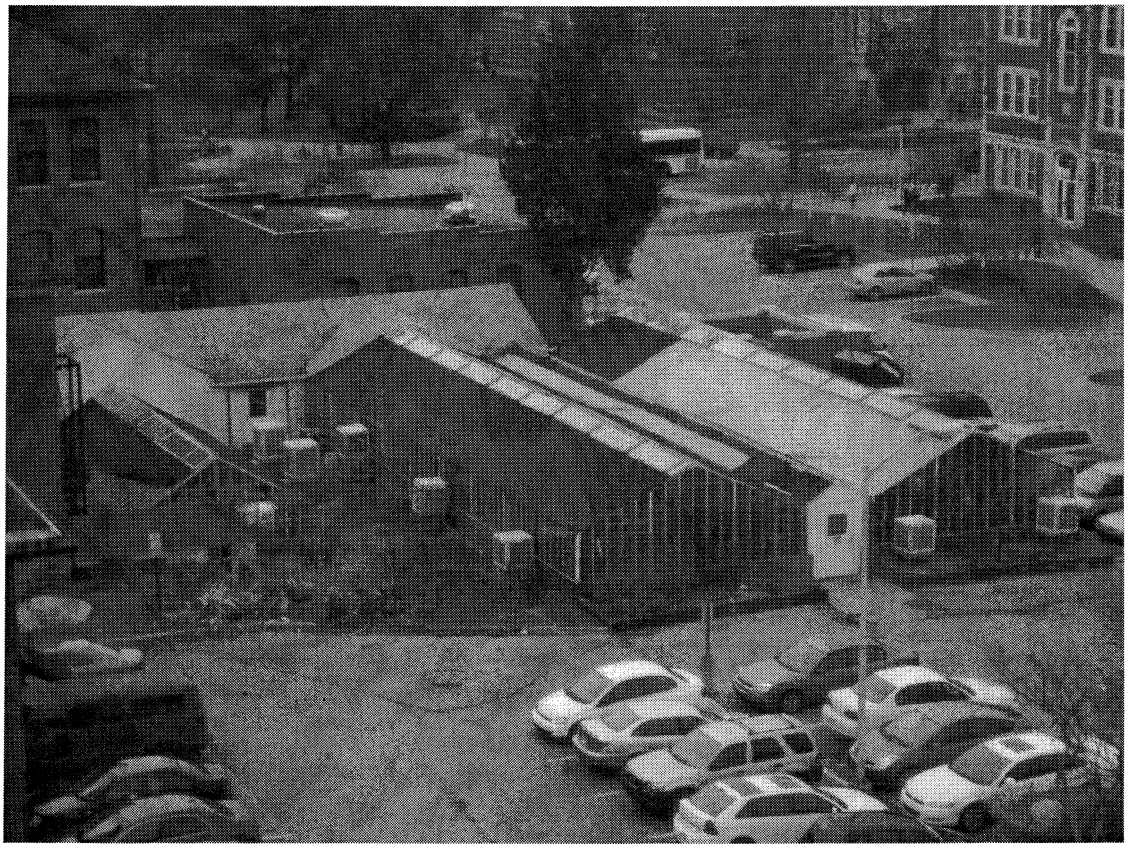
Michigan State University

ASBESTOS BUILDING INSPECTION REPORT



Botany Greenhouse
Building Number 18

Inspection conducted by

Zach Hansmann
Office of Environmental Health and Safety
150 Giltner Hall
East Lansing, MI 48824-1101

Project Date: March 21, 2008

Final Report Date: April 17, 2008

Contents

Michigan State University
Office of Environmental Health and Safety

ASBESTOS BUILDING INSPECTION REPORT

for
Botany Green House (#18)

INTRODUCTION

The Michigan State University Office of Environmental Health Safety performed an asbestos building inspection at the Botany Greenhouse. A comprehensive asbestos building inspection was performed, including the collection of an appropriate number of bulk asbestos samples in accordance with the provisions of the Asbestos in Construction Standard.

The asbestos building inspection took place on March 21, 2008. During the inspection, bulk asbestos samples were collected and quantities of suspect asbestos-containing materials were estimated.

CERTIFICATION

The asbestos building inspection was conducted by Zach Hansmann, a State of Michigan Accredited Asbestos Building Inspector. Mr. Hansmann also maintains accreditation as an Asbestos Contractor Supervisor. A copy of his inspector credentials appear in Appendix A.

Samples were analyzed in the Polarized Light Microscopy (PLM) laboratory at Fibertec Industrial Hygiene Services. The Fibertec IHS PLM laboratory maintains National Voluntary Laboratory Accreditation Program (NVLAP) accreditation (Lab Code 101510-0). A copy of the Fibertec IHS NVLAP certificate of accreditation can be found in Appendix B.

GENERAL INSPECTION PROCEDURES

In an effort to identify asbestos-containing material (ACM) at the Botany Greenhouse, an extensive inspection procedure was followed. A visual inspection of the building was combined with the collection of an appropriate number and distribution of bulk asbestos samples. Material sampling that would potentially compromise the weather tight integrity of the building envelope was not conducted (*e.g.*, roofing materials and products).

Determination of suspect asbestos-containing material was based on visual examination, bulk sample analysis and material age. Specifically, materials similar in color and texture were classified into homogenous areas (*e.g.*, gray exterior glazing). An appropriate number of samples were collected from material in each homogenous area. When the results of analysis of all samples from a homogenous area indicate no asbestos present (less than or equal to one percent), the homogenous area is considered to be a non-asbestos containing material. When the results of analysis indicate asbestos present (in a quantity greater than one percent) in just one sample of those collected from a single homogenous area, the material in the entire homogenous area must be considered asbestos-containing.

Destructive testing (*i.e.*, demolition) was not conducted as part of this asbestos building inspection. Quantities of ACM shown in pipe chases or other inaccessible areas have been estimated. Additionally, some asbestos-containing material hidden from view (*e.g.*, pipe insulation in inaccessible pipe chases and between walls, floor leveling compound below floor tile, duct caulk on duct in mechanical shafts and vermiculite in cinderblock walls) may be present and may not have been accounted for as part of this inspection.

RESULTS OF VISUAL INSPECTION

Based on the inspection, 12 distinct suspect asbestos-containing materials were identified in the building. Some suspect asbestos-containing materials were sampled a number of times in different locations, floor tile and mastic being an example. All suspect asbestos-containing materials observed at the time of the inspection are listed in the Room by Room Asbestos Building Inspection Forms.

BULK SAMPLE RESULTS

The information gathered from the inspection is included in Appendices C (Bulk Sample Log), D (Bulk Sample Analytical Report), E (Materials Sorted by Room), F (Photograph Log), and G (Floor Plan Sketches).

SUMMARY OF ASBESTOS-CONTAINING MATERIALS

The following materials were found to contain asbestos at the Botany Greenhouse:

Black/brown pipe wrap
2'x 3' Ceiling panel
Gray exterior glazing compound
Light gray shingles, roof flashing, and adhesives

The following materials were assumed to contain asbestos at the Botany Greenhouse:

Pipe straight insulation
Pipe fitting and hanger insulation

The following materials were found not to contain asbestos at the Botany Greenhouse:

12"x 12" White floor tile with gray and red streaks and associated mastic
12"x 12" Off-white floor tile with gray streaks and associated mastic
12"x 12" Gray floor tile with dark gray and white streaks and associated mastic
White window glazing
Black rubber pipe wrap
White building caulk

CONCLUSION

Undamaged, non-friable (cannot be crumbled, pulverized or reduced to powder by hand pressure when dry) known or assumed asbestos-containing materials were discovered during the course of this inspection.

This facility inspection to determine the location of asbestos-containing materials was conducted in accordance with the provisions of the Asbestos in Construction Standard, the EPA Sampling Bulletin of September 30, 1994, and current industry standards.

RECOMMENDATIONS

Based on the information collected during this asbestos building inspection, the following recommendations are offered. These recommendations are based on the current regulatory framework, currently observed conditions, and may have to be adjusted if change in regulations, ownership, emergency, or other factors substantially alter the condition, use or planned future use of the building.

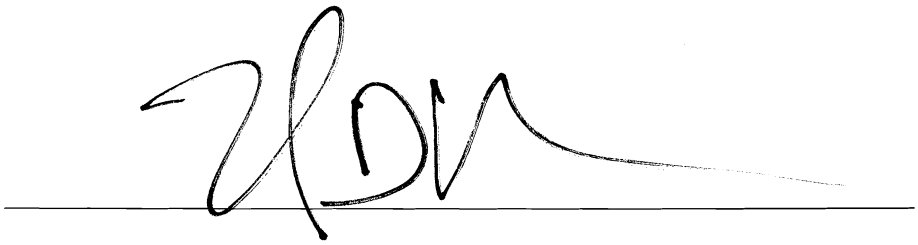
1. Notify the building occupants, custodians, Physical Plant personnel and others who may encounter ACM during the routine execution of their assigned work of the presence of known or assumed asbestos-containing products in or on the building. This notification must be given to any outside contractors (*e.g.*, HVAC maintenance personnel) who work within or atop the building and may disturb the asbestos-containing material(s). Depending on the specific activity being performed, maintenance or repair personnel may need to utilize personal protective equipment or other engineering controls and comply with the provisions of various asbestos regulations.

2. Provide two-hour asbestos hazard awareness training including specific information regarding the quantity, condition and location of ACM for those individuals in the building who may encounter asbestos during the course of their work. Ensure that contractors performing work in the building have equivalent training (at a minimum) and provide appropriate documentation.

3. Plan for the proper removal of any asbestos-containing materials which may be impacted by renovation or demolition prior to any renovation or demolition within the facility. Inspect any rooms that were inaccessible during this inspection prior to any renovation or demolition. Sample and analyze any samples representing materials which were assumed to contain asbestos prior to renovation or demolition.

4. Label any ACM identified in routine maintenance areas, mechanical rooms, custodial closets, and inside ceiling access hatches at a minimum, in accordance with 29 CFR 1910.1200(7) (vii).

5. Repair or remove areas of ACM that may become significantly damaged. Ensure contractors performing the work are licensed, provide appropriate regulatory notification and conduct appropriate air monitoring, including final clearance monitoring.



Zach Hansmann
Environmental Technologist, MSU EHS
Michigan Accredited Asbestos Inspector, #A35562

Appendix A:

Asbestos Inspector Credential

State of Michigan

Asbestos Contractor/Supervisor

Zachary D. Hansmann
c/o Fibertec Industrial Systems
1914 Holloway Drive
Holt, MI 48824

Accreditation Number
A35562

Expiration Date
06/06/2008

[redacted]

DOB: 11/02/1983

This individual has satisfactorily met or exceeded the requirements of Section 206 of the Toxic Substances Control Act to be accredited in the above discipline.

Accreditation card is not valid if altered

71357

Cardholder's Signature

Not valid unless signed.

Your accreditation card is valid for a period of one year, as indicated by the expiration date on the card. Your card must be present on any project site where you are conducting asbestos-related work. If a re-placement card is needed, the replacement fee will be $25.00.

All questions regarding your accreditation should be directed to 517.322.5806.

Please visit our website at: *www.michigan.gov/asbestos*

35562-71357

Information contained in the bar code is limited to ID# and control #

If found please return to:
MDLEG - CSHD - Asbestos Program
7150 Harris Drive
P.O. Box 30671
Lansing, MI 48909-8171

MIOSHA-CSH-270 (12/03)
Authority: Michigan Public Act 440 of 1988, as amended

19189

State of Michigan

Asbestos Inspector

Zachary D. Hansmann
150 Giltner Hall
East Lansing, MI 48824

Accreditation Number
A35562

Expiration Date
02/14/2009

[redacted]

DOB: 11/02/1983

This individual has satisfactorily met or exceeded the requirements of Michigan Public Act 440 of 1988, as amended, to be accredited as an Asbestos Inspector.

Accreditation card is not valid if altered.

74713

Cardholder's Signature

Not valid unless signed.

Your accreditation card is valid for a period of one year, as indicated by the expiration date on the card. Your card must be present on any project site where you are conducting asbestos-related work. If a re- placement card is needed, the replacement fee will be $25.00.

All questions regarding your accreditation should be directed to 517.322.5806.

Please visit our website at: *www.michigan.gov/asbestos*

35562-74713

Information contained in the bar code is limited to ID# and control#

If found please return to:
MDLEG - CSHD - Asbestos Program
7150 Harris Drive
P.O. Box 30671
Lansing, MI 48909-8171

MIOSHA-CSH-269 (12/03)
Authority: Michigan Public Act 440 of 1988, as amended

22402

Appendix B:

Lab NVLAP Certification

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101510-0

Fibertec Industrial Hygiene Services, Inc.

Holt, MI

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated 18 June 2005).

2008-01-01 through 2008-12-31

Effective dates

DEPARTMENT OF COMMERCE ★ UNITED STATES OF AMERICA ★

Sally S. Bruce

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2006-09-13)

Appendix C:

Bulk Sample Log

MICHIGAN STATE UNIVERSITY

BULK SAMPLE LOG

DATE: 3/21/2008 BUILDING: Botany Greenhouse #18 INSPECTOR: Zach Hansmann

HA #	TOTAL FOOTAGE	MATERIAL TYPE	MATERIAL CONDITION	F/NF	MATERIAL ACM (Y/N)	ASBESTOS DETECTED* (Y/N)	SAMPLE #	SAMPLE LOCATION
1	373 sf	MM	D	NF	N	N	1	Room 104
HA DESCRIPTION: 12"x12" White floor tile with gray and red streaks and associated mastic					NOTES: Mastic is also non asbestos containing	N	2	Room 100, East entrance
2	336 sf	MM	D	NF	N	N	3	Hall outsid room 103
HA DESCRIPTION: 12"x12" Off-white floor tile with gray streaks and associated mastic					NOTES: Mastic is also non asbestos containing	N	4	Room 105, Southeast corner
3	23 sf	MM	D	NF	N	N	5	Room 105, South wall
HA DESCRIPTION: 12"x12" Gray floor tile with dark gray and white streaks and associated mastic					NOTES: Mastic is also non asbestos containing	N	6	Room 105, North wall
4	368 lf	MM	U	NF	N	N	7	Hall outside 105D
HA DESCRIPTION: White window glazing					NOTES:	N	8	Hall outside 105G
5	110 lf	TSI	U	NF	Assumed			
HA DESCRIPTION: Pipe straight insulation					NOTES: Material not sampled			
6	29 ct	TSI	U	NF	Assumed			
HA DESCRIPTION: Pipe fitting and hanger insulation					NOTES: Material not sampled			

MICHIGAN STATE UNIVERSITY

BULK SAMPLE LOG

DATE: 3/21/2008 BUILDING: Botany Greenhouse #18 INSPECTOR: Zach Hansmann

HA #	TOTAL FOOTAGE	MATERIAL TYPE	MATERIAL CONDITION	F/NF	MATERIAL ACM (Y/N)	ASBESTOS DETECTED* (Y/N)	SAMPLE #	SAMPLE LOCATION
7	6 lf	MM	D	F	Y	Y	9	Room B10, Northwest corner
HA DESCRIPTION: Black/brown pipe wrap					NOTES:	n/a	10	Room B10, Northwest corner
8	50 lf	MM	U	NF	N	N	11	Room B10, Northwest corner
HA DESCRIPTION: Black rubber pipe wrap					NOTES:	N	12	Room B10, South wall
9	6 sf	MM	D	NF	Y	Y	13	Room B10, South wall
HA DESCRIPTION: 2'x3' Ceiling panel					NOTES:	n/a	14	Room B10, South wall
10	464 lf	MM	U	NF	Y	Y	15	West roof, south side
HA DESCRIPTION: Gray exterior glazing compound, 1911 house					NOTES:	n/a	16	East roof, north side
11	1400 sf	MM	U	NF	Y	Y	17	Above exterior door by stairs
HA DESCRIPTION: Light gray shingles, roof flashing, and adhesives					NOTES:	n/a	18	Northeast corner of room 105
12	50 lf	MM	U	NF	N	N	19	South entrance, end of 105 hall
HA DESCRIPTION: White building caulk					NOTES:	N	20	Exterior door by stairs

Appendix D:

Bulk Sample Analytical Report

Fibertec
industrial hygiene
services, inc.

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25104-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: UNKNOWN
DATE SUBMITTED: 3/21/08
DATE ANALYZED: 4/7/08

PROJECT:
MICHIGAN STATE UNIVERSITY, BOTANY GREENHOUSE (#18), 20 SUBMITTED BULK SAMPLES, 23 SAMPLE LAYERS ANALYZED.

CLIENT P.O.#: N/A
C.O.C. NO.: 71540

Bulk samples are analyzed utilizing the USEPA Test Method EPA/600/R-93/116. The constituent percent reported represents an estimate of the area percent of the component. The test report relates only to items tested. This report is not intended to be used as a product endorsement by NVLAP or any agency of the U.S. Government. Fine fibers like those in floor tile may not be discernible by this method. This report shall not be reproduced, except in full, without written approval of the laboratory. Form Revision 2.0 dated 3/1/08
*No asbestos present indicates less than or equal to 1% asbestos present. Test items were received in an acceptable condition.

FIBERTEC SAMPLE NO.	CLIENT I.D. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS-CONTAINING PORTION
	1	WHITE TABULAR MATERIAL, 12" X 12" WHITE FLOOR TILE WITH GRAY AND RED STREAKS, ROOM 104, LAYER 1 OF 2.	N			SDH	100% NON FIBROUS MATTER
1	1	YELLOW BRITTLE MATERIAL, 12" X 12" WHITE FLOOR TILE MASTIC, ROOM 104, LAYER 2 OF 2.	N			SDH	97% NON FIBROUS MATTER 3% CELLULOSE
2	2	WHITE TABULAR MATERIAL, 12" X 12" WHITE FLOOR TILE WITH GRAY AND RED STREAKS, ROOM 100, EAST ENTRANCE, LAYER 1 OF 2.	N			SDH	100% NON FIBROUS MATTER
2	2	YELLOW BRITTLE MATERIAL, 12" X 12" 12" X 12" WHITE FLOOR TILE MASTIC, ROOM 100, EAST ENTRANCE, LAYER 2 OF 2.	N			SDH	98% NON FIBROUS MATTER 2% CELLULOSE
3	3	WHITE TABULAR MATERIAL, 12" X 12" OFF-WHITE FLOOR TILE WITH GRAY STREAKS, HALL OUTSIDE ROOM 103, LAYER 1 OF 2.	N			SDH	100% NON FIBROUS MATTER

COMMENTS:

1914 Holloway Drive Holt, Michigan 48842 Telephone: (517) 699-0345 Facsimile: (517) 699-0382

Fibertec
industrial hygiene
services, inc.

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25104-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: UNKNOWN
DATE SUBMITTED: 3/21/08
DATE ANALYZED: 4/7/08

PROJECT:
MICHIGAN STATE UNIVERSITY, BOTANY GREENHOUSE (#18), 20 SUBMITTED BULK SAMPLES, 23 SAMPLE LAYERS ANALYZED.

CLIENT P.O.#: N/A
C.O.C. NO.: 71540

Bulk samples are analyzed utilizing the USEPA Test Method EPA/600/R-93/116. The constituent percent reported represents an estimate of the area percent of the component. The test report relates only to items tested. This report is not intended to be used as a product endorsement by NVLAP or any agency of the U.S. Government. Fine fibers like those in floor tile may not be discernible by this method. This report shall not be reproduced, except in full, without written approval of the laboratory. Form Revision 2.0 dated 3/1/08
*No asbestos present indicates less than or equal to 1% asbestos present. Test items were received in an acceptable condition.

FIBERTEC SAMPLE NO.	CLIENT I.D. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS-CONTAINING PORTION
	3	YELLOW BRITTLE MATERIAL, 12" X 12" OFF-WHITE FLOOR TILE MASTIC, HALL OUTSIDE ROOM 103, LAYER 2 OF 2.	N			SDH	97% NON FIBROUS MATTER 3% CELLULOSE
4	4	WHITE TABULAR MATERIAL, 12" X 12" OFF-WHITE FLOOR TILE WITH GRAY STREAKS, SOUTHEAST CORNER OF ROOM 105, LAYER 1 OF 2.	N			SDH	99% NON FIBROUS MATTER 1% CELLULOSE
4	4	YELLOW BRITTLE MATERIAL, 12" X 12" OFF-WHITE FLOOR TILE MASTIC, SOUTHEAST CORNER OF ROOM 105, LAYER 2 OF 2.	N			SDH	97% NON FIBROUS MATTER 3% CELLULOSE
5	5	TAN TABULAR MATERIAL, 12" X 12" GRAY FLOOR TILE WITH DARK GRAY AND WHITE STREAKS, ROOM 105, SOUTH WALL, LAYER 1 O F 2.	N			AJK	100% NON FIBROUS MATTER

COMMENTS:

1914 Holloway Drive Holt, Michigan 48842 Telephone: (517) 699-0345 Facsimile: (517) 699-0382

Fibertec
industrial hygiene
services, inc.

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25104-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: UNKNOWN
DATE SUBMITTED: 3/21/08
DATE ANALYZED: 4/7/08

PROJECT:
MICHIGAN STATE UNIVERSITY, BOTANY GREENHOUSE (#18), 20 SUBMITTED BULK SAMPLES, 23 SAMPLE LAYERS ANALYZED.

CLIENT P.O.#: N/A
C.O.C. NO.: 71540

Bulk samples are analyzed utilizing the USEPA Test Method EPA/600/R-93/116. The constituent percent reported represents an estimate of the area percent of the component. The test report relates only to items tested. This report is not intended to be used as a product endorsement by NVLAP or any agency of the U.S. Government. Fine fibers like those in floor tile may not be discernible by this method. This report shall not be reproduced, except in full, without written approval of the laboratory. Form Revision 2.0 dated 3/1/08
*No asbestos present indicates less than or equal to 1% asbestos present. Test items were received in an acceptable condition.

FIBERTEC SAMPLE NO.	CLIENT I.D. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS-CONTAINING PORTION
	5	YELLOW ASPHALTIC MATERIAL, 12" X 12" GRAY FLOOR TILE MASTIC, ROOM 105, SOUTH WALL, LAYER 2 OF 2.	N			AJK	97% NON FIBROUS MATTER 3% CELLULOSE
6	6	TAN TABULAR MATERIAL, 12" X 12" GRAY FLOOR TILE WITH DARK GRAY AND WHITE STREAKS, ROOM 105, NORTH WALL, LAYER 1 OF 2.	N			AJK	100% NON FIBROUS MATTER
6	6	YELLOW ASPHALTIC MATERIAL, 12" X 12" GRAY FLOOR TILE MASTIC, ROOM 105, NORTH WALL, LAYER 2 OF 2.	N			AJK	98% NON FIBROUS MATTER 2% CELLULOSE
7	7	WHITE PLASTIC MATERIAL, WHITE WINDOW GLAZING, HALL OUTSIDE 105D.	N			SDH	99% NON FIBROUS MATTER 1% CELLULOSE
8	8	WHITE PLASTIC MATERIAL, WHITE WINDOW GLAZING, HALL OUTSIDE 105C7.	N			SDH	99% NON FIBROUS MATTER 1% CELLULOSE

COMMENTS:

1914 Holloway Drive Holt, Michigan 48842 Telephone: (517) 699-0345 Facsimile: (517) 699-0382

Fibertec
industrial hygiene
services, inc.

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25104-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: UNKNOWN
DATE SUBMITTED: 3/21/08
DATE ANALYZED: 4/7/08

PROJECT:
MICHIGAN STATE UNIVERSITY, BOTANY GREENHOUSE (#18), 20 SUBMITTED BULK SAMPLES, 23 SAMPLE LAYERS ANALYZED.

CLIENT P.O.#: N/A
C.O.C. NO.: 71540

Bulk samples are analyzed utilizing the USEPA Test Method EPA/600/R-93/116. The constituent percent reported represents an estimate of the area percent of the component. The test report relates only to items tested. This report is not intended to be used as a product endorsement by NVLAP or any agency of the U.S. Government. Fine fibers like those in floor tile may not be discernible by this method. This report shall not be reproduced, except in full, without written approval of the laboratory. Form Revision 2.0 dated 3/1/08
*No asbestos present indicates less than or equal to 1% asbestos present. Test items were received in an acceptable condition.

FIBERTEC SAMPLE NO.	CLIENT I.D. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS-CONTAINING PORTION
	9	TAN GRANULAR FIBROUS MATERIAL, BLACK/BROWN PIPE WRAP, ROOM B10, NORTHWEST CORNER.	Y	CHRYSOTILE	8%	AJK	92% NON FIBROUS MATTER
11	11	BLACK SPONGY MATERIAL, BLACK RUBBER PIPE WRAP, ROOM B10, NORTHWEST CORNER.	N			AJK	100% NON FIBROUS MATTER
12	12	BLACK SPONGY MATERIAL, BLACK RUBBER PIPE WRAP, ROOM B10, SOUTH WALL.	N			AJK	100% NON FIBROUS MATTER
13	13	WHITE POWDERY MATERIAL, 2' X 3' CEILING PANEL, ROOM B10, SOUTH WALL.	Y	CHRYSOTILE	16%	SDH	76% NON FIBROUS MATTER 8% CELLULOSE
15	15	GRAY RUBBERY MATERIAL, GRAY/WHITE EXTERIOR GLAZING 1911 HOUSE, WEST ROOF, SOUTH END.	Y	CHRYSOTILE	2%	AJK	98% NON FIBROUS MATTER

COMMENTS:

1914 Holloway Drive Holt, Michigan 48842 Telephone: (517) 699-0345 Facsimile: (517) 699-0382

Fibertec
industrial hygiene
services, inc.

BULK SAMPLE ANALYTICAL REPORT

CLIENT: MICHIGAN STATE UNIVERSITY
FIBERTEC PROJECT NO.: 25104-1
NVLAP ACCREDITATION #101510-0

DATE SAMPLED: UNKNOWN
DATE SUBMITTED: 3/21/08
DATE ANALYZED: 4/7/08

PROJECT:
MICHIGAN STATE UNIVERSITY, BOTANY GREENHOUSE (#18), 20 SUBMITTED BULK SAMPLES, 23 SAMPLE LAYERS ANALYZED.

CLIENT P.O.#: N/A
C.O.C. NO.: 71540

Bulk samples are analyzed utilizing the USEPA Test Method EPA/600/R-93/116. The constituent percent reported represents an estimate of the area percent of the component. The test report relates only to items tested. This report is not intended to be used as a product endorsement by NVLAP or any agency of the U.S. Government. Fine fibers like those in floor tile may not be discernible by this method. This report shall not be reproduced, except in full, without written approval of the laboratory. Form Revision 2.0 dated 3/1/08
*No asbestos present indicates less than or equal to 1% asbestos present. Test items were received in an acceptable condition.

FIBERTEC SAMPLE NO.	CLIENT I.D. NO.	DESCRIPTION/ LOCATION	*ASBESTOS PRESENT Y/N	ASBESTOS TYPE	PERCENT ASBESTOS	TECH. INIT.	NON-ASBESTOS-CONTAINING PORTION
	17	CREAM RUBBERY MATERIAL, LIGHT GRAY SHINGLES AND ASSOCIATED ROOF FLASING/ADHESIVES, ABOVE EXTERIOR DOOR BY STAIRS, LAYER 1 OF 2.	Y	CHRYSOTILE	2%	AJK	98% NON FIBROUS MATTER
17	17	CLEAR RUBBERY MATERIAL, GRAY SHINGLES ROOF FLASHING/ADHESIVES, ABOVE EXTERIOR DOOR BY STAIRS, LAYER 2 OF 2.	N			AJK	100% NON FIBROUS MATTER
19	19	BLACK ASPHALTIC MATERIAL, WHITE CAULK, SOUTH ENTRANCE, END OF 105 HALL.	N			SDH	87% NON FIBROUS MATTER 8% CELLULOSE 5% FIBROUS GLASS
20	20	BLACK ASPHALTIC MATERIAL, WHITE CAULK, ENTRY DOOR BY STAIRS.	N			SDH	86% NON FIBROUS MATTER 9% CELLULOSE 5% FIBROUS GLASS

COMMENTS:

DA 4/9/08

APPROVED SIGNATORY

1914 Holloway Drive Holt, Michigan 48842 Telephone: (517) 699-0345 Facsimile: (517) 699-0382

Fibertec Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, MI 48842
Phone: 517-699-0345 Fax: 517-699-0382
Email: asbestos@fibertec.us

Invoice

Date	Invoice #
4/9/2008	6379

Bill To
Michigan State University Attn: Mr. Zach Hansmann 150 Giltner Hall East Lansing, MI 48824

Project ID:
Botany Greenhouse (#18) Date Submitted: 3/21/08

P.O. No.	Terms	Due Date	Fibertec Project #
48786	Net 30	5/9/2008	25104

Description	Qty	Rate	Amount
Polarized Light Microscopy (PLM) Sample Analysis 20 Samples Submitted, 23 Layers Analyzed	23	9.00	207.00

ok to pay
Zdlt 4/11/08

Total	$207.00
Payments/Credits	$0.00
Balance Due	$207.00

Fibertec environmental services

Analytical Laboratory
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0382
email: asbestos@fibertec.us

Geoprobe
11766 E. Grand River
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody # 71540

Client Name: Michigan State University
Contact Person: Zach Hausmann
Project Name/ Number: Botany Greenhouse (#18)
Purchase Order# 48786

Lab Sample #	Date	Time	Client Sample #	Client Sample Descriptor	MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PRESERVED (Y/N)	PARAMETERS: PLM	Remarks
	3/21/08	11:00	1-20	See Attached Sheet	X	1	N	X	TTP

Turnaround
- [ ] 24 hour RUSH (surcharge applies)
- [ ] 48 hour RUSH (surcharge applies)
- [ ] 72 hour RUSH (surcharge applies)
- [X] Standard (5-7 bus. days)
- [ ] Other: Specify

Matrix Code
S Soil | GW Ground Water
W Water | SW Surface Water
A Air | WW Waste Water
O Oil | X Other: Specify Bulk
P Wipe

Comments:

Relinquished By:	Date/ Time	Received By:
Relinquished By:	Date/ Time	Received By:
Relinquished By:	Date/ Time	Received By Laboratory:

LAB USE ONLY:
Fibertec project number:
Laboratory Tracking:
Temperature at Receipt:

COC Revision: April, 2006

TERMS & CONDITIONS ON BACK

Appendix E:

Materials Sorted By Room

Michigan State University
All Materi orted by Room

Botany Greenhouse (#18)

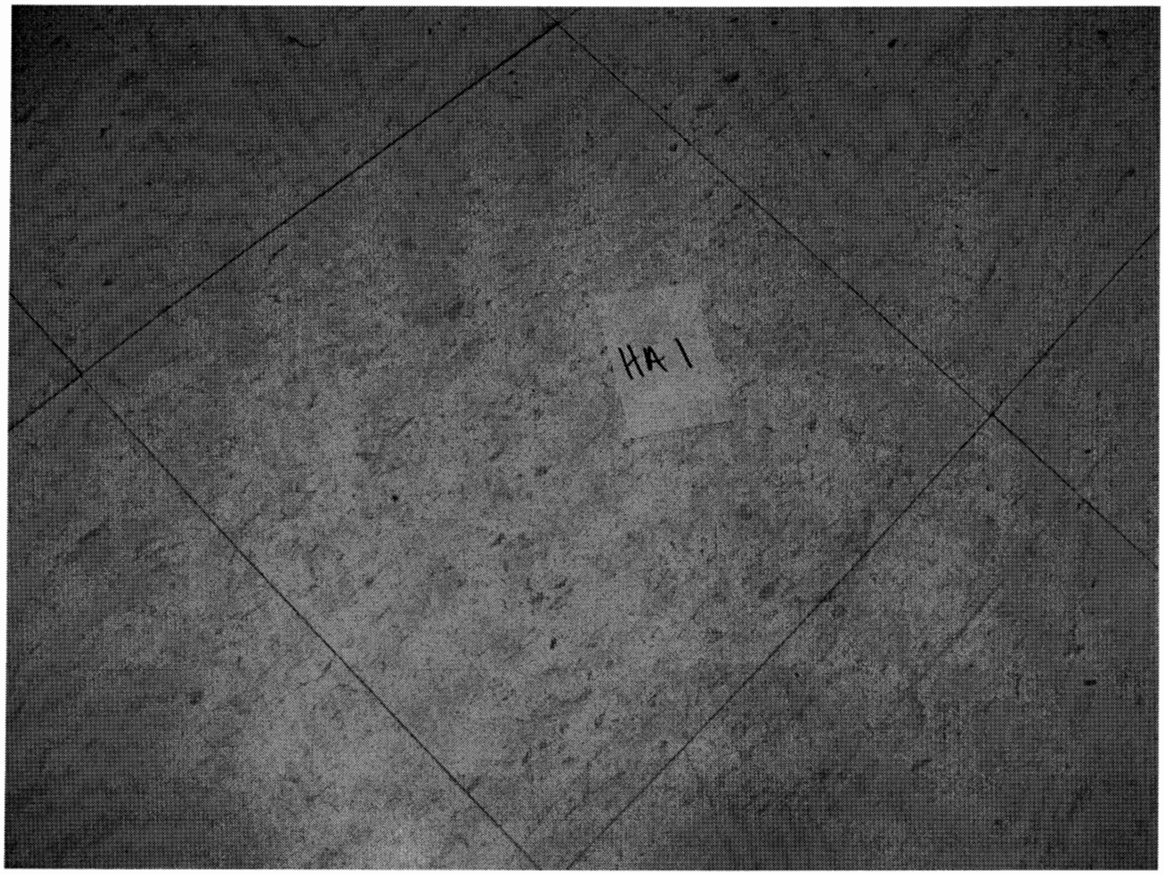
Location	Floor	Material Description	Quantity	Units	HA Number	ACM	Condition
Room B10	B	Pipe straight insulation	96	lf	5	Assumed	Undamaged
Room B10	B	Pipe fitting and hanger insulation	27	ct	6	Assumed	Undamaged
Room B10	B	Black and brown pipe wrap	6	lf	7	Yes	Damaged
Room B10	B	Black rubber pipe wrap	50	lf	8	No	Undamaged
Room B10	B	2'x 3' Ceiling panel	6	sf	9	Yes	Damaged
Room 100	1	12"x 12" White floor tile with gray and red streaks and associated mastic	132	sf	1	No	Damaged
Room 100	1	Pipe straight insulation	3	lf	5	Assumed	Undamaged
Room 100B	1	Gray exterior glazing compound, 1911 House	464	lf	10	Yes	Undamaged
Room 103	1	12"x 12" White floor tile with gray and red streaks and associated mastic	32	sf	1	No	Damaged
Room 104	1	12"x 12" White floor tile with gray and red streaks and associated mastic	174	sf	1	No	Damaged
Room 105	1	12"x 12" Off-white floor tile with gray streaks and associated mastic	311	sf	2	No	Damaged
Room 105	1	12"x 12" Gray floor tile with dark gray and white steaks and associated mastic	23	sf	3	No	Damaged
Room 105 Hallway	1	White window glazing	368	lf	4	No	Undamaged
Hall Outside room 103	1	12"x 12" White floor tile with gray and red streaks and associated mastic	34	lf	1	No	Damaged
Hall Outside room 103	1	12"x 12" Off-white floor tile with gray streaks and associated mastic	25	sf	2	No	Damaged
Hall Outside room 103	1	Pipe straight insulation	11	lf	5	Assumed	Undamaged
Hall Outside room 103	1	Pipe fitting and hanger insulation	2	ct	6	Assumed	Undamaged
Exterior	Ext	Light gray shingles, roof flashing, and adhesives	1400	sf	11	Yes	Undamaged
Exterior	Ext	White building caulk	50	lf	12	No	Undamaged

Appendix F:

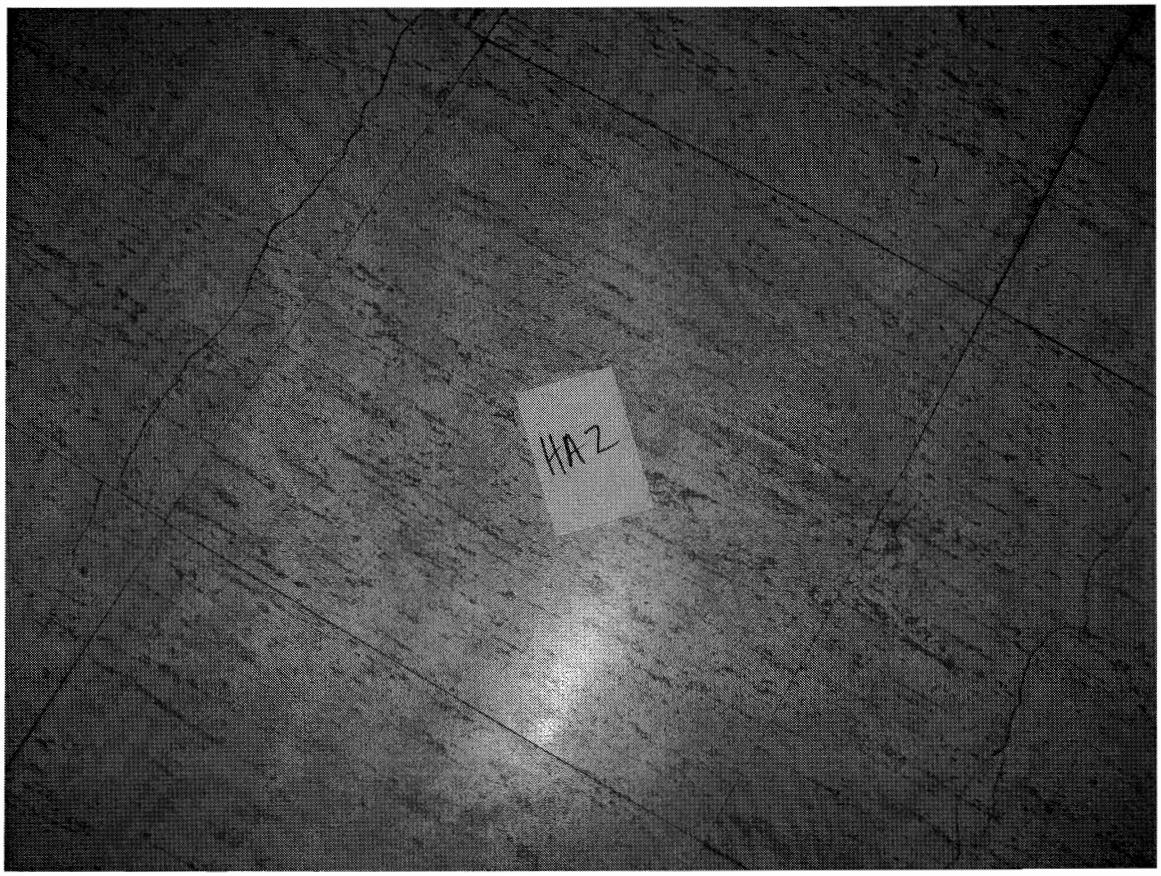
Photo Log

Michigan State University
Asbestos Inspection Photo Log

Botany Greenhouse (#18)

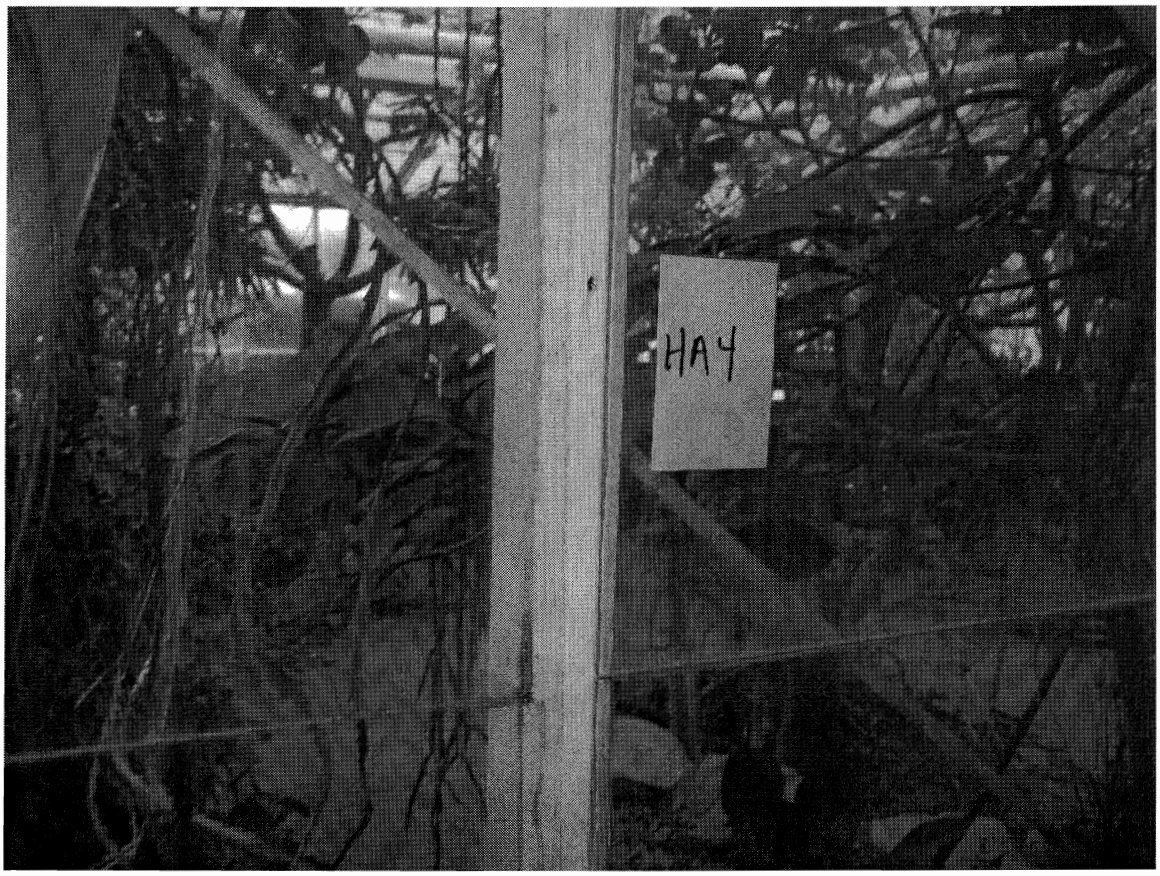


HA #1 – Non asbestos containing 12"x 12" White floor tile with gray and red streaks and associated mastic

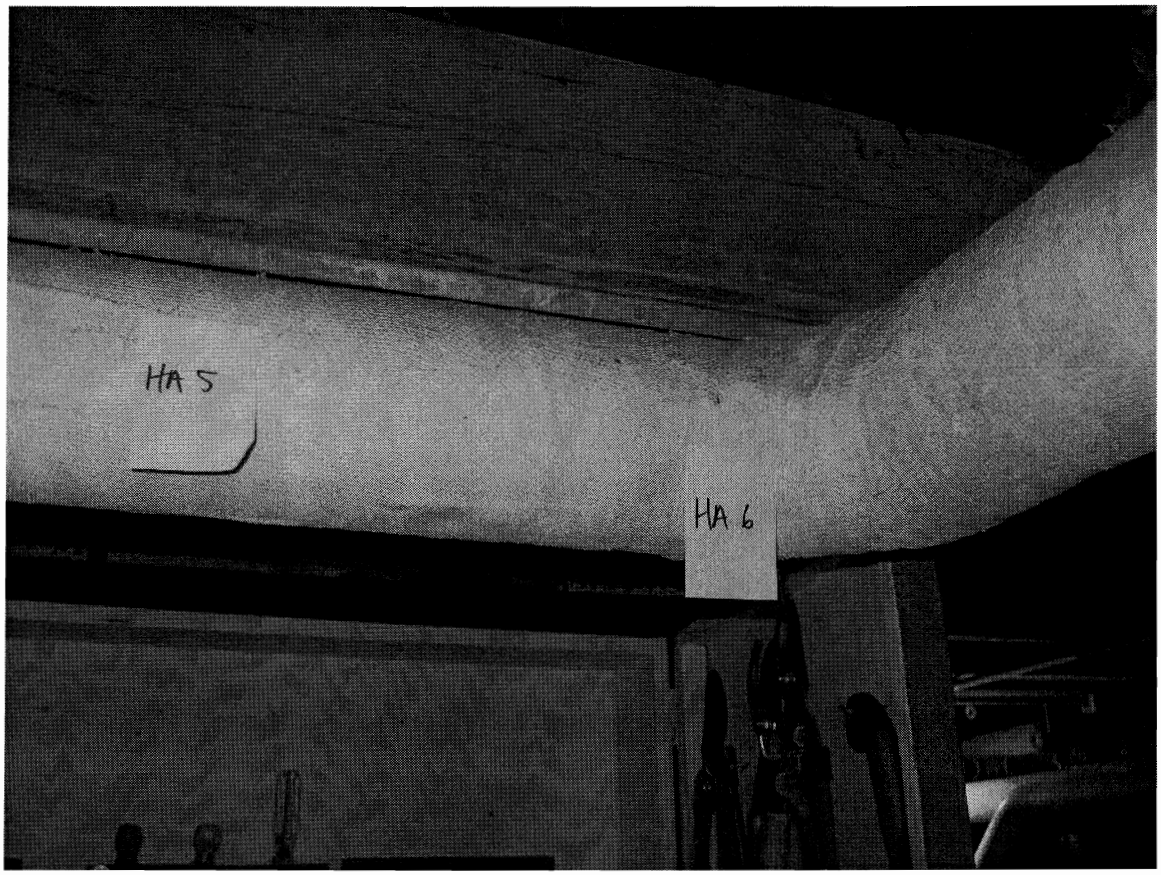


HA #2 – Non asbestos containing 12"x12" Off-white floor tile with gray streaks and associated mastic

HA #3 – Non asbestos containing 12"x 12" Gray floor tile with dark gray and white streaks and associated mastic



HA #4 – Non asbestos containing white window glazing



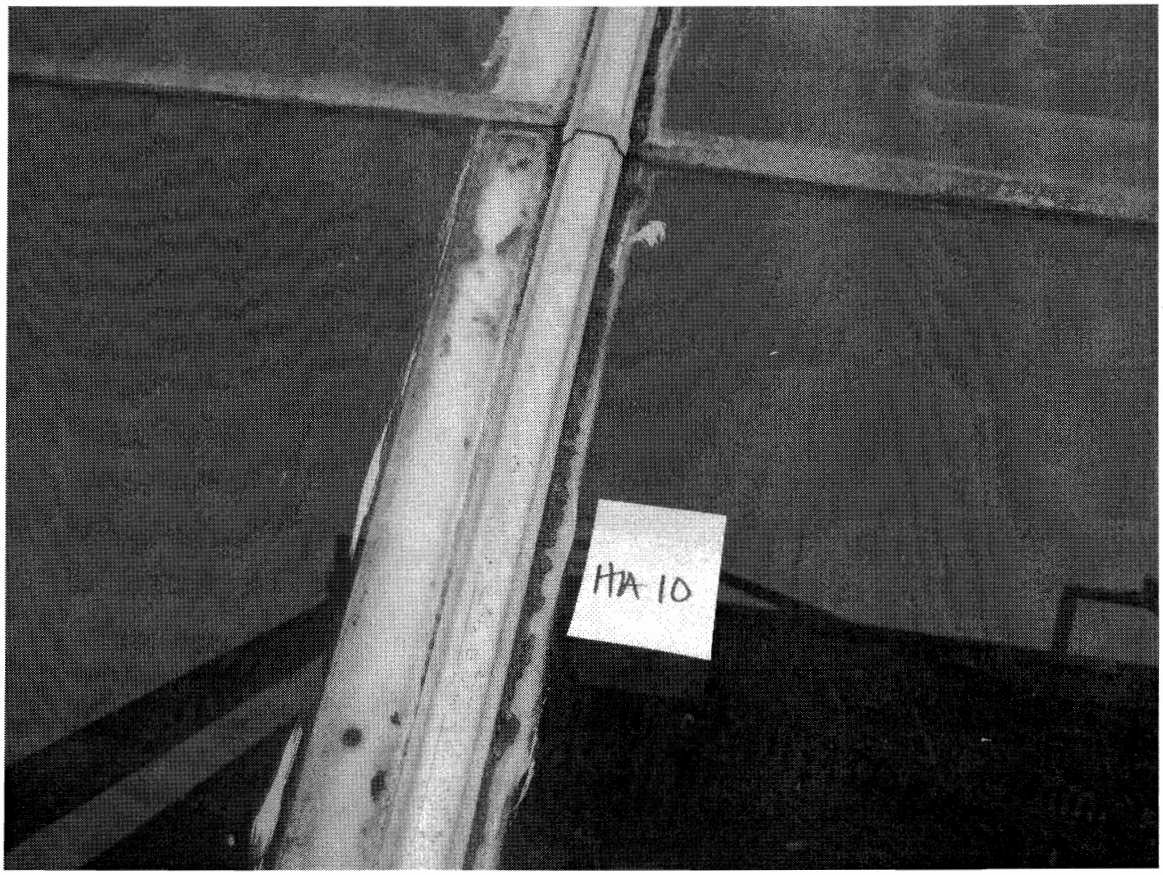
HA #5 – Assumed asbestos containing pipe straight insulation

HA #6 – Assumed asbestos containing pipe fitting and hanger insulation

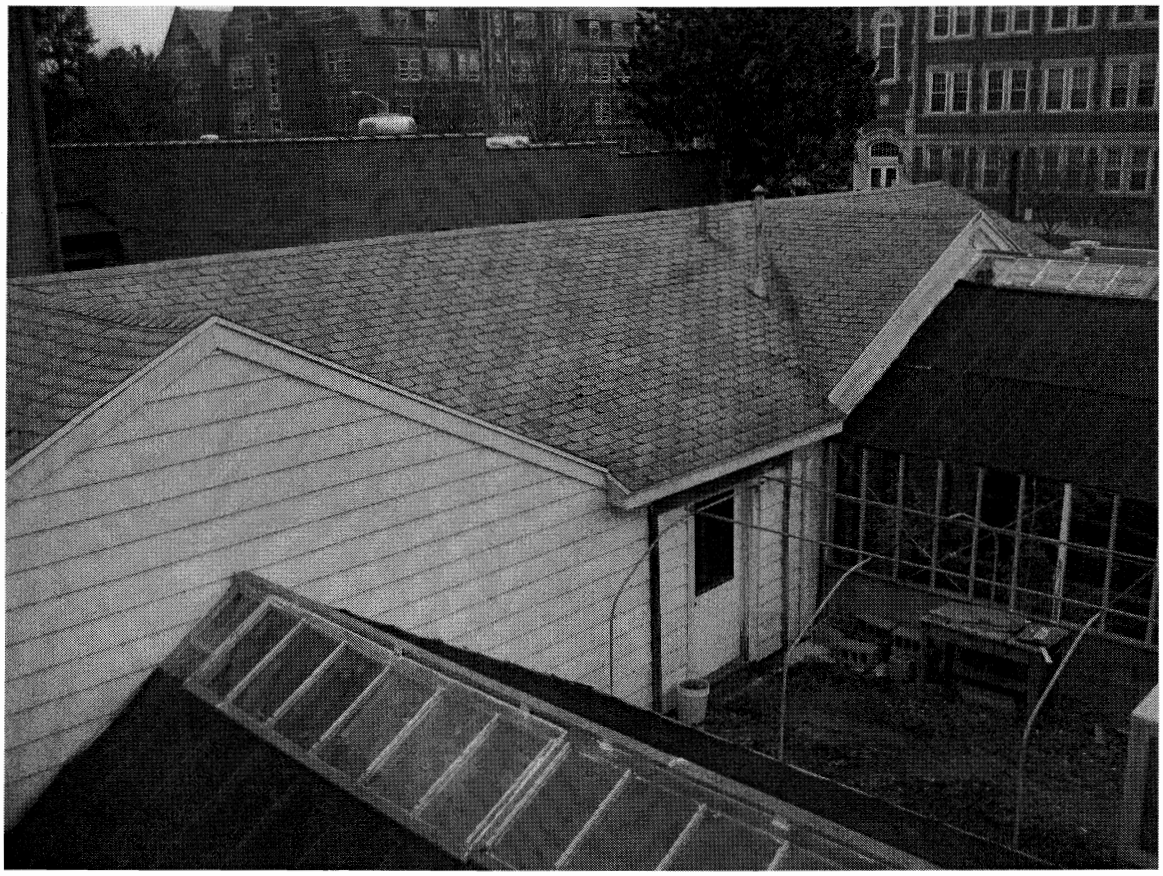
HA #7 – Asbestos containing black and brown pipe wrap

HA #8 – Non asbestos containing black rubber pipe wrap

HA #9 – Asbestos containing 2'x 3' ceiling panel



HA #10 – Asbestos containing gray and white exterior glazing compound, 1911 house



HA #11 – Asbestos containing Gray shingles, flashing, and associated mastics

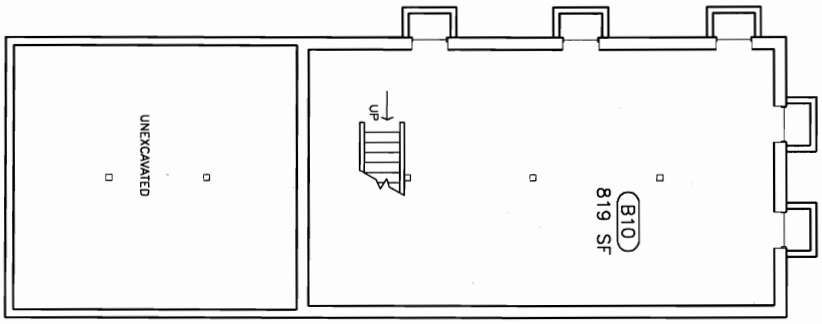
Not Pictured

HA #12 – Non asbestos containing white exterior caulk

Appendix G:

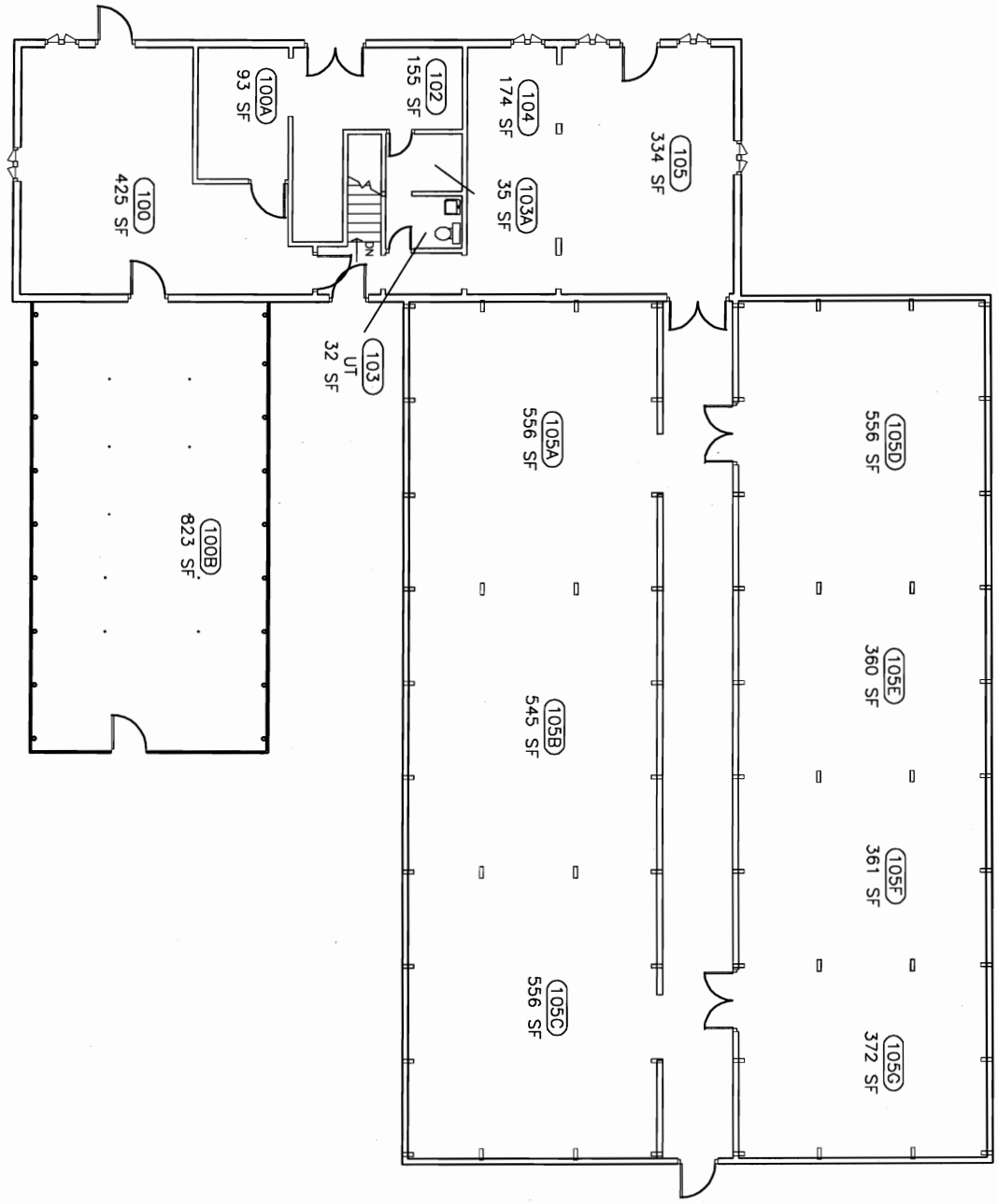
Floor Plan Sketches

BASEMENT FLOOR PLAN



DRAWN BY: RPD	REV 1: GIS 02-13-01	MICHIGAN STATE UNIVERSITY PHYSICAL PLANT DIVISION ENGINEERING AND ARCHITECTURAL SERVICES	BUILDING NUMBER: 18
APPROVED BY:	REV 2:		
DATE: 03-22-99	REV 3:		
SCALE: 1" = 10'	REV 4:	TITLE: BOTANY GREENHOUSES BASEMENT FLOOR PLAN	
SHEET NO: 1 of 3	REV 5:		
DWG NO: 2644	REV 6:		

02-13-01 \bldgs\b0018\b0018_b.dwg

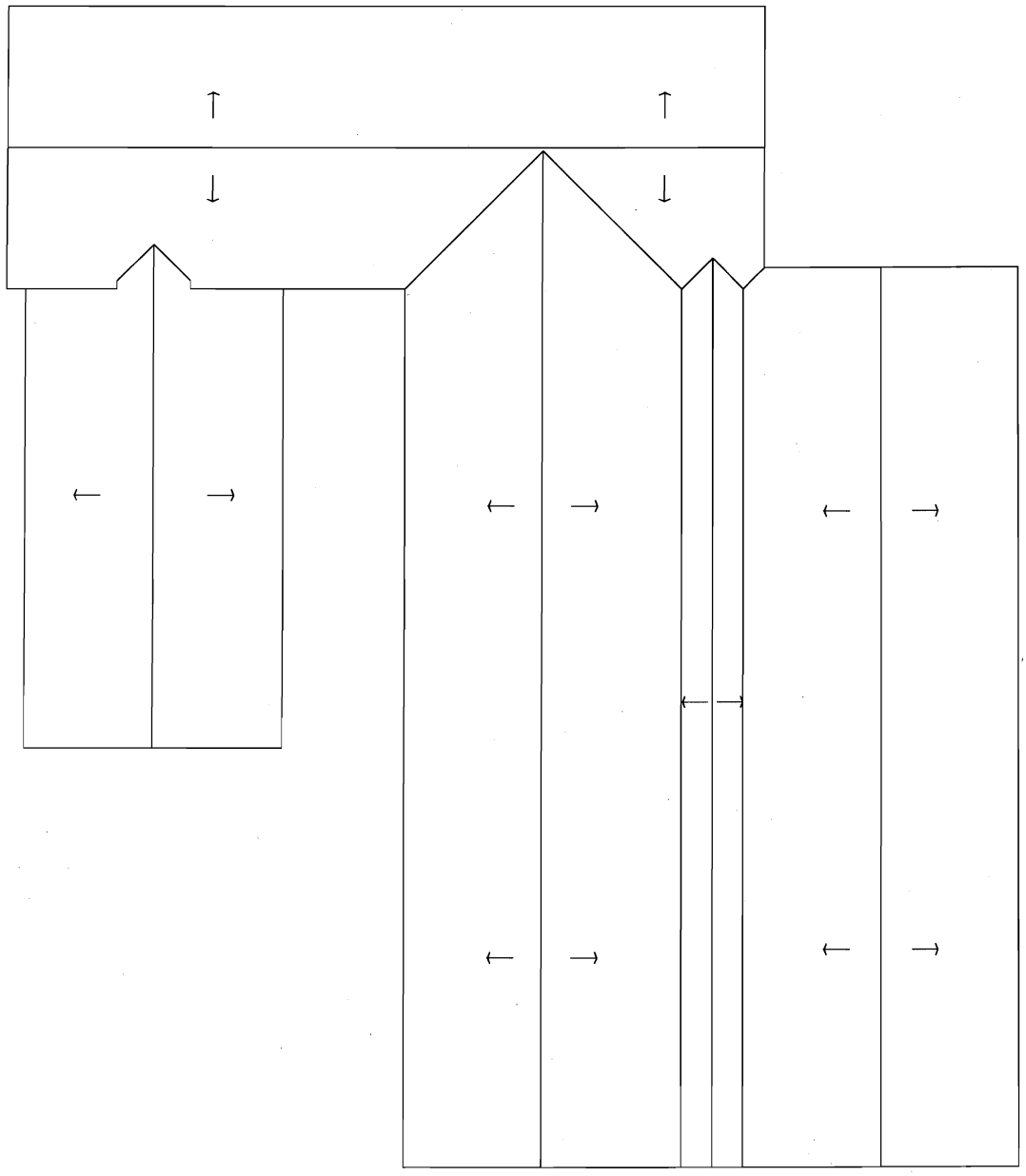


FIRST FLOOR PLAN

DRAWN BY: RPD	REV 1: GIS 02-13-01	MICHIGAN STATE UNIVERSITY PHYSICAL PLANT DIVISION ENGINEERING AND ARCHITECTURAL SERVICES	BUILDING NUMBER: 18
APPROVED BY:	REV 2:		
DATE: 03-22-99	REV 3:	TITLE: BOTANY GREENHOUSES FIRST FLOOR PLAN	
SCALE: 1" = 10'	REV 4:		
SHEET NO: 2 of 3	REV 5:		
DRAWING NO: 2644	REV 6:		

02-13-01 \bldgs\b0018\b0018_1.dwg

ROOF PLAN



RPD	REV 1 GIS 02-13-01	MICHIGAN STATE UNIVERSITY PHYSICAL PLANT DIVISION ENGINEERING AND ARCHITECTURAL SERVICES	BUILDING NUMBER: 18
03-22-99	REV 2		
1" = 10'	REV 3	TITLE: BOTANY GREENHOUSES ROOF PLAN	
3 of 3	REV 4		
2644	REV 5		
	REV 6		

02-13-01 \bldgs\b0018\b0018_r.dwg