Tank Insulation	Yellow, Consolidated, Fibrous (40%): 90% FG/MW 10% NFP/Binder --- White, Compact, Fibrous (60%): 30% Chrysotile 2% Cotton 28% FG/MW 40% NFP/ Diatoma-ceous Eart

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-08-89 T27477 02-10-006	TSI - 3	Basement F-1	6'-9" East, 3'-0" North of the Southwest Corner of the Basement, Elevation 717'-9"	Duct Insulation	White, Compact, Fiberweave, Painted Gray (5%): 100% Cotton --- Yellow, Consolidated, Fibrous (88%): 90% FG/MW 10% NFP/Binde --- Brown, Compact, Papery (5%): 90% Cellulose 10% NFP/Binde --- Black, Resinous (2%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-08-89 T27478 02-10-007	TSI - 3	Basement F-1	6'-6" East, 3'-0" North of the Southwest Corner of the Basement, Elevation 717'-9"	Duct Insulation	White, Compact, Fiberweave, Painted White (5%): 100% Cotton --- Silver, Metal (5%): 100% Metal --- White, Compact, Fibrous (2%): 100% Glass Wool --- Tan, Compact, Papery (5%): 85% Cellulose 15% NFP --- Black, Resinous (5%): 40% Cellulose 20% FG/MW 40% NFP --- Yellow, Consolidated, Fibrous (78%): 90% FG/MW 10% NFP/Binder
11-09-89 T27479 02-10-008	TSI - 2	Ground Floor F-2	9'-10" West, 4" North of the Southeast Corner of the Room, Elevation 722'-6"	Pipe Joint Insulation (Debris)	Gray, Compact, Fibrous, Non-Homogeneous (100%): 10% Chrysotile 50% FG/MW 40% NFP/ Diatomaceous Eart

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-08-89 T27480 02-10-009	TSI - 4	Ground Floor F-2	4'-6" South, 3'-0" East of the Northwest Corner of the Room, Eleva- 729'-3"	Pipe Joint Insulation	White, Compact Fiberweave (5% 100% Cotton --- White, Compact Fibrous (95%): 30% FG/MW 70% NFP
11-08-89 T27481 02-10-010	TSI - 3	Ground Floor F-2	6'-6" West, 1'-6" North of the Southeast of the Room, Elevation 727'-0"	Duct Insulation	White, Compact Fiberweave, Painted White (5%): 90% Cotton 10% NFP/Binde --- Brown, Compact Papery (2%): 75% Cellulose 20% NFP 5% FG/MW --- Black, Resinou (2%): 10% FG/MW 90% NFP --- Yellow, Consolidated, Fibrous (91%): 90% FG/MW 10% NFP/Binde

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Grit Building "A" (West), Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F - 1	TSI-1	1	Poor	High	Moderate	Low	High
Basement	TSI-2	1	Fair	High	Moderate	Moderate	High
	TSI-3	-	----	--------	--------	----	--------
	MM-5	5	Good	Moderate	High	High	High
	MM-6	5	Good	Low	Low	Low	Low
F - 2	TSI-2	1	Poor	High	Moderate	Low	High
Ground	TSI-3	-	----	--------	--------	----	--------
Floor	TSI-4	-	----	--------	--------	----	--------
	MM-7	-	----	--------	--------	----	--------

* * * * * *

SECTION IV/11

INSPECTION REPORT: Building No. 02-11

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Northwest Pumping Station

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1956; additions: 1965, 1980

SQUARE FOOTAGE: 6,560

NUMBER OF FLOORS: 4

CONSTRUCTION TYPE: Masonry

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Northwest Pumping Station, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Gasket Material (Furnace/Fan Unit)	F	Y	3 Linear Feet
TSI - 2	Pipe Fitting Insulation	F	N	43 Pipe Fittings
TSI - 3	Furnace Insulation (Inside Access Panel)	F	Y	1 Square Foot
MM - 7	Fire Door	N	N	3 Doors
	Assumed ACBM			
MM - 4	Duct Expansion Joints	N	Y	4 Expansion Joints
MM - 5	Flange Joint Gaskets	N	Y	31 Gaskets
TSI - 6	Interior Furnace Insulation (Inaccessible)	F	Y	2 Cubic Feet

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Northwest Pumping Station, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T26990 02-11-001	TSI - 1	West Section Ground Floor F-1	West Side of Fan Unit, 7'-0" West, 4'-2" South of the Northeast Corner of the Room, 712'-8" Elevation	Gasket Material	White, Compact, Fibrous, Rope-like (100%): 95% Chrysotile 5% NFP
10-24-89 T26991 02-11-002	TSI - 2	West Section Ground Floor F-1	4'-9" North, 4" West of the Southeast Corner of the Room, 705'-6" Elevation	Pipe Valve Insulation	White, Compact, Fiberweave, Painted Blue (10%): 85% Cotton 15% NFP --- Gray, Compact, Fibrous (90%): 45% FG/MW 10% Cotton 45% NFP
10-24-89 T26992 02-11-003	TSI - 3	West Section Second Floor F-2	Inside Round Access Cover to Furnace, 8'-4" South, 7'-10" West of the Northeast Corner of the Room, 694'-10" Elevation	Boiler Insulation	Gray, Compact, Fibrous (100%): 85% Chrysotile 5% FG/MW 10% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T26993 02-11-004	TSI - 3	West Section Second Floor F-2	Inside Round Access Cover to Furnace, 8'-4" South, 7'-10" West of the Northeast Corner of the Room, 694'-10" Elevation	Boiler Insulation	Gray, Compact, Fibrous (100%): 65% Chrysotile 5% Cellulose 30% NFP
10-24-89 T26994 02-11-005	TSI - 1	West Section Second Floor F-2	Off Round Furnace Plate, 8'-4" South, 7'-10" West of the Northeast Corner of the Room, 695'-1" Elevation	Gasket Material	Brown, Compact, Fibrous (100%): 65% Chrysotile 35% NFP
10-24-89 T26995 02-11-006	TSI - 1	West Section Second Floor F-2	Off Round Furnace Plate, 8'-4" South, 7'-10" West of the Room, 695'-1" Elevation	Gasket Material	Brown, Compact, Fibrous (100%): 70% Chrysotile 30% NFP
10-24-89 T26996 02-11-007	TSI - 3	West Section Second Floor F-2	Inside Round Access Panel to Furnace, 8'-4" South, 7'-10" West of the Northeast Corner of the Room, 694'-10" Elevation	Boiler Insulation	White, Compact, Fibrous (100%): 60% Chrysotile 40% NFP
10-24-89 T26997 02-11-008	TSI - 2	West Section Second Floor F-2	3" Outer Diameter, Blue Line, 8'-6" East, 6" North of the South-west Corner of the Room, 697'-4" Elevation	Pipe Joint Insulation	White, Fiberweave, Painted Blue (10%): 80% Cotton 20% NFP --- Gray, Compact, Powder (90%): 35% FG/MW 65% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T26998 02-11-009	TSI - 2	West Section Second Floor F-2	14'-3" East, 1'-0" North of the Southwest Corner of the Room, 698'-10" Elevation	Pipe Joint Insulation	White, Fiberweave, Painted Blue (10%): 80% Cotton 20% NFP --- Gray, Compact, Powder (90%): 50% FG/MW 5% Cotton 45% NFP

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Northwest Pumping Station, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-). Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1	TSI-1	5	Good	Moderate	High	Moderate	High
West	TSI-2	-	----	----	----	----	----
Section	MM-4	5	Good	Moderate	High	High	High
Ground	MM-5	5	Good	Low	Low	Low	Low
Floor	MM-7	-	----	----	----	----	----
F-2	TSI-1	5	Good	Moderate	Moderate	Moderate	Moderate
West	TSI-2	-	----	----	----	----	----
Section	TSI-3	5	Good	Moderate	Moderate	Low	Moderate
Second	MM-4	5	Good	Moderate	Moderate	High	High
Floor	MM-5	5	Good	Low	Low	Low	Low
	TSI-6	5	Good	Low	Moderate	Low	Moderate
F-3	TSI-2	-	----	----	----	----	----
West	MM-5	5	Good	Low	Low	Low	Low
Section							
Third							
Floor							
F-4	TSI-2	-	----	----	----	----	----
West	MM-5	5	Good	Low	Low	Low	Low
Section							
Fourth							
Floor							

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-5 East Section Ground Floor	MM-4 MM-7	5 -	Good ----	Moderate ----	Moderate ----	High ----	High ----
F-6 East Section Second Floor		No Suspect ACBM Present					
F-7 East Section Third Floor		No Suspect ACBM Present					
F-8 East Section Fourth Floor		No Suspect ACBM Present					

* * * * * * *

SECTION IV/12

INSPECTION REPORT: Building No. 02-12

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Odor Control Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1982

SQUARE FOOTAGE: 800

NUMBER OF FLOORS: 1/with basement

CONSTRUCTION TYPE: Metal Building

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Odor Control Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Drain Line/Pipe Fitting Insulation	F	N	4 Fittings
TSI MM - 2	Gasket Material/Access Panel Insulation on Fan Unit	F	Y	3 Linear Feet
MM - 5	Fire Doors	N	N	4 Doors
	Assumed ACBM			
MM - 3	Duct Expansion Joints	N	Y	1 Expansion Joint
MM - 4	Flange Joint Gaskets	N	Y	43 Gaskets

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Odor Control Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27766 02-12-001	TSI - 1	Mechanical Equipment Area F-1	6" Outer Diameter Drain Line, 6" West, 7'-0" South of the Northeast Corner of the Room, Elevation 737'-10"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Gray (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 45% FG/MW 55% NFP/ Diatoma- ceous Eart
11-14-89 T27770 02-12-002	TSI - 2	Mechanical Equipment Area F-1	6'-6" West, 5'-0" South of the Northeast Corner of the Room, Elevation 735'-4"	Gasket Material	Gray, Compact, Fibrous (100%): 95% Chrysotile 5% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27768 02-12-003	TSI - 2	Mechanical Equipment Area F-1	On the Inside of the Round Access Cover, 6'-6" West, 5'-0" South of the North-east Corner of the Room, Elevation 735'-4"	Access Panel Insulation	Gray, Compact, Fibrous (100%): 68% Chrysotile 2% Polymer Fibers 10% FG/MW 20% NFP
11-14-89 T27769 02-12-004	TSI - 2	Mechanical Equipment Area F-1	6'-6" West, 5'-0" South of the Northeast Corner of the Room, Elevation 735'-4"	Gasket Material	Gray, Compact, Fibrous (100%): 100% Chrysotile
11-14-89 T27767 02-12-005	TSI - 1	Mechanical Equipment Area F-1	6" Outer Diameter Drain Line, 6" West, 4'-3" South of the Northeast Corner of the Room, Elevation 737'-4"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Gray (10%): 100% Cotton --- Yellow, Compact Cellular (15%) 100% NFP --- Brown, Compact Papery (5%): 90% Cellulose 10% NFP --- Gray, Compact, Fibrous (65%): 45% FG/MW 55% NFP/ Diatoma-ceous Ear --- Metal Foil (5% 100% Metal**

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-15-89 T27771 02-12-006	TSI - 1	Mechanical Equipment Area F-1	6" Outer Diameter Drain Line, 6'-0" West, 7'-0" South of the Northeast Corner of the Room, Elevation 738'-4"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Gray (10%): 100% Cotton --- Silver Foil (3%): 100% Metal** --- Brown, Compact, Papery (3%): 75% Cellulose 25% NFP --- Yellow, Compact Cellular (25%): 100% NFP --- Gray, Compact, Fibrous (60%): 45% FG/MW 55% NFP

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Odor Control Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1	TSI-1	-	----	--------	--------	----	--------
Mechanical	TSI-2	5	Good	Moderate	Moderate	Moderate	Moderate
Equipment	MM-3	5	Good	Moderate	Low	High	High
Room	MM-4	5	Good	Low	Low	Low	Low
	MM-5	-	----	--------	--------	----	--------
F-2	MM-4	5	Good	Low	Low	Low	Low
Decant	MM-5	-	----	--------	--------	----	--------
Tank #1							
F-3	MM-4	5	Good	Low	Low	Low	Low
Decant	MM-5	-	----	--------	--------	----	--------
Tank #2							
F-4	MM-5	-	----	--------	--------	----	--------
Garage							

* * * * * *

SECTION IV/13

INSPECTION REPORT: Building No. 02-13

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Phosphate Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1980

SQUARE FOOTAGE: 2,679

NUMBER OF FLOORS: 1

CONSTRUCTION TYPE: Steel Framing/Concrete Block

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Phosphate Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Protected Water Line, Pipe Joint Insulation	F	N	100 Pipe Fittings
TSI - 2*	Protected Water Line, Straight Pipe Insulation	F	N	300 Linear Feet
TSI - 3	Duct Insulation	F	N	125 Square Feet
TSI - 4	Drain Line, Pipe Joint Insulation	F	N	13 Pipe Fittings
MM - 5	Fan Unit Gasket/ Round Access Panel Insulation	F	Y	1 Linear Foot
MM - 6	Fire Doors	N	N	2 Doors
	Assumed ACBM			
MM - 7	Duct Expansion Joint	N	Y	4 Expansion Joints
MM - 8	Flange Joint Gasket	N	Y	40 Gaskets

* One sample of fiberglass straight pipe insulation was taken in order to document its presence.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Phosphate Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-19-89 T25504 02-13-001	TSI - 1	Phosphate Removal F-1	Protected Water Line, 3" Outer Diameter, 23'-4" East of Northwest Corner, Along North Wall, Elevation 726'-2"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 25% FG/MW 75% NFP
09-19-89 T25505 02-13-002	TSI - 1	Phosphate Removal F-1	Protected Water Line, 3" Outer Diameter, 23'-0" South of Northeast Corner Along East Wall, Elevation 724'-3"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 30% FG/MW 70% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-19-89 T25506 02-13-003	TSI - 1	Phosphate Removal F-1	Protected Water Line, 3" Outer Diameter, 17'-0" East of Northwest Corner Along North Wall, Elevation 719'-2"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 35% FG/MW 65% NFP
09-19-89 T25507 02-13-004	TSI - 2	Phosphate Removal F-1	Protected Water Line, 4" Outer Diameter, 12'-8" East, 1'-0" South of Northwest Corner, Elevation 722'-8"	Straight Pipe Insulation	Brown, Compact, Fibrous, Painte Blue (5%): 75% Ceramic Wool 25% NFP --- Silver Foil (2%): 100% Metal** --- Brown, Compact, Cellular (70%): 100% NFP --- Brown, Compact, Fibrous, Papery (23%): 80% Cellulose 20% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-19-89 T25508 02-13-005	TSI - 3	Phosphate Removal F-1	West Side of Fan Unit, 4'-1" South, 18'-0" West of North-east Corner, Elevation 736'-8"	Duct Insulation	White, Compact, Fiberweave, Painted Brown (10%): 100% Cotton --- White, Compact, Fibrous, Papery (5%): 85% Cellulose 15% NFP --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (80%): 85% FG/MW 15% NFP/Binde
09-19-89 T25509 02-13-006	TSI - 3	Phosphate Removal F-1	East Side of Fan Unit, 4'-8" South 12'-6" West of North-east Corner, Elevation 736'-11"	Duct Insulation	White, Compact, Fiberweave, Painted Brown (10%): 100% Cotton --- White, Compact Fibrous, Paper (5%): 80% Cellulose 20% NFP --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (80%): 90% FG/MW 10% NFP/Binde

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-19-89 T25510 02-13-007	TSI - 3	Phosphate Removal F-1	East Side of Fan Unit, 5" South, 12'-6" West of Northeast Corner, Elevation 736'-11"	Duct Insulation	White, Compact, Fiberweave, Painted Brown (10%): 100% Cotton --- White, Compact, Fibrous (5%): 70% Cellulose 10% Ceramic Wool 20% NFP --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (80%): 90% FG/MW 10% NFP/Binder
09-19-89 T25511 02-13-008	TSI - 4	Phosphate Removal F-1	Roof Drain, 6" Outer Diameter, 9'-0" South 12'-0" West of Northeast Corner, Elevation 735'-11"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted White (10%): 100% Cotton --- Yellow, Consolidated, Fibrous (10%): 75% FG/MW 25% NFP/Binder --- Gray, Compact, Fibrous (80%): 35% FG/MW 65% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-19-89 T25512 02-13-009	TSI - 4	Phosphate Removal F-1	Roof Drain, 6" Outer Diameter, 7'-2" South, 12'-0" West of Northeast Corner, Elevation 736'-0"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted White (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 30% FG/MW 10% Cellulose 60% NFP
09-18-89 T25513 02-13-010	TSI - 4	Phosphate Removal F-1	Roof Drain, 6" Outer Diameter, 6'-3" South, 13'-0" West of Northeast Corner, Elevation 736'-0"	Pipe Joint Insulation	White, Compact, Fiberweave (10%): 100% Cotton --- White, Compact, Fibrous, Papery (5%): 75% Cellulose 25% NFP --- White, Compact, Fibrous (5%): 20% Cellulose 65% Ceramic Wool 15% NFP --- Yellow, Consolidated, Fibrous (10%): 75% FG/MW 25% NFP/Binder --- Gray, Compact, Fibrous (70%): 40% FG/MW 60% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-18-89 T25852 02-13-011	TSI - 4	Phosphate Removal F-1	25'-6" West, 6'-6" South of Northeast Corner, Elevation 736'-3"	Pipe Hanger Packing	Yellow, Uncompact, Fibrous (40%): 90% FG/MW 10% NFP/Binder --- Gray, Compact, Fibrous (60%): 80% FG/MW 20% NFP/Binder
09-18-89 T25853 02-13-012	MM - 5	Phosphate Removal F-1	East Side of Fan Unit, 7'-3" South, 12'-6" West of Northeast Corner, Elevation 732'-6"	Fan Unit Gasket	White, Compact, Fibrous, Rope-Like (100%): 60% Chrysotile 30% Polymer Fibers 10% NFP
09-18-89 T25854 02-13-013	MM - 5	Phosphate Removal F-1	East Side of Fan Unit, 6'-9" South, 12'-6" West of Northeast Corner, Elevation 732'-6"	Fan Unit Gasket	White, Compact, Fibrous, Rope-Like (100%): 70% Chrysotile 20% Polymer Fibers 10% NFP
10-06-89 L 6027 02-13-014	MM - 6	Phosphate Removal F-1	North Exterior Entrance Door, From Bottom of Door Damaged Area, Elevation 717'-8"	Fire Doors	Dark Brown, Homogeneous, Flaky, Papery (80%): 100% NFP --- Brown, Homogeneous, Fibrous (20%): 90% Wood Fiber 10% NFP

* * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Phosphate Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 Phosphate Removal	TSI-1	-	----	----	----	---	----
	TSI-2	-	----	----	----	---	----
	TSI-3	-	----	----	----	---	----
	TSI-4	-	----	----	----	---	----
	MM-5	5	Good	Moderate	High	Moderate	High
	MM-6	-	----	----	----	---	----
	MM-7	5	Good	Moderate	High	High	High
	MM-8	5	Good	Low	Low	Low	Low
F-2 102 Storage Room	No Suspect ACBM						

* * * * * * * *

SECTION IV/14

INSPECTION REPORT: Building No. 02-14

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Old Pre-Aeration and Storage Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1932

SQUARE FOOTAGE: 7,200

NUMBER OF FLOORS: 3

CONSTRUCTION TYPE: Steel & Reinforced Concrete Framing/
Concrete Block Walls

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Old Pre-Aeration and Storage Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
MM - 1	Electrical Panel Fire Shield	F	Y	6 Square Feet
SM - 2	Ceiling Plaster	N	N	225 Square Feet
MM - 3	Fire Doors	N	N	3 Doors
	Assumed ACBM			
MM - 4	Duct Expansion Joints	N	Y	2 Expansion Joints
MM - 5	Flange Joint Gaskets	N	Y	3 Gaskets

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Old Pre-Aeration and Storage Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-17-89 T26874 02-14-001	MM - 1	Upstairs Blower Room F-1	2nd Floor, 3'-0" North of Transformer Room, Inside Safety Panel, 726'-6" Elevation	Electrical Panel Fire Shields	Gray, Compact, Fibrous (100%): 35% Chrysotile 55% Cellulose 10% NFP
10-17-89 T26875 02-14-002	MM - 1	Upstairs Blower Room F-1	2nd Floor, 3'-0" North of Transformer Room, Inside Safety Panel, 726'-6" Elevation	Electrical Panel Fire Shield	Gray, Compact, Fibrous (100%): 40% Chrysotile 50% Cellulose 10% NFP
10-17-89 T26876 02-14-003	SM - 2	Trans-former Room F-2	North Side of Transformer, 731'-6" Elevation	Ceiling Plaster	Gray, Hard, Cemenetitious (100%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-17-89 T26877 02-14-004	SM - 2	Trans-former Room F-2	North Side of Transformer, 731'-6" Elevation	Ceiling Plaster	Gray, Hard, Cementitious (100%): 100% NFP
10-17-89 T26878 02-14-005	SM - 2	Trans-former Room F-2	North Side of Transformer 731'-6" Elevation	Ceiling Plaster	Gray, Hard, Cementitious (100%): 100% NFP

* * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Old Pre-Aeration and Storage Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-). Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 Upstairs Blower Room	MM-1	1	Fair	Moderate	Low	Low	Moderate
	MM-4	5	Good	Moderate	Moderate	High	High
	MM-5	5	Good	Low	Low	Low	Low
F-2 Trans-former Room	SM-2	-	----	----	----	----	----
F-3 Garage Storage		No Suspect ACBM Present					
F-4 Shop	MM-4	5	Good	Moderate	Moderate	High	High
	MM-5	5	Good	Low	Low	Low	Low
F-5 Basement		No Suspect ACBM Present					
F-6 Aeration Room		No Suspect ACBM Present					

* * * * * * *

SECTION IV/15

INSPECTION REPORT: Building No. 02-15

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: River Gauging Station

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1930

SQUARE FOOTAGE: 50

NUMBER OF FLOORS: 1

CONSTRUCTION TYPE: Wood

COMMENTS:

This building contains:

_ - Friable ACBM

_ - Non-Friable

_ - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the River Gauging Station, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY

No Suspect ACBM was Present at the Above Referenced Location.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the River Gauging Station, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 River Gauging Station	No Suspect ACBM was Present						

* * * * * *

SECTION IV/16

INSPECTION REPORT: Building No. 02-16

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Trickling Filter Lift Station

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1980

SQUARE FOOTAGE: 1,568

NUMBER OF FLOORS: 1

CONSTRUCTION TYPE: Masonry

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Trickling Filter Lift Station, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Protected/City Water-line - Pipe Fitting Insulation	F	N	45 Pipe Fittings
TSI - 2	Drain Line - Pipe Joint/Hanger Insulation	F	N	7 Pipe Fittings
MM - 3	Fan Unit Gasket/Round Access Panel Insulation	F	Y	1 Linear Foot
MM - 6	Fire Door	N	N	2 Doors
	Assumed ACBM			
MM - 4	Duct Expansion Joints	N	Y	1 Expansion Joint
MM - 5	Flange Joint Gaskets	N	Y	12 Gaskets

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Trickling Filter Lift Station, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-20-89 T25649 02-16-001	TSI - 1	Trickling Filter Lift Station F-1	Protected Water Line, 3" Outer Diameter, 8" North, 6'-3" West of South-east Corner, 723,-4" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Powder (90%): 40% FG/MW 60% NFP
09-20-89 T25647 02-16-002	TSI - 1	Trickling Filter Lift Station F-1	City Water Line, 5" Outer Diameter, 2'-1" North, 6" West of Southeast Corner, 722,-4" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Powder, (90%): 60% FG/MW 40% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-20-89 T25651 02-16-003	TSI - 1	Trickling Filter Lift Station F-1	Protected Water Line, 3" Outer Diameter, 7" North, 11'-0" West of South-east Corner, 725,-0" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Powder (90%): 40% FG/MW 60% NFP
09-20-89 T25648 02-16-004	TSI - 2	Trickling Filter Lift Station F-1	Roof Drain Line, 5'-4" North, 10'-0" West of Southeast Corner, 726'-9" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted White (10%): 100% Cotton --- Gray, Powder (90%): 60% FG/MW 40% NFP
09-20-89 T25652 02-16-005	TSI - 2	Trickling Filter Lift Station F-1	Roof Drain Line, 11'-4" North, 10" East of Southwest Corner, 726'-5" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted White (10%): 100% Cotton --- Gray, Powder (90%): 60% NFP 40% FG/MW
09-20-89 T25650 02-16-006	TSI - 2	Trickling Filter Lift Station F-1	Roof Drain Line, 6'-0" South, 10'-0" West of North-East Corner, 726'-9" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted White (10%): 100% Cotton --- Gray, Powder (90%): 50% FG/MW 50% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
09-27-89 T25849 02-16-007	MM - 3	Trickling Filter Lift Station F-1	North Side of Fan Unit, 4'-4" West, 12'-0" South of Northeast Corner, 725'-8" Elevation	Fan Unit Gasket	White, Compact, Fibrous, Rope-Like (100%): 90% Chrysotile 10% NFP
09-27-89 T25850 02-16-008	MM - 3	Trickling Filter Lift Station F-1	North Side of Fan Unit, 3'-10" West, 12'-0" South of Northeast Corner, 725'-8" Elevation	Fan Unit Gasket	White, Compact, Fibrous (100%): 85% Chrysotile 15% NFP
09-27-89 T25851 02-16-009	TSI - 2	Trickling Filter Lift Station F-1	7'-0" South, 11'-6" West of Northeast Corner, 727,-0" Elevation	Pipe Hanger Packing	Gray, Compact, Fibrous, Painted Gray (100%): 30% FG/MW 70% NFP

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Trickling Filter Lift Station, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1/	TSI-1	-	----	----	----	---	----
Trickling	TSI-2	-	----	----	----	---	----
Filter	MM-3	5	Good	Low	High	Moderate	High
Lift	MM-4	5	Good	Low	High	Moderate	High
Station	MM-5	5	Good	Low	Low	Low	Low
	MM-6	-	----	----	----	---	----

* * * * * *

SECTION IV/17

INSPECTION REPORT: Building No. 02-17

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Service Building/Steel Strand - Stockroom Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1927; additions: 1962, 1965, 1980, 1988

SQUARE FOOTAGE: 8,254

NUMBER OF FLOORS: 1/with partial basement

CONSTRUCTION TYPE: Steel/Concrete Framing with Reinforced Concrete Basement

COMMENTS:

This building contains:

_ - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Service Building/Steel Strand - Stockroom Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Roof Drain Pipe Fitting Insulation	F	N	12 Fittings
MM - 2	12" x 12" Light Gray Mottled Floor Tile and Adhesive	N	Y	1,650 Square Feet
SM - 3*	Hard Plaster (Original Building)	N	N	2,800 Square Feet
MM - 4	Baseboard Molding and Adhesive	N	Y	150 Linear Feet
MM - 5	2' x 4' Suspended Ceiling Tiles	F	N	900 Square Feet
MM - 6	Stainless Steel Sink Insulation	N	Y	2 Square Feet
SM - 7*	Hard Plaster (Addition)	N	N	400 Square Feet
TSI - 8	Cloth Wrapped Duct Insulation	F	N	415 Square Feet

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 9	Boiler Breeching Insulation	F	N	75 Square Feet
TSI - 10	Pipe Fitting Insulation (Domestic and Heating Lines)	F	N	180 Fittings
MM - 11	9" x 9" Green Floor Tile and Adhesive	N	Y	216 Square Feet
MM - 12	Fire Doors	N	N	16 Doors
TSI - 14	Duct Insulation Packing	F	N	5 Square Feet
	Assumed ACBM			
MM - 13	Duct Expansion Joints	N	Y	6 Expansion Joints

*Non-Friable, Non-Fibrous Hard Plaster

Note: Although not specifically required by AHERA regulations, an attempt is made to identify items which may contain asbestos even though they are not part of the building structure. Personnel who have access to these types of materials should be notified to conduct an inventory of supplies and equipment. For the sake of their safety it may be beneficial to have some items tested or to assume them to be asbestos-containing.

MATERIAL TYPE	FUNCTIONAL SPACE(S) FOUND
Gasket Material, Graphited Asbestos Packing Material	F-1, F-11

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Service Building/Steel Strand - Stockroom Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T26999 02-17-001	MM - 2	Room 111 F-4	North Side of of East Doorway to Room 111, 718'-0" Elevation	Floor Tile	White, Hard, Compact (95%): 4% Chrysotil 96% NFP --- Black, Resinou (5%): 5% Chrysotil 5% Cellulose 90% NFP
10-24-89 T27000 02-17-002	MM - 2	Room 111 F-4	West Side of Doorway to Women's Bathroom, 718'-0" Elevation	Floor Tile	White, Hard, Compact (95%): 2% Chrysotil 98% NFP --- Black, Resinou (5%): 5% Chrysotil 98% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T27001 02-17-003	MM - 4	Room 111 F-4	South Side of East Doorway to Room 111, 718'-3" Elevation	Baseboard Molding	Black, Flexible Compact (98%): 2% Chrysotile 98% NFP --- Black, Resinous (2%): 35% Cellulose 65% NFP
10-24-89 T27002 02-17-004	SM - 3	Room 111 F-4	9'-3" West, 7'-7" North of Southeast Corner, 723'-11" Elevation	Hard Plaster	White, Cementitious, Non-Homogeneous Painted Tan (100%): 100% NFP/Perlit
10-24-89 T27003 02-17-005	MM - 4	Room 111 F-4	East Side of Door Leading Into Room 110, 718'-3" Elevation	Baseboard Molding	Black, Compact, Flexible (98%): 1% Chrysotile 99% NFP --- Brown, Resinous (2%): 1% Chrysotile 99% NFP
10-24-89 T27004 02-17-006	SM - 3	Room 111 F-4	1'-8" South of Northwest Corner Along West Wall, 722'-7" Elevation	Hard Plaster	White, Cementitious, Non-Homogeneou Painted Tan (100%): 100% NFP
10-24-89 T27005 02-17-007	MM - 2	File/ Copier Room F-7	Northeast Corner of the File Room, 718'-0" Elevation	Floor Tile	White, Hard, Compact (95%): 2% Chrysotil 98% NFP --- Black, Resinou (5%): 2% Chrysotil 98% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T27006 02-17-008	MM - 5	Senior Maintenance Foreman's Office F-5	6'-0" West, 1'-6" North of Southeast Corner, 726'-0" Elevation	Suspended Ceililng Tile	Gray, Compact, Fibrous, Painte White (100%): 50% Cellulose 30% FG/MW 20% NFP/Perlit
10-24-89 T27007 02-17-009	TSI - 10	Room 107 Boiler Room F-15	Hot Water Heating Supply, 9'-4" West, 1'-0" North of the Southeast Corner, 720'-0" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Yellow, Consolidated, Fibrous (5%): 90% FG/MW 10% NFP/Binder --- White, Compact, Papery, Painted Gray (10%): 90% Cellulose 10% NFP --- White, Compact, Fibrous (5%): 100% Glass Wool --- Gray, Compact, Fibrous (75%): 40% FG/MW 60% NFP
10-24-89 T27008 02-17-010	TSI - 1	Room 110 F-2	11'-4" East of Northwest Corner, Directly Above Door to Basement, 727'-2" Elevation	Pipe Joint Insulation (Roof Drain)	White, Compact Fiberweave (5% 100% Cotton --- Gray, Compact, Fibrous (95%): 40% FG/MW 60% NFP/Binde

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T27009 02-17-011	TSI - 1	Room 109 F-14	12'-6" South, 2'-10" West of the Northeast Corner of the Room, 727'-0" Elevation	Pipe Joint Insulation (Roof Drain)	White, Compact, Fiberweave, Painted White (5%): 100% Cotton --- Yellow, Consolidated, Fibrous (10%): 90% FG/MW 10% NFP/Binder --- Silver Foil (2%): 100% Metal** --- Gray, Compact, Fibrous (81%): 50% FG/MW 15% Cellulose 35% NFP --- White, Compact, Papery (2%): 90% Cellulose 10% Glass Woo
10-24-89 T27010 02-17-012	TSI - 9	Room 107 F-5	10'-0" West, 2'-7" North of Southeast Corner, 721'-5" Elevation	Boiler Breeching Insulation	Silver Foil (2%): 100% Metal** --- White, Compact Fiberweave (5% 100% Cotton --- Tan, Compact, Fibrous (93%): 40% FG/MW 10% Glass Woo 50% NFP/Perli

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T27011 02-17-013	MM - 5	Hallway F-8	8'-4" South, 2'-8" East of Northwest Corner of North-South Hallway, 726'-0" Elevation	Suspended Ceiling Tile	Gray, Compact, Fibrous, Painted White (100%): 30% FG/MW 50% Cellulose 20% NFP/Perlit
10-24-89 T27012 02-17-014	TSI - 8	Room 107 Boiler Room F-15	6'-8" North, 6'-5" West of Southeast Corner, 722'-3" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Tan (5%): 100% Cotton --- White, Compact Fibrous (10%): 100% Glass Woo --- White, Compact Papery (10%): 80% Cellulose 20% NFP --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (70%): 90% FG/MW 10% NFP/Binde
10-24-89 T27013 02-17-015	MM - 5	Hallway F-8	9'-4" North, 2'-0" East of Southeast Corner of North-South Hall, 726'-0" Elevation	Suspended Ceiling Tile	Gray, Compact, Fibrous, Paint White (100%): 20% FG/MW 55% Cellulsoe 25% NFP/Perl

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T27014 02-17-016	TSI - 1	Room 109 Equipment Repair F-14	19'-6" North, 16'-3" East of Southwest Corner, 727'-0" Elevation	Pipe Joint Insulation (Roof Drain)	White, Compact, Fiberweave, Painted White (5%): 100% Cotton --- White, Compact, Fibrous (10%): 40% FG/MW 10% Cellulose 50% NFP --- Yellow, Consolidated, Fibrous (85%): 90% FG/MW 10% NFP/Binder
10-24-89 T27015 02-17-017	SM - 7	Room 105, Men's Bathroom F-13	9'-6" North, 5'-9" East of Southwest Corner, 725'-10" Elevation	Hard Plaster	White, Hard, Cementitious, Painted Tan (100%): 100% NFP
10-23-89 T27016 02-17-018	SM - 3	Room 110 F-2	2'-6" East of the North- west Corner, 723'-0" Elevation	Hard Plaster	Gray, Compact, Cementitious (60%): 100% NFP --- White, Compact Cementitious (40%): 100% NFP
10-23-89 T27017 02-17-019	MM - 11	Locker Room, (Original Building) F-16	5" North of Southeast Corner Along East Wall of Room, Elevation 708'-0"	Floor Tile	Green, Hard, Compact (98%): 3% Chrysotil 97% NFP --- Black, Compact Resinous (2%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-23-89 T27018 02-17-020	TSI - 9	Room 107 F-15	10'-0" West, 3'-0" North of the South-east Corner, 726'-5" Elevation	Boiler Breeching Insulation	White, Compact, Fiberweave, (Painted Silver (10%): 90% Cotton 10% NFP --- Gray, Compact, Fibrous (90%): 15% Cotton 30% FG/MW 55% NFP
10-23-89 T27019 02-17-021	MM - 11	Locker Room (Original Building) F-16	North Side of Doorway to Room, Elevation 708'-0"	Floor Tile	Green, Hard, Compact, Cementitious (95%): 2% Chrysotile 98% NFP --- Black, Compact Resinous (5%): 2% Cellulose 98% NFP
10-23-89 T27020 02-17-022	TSI - 9	Room 107 F-15	10'-0" West, 3'-2" North of the South-east Corner of the Room, 721'-0" Elevation	Boiler Breeching Insulation	White, Compact Fiberweave, (Painted Silve (10%): 90% Cotton 10% NFP --- Grey, Compact, Powdered, Fibrous (90%): 15% FG/MW 30% Ceramic Wool 5% Cotton 50% NFP/Perli

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T27021 02-17-023	TSI - 10	File/ Copier Room F-7	3" Outer Diameter, Hot Water Heating Return Line, 2'-0" East, 3'-10" South of the North-west Corner of the Room, 727'-1" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave (15%): 90% Cotton 10% NFP --- Gray, Compact, Fibrous, Powder (85%): 40% FG/MW 10% Cellulose 50% NFP
10-24-89 T27022 02-17-024	MM - 11	Locker Room (Original Building) F-16	Northeast Corner of Room, Elevation 708'-0"	Floor Tile	Green, Hard Compact (100%): 5% Chrysotile 10% Cellulose 85% NFP
10-24-89 T27023 02-18-025	TSI - 8	Janitor's Closet F-12	3'-10" West, 1'-5" South of the North-west Corner of the Room, 726'-7" Elevation	Duct Insulation	White, Fiberweave, Painted Brown (10%): 75% Cotton 20% NFP 5% FG/MW --- White, Compact, Papery (10%): 65% Cellulose 20% Glass Wool 15% NFP --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (75%): 80% FG/MW 20% NFP/Binde

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T27024 02-17-026	TSI - 10	Hallway F-8	3" Outer Diameter Line, 5" North, 5" West of the Southeast Corner of the East-West Hallway, 727'-0" Elevation	Pipe Joint Insulation	White, Compact, Fiberweave (5%): 90% Cotton 10% NFP --- Gray, Compact, Fibrous (95%): 45% FG/MW 5% Cotton 50% NFP
10-24-89 T27025 02-18-027	TSI - 8	Room 107, Boiler Room F-15	8'-6" East, 1'-8" South of the Northwest Corner of the Room, 722'-1" Elevation	Duct Insulation	White, Compact, Fiberweave, Painted Brown (10%): 90% Cotton 10% NFP --- White, Compact, Papery (10%): 60% Cellulose 20% Glass Wool 10% FG/MW 5% Cotton 5% NFP --- Silver Foil (5%): 100% Metal** --- Yellow, Consolidated, Fibrous (75%): 80% FG/MW 2% Cotton 18% NFP/Binde
10-24-89 T27026 02-17-028	SM - 7	Room 105, Men's Bathroom F-13	2'-3" North, 3" West of Southeast Corner, 725'-10" Elevation	Hard Plaster	White, Compact Cementitious, Painted Gray (100%): 3% FG/MW 97% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T27027 02-17-029	SM - 7	Boot Room F-18	7'-3" South, 1'-5" West of Northeast Corner, 726'-0" Elevation	Hard Plaster	White, Compact, Cementitious, Painted Gray (100%): 100% NFP
10-24-89 T27028 02-17-030	MM - 6	Room 104, Lunch Room F-9	1'-6" North, 7'-8" East of Southwest Corner, 718'-0" Elevation	Sink Insulation	Purple, Compact Fibrous (100%): 10% Chrysotile 90% NFP
10-24-89 T27029 02-17-031	MM - 6	Room 104, Lunch Room F-9	1'-6" North, 6'-8" East of Southwest Corner, 718'-0" Elevation	Sink Insulation	Purple, Compact Fibrous (100%): 15% Chrysotile 85% NFP
10-24-89 T27030 02-17-032	TSI - 14	Room 107, Boiler Room F-15	5'-3" West, 8'-8" North of the South-east Corner of the Room, 724'-0" Elevation	Duct Insulation Packing	White, Compact Fiberweave, Painted Brown (10%): 90% Cotton 10% NFP --- Gray, Compact, Fibrous (90%): 40% FG/MW 10% Cotton 50% NFP
10-24-89 T27031 02-17-033	TSI - 14	Room 107, Boiler Room F-15	5'-3" West, 13'-10" North of the South-east Corner of the Room, 724'-0" Elevation	Duct Insulation Packing	White, Compact Fibrous, Paint Brown, Fiberweave (10%): 85% Cotton 15% NFP --- Gray, Compact Fibrous (90%) 5% Cotton 55% FG/MW 40% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-24-89 T27032 02-17-034	TSI - 14	Room 107, Boiler Room F-15	5'-3" West, 10'-5" North of the South-east Corner of the Room, 724'-0" Elevation	Duct Insulation Packing	White, Compact, Fibrous, Painte Brown, Fiberweave (10%): 90% Cotton 5% FG/MW 5% NFP --- Gray, Compact, Fibrous (90%): 5% Cotton 45% FG/MW 50% NFP
11-29-89 T28396 02-17-035	TSI - 9	Room 107, Boiler Room F-15	2'-9" East, 3'-0" North of the Southwest Corner of the Room, 721'-0" Elevation	Boiler Breeching Insulation	White, Compact, Fiberweave, Painted Silver (5%): 100% Cotton --- Tan, Compact, Fibrous, Non-Homogeneous (95%): 40% FG/MW 10% Glass Wool 50% NFP/Perlit
01-10-90 T30062 02-17-036	Requested Sample	Room 109, Equipment Repair F-14	In Box, Inside Garage Area of Serice Building	Gasket Material	White, Compact, Fibrous, Rope-Like (100%): 50% Polymer Fibers 45% Chrysotile 5% NFP

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material conditiona assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Service Building/Steel Strand - Stockroom Building Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-). Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1	SM-3	-	----	----	----	----	----
Basement	TSI-10	-	----	----	----	----	----
	MM-12	-	----	----	----	----	----
F-2	TSI-1	-	----	----	----	----	----
Room 110	SM-3	-	----	----	----	----	----
	MM-12	-	----	----	----	----	----
	MM-13	5	Good	High	Moderate	High	High
F-3	SM-3	-	----	----	----	----	----
Women's Bathroom	MM-12	-	----	----	----	----	----
F-4	MM-2	5	Good	High	Low	Low	High
Room 111	SM-3	-	----	----	----	----	----
	MM-4	5	Good	High	Low	Low	High
	MM-12	-	----	----	----	----	----

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-5	MM-2	5	Good	High	Low	Low	High
Senior	MM-5	-	----	----	----	----	----
Main-	TSI-10	-	----	----	----	----	----
tenance	MM-12	-	----	----	----	----	----
Foreman's	MM-13	5	Good	Low	Low	High	High
Office							
F-6	MM-2	5	Good	High	Low	Low	High
Closet	MM-5	-	----	----	----	----	----
	MM-12	-	----	----	----	----	----
F-7	MM-2	5	Good	High	Low	Low	High
File-	MM-5	-	----	----	----	----	----
Copier	TSI-10	-	----	----	----	----	----
Room	MM-12	-	----	----	----	----	----
F-8	MM-2	5	Good	High	Low	Low	High
Hallway	MM-5	-	----	----	----	----	----
	TSI-10	-	----	----	----	----	----
F-9	MM-2	5	Good	High	Low	Low	High
Room 104	MM-5	-	----	----	----	----	----
	MM-6	5	Good	High	Low	Low	High
	TSI-10	-	----	----	----	----	----
	MM-12	-	----	----	----	----	----
F-10	MM-2	5	Good	High	Low	Low	High
Room 114	MM-5	-	----	----	----	----	----
	MM-10	-	----	----	----	----	----
	MM-12	-	----	----	----	----	----
	MM-13	5	Good	Low	Moderate	High	High
F-11 Storage Area		No Suspect ACBM Present					
F-12	TSI-8	-	----	----	----	----	----
Janitor's	TSI-10	-	----	----	----	----	----
Closet	MM-12	-	----	----	----	----	----
F-13	SM-7	-	----	----	----	----	----
Room 105	MM-12	-	----	----	----	----	----

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-14 Room 109	TSI-1	-	----	----	----	----	----
	TSI-10	-	----	----	----	----	----
	MM-12	-	----	----	----	----	----
F-15 Room 107 (Boiler Room)	TSI-8	-	----	----	----	----	----
	TSI-9	-	----	----	----	----	----
	TSI-10	-	----	----	----	----	----
	MM-12	-	----	----	----	----	----
	MM-13	5	Good	High	High	High	High
	TSI-14	-	----	----	----	----	----
F-16 Locker Room (Original Building)	MM-11	5	Good	High	Low	Low	High
	MM-12	-	----	----	----	----	----
F-17 Service Garage	No Suspect ACBM Present						
F-18 Boot Room	SM-7	-	----	----	----	----	----
	TSI-10	-	----	----	----	----	----
	MM-12	-	----	----	----	----	----
F-19 Space Above Drop Ceiling in Room 105	No Access to this Functional Space						

* * * * * * *

SECTION IV/18

INSPECTION REPORT: Building No. 02-18

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Sludge Thickener Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1965

SQUARE FOOTAGE: 26,665

NUMBER OF FLOORS: 2

CONSTRUCTION TYPE: Reinforced Concrete Basement Walls and Floor; Concrete Block and Face Brick Exterior

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Sludge Thickener Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Roof Drain Pipe Fitting Insulation	F	N	6 Pipe Fittings
TSI - 2	Service Water Pipe Fitting Insulation (Addition)	F	N	24 Pipe Fittings
TSI - 3	Service/Protected Water Pipe Fitting Insulation (Original Building)	F	Y	45 Pipe Fittings
TSI - 4	Boiler Breeching Insulation	F	Y	75 Square Feet
TSI - 5	Heating Water Supply and Return Pipe Fitting Insulation	F	Y	74 Pipe Fittings
TSI - 6	Duct Insulation	F	N	160 Square Feet
MM - 7	12" x 12" Floor Tile and Adhesive, Light Brown with Brown Streaks	N	Y	305 Square Feet

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
MM - 8	Baseboard Molding and Adhesive	N	N	78 Linear Feet
MM - 11	Fire Door	N	N	3 Doors
	Assumed ACBM			
MM - 9	Flange Joint Gaskets	N	Y	544 Gaskets
MM - 10	Duct Expansion Joints	N	Y	5 Expansion Joints

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Sludge Thickener Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-06-89 L 6035 02-18-001	TSI - 3	Basement F-1	3" Outer Diameter, Protected Water Line, 32'-0" North, 9'-2" West of the Southeast Corner, 709'-9" Elevation	Pipe Joint Insulation	Blue, Homogeneous, Fibrous, Fiberweave (10%): 80% Cotton 20% NFP --- White, Homogeneous, Fibrous, Cementitious, (90%): 50% FG/MW 45% NFP 5% Chrysotile

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-06-89 L 6036 02-18-002	TSI - 1	Basement F-1	6" Outer Diameter, Drain Line, 24'-0" South, 9" West of the Northeast Corner, 720'-1" Elevation	Pipe Joint Insulation	Gray, Homogeneous, Fibrous, Fiberweave (20%): 95% Cellulose 5% NFP --- Gray, Homogeneous, Powder (80%): 5% Cellulose 40% FG/MW 55% NFP
10-06-89 L 6037 02-18-003	TSI - 2	Basement F-1	3" Outer Diameter, Service Water Line, 44'-6" South, 1'-0" West of the Northeast Corner, 714'-3" Elevation	Pipe Joint Insulation	Blue, Homogeneous, Fibrous, Fiberweave (10%): 70% Cellulose 25% FG/MW 5% NFP --- Gray, Homogeneous, Powder (90%): 40% FG/MW 60% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-06-89 L 6038 02-18-004	TSI - 3	Basement F-1	3" Outer Diameter, Protected Water Line, 17'-7" North, 4" West of Southeast Corner, 716'-9" Elevation	Pipe Joint Insulation	Blue, Homogeneous, Fibrous, Fiberweave, (10%): 75% Cellulose 5% FG/MW 20% NFP --- Gray, Homogeneous, Powder (90%): 30% FG/MW 70% NFP
10-06-89 L 6039 02-18-005	TSI - 3	Basement F-1	3" Outer Diameter, Protected Water Line, 13'-8" West, 58'-5" North of Southeast Corner Above First Landing of the Stairs, 718'-10" Elevation	Pipe Joint Insulation	Blue, Homogeneous, Fibrous, Fiberweave (10%): 75% Cellulose 5% FG/MW 20% NFP --- Gray, Homogeneous, Granular, Cementitious, (90%): 5% Cellulose 40% FG/MW 50% NFP 5% Chrysotile

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-06-89 L 6040 02-18-006	TSI - 2	Basement F-1	3" Outer Diameter, Service Water Line, 26'-4" South, 14'-0" West of the Northeast Corner, 716'-9" Elevation	Pipe Joint Insulation	Blue, Homogeneous, Fibrous, Fiberweave (10%): 75% Cellulose 5% FG/MW 20% NFP --- Gray, Homogeneous, Powder (10%): 35% FG/MW 65% NFP
10-06-89 L 6041 02-18-007	TSI - 2	Basement F-1	3" Outer Diameter, Service Water Line, 5'-0" South, 79'-0" West of North-east Corner, (in North Pipe Chase) 716'-10" Elevation	Pipe Joint Insulation	Blue, Homogeneous, Fibrous, Fiberweave (10%): 75% Cellulose 5% FG/MW 20% NFP --- Gray, Homogeneous, Powder (90%): 80% FG/MW 20% NFP
10-06-89 L 6042 02-18-008	TSI - 1	Basement F-1	Off Pipe Hanger on Drain Line 26'-0" South, 14'-6" West of the Northeast Corner, 720'-0" Elevation	Pipe Hanger Insulation	Gray, Homogeneous, Fibrous, Fiberweave (10%): 75% Cellulose 5% FG/MW 20% NFP --- Gray, Homogeneous, Powder (90%): 30% FG/MW 70% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 L 6043 02-18-009	TSI - 1	Basement F-1	6" Outer Diameter, Drain Line, 26'-0" South, 14'-6" West of the Northeast Corner, 719'-9" Elevation	Pipe Joint Insulation	Gray, Homogeneous, Fibrous, Fiberweave (10%): 80% Cellulose 15% FG/MW 5% NFP --- Yellow, Homogeneous, Fibrous (20%): 100% Perlite --- Gray, Homogeneous, Powder (70%): 5% Cellulose 35% FG/MW 60% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 L 6044 02-18-010	TSI - 6	Room 100, Mechanical Equipment Room F-2	11'-3" South, 3'-9" West of the Northeast Corner of the Room, 728'-10" Elevation	Duct Insulation	Brown, Homogeneous, Fibrous, Fiberweave (10%): 95% Cellulose 5% NFP --- Silver, Homogeneous, Metal Foil (10%): 100% Metal** --- Brown, Homogeneous, Fibrous, Papery (10%): 50% Cellulose 50% FG/MW --- Yellow, Homogeneous, Fibrous (70%): 100% FG/MW
10-09-89 L 6045 02-18-011	TSI - 4	Room 100, Mechanical Equipment Room F-2	4'-2" South, 11'-0" West of the Northeast Corner of the Room, 731'-2" Elevation	Boiler Breeching Insulation	Blue, Homogeneous, Fibrous (10%): 90% Cellulose 5% FG/MW 5% NFP --- Gray, Homogeneous, Powder (90%): 70% Cellulose 30% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 L 6046 02-18-012	TSI - 5	Room 100, Mechanical Equipment Room F-2	6" Outer Diameter, Hot Water Heating Supply, Top Feed for SF-9, 18'-0" South, 5'-0" West of the Northeast Corner of the Room, 728'-6" Elevation	Pipe Joint Insulation	Brown, Homogeneous, Fibrous, Fiberweave (20%): 5% Chrysotile 80% Cellulose 15% NFP --- White/Gray, Homogeneous, Fibrous, Powder (80%): 10% Chrysotile 20% FG/MW 70% NFP
10-09-89 L 6047 02-18-013	TSI - 4	Room 100, Mechanical Equipment Room F-2	4'-2" South, 11'-6" West of Northeast Corner, 729'-6" Elevation	Boiler Breeching Insulation	Brown, Homogeneous, Fibrous, Fiberweave (10%): 20% Chrysotile 70% Cellulose 10% NFP --- White, Homogeneous, Fibrous, Cementitious (20%): 100% NFP --- Gray, Homogeneous, Powder (70%): 5% Chrysotile 50% FG/MW 45% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 L 6048 02-18-014	TSI - 6	Room 100, Mechanical Equipment Room F-2	17'-0" South, 10" West of the Northeast Corner of the Room, 726'-9" Elevation	Duct Insulation	Yellow, Homogeneous, Fibrous (30%): 95% FG/MW 5% NFP --- Gray, Homogeneous, Powder (60%): 20% FG/MW 80% NFP --- Brown, Homogeneous, Fibrous, Fiberweave (10%): 80% Cellulose 5% FG/MW 15% NFP
10-09-89 L 6049 02-18-015	MM - 7	Control Room F-3	2'-0" South, 1'-0" East of the Northeast Corner, 723'-2" Elevation	Floor Tile	Brown, Homogeneous, Powder, Hard Compact (90%): 100% NFP --- Black, Homogeneous, Resinous (10%) 100% NFP

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 L 6050 02-18-016	TSI - 6	Room 100, Mechanical Equipment Room F-2	18'-6" South, 1'-6" West of the Northeast Corner of the Room, 729'-0" Elevation	Duct Insulation	Yellow, Homogeneous, Fibrous (70%): 100% FG/MW --- Silver, Homogeneous, Metal Foil (10%): 100% Metal** --- Brown, Homogeneous, Fibrous, Paper (10%): 50% Cellulose 50% FG/MW --- Brown, Homogeneous, Fibrous, Fiberweave (10%): 80% Cellulose 20% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 L 6051 02-18-017	TSI - 4	Room 100, Mechanical Equipment Room F-2	4'-2" South, 11'-0" West of the Northeast Corner, 728'-6" Elevation	Boiler Breeching Insulation	Brown, Homogeneous, Fibrous, Fiberweave (20%): 25% Chrysotile 60% Cellulose 15% NFP --- White, Homogeneous, Fibrous (40%): 80% Cellulose 20% NFP --- Gray, Homogeneous, Powder (40%): 80% Chrysotile 20% NFP
10-09-89 L 6052 02-18-018	MM - 8	Control Room F-3	Northeast Corner, 723'-5" Elevation	Baseboard Molding	Black, Homogeneous, Powder, Hard Compact (80%): 100% NFP --- White, Homogeneous, Flaky, Cementitious (10%): 100% NFP --- Brown, Homogeneous, Hard, Compact, Resinous (10%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 L 6053 02-18-019	MM - 7	Foyer to Control Room F-4	Northeast Corner of Foyer, Top of Stairs, 723'-2" Elevation	Floor Tile	Brown, Homogeneous, Powder, Hard, Compact (90%): 5% Chrysotile 95% NFP --- Black, Homogeneous, Hard, Compact, Resinous (10%): (10%): 100% NFP
10-09-89 L 6054 02-18-020	MM - 8	Control Room F-3	Northwest Corner, 723'-5" Elevation	Baseboard Molding	Black, Homogeneous, Flaky, Hard, Compact (90%): 100% NFP --- Brown, Homogeneous, Hard, Compact, Resinous (10%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB # / SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 L 6055 02-18-021	TSI - 5	Room 100, Mechanical Equipment Room F-2	8" Outer Diameter, Hot Water Heating Supply Line, 15'-6" South, 3'-0" West of Northeast Corner, 730'-6" Elevation	Pipe Joint Insulation	Blue, Homogeneous, Fibrous, Fiberweave (10%): 95% Cellulose 5% NFP --- Yellow, Homogeneous, Fibrous (40%): 95% FG/MW 5% NFP --- Gray, Homogeneous, Powder (50%): 50% FG/MW 50% NFP
10-09-89 L 6056 02-18-022	MM - 7	Foyer to Control Room F-4	Southwest Corner of the Foyer, (Damaged Area) 732'-2" Elevation	Floor Tile	Brown, Homogeneous, Powder, Hard, Compact (80%): 2% Chrysotile 98% NFP --- Black, Homogeneous (20%): 100% NFP
10-09-89 L 6057 02-18-023	TSI - 5	Room 100, Mechanical Equipment Room F-2	8" Outer Diameter, Hot Water Heating Supply Line, 2'-0" South, 5'-8" West of the Northeast Corner, 728'-9" Elevation	Pipe Joint Insulation	Blue, Homogeneous, Fibrous Fiberweave (10%): 95% Cellulose 5% NFP --- White/Gray, Homogeneous, Powder (90%): 40% FG/MW 60% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
10-09-89 L 6072 02-18-024	MM - 11	Control Room F-3	South Door From Handle Inside Door, 726'-8" Elevation	Fire Door	Brown, Homogeneous, Fibrous, Papery (95%): 100% Cellulose --- Red, Homogeneous, Resinous (5%): 60% NFP 40% Cellulose
10-09-89 L 6073 02-18-025	MM - 11	Sludge Hopper Area #1-3 F-6	From South Entrance Door, Out of Handle, Inside Door, 726'-2" Elevation	Fire Door	Brown, Homogeneous, Fibrous, Papery (95%): 100% Cellulose --- Red, Homogeneous, Resinous (5%): 60% NFP 40% Cellulose

* * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Sludge Thickener Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-). Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1	TSI-1	-	----	----	----	----	----
Basement	TSI-2	-	----	----	----	----	----
	TSI-3	1	Fair	High	Moderate	Low	High
	MM-9	5	Good	Low	Low	Low	Low
F-2	TSI-4	5	Good	High	Moderate	Low	High
Room 100,	TSI-5	5	Good	High	Moderate	Low	High
Mechanical	TSI-6	-	----	----	----	----	----
Equipment	MM-9	5	Good	Low	Low	Low	Low
Room	MM-10	5	Good	High	Low	High	High
F-3	MM-7	5	Good	High	Low	Low	High
Control	MM-8	-	----	----	----	----	----
Room	MM-11	-	----	----	----	----	----

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

Space/ Room	Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-4	MM-7	5	Good	High	Low	Low	High
Foyer to Control Room	MM-8	-	----	----	----	----	----
F-5 Sludge Hopper #4 Area	TSI-1	-	----	----	----	----	----
F-6 Sludge Hopper #1-3 Area	MM-11	-	----	----	----	----	----

* * * * * * *

SECTION IV/19A

INSPECTION REPORT: Building No. 02-19A

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Third Avenue Pumping Station

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1927; Renovation 1956 and 1980

SQUARE FOOTAGE: 10,863

NUMBER OF FLOORS: 3

CONSTRUCTION TYPE: Masonry

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Third Avenue Pumping Station, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
MM - 1	12" x 12" Tan and Gray Mottled Floor Tile & Adhesive	N	Y	305 Square Feet
TSI - 2	Duct Insulation on Fan Unit	F	Y	250 Square Feet
MM - 3	Baseboard Molding & Adhesive	N	N	42 Linear Feet
TSI - 4	Pipe Fitting Insulation/Cold Water, Service, Protected, Hot Water Heating Lines	F	N	173 Fittings
TSI - 5	Boiler Breeching Insulation	F	Y	18 Square Feet
TSI - 6	Straight Pipe Insulation (Original Line)	F	Y	35 Linear Feet
TSI - 7	Duct Insulation Packing	F	N	4 Square Feet

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 8	Duct Insulation (Off Fan Unit)	F	N	275 Square Feet
TSI - 9	Pipe Fitting Insulation (Debris; Original Line)	F	Y	3 Fittings
TSI - 10	Interior Duct Batting	F	N	149 Square Feet
MM - 11	Fire Doors	N	N	7 Doors
TSI - 14	Pipe Fitting Insulation/Drain Line	F	N	20 Fittings
	Assumed ACBM			
MM - 12	Flange Joint Gaskets	N	Y	140 Gaskets
MM - 13	Duct Expansion Joints	N	Y	14 Expansion Joints

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Third Avenue Pumping Station, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-22-89 T27734 02-19A-001	MM - 1	Lunch Room F-1	Northwest Corner of Lunch Room, Elevation 713'-0"	Floor Tile	White, Hard, Compact (98%): 2% Chrysotile 98% NFP --- Brown, Compact, Resinous, Fibrous (2%): 2% Chrysotile 65% Cellulose 10% Animal Hai 23% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27735 02-19A-002	MM - 3	Lunch Room F-1	Northwest Corner of Room, Elevation 713'-3"	Vinyl Molding	Brown, Compact, Flexible (80%): 100% NFP --- Black, Compact, Resinous (10%): 10% Cellulose 90% NFP --- Dark Brown, Compact, Resinous, Gray Powder (10%): 5% Cellulose 95% NFP
11-14-89 T27736 02-19A-003	MM - 1	Hallway F-3	Northwest Corner of Hallway, Elevation 713'-0"	Floor Tile	White, Hard, Compact (90%): 100% NFP --- Gray, Consolidated, Fibrous (10%): 60% Cellulose 15% Polymer Fibers 25% NFP
11-14-89 T27737 02-19A-004	MM - 3	Hallway F-3	4'-0" West of the Southeast Corner of the Hallway, Elevation 713'-6"	Baseboard Molding	Brown, Compact Flexible (95%) 10% Cellulose 90% NFP --- Brown, Consolidated, Fibrous (5%): 90% Cellulose 10% NFP
11-22-89 T27738 02-19A-005	MM - 1	Bathroom F-2	Southwest Corner of the Room Underneath Sink, Elevation 713'-0"	Floor Tile	White, Hard, Compact (98%): 100% NFP --- Brown, Compact Resinous (2%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-17-89 T27739 02-19A-006	TSI - 2	Mechanical Room F-5	7'-1" South, 3'-0" West of the Northeast Corner of the Room, Elevation 715'-6"	Duct Insulation	White, Compact, Fiberweave, Painted Tan (10%): 100% Cotton --- Gray, Compact, Fibrous (10%): 20% Chrysotile 60% FG/MW 20% NFP/Binder --- Yellow, Consolidated, Fibrous (30%): 80% FG/MW 20% NFP/Binder --- Gray, Compact, Fibrous, Chalky (50%): 5% Chrysotile 45% FG/MW 50% NFP
11-14-89 T27740 02-19A-007	TSI - 8	Mechanical Room F-5	8'-2" South, 6'-2" West of the Northeast Corner of the Room, Elevation 720'-2"	Duct Insulation	White, Compact, Fiberweave, Painted Brown (40%): 100% Cotton --- Yellow, Compact Fibrous (50%): 90% FG/MW 10% NFP/Binder --- Silver Foil (10%): 100% Metal**

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27741 02-19A-008	TSI - 6	Boiler Room F-6	3" Outer Diameter Line, 3'-9" North, 3'-6' East of the Southwest Corner of the Room, Elevation 711'-2"	Straight Pipe Insulation	Brown, Compact Fiberweave, Painted Gray (30%): 100% Cotton --- Brown, Consolidated, Fibrous (70%): 5% Chrysotil 80% Cellulose 5% Polymer Fibers 10% NFP
11-17-89 T27742 02-19A-009	TSI - 6	Boiler Room F-6	4'-7" North, 4'-0" West of the Southeast Corner of the Room, Elevation 705'-6"	Straight Pipe Insulation	White, Compact Fiberweave, Painted Black (5%): 100% Cotton --- Brown, Compact Papery (95%): 2% Chrysotil 98% Cellulose
11-22-89 T27743 02-19A-010	TSI - 9	Boiler Room F-6	3'-7" North, 4'-4" West of the Southeast Corner of the Room, Elevation 705'-6"	Pipe Joint Insulation (Debris)	White, Compact Fiberweave, Painted Black (5%): 80% Cotton 3% Chrysotil 17% NFP --- Gray, Compact, Fibrous, Paint Black (95%): 60% Chrysotil 40% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-22-89 T27744 02-19A-011	TSI - 6	Boiler Room F-6	6'-0" North 4'-4" West of the Southeast Corner of the Room, Elevation 705'-6"	Straight Pipe Insulation	White, Compact, Fiberweave, Painted Black (15%): 100% Cotton --- Brown, Compact, Papery (85%): 5% Chrysotile 85% Cellulose 10% NFP
11-22-89 T27745 02-19A-012	TSI - 5	Boiler Room F-6	10'-3" North, 4'-0" West of the Southeast Corner of the Room, Elevation 703'-10"	Boiler Breeching Insulation	White, Compact, Fiberweave (5%): 100% Cotton --- Gray, Powder (95%): 2% Chrysotile 45% FG/MW 53% NFP
11-14-89 T27746 02-19A-013	TSI - 5	Boiler Room F-6	6'-7" West, 10'-3" North of the Southeast Corner of the Room, Elevation 703'-9"	Boiler Breeching Insulation	Gray, Compact, Fiberweave (30%): 100% Cotton --- Gray, Compact, Fibrous, Powder (15%): 40% Cellulose 35% FG/MW 25% NFP --- Gray, Compact, Fibrous (55%): 60% Cellulose 10% FG/MW 30% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-17-89 T27747 02-19A-014	TSI - 5	Boiler Room F-6	7'-0" West, 12'-1" North of the Southeast Corner of the Room, Elevation 701'-2"	Boiler Breeching Insulation	White, Compact, Fiberweave (5%) 100% Cotton --- White, Consolidated, Fibrous (20%): 55% Cellulose 5% FG/MW 40% NFP --- White, Compact, Fibrous, Powder (75%): 20% Chrysotile 10% Cellulose 35% FG/MW 35% NFP/ Diatoma-ceous Eart
11-14-89 T27748 02-19A-015	MM - 11	Boiler Room F-6	South Entrance Door to Building, Elevation 706'-1"	Fire Door	Brown, Compact, Fibrous, Papery (100%): 100% Cellulose

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-22-89 T27749 02-19A-016	TSI - 8	Repair Shop F-4	7'-0" West, 3'-0" South of the Northeast Corner of the Room, Elevation 720'-6"	Duct Insulation (Off Fan Unit)	White, Compact, Fiberweave, Painted Brown (5%): 100% Cotton --- Yellow, Consolidated, Fibrous (80%): 90% FG/MW 10% NFP/Binder --- White, Compact, Papery (5%): 10% FG/MW 75% Cellulose 15% NFP --- White, Compact, Fibrous (5%): 90% Glass Wool 10% NFP --- Silver Foil (5%): 100% Metal**
11-14-89 T27750 02-19A-017	TSI - 8	Repair Shop F-4	2'-0" South, 5'-9" East of the Northwest Corner of the Room, Elevation 720'-6"	Duct Insulation (Off Fan Unit)	White, Compact, Fiberweave, Painted Brown (15%): 100% Cotton --- Yellow, Consolidated, Fibrous (75%): 90% FG/MW 10% NFP/Binder --- White, Compact, Fiber-Layer (2%): 100% Glass Wool --- Silver, Metalli (8%): 100% Metal**

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27751 02-19A-018	TSI - 7	Repair Shop F-4	5'-6" South, 7'-0" East of the Northwest Corner of the Room, Elevation 722'-0"	Duct Insulation Packing	White, Compact, Fiberweave, Painted Brown (15%): 100% Cotton --- Grey, Compact, Powder (85%): 60% FG/MW 40% NFP
11-14-89 T27752 02-19A-019	TSI - 7	Repair Shop F-4	5'-0" South, 2'-3" East of the Northwest Corner of the Room, Elevation 722'-4"	Duct Insulation Packing	White, Compact, Fiberweave, Painted Brown (15%): 100% Cotton --- Gray, Compact, Fibrous, Powder (85%): 45% FG/MW 55% NFP/ Diatoma-ceous Eart
11-14-89 T27753 02-19A-020	TSI - 7	Mechanical Equipment Room F-5	1'-6" North, 2'-6" West of the Southeast Corner of the Room, Elevation 723'-2"	Duct Insulation Packing	White, Compact, Fiberweave, Painted Brown (15%): 100% Cotton --- Gray, Compact, Fibrous, Powder (85%): 50% FG/MW 50% NFP/ Diatoma-ceous Eart

TESTING ENGINEERS & CONSULTANTS, INC.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27754 02-19A-021	TSI - 2	Mechanical Equipment Room F-5	8'-0" South, 3'-0" West of the Northeast Corner of the Room, Elevation 713'-6"	Duct Insulation (On Fan Unit)	White, Compact, Fiberweave, Painted Brown (35%): 100% Cotton --- Yellow, Consolidated, Fibrous (60%): 90% FG/MW 10% NFP/Binde --- Silver, Metall (5%): 100% Metal**
11-14-89 T27755 02-19A-022	TSI - 2	Mechanical Equipment Room F-5	7'-0" South, 3'-0" West of the Northeast Corner of the Room, Elevation 718'-0"	Duct Insulation (On Fan Unit)	White, Compact Fiberweave, Painted Brown (40%): 100% Cotton --- Yellow, Consolidated, Fibrous (50%): 100% FG/MW --- Silver, Metall 100% Metal**
11-14-89 T27756 02-19A-023	TSI - 10	Repair Shop F-4	2'-0" North, 11'-6" West of the Southeast Corner of the Room, Elevation 720'-8"	Interior Duct Batting	Black, Consolidated, Fibrous (100%) 80% FG/MW 20% NFP/Binde
11-14-89 T27757 02-19A-024	TSI - 10	Repair Shop F-4	2'-0" North, 11'-6" West of Southeast Corner of the Room, Elevation 720'-8"	Interior Duct Batting	Black, Consolidated, Fibrous (100%) 70% FG/MW 30% NFP/Binde
11-14-89 T27758 02-19A-025	TSI - 10	Repair Shop F-4	2'-0" North, 11'-6" West of the Southeast Corner of the Room, Elevation 721'-8"	Interior Duct Batting	Black, Consolidated, Fibrous (100%) 85% FG/MW 15% NFP/Binde

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27759 02-19A-026	TSI - 4	Mechanical Equipment Room F-5	3" Outer Diameter, Cold Water Line, 6'-6" South, 4'-6" West of the Northeast Corner of the Room, Elevation 718'-11"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (30%): 100% Cotton --- Gray, Compact, Fibrous, Powder (70%): 45% FG/MW 55% NFP/ Diatoma-ceous Eart
11-14-89 T27760 02-19A-027	TSI - 4	Storage Off Boiler Room F-13	6" Outer Diameter, Hot Water Heating Supply Line, 4'-6" Directly South of Door Leading From Boiler, Elevation 697'-6"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (20%): 100% Cotton --- White, Compact, Fibrous, Powder (80%): 50% FG/MW 50% NFP/ Diatoma-ceous Eart
11-14-89 T27761 02-19A-028	TSI - 4	Basement F-8	3' Outer Diameter, Service Water Line, 20'-2" West of South-east Corner of Basement, West Side of Stairs Leading From Boiler Room, Elevation 689'-6"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (20%): 100% Cotton --- Gray, Compact, Fibrous, Powder (80%): 45% FG/MW 55% NFP/ Diatoma-ceous Eart

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27762 02-19A-029	TSI - 4	Intermediate Level of Pump Area F-7	3' Outer Diameter, Protected Water Line, 5'-8" West, 1'-6" South of the Northeast Corner of the Room, Elevation 702'-6"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (20%): 100% Cotton --- Gray, Compact, Fibrous (80%): 40% FG/MW 60% NFP/ Diatomaceous Earth
11-14-89 T27763 02-19A-030	TSI - 14	Intermediate Level of Pump Area F-7	6" Outer Diameter Drain Line, 12'-0" North, 14'-0" West of the Shaft to #4 Pump, Elevation 702'-6"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Gray (20%): 100% Cotton --- Yellow, Compact, Cellular (10%): 100% NFP --- Gray, Compact, Fibrous (65%): 45% FG/MW 55% NFP/ Diatomaceous Eart --- Silver, Metalli (5%): 100% Metal**
11-14-89 T27764 02-19A-031	TSI - 14	Intermediate Level of Pump Area F-7	6" Outer Diameter Drain Line, 12'-0" North, 13'-0" West of Shaft to Pump #4, Elevation 704'-0"	Hanger Packing	Gray, Compact, Chalky (100%): 55% FG/MW 45% NFP/ Diatomaceous Eart

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27765 02-19A-032	TSI - 14	Intermediate Level of Pump Area F-7	6'-3" West, 1'-0" South of the Northeast Corner of the Room, Elevation 703'-9"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Green (15%): 100% Cotton --- Yellow, Compact, Cellular (10%): 100% NFP --- Gray, Compact, Powder (75%): 40% FG/MW 60% NFP/ Diatomaceous Eart

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Third Avenue Pumping Station, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1	MM-1	5	Good	High	Low	Low	High
Lunch	MM-3	-	----	--------	--------	----	--------
Room	TSI-10	-	----	--------	--------	----	--------
	MM-11	-	----	--------	--------	----	--------
F-2	MM-1	5	Good	High	Low	Low	High
Bathroom	TSI-8	-	----	--------	--------	----	--------
	MM-11	-	----	--------	--------	----	--------
F-3	MM-1	5	Good	High	Low	Low	High
Hallway	MM-3	-	----	--------	--------	----	--------
	TSI-10	-	----	--------	--------	----	--------
F-4	MM-1	5	Good	High	Low	Low	High
Repair	TSI-7	-	----	--------	--------	----	--------
Shop	TSI-8	-	----	--------	--------	----	--------
	TSI-10	-	----	--------	--------	----	--------
	MM-11	-	----	--------	--------	----	--------

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-5	TSI-2	5	Good	High	Moderate	Low	High
Mechanical	TSI-4	-	----	--------	--------	----	--------
Equipment	TSI-7	-	----	--------	--------	----	--------
Room	MM-11	-	----	--------	--------	----	--------
	MM-13	5	Good	High	Moderate	High	High
F-6	TSI-4	-	----	--------	--------	----	--------
Boiler	TSI-5	5	Good	High	Moderate	Low	High
Room	TSI-6	1	Poor	High	Low	Low	High
	TSI-9	1	Poor	High	Low	Low	High
	MM-11	-	----	--------	--------	----	--------
	MM-12	5	Good	Low	Low	Low	Low
F-7	TSI-4	-	----	--------	--------	----	--------
Inter-	MM-12	5	Good	Low	Low	Low	Low
Mediate	TSI-14	-	----	--------	--------	----	--------
Level of Pump Area							
F-8	TSI-4	-	----	--------	--------	----	--------
Basement	MM-12	5	Good	Low	Low	Low	Low
Pump Area							
F-9	TSI-4	-	----	--------	--------	----	--------
Motor Floor							
F-10	MM-11	-	----	--------	--------	----	--------
Control Room							
F-11	MM-12	5	Good	Low	Low	Low	Low
Oil Room							
F-12	MM-11	-	----	--------	--------	----	--------
Wet Well Room							
F-13	TSI-4	-	----	--------	--------	----	--------
Storage	MM-11	-	----	--------	--------	----	--------
Off Boiler Room							

* * * * * *

SECTION IV/19B

INSPECTION REPORT: Building No. 02-19B

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Bar Screen Building - Third Avenue Pumping Station

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1980

SQUARE FOOTAGE: 2,450

NUMBER OF FLOORS: 2

CONSTRUCTION TYPE: Concrete Block/Face Brick Exterior

COMMENTS:

This building contains:

_ - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Bar Screen Building - Third Avenue Pumping Station, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
SM - 1*	Hard Plaster	N	N	100 Square Feet
TSI - 2	Pipe Fitting Insulation - Cold Water/Heating Supply and Return Lines	F	N	40 Fittings
TSI - 3	Pipe Fitting Insulation/Drain Line	F	N	20 Fittings
MM - 5	Fire Doors	N	N	4 Doors
	Assumed ACBM			
MM - 4	Duct Expansion Joints	N	Y	2 Expansion Joints

*Non-Friable, Non-Fibrous, Plaster

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Bar Screen Building - Third Avenue Pumping Station, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27772 02-19B-001	TSI - 3	Screening Room, Basement F-5	6" Outer Diameter, Drain Line, 8'-3" South, 11'-0" West of the Northeast Corner of the Room, Elevation 707'-0"	Pipe Joint Insulation	White, Compact, Fiberweave (15%): 90% Cotton 10% NFP/Binder --- Yellow, Compact Cellular (5%): 100% NFP --- Gray, Compact, Fibrous, Powder (80%): 40% FG/MW 60% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27773 02-19B-002	TSI - 2	Garage F-6	3" Outer Diameter, Cold Water Line, 1'-0" South, 2'-6" West of the the North-east Corner of the Garage, Elevation 707'-11"	Pipe Joint Insulation	Gray, Compact, Fiberweave, Painted Blue (15%): 100% Cotton --- Gray, Compact, Fibrous, Powder (85%): 40% FG/MW 60% NFP
11-15-89 T27774 02-19B-003	TSI - 2	Garage F-6	5" Outer Diameter, Heating Line, 6'-6" South, 4'-6" East of the Northwest Corner of the Room, Elevation 724'-0"	Pipe Joint Insulation	Gray, Compact, Fiberweave, Painted Blue (15%): 100% Cotton --- Gray, Compact, Powder (85%): 40% FG/MW 60% NFP
11-15-89 T27775 02-19B-004	SM - 1	Room 200 F-1	2'-0" North, 6" West of the Southeast Corner of the Room, Elevation 717'-0"	Ceiling Plaster	Gray, Compact, Chalky, Painted White (100%): 100% NFP
11-15-89 T27776 02-19B-005	SM - 1	Room 200 F-1	5'-6" East, 8" South of the Northwest Corner of the Room, Elevation 717'-0"	Ceiling Plaster	White, Compact, Chalky, Painted Gray (100%): 100% NFP
11-15-89 T27777 02-19B-006	SM - 1	Room 200 F-1	3'-8" East, 2'-6" South of the Northwest Corner of the Room, Elevation 717'-0"	Ceiling Plaster	White, Compact, Chalky, Painted Gray (100%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-15-89 T27778 02-19B-007	TSI - 2	Room 202 F-4	14'-0" North, 6" East of the Southwest Corner of the Room, Elevation 712'-6"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (20%): 100% Cotton --- Gray, Compact, Powder (80%): 40% FG/MW 60% NFP
11-16-89 T27779 02-19B-008	TSI - 3	Screening Room, Basement F-5	6" Outer Diameter Drain Line, 11'-0" West, 15'-0" South of the Northeast Corner of the Room, Elevation 707'-0"	Pipe Joint Insulation	White, Compact Fiberweave, Painted Gray (5%): 100% Cotton --- Yellow, Consolidated, Fibrous (10%): 90% FG/MW 10% NFP/Binde --- Gray, Compact, Fibrous (85%): 40% FG/MW 60% NFP/ Diatoma- ceous Ear
11-15-89 T27780 02-19B-009	TSI - 3	Screening Room, Basement F-5	6" Outer Diameter, Drain Line, 14'-0" West, 27'-0" South of the Northeast Corner of the Room, Elevation 701'-0"	Pipe Joint Insulation	White, Compact Fiberweave, Painted Gray (15%): 100% Cotton --- Yellow, Compac Cellular (15%) 100% NFP --- Gray, Compact, Powder (70%): 60% FG/MW 40% NFP

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Bar Screen Building - Third Avenue Pumping Station Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F - 1 Electrical Room 200	SM-1	-	----	--------	--------	----	--------
	MM-5	-	----	--------	--------	----	--------
F - 2 Above Drop Ceiling to Room 200			No Suspect ACBM Present				
F - 3 North Stairwell and Foyer	TSI-2	-	----	--------	--------	----	--------
	MM-5	-	----	--------	--------	----	--------
F - 4 Screening Room 202	TSI-2	-	----	--------	--------	----	--------
	TSI-3	-	----	--------	--------	----	--------
	MM-5	-	----	--------	--------	----	--------

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F - 5	TSI-2	-	----	--------	--------	----	--------
Screening	TSI-3	-	----	--------	--------	----	--------
Room (Basement)							
F - 6	TSI-2	-	----	--------	--------	----	--------
Garage	TSI-3	-	----	--------	--------	----	--------
Room 101	MM-4	5	Good	Low	Moderate	High	High
	MM-5	-	----	--------	--------	----	--------

* * * * * * *

SECTION IV/20

INSPECTION REPORT: Building No. 02-20

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Trickling Filter Pump Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1927

SQUARE FOOTAGE: 2,413

NUMBER OF FLOORS: 2

CONSTRUCTION TYPE: Masonry Construction

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Trickling Filter Pump Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Tank Insulation	F	Y	75 Square Feet
TSI - 2	Protected Water Line Pipe Fitting Insulation	F	Y	17 Fittings
MM - 3	Electrical Panel Fire Shield	F	Y	2 Square Feet
MM - 5	Fire Doors	N	N	2 Doors
	Assumed ACBM			
MM - 4	Flange Joint Gasket	N	Y	4 Gaskets

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Trickling Filter Pump Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-08-89 T27482 02-20-001	TSI - 1	South Room F-3	8'-0" South, 6'-0" West of the Northeast Corner of the Room, Elevation 719'-9"	Tank Insulation	Black, Compact, Fiberweave (5%) 100% Cotton --- Gray, Compact, Fibrous (30%): 15% Chrysotile 1% Amosite 30% FG/MW 54% NFP/ Diatomaceous Earth --- Yellow, Consolidated, Fibrous (65%): 90% FG/MW 10% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-08-89 T27483 02-20-002	TSI - 2	South Room F-3	4" Outer Diameter, Protected Water Line, 2'-6" South, 4'-6" West of the Northeast Corner of the Room, Elevation 723'-1"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- Gray, Compact, Fibrous, Non-Homogeneous (95%): 10% Chrysotile 40% FG/MW 50% NFP/ Diamtoma- ceous Earth
11-08-89 T27484 02-20-003	TSI - 1	South Room F-3	5'-0" South, 4'-2" West of the Northeast Corner of the Room, Elevation 719'-9"	Tank Insulation	White, Compact, Fibrous (35%): 5% Chrysotile 55% FG/MW 40% NFP/ Diatoma- ceous Earth --- Yellow, Consolidated, Fibrous (65%): 90% FG/MW 10% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-08-89 T27485 02-20-004	TSI - 2	Basement F-4	4" Outer Diameter, Protected Water Line, 14'-6" North of the Bottom of Stairs, Elevation 714'-3"	Pipe Joint Insulation	Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- White, Compact, Fibrous, Non-Homogeneous (93%): 10% Chrysotile 40% FG/MW 50% NFP/ Diamtoma-ceous Eart --- Yellow, Consolidated, Fibrous (2%): 70% FG/MW 30% NFP/Binder
11-08-89 T27486 02-20-005	TSI - 1	South Room F-3	8'-0" South, 7'-6" West of the Northeast Corner of the Room, Elevation 723'-3"	Tank Insulation	White, Compact, Fibrous, Non-Homogeneous (40%): 10% Chrysotile 55% FG/MW 35% NFP/ Diamtoma-ceous Eart --- Yellow, Consolidated, Fibrous (60%): 90% FG/MW 10% NFP/Binder

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-08-89 T27487 02-20-006	TSI - 2	Basement F-4	3" Outer Diameter, Protected Water Line, 4'-0" South of the Bottom of the Stairs, Off West Pump, Elevation 707'-9"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (5%): 100% Cotton --- White, Compact, Fibrous (95%): 30% Chrysotile 30% FG/MW 40% NFP/ Diatoma- ceous Earth
11-08-89 T27488 02-20-007	MM - 3	South Room F-3	3'-0" South of the Northeast Corner of the Room Along the East Wall, Elevation 722'-3"	Fire Shield	White, Compact, Fibrous (100%): 35% Chrysotile 45% Cellulose 20% NFP

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Trickling Filter Pump Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 Northwest Room		No Suspect ACBM Present					
F-2 Northeast Room		No Suspect ACBM Present					
F-3 South Room	TSI-1	1	Poor	High	Low	Low	High
	TSI-2	1	Fair	High	Low	Low	High
	MM-3	5	Fair	Low	Low	Low	Low
	MM-4	5	Good	Low	Low	Low	Low
	MM-5	-	----	--------	--------	----	--------
F-4 Basement	TSI-2	1	Poor	Moderate	Moderate	Low	Moderate
	MM-4	5	Good	Low	Low	Low	Low

* * * * * *

SECTION IV/22

INSPECTION REPORT: Building No. 02-22

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Well House Building

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1930

SQUARE FOOTAGE: 200

NUMBER OF FLOORS: 1

CONSTRUCTION TYPE: Masonry Brick

COMMENTS:

This building contains:

X - Assumed ACBM

_ - Friable ACBM

_ - Non-Friable ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes at the Well House Building, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
	Assumed ACBM			
MM - 1	Flange Joint Gasket	N	Y	10 Gaskets

*Note: No insulated pipe was present at this location.

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Well House Building, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION

No Bulk Samples Were Taken at This Location.

* * * * * * *

Oity of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space at the Well House Building, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 Well House Building	MM - 1	5	Good	Low	Low	Low	Low

* * * * * *

SECTION IV/23

INSPECTION REPORT: Building No. 02-23

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Primary and Secondary Tunnels

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1965, 1980

SQUARE FOOTAGE: N/A

NUMBER OF FLOORS: 1

CONSTRUCTION TYPE: Reinforced Concrete

COMMENTS:

This building contains:

X - Friable ACBM

X - Non-Friable ACBM

X - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes for the Primary and Secondary Tunnels, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
TSI - 1	Protected, Cold, Service, Line Pipe Fitting Insulation (New)	F	N	320 Fittings
SM - 2*	Accoustical Spray-on Insulation	N	N	94,520 Square Feet
TSI - 3	Protected, Cold, Service, Line Pipe Fitting Insulation (Original)	F	Y	40 Fittings
	Assumed ACBM			
MM - 4	Flange Joint Gaskets	F	Y	2,020 Gaskets

*Non-Fibrous, Non-Friable

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Primary and Secondary Tunnels, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-14-89 T27609 02-23-001	SM - 2	Secondary Tunnel F-1	13'-11" South, 6'-6" West of Fire Extinguisher #55, Elevation 700'-9"	Accoustical Spray-on Insulation	White, Compact, Flaky, Painted Green (100%): 100% NFP/ Vermiculite
11-10-89 T27610 02-23-002	TSI - 3	Secondary Tunnel F-1	3" Outer Diameter, Protected Water Line, 9'-6" West of Fire Extinguisher #55, Elevation 704'-1"	Pipe Joint Insulation	Blue, Compact, Fiberweave (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 60% FG/MW 35% NFP/ Diatomaceous Earth 5% Chrysotile

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-10-89 T27611 02-23-003	TSI - 1	Secondary Tunnel F-1	5" Outer Diameter, Protected Water Line, 10'-4" South, 1'-0" West of Fire Extinguisher #55, Elevation 704'-1"	Pipe Joint Insulation	White, Compact, Fiberweave, Blue Painted (10%): 100% Cotton --- Gray, Compact, Powder (90%): 60% FG/MW 40% NFP/ Diatomaceous Earth
11-10-89 T27612 02-23-004	SM - 2	Secondary Tunnel F-1	Directly Above Valve for Tank #4, Pass 13 Drain, Elevation 701'-1"	Accoustical Spray-on Insulation	Green, Compact, Platey (100%): 100% NFP
11-13-89 T27613 02-23-005	SM - 2	Secondary Tunnel F-1	4'-0" South, 5'-0" West of Tank #5, Pass 19 Drain, Elevation 699'-7"	Accoustical Spray-on Insulation	Green, Compact, Platey (100%): 100% NFP
11-13-89 T27614 02-23-006	TSI - 1	Secondary Tunnel F-1	5" Outer Diameter, Service Water Line, 16'-2" South, 21'-0" West of Tank #5, Pass 19 Drain, Elevation 698'-9"	Pipe Joint Insulation	Gray, Compact, Fiberweave, Painted Blue (30%): 100% Cotton --- Gray, Compact, Powder (70%): 45% FG/MW 55% NFP/ Diatomaceous Earth
11-13-89 T27615 02-23-007	SM - 2	Primary Tunnel F-2	6'-0" West of Sludge Pump #7, Elevation 708'1"	Accoustical Spray-on Insulation	Green, Compact, Platey (100%): 100% NFP

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-13-89 T27616 02-23-008	TSI - 1	Primary Tunnel F-2	1'-6" West of Sludge Pump #9, Elevation 708'-0"	Pipe Joint Insulation	Brown, Compact, Fiberweave, Painted Blue & Orange (15%): 100% NFP --- Gray, Compact, Powdery (85%): 30% FG/MW 70% Diatomaceous Earth
11-10-89 T27617 02-23-009	TSI - 3	Primary Tunnel F-2	3" Outer Diameter, Service Water Line, 2'-6" Above Pump #5, Elevation 708'-10"	Pipe Joint Insulation	Gray, Compact, Fiberweave, Painted Blue (10%): 100% Cotton --- Gray, Compact, Fibrous (90%): 15% Chrysotile 35% FG/MW 50% NFP/ Diamtomaceous Earth
11-10-89 T27618 02-23-010	TSI - 3	Primary Tunnel F-2	3" Outer Diameter, Service Water Line, 5'-10" Above Pump #4, Elevation 711'-7"	Pipe Joint Insulation	White, Compact, Fiberweave, Painted Blue (20%): 100% Cotton --- Gray, Compact, Fibrous (80%): 10% Chrysotile 40% FG/MW 50% NFP/ Diatomaceous Earth

* * * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space for the Primary and Secondary Tunnels, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F - 1	TSI-1	-	----	--------	--------	----	--------
Secondary	SM-2	-	----	--------	--------	----	--------
Tunnel	TSI-3	5	Good	Moderate	Moderate	Low	Moderate
	MM-4	5	Good	Low	Low	Low	Low
F - 2	TSI-1	-	----	--------	--------	----	--------
Primary	SM-2	-	----	--------	--------	----	--------
Tunnel	TSI-3	5	Fair	High	Moderate	Low	High
	MM-4	5	Good	Low	Low	Low	Low

* * * * * *

SECTION IV/24

INSPECTION REPORT: Building No. 02-24

Appendix I - Homogeneous Area

Appendix II - Laboratory Analysis

Appendix III - Hazard Assessment

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

BUILDING DESCRIPTION

NAME: Wheelabrators A, B, and C

ADDRESS: G-4652 Beecher Road
Flint, Michigan 48504

PHONE NUMBER: (313) 766-7149

YEAR CONSTRUCTED: 1980

SQUARE FOOTAGE: 15,120/15,120/7,056 respectively

NUMBER OF FLOORS: 2

CONSTRUCTION TYPE: Metal

COMMENTS:

This building contains:

_ - Friable ACBM

_ - Non-Friable ACBM

_ - Assumed ACBM

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX I

HOMOGENEOUS AREAS

The following table lists the homogeneous areas utilized for sampling purposes for the Wheelabrators A, B and C, Flint, Michigan.

IDENTIFICATION OF CODES:

SM = Surfacing Materials
TSI = Thermal System Insulation
MM = Miscellaneous Material
ACBM = Asbestos-Containing Building Material
F = Friable
N = Non-Friable

HOMOGENEOUS AREA	DESCRIPTION	FRIABILITY (F/N)	ACBM (Y/N)	APPROXIMATE QUANTITY
MM-1	Filter Insulation	F	N	37,296 Square Feet

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX II

LABORATORY ANALYSIS

The results of the bulk sample analysis for the Wheelabrators A, B, and C, Flint, Michigan are presented in the following table.

SAMPLE COMPONENTS

NFP = Non-Fibrous Particles
Chrysotile = Asbestos
Amosite = Asbestos
Crocidolite = Asbestos
Actinolite/Tremolite = Asbestos
Fiberglass/Mineral Wool = Glass

DATE ANALYZED LAB #/ SAMPLE #	HOMOGENEOUS AREA	LOCATION/ FUNCTIONAL SPACE	SAMPLE LOCATION	SAMPLE TYPE	APPROXIMATE PERCENT COMPOSITION
11-29-89 T28414 02-24-001	MM - 1	Air Filter "C" F-2	East Side of North Door Directly Below Light Switch Taken Off Floor (Elevation Not Available)	Filter Insulation	Cream, Compact, Fibrous, Non-Homogeneous (50%): 100% Cellulose --- Black, Compact, Fibrous, Non-Homogeneous (50%): 85% Cellulose 15% NFP
11-29-89 T28415 02-24-002	MM - 1	Air Filter "B" F-3	Directly Under West Chute Taken Off Floor (Elevation Not Available)	Filter Insulation	White, Compact, Fibrous, Non-Homogeneous (100%): 80% Cellulose 10% Polymer Fibers 10% NFP
11-29-89 T28416 02-24-003	MM - 1	Air Filter "A" F-1	9'-0" South of North Hatch on Second Level (Elevation Not Available)	Filter Insulation	Gray, Compact, Fibrous, Non-Homogeneous (100%): 90% Cellulose 10% NFP

* * * * * *

City of Flint
Water Pollution Control Facilities
Mr. Mark A. Fulks
27 September 1989

T.E.C. Report Number: 18509-1

APPENDIX III

HAZARD ASSESSMENT

The following table summarizes the material condition assessment for each Asbestos-Containing Building Material (ACBM) present in each Functional Space for the Wheelabrators A, B, and C, Flint, Michigan.

ACBM Category

1. Damaged or significantly damaged thermal system insulation ACBM
2. Damaged friable surfacing ACBM
3. Significantly damaged friable surfacing ACBM
4. Damaged or significantly damaged friable miscellaneous ACBM
5. ACBM with potential for damage
6. ACBM with potential for significant damage
7. Any remaining friable ACBM or suspect friable ACBM

(-) Indicates materials not ACBM

Functional Space/ Room	Homog. Area No.	ACBM Category	Mat'l Cond.	Pot. for Contact	Influ. Of Vibr.	Pot. For Air Eros.	Pot. Dist.
F-1 Air Filter "A"	MM-1	-	----	--------	--------	----	--------
F-2 Air Filter "C"	MM-1	-	----	--------	--------	----	--------
F-3 Air Filter "B"	MM-1	-	----	--------	--------	----	--------

* * * * * *