



Asbestos-Containing Materials
Abatement Specification
CFSH – Building 15 Demolition
7901 Farrow Road
Columbia, South Carolina
S&ME Project No. 210385

PREPARED FOR:

**South Carolina Department of Mental Health
Physical Plant Services
7901 Farrow Road, Building 4
Columbia, SC 29203**

PREPARED BY:

**S&ME, Inc.
134 Suber Road
Columbia, SC 29210**

January 19, 2021



January 19, 2021

South Carolina Department of Mental Health
Physical Plant Services
7901 Farrow Road, Building 4
Columbia, South Carolina 29203

Attention: Mr. Ray Nanney
ray.nanney@scdmh.org

Reference: **Asbestos-Containing Materials Abatement Specification**
CFSH – Building 15
7901 Farrow Road
Columbia, South Carolina
S&ME Project No. 210385

Dear Mr. Nanney:

S&ME, Inc. (S&ME) is pleased to provide the enclosed asbestos abatement specifications for the referenced project. The abatement specification was produced in general accordance with S&ME Proposal No. 42-2001025, dated November 2, 2020 and the indefinite delivery contract (IDC) for environmental services between the SCDMH and S&ME dated October 14, 2019. The specification addresses the abatement actions, personal protective equipment, and disposal of asbestos-containing materials (ACMs) related to the demolition of the subject building.

We appreciate the opportunity to provide you with our industrial hygiene services and we look forward to our continued association. If you have any questions or concerns, please call us at (803) 561-9024.

Sincerely,

S&ME, Inc.

A handwritten signature in black ink, appearing to read 'Travis Knight'.

Travis Knight, CSP, CHMM, CIEC
Asbestos Project Designer
SCDHEC License No. PD-00166
tknight@smeinc.com

A handwritten signature in black ink, appearing to read 'Tom Behnke'.

Tom Behnke, P.G., CHMM
Environmental Services Manager
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tbehnke@smeinc.com



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Asbestos-Containing Materials Abatement Specification
CFSH – Building 15
7901 Farrow Road
Columbia, South Carolina
S&ME Project No. 210385



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Appendix III – Asbestos Assessment Report



1.0 General

This document is provided as guidance for the abatement and disposal of friable and non-friable asbestos-containing materials (ACMs), prior to the demolition of Building 15 located at the Crafts Farrow State Hospital Campus located at 7901 Farrow Road in Columbia, South Carolina. A site location map is provided in Appendix I. This plan does not state all of the requirements of the applicable regulations and is only to be used to supplement those regulations. Asbestos activities shall be performed in accordance with applicable State and Federal regulations to include, but not limited to, 40 CFR 61, Subpart M; 29 CFR 1926.1101, and South Carolina Department of Health and Environmental Control (SCDHEC) Regulation 61-86.1.

2.0 Background

The work described in this asbestos abatement specification is based upon information obtained and reported by S&ME, Inc. in our report titled *Asbestos & Lead-Based Paint Assessment – CFSH-Building 15*, dated May 27, 2020. (S&ME Project No. 4261-20-015). A copy of the report is provided in Appendix III.

Building 15 is a single-story building; built with brick veneer exterior and a pitched shingled roof. The building contains a basement. The building was reportedly constructed in 1943 and encompasses approximately 13,589 square feet of space. The building contains patient rooms, common areas, and offices. The ceilings are finished with acoustical ceiling tiles, and the floors are finished ceramic tiles. Interior walls consisted of plaster and drywall. The building has been vacant for many years.

All of the asbestos-containing materials identified in association with the building must be abated in accordance with State and Federal asbestos regulations.

- 2.1. The asbestos abatement contractor (Contractor) shall be licensed by the SCDHEC Asbestos Section to perform the appropriate asbestos abatement activities. The Contractor shall submit written notification for non-friable and friable removal to the SCDHEC Asbestos Section regarding the quantity and type(s) of ACMs scheduled for removal and obtain landfill approval to dispose the referenced ACMs. The Contractor shall assume full responsibility and liability for compliance with all applicable federal, state and local regulations pertaining to work practices, hauling, disposal, protection of workers, visitors to the site and persons occupying areas adjacent to the site. The Contractor shall hold the building owner (Owner) and Owner's representatives harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself, his employees, or his subcontractors.

The following general conditions apply:

- 2.1.1 The Contractor will perform a thorough assessment of the project site and present the Owner with any questions that may arise.
- 2.1.2 A pre-construction meeting will be scheduled to discuss any questions that the Contractor may have about which materials are to remain.



- 2.2. Asbestos activities shall be performed in accordance with applicable State and Federal regulations, to include but not limited to 40 CFR 61, Subpart M; 40 CFR 763; 29 CFR 1926.1101, and SCDHEC Regulation 61-86.1.
- 2.3. Only the Owner (South Carolina Department of Mental Health) and the asbestos abatement contractor may rely upon this document. All terms and conditions of the referenced proposal and associated contracts and agreements shall apply.
- 2.4. This document applies to the abatement of asbestos-containing materials (ACMs) as described in Section 4.
- 2.5. Those specified in this section may rely upon this work for the specific project for which it was prepared. S&ME disclaims any liability for reliance on this work by others, or for any other project.

3.0 Schedule

- 3.1. The start date for the asbestos abatement work will be determined upon contract with the abatement/demolition contractor. All permits will be obtained by the abatement contractor prior to commencement of the work.
- 3.2. Abatement work will be performed during normal working hours, starting no earlier than 7:00 AM.

4.0 Scope of Work

Remove the following asbestos-containing materials from the building:

Material	Material Location	¹ Type	Asbestos Type & Percent	² Condition	³ Approx. Quantity
Asphalt shingles	Roof	Misc.	Chrysotile 2%	Good, NF	13,589 SF
Silver paint	Cooling tower	Misc.	Chrysotile 3%	Good, NF	100 SF
Window glazing	Exterior windows	Misc.	Chrysotile 2%	Damaged, F	2,600 LF
Pipe wrap	Pipe wrap on sulfur rock insulation – cooling tower	Misc.	Chrysotile 6%	Good, NF	20 LF
Black mastic	Between sulfur rock insulation joints – cooling tower	Misc.	Chrysotile 4%	Good, NF	20 LF



Material	Material Location	¹ Type	Asbestos Type & Percent	² Condition	³ Approx. Quantity
Gray sink coating	Single sink south end	Misc.	Chrysotile 4%	Good, NF	1 sink
Hard Joint Insulation	Basement (over sulfur rock)	TSI	Chrysotile 2%	Good, F	20 Hard joints
⁴ Yellow duct mastic	HVAC system throughout	Misc.	Chrysotile 5%	Good, NF	> 1,000 LF
⁴ Black pipe mastic	Throughout building above ceiling and in pipe chases	Misc.	Chrysotile 5%	Good, NF	> 1,000 LF

Abbreviations:

HA = homogeneous area SF = square feet NF = non-friable F = friable LF = linear feet EA = Each

¹Type: Misc. = Miscellaneous Surf. = Surfacing TSI = Thermal System Insulation

²Cond = Condition: Good, Damaged or Significantly Damaged

³Quantities are approximate and should not be used for cost estimates or bidding purposes.

⁴The complete removal of the ceiling grid is needed for the quantification of the pipe mastic and HVAC duct mastic.

- The contractor is advised that the provided quantity of hard joint insulation is a rough estimate and additional hard joint insulation may be present in the crawlspace and wall voids.

Photographs of ACMs and a diagram of depictable ACM is provided in **Appendix II**.

5.0 General Abatement Procedures

- Friable removal activities shall be conducted inside a negative pressure enclosure (NPE) in accordance with the SCDHEC Regulation 61-86.1 *Standards of Performance for Asbestos Projects* to include, but not limited to, a five-stage decontamination unit consisting of an ample sized clean/changing room, airlock, shower with hot and cold running water, airlock, and equipment room. Each NPE shall have negative air filtration fitted with high efficiency particulate air (HEPA) filters, viewing port, waste load-out, critical barriers, pressure differential manometer, and maintain continuous negative air pressure to a minimum negative 0.02 (-0.02) inches of water. Refer to Section 9 of this plan for more details regarding the NPE.
- Onsite air monitoring shall be performed by S&ME in general accordance with the SCDHEC regulations during all phases of friable abatement to include, but not limited to, pre-cleaning, containment preparations, gross removal, load-out of waste bags, fine cleaning, and prior to removal of containment. Air monitoring is addressed in Sections 15 & 16 of this plan.



- 5.3. Asbestos-containing non-friable materials (i.e. mastics & sink coating), shall be abated using non-friable methods (i.e. non-hazardous solvents).
- 5.4. The Contractor shall be solely responsible for compliance with 40 CFR 61, Subpart M, 29 CFR 1926.1101, SCDHEC Regulation 61-86.1 (*Standards of Performance for Asbestos Projects*), and this abatement specification. Personal protective measures for personnel shall comply with the Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101.

6.0 Abatement Control Areas

- 6.1. The work area or NPE shall be secured at the end of each shift so as to prevent entry into the work area.
- 6.2. An asbestos control area shall be established in the areas where asbestos is removed or otherwise disturbed, as required by SCDHEC and OSHA.
- 6.3. Asbestos danger signs in accordance with OSHA 29 CFR 1926.1101 shall be displayed at all approaches to the asbestos abatement areas.
- 6.4. Control boundaries shall be established with a minimum of red, "Asbestos Danger" barrier tape.

7.0 Abatement Control of Pollution

- 7.1. A visual inspection shall be conducted by S&ME, Inc. and the Contractor after gross removal of the asbestos-containing materials included herein.
- 7.2. Asbestos-containing material shall be placed in two 6-mil polyethylene bags or double wrapped in 6-mil polyethylene or sealed drums and appropriately labeled in accordance with the OSHA and EPA.

8.0 Personal Protective Equipment

- 8.1. Protective clothing:
 - 8.1.1. In the work area during asbestos abatement, disposable coveralls, including head covers, shall be worn at all times.
 - 8.1.2. In the work area during asbestos abatement, disposable booties shall be worn at all times.
- 8.2. Appropriate respiratory protection shall be used whenever workers enter the work area.
 - 8.2.1. Respirators shall not be left exposed when not in use; they shall be properly stored.
- 8.3. Appropriate hand and eye protection shall be used at all times while in the work area.
- 8.4. Used respirator filters and disposable coveralls shall be disposed of as asbestos-containing materials.



9.0 Containment Measures for Gross Removal of Friable Asbestos-Containing Material

- 9.1. A critical containment for control of dust shall be erected prior to any disturbance of friable ACM or ACM that is to be removed as friable. The containment shall conform to the requirements of South Carolina Department of Health and Environmental Control Regulation 61-86.1, *Standards of Performance for Asbestos Projects*.
- 9.2. All openings into the work area shall be covered with critical barriers.
- 9.3. Asbestos danger signs in accordance with OSHA 29 CFR 1926.1101 shall be displayed at all approaches to the asbestos abatement areas.
- 9.4. Individually seal all ventilation openings (supply and exhaust), doorways, convectors and other openings into the work area with at least two layers of polyethylene sheeting (minimum six mil in thickness) taped securely in place with duct tape. Maintain seal until all work, including Visual Inspection and Clearance Sampling, are completed. These are critical barriers.
- 9.5. The securing of all mechanical and electrical systems will be coordinated through the Building Owner or the building owner's representatives.
- 9.6. Critical barriers shall be constructed of two (2) separate layers of 6-mil polyethylene sheeting. The second layer shall overlap the first layer by at least two inches (2").
- 9.7. A primary barrier of 6-mil polyethylene covering shall be installed on all surfaces in the work area that are not to be disturbed.
- 9.8. Containments shall be smoke tested and inspected by the Contractor at least daily and the results recorded by the contractor's supervisor.
- 9.9. A decontamination unit and load-out shall be attached to the containment.

10.0 Ventilation for Containments

- 10.1. Sufficient HEPA filtered exhaust units shall be provided to ensure a negative pressure of at least -0.02" H₂O and a minimum of four (4) air changes per hour.
 - 10.1.1. At minimum, one spare back-up HEPA exhaust unit shall be allotted per containment and present on the subject property in case of failure of an operating unit.
- 10.2. Air pressure shall be continuously monitored with manometers.
 - 10.2.1. The manometers shall have alarms set at 0.02" H₂O negative pressure.
- 10.3. Manometers shall be calibrated by the Contractor prior to the start of each work shift.
- 10.4. All exhausts shall be ducted to the outside of the building into an unoccupied area.



11.0 Decons and Load-Outs

- 11.1. The Decontamination Units will be constructed and shall consist of a serial arrangement of compartments separated by airlocks.
- 11.2. These units shall be: clean room, airlock, shower room, airlock and equipment room.
- 11.3. Doors shall be of the 3-layer, Z-flap design.
- 11.4. All workers shall enter and exit the work area through the decontamination unit. They shall be required to shower thoroughly, in accordance with OSHA regulations prior to exit.
- 11.5. Instructions for proper decontamination shall be posted by the Contractor at the decontamination unit.
- 11.6. Load-outs shall consist of three compartments separated by 3-layer, Z-flap doors. The doors to the containment must remain closed when not in use. Propping or taping the Load-Out doors open is not permitted.
- 11.7. Waste shall be carried into compartment one by fully protected workers, bagged a second time or cleaned off and placed in the second compartment.
- 11.8. Workers wearing disposable protective clothing and a respirator shall remove the waste from the second compartment and place it in the third compartment, clean or bag it as necessary and then remove it to the appropriate waste storage container.

12.0 Security

- 12.1. While asbestos abatement work is being performed, at least one worker shall remain outside the containment(s). He shall maintain security against unauthorized access to the asbestos abatement area.
- 12.2. Whenever an asbestos abatement area has not been cleared but is left unattended, access to the site shall be denied to unauthorized personnel by the use of locked doors or other similar means of securing the area. The Contractor shall construct "hard" barriers as necessary to restrict entry.
- 12.3. Waste containers, if used, shall be secured and locked within a fence sufficient to maintain security of the material or other secure enclosure or the waste container itself shall be closed and locked when not under observation. Unsecured open top or similar dumpsters/waste containers are not permitted. If used, the location of the asbestos waste dumpster shall be coordinated through the Building Owner and/or representative.

13.0 Work Practices

- 13.1. General
 - 13.1.1. For friable removals, build and have decontamination unit operational before any workers enter work area to disturb ACM.
 - 13.1.2. S&ME will inspect and accept the work area prior to start of asbestos removal.



- 13.1.3. Wet methods and HEPA-vacuuming shall be used to control generation of dust. Excess water from abatement activities shall be immediately collected from floor surfaces to prevent leaks and migration of asbestos-contaminated water outside of the abatement area.
- 13.1.4. Do not expose electrical systems to water.
- 13.1.5. Do not drop ACM to the ground or floor.
- 13.1.6. Maintain the work area free of accumulations of ACM dust and debris throughout the project.
- 13.1.7. Asbestos-containing roofing, mastics and sink coatings, shall be abated using non-friable methods.
- 13.1.8. Glove bag methods shall be in accordance with SCDHEC Regulation 61-86.1.

14.0 Waste

- 14.1. All asbestos-containing waste shall be double-bagged or placed in sealed drums.
- 14.2. Bags shall be of 6-mil polyethylene.
- 14.3. Bags shall have the required EPA generator, DOT and OSHA labels.
- 14.4. Sealed drums or lined and secured containers are an acceptable alternative to bagged waste.
- 14.5. Wastewater, including shower water and any other water leaving the containment in a liquid state, shall be filtered through a minimum 5-micron filter and the filtered water may be disposed into the sanitary sewer, unless local regulations prohibit that method of disposal.
- 14.6. Temporary waste storage on site shall be lined with 6-mil polyethylene and locked when not loading. Open top dumpsters are not acceptable.
- 14.7. Waste shall be disposed of in a landfill permitted by SCDHEC to accept asbestos-containing waste.
- 14.8. The Owner's copy of the waste manifest shall be submitted with post-job submittals within 15 days after the end of the work. The end of the work is the end date on the asbestos abatement permit.
- 14.9. The Contractor shall submit a copy of the waste manifest to the South Carolina Department of Health and Environmental Control, Air Quality Division within one week after completion of the work.

15.0 Project Monitoring

- 15.1. The Owner shall provide for on-site monitoring.
- 15.2. A project monitor shall perform area air sampling for friable asbestos, as deemed necessary. For NPE systems air sample shall be collected as follows:
 - 15.2.1. At least one air sample from inside the equipment room of the decontamination unit,
 - 15.2.2. At least one air sample at the HEPA exhaust but not in the direct air flow,
 - 15.2.3. At least one air sample at the entrance to the clean room, and



- 15.2.4. At least one sample outside the work area, preferably near occupied areas and/or areas accessible to the public.
- 15.2.5. Air sampling for glove bag removals will be in accordance with SCDHEC 61-86.1
- 15.3. The air monitor shall check the manometer readings at least 4 times per 8-hour shift (5 times for a 10-hour shift and 6 times for a 12-hour shift). He/she shall record the manometer reading in the field notes and on a chart to remain at the jobsite for review by the Contractor, Owner, regulators, and other authorized parties.
- 15.4. The Contractor will cooperate with the project monitor, and should unsafe conditions be identified by the monitor, appropriate corrective actions, including stopping work, shall be instituted.
- 15.5. The project monitor will not supervise the remediation work.
- 15.6. The Contractor shall be responsible for unsafe conditions that arise out of the work.
- 15.7. The on-site monitor is not responsible for collection of OSHA-required personal samples for the Contractor employees.

16.0 Clearance

- 16.1. S&ME will conduct a visual inspection and clearance monitoring for all friable interior asbestos abatement work.
- 16.2. No clearance inspection or monitoring shall be conducted until all asbestos abatement inside a containment is complete.
- 16.3. No clearance monitoring shall be performed until the NPE is dry.
- 16.4. When the SCDHEC Regulation 61-86.1 requires clearance air samples to be analyzed by phase contrast microscopy (PLM), the clearance criteria is all samples less than 0.01 fibers per cubic centimeter (f/cc). When the SCDHEC Regulation 61-86.1 requires clearance air samples to be analyzed by transmission electron microscopy (TEM), the clearance criteria is all samples average less than 70 structures per square millimeter (s/mm²).
- 16.5. The Contractor shall not remove critical barriers or discontinue HEPA ventilation until the work area is cleared.

17.0 Personal Samples

- 17.1. The Contractor shall collect and analyze personal samples as required by OSHA.
- 17.2. The results of personal sampling shall be posted at the job site within 2 days of receipt of results.
- 17.3. A copy of all personal sample results shall be included in the post-job submittal package.



18.0 Submittals

18.1. On-site documentation shall include:

- 18.1.1. Properly completed State permit.
- 18.1.2. A roster of workers and supervisors.
- 18.1.3. A copy of each person's accreditations.
- 18.1.4. A copy of each person's medical authorization to work with asbestos and wear a respirator.
- 18.1.5. A copy of the Contractor's respiratory protection program, including the rationale and documentation for respirator selection on this job.
- 18.1.6. SCDHEC landfill approval letter;
- 18.1.7. Medical and respiratory statement of compliance with 29 CFR 1910.134 and 1926.1101;
- 18.1.8. Pollution Liability Insurance. Pollution liability insurance shall include abatement and transportation, shall be occurrence based, and written on a project basis with coverage of \$1,000,000 with a deductible of \$5,000 for any one occurrence. A project specific insurance certificate shall be provided listing the South Carolina Department of Mental Health and S&ME as Additional Insured.
- 18.1.9. A copy of the Contractor's hazard communication program, including:
 - 18.1.9.1. Safety Data Sheets for asbestos and all chemicals used on site.
 - 18.1.9.2. An inventory of chemicals on site.

18.2. Post-job submittals shall be submitted within 30 days of asbestos abatement completion (as shown on the latest revision of the permits) and shall include:

- 18.2.1. Any additions or changes to the pre-job submittals.

19.0 General

- 19.1. Contractor shall give 72-hour notice to Building Owner and S&ME of any alternative work schedules (i.e. nights or weekends).
- 19.2. Contractor shall maintain a clean and safe work area. All unnecessary electrical and water sources shall be secured at the end of each workday.
- 19.3. Comply with all applicable Federal, State and Local regulations.

~END OF DOCUMENT~

Appendices

Appendix I – Site Location Map

REFERENCE:


PLEASE NOTE THIS EXHIBIT IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT MEANT FOR DESIGN, LEGAL, OR SURVEY USES. THERE ARE NO GUARANTEES ABOUT ITS ACCURACY. S&ME, INC. ASSUMES NO RESPONSIBILITY FOR ANY DECISION MADE OR ANY ACTIONS TAKEN BY THE USER BASED UPON THIS EXHIBIT.



BUILDING 15

Cooling Tower

0 75 150 FEET

 Approximate Boundary



Location Exhibit

CFSH Building 15

Columbia, Richland County, South Carolina

Source: World Imagery 2018

SCALE:
1" = 75'

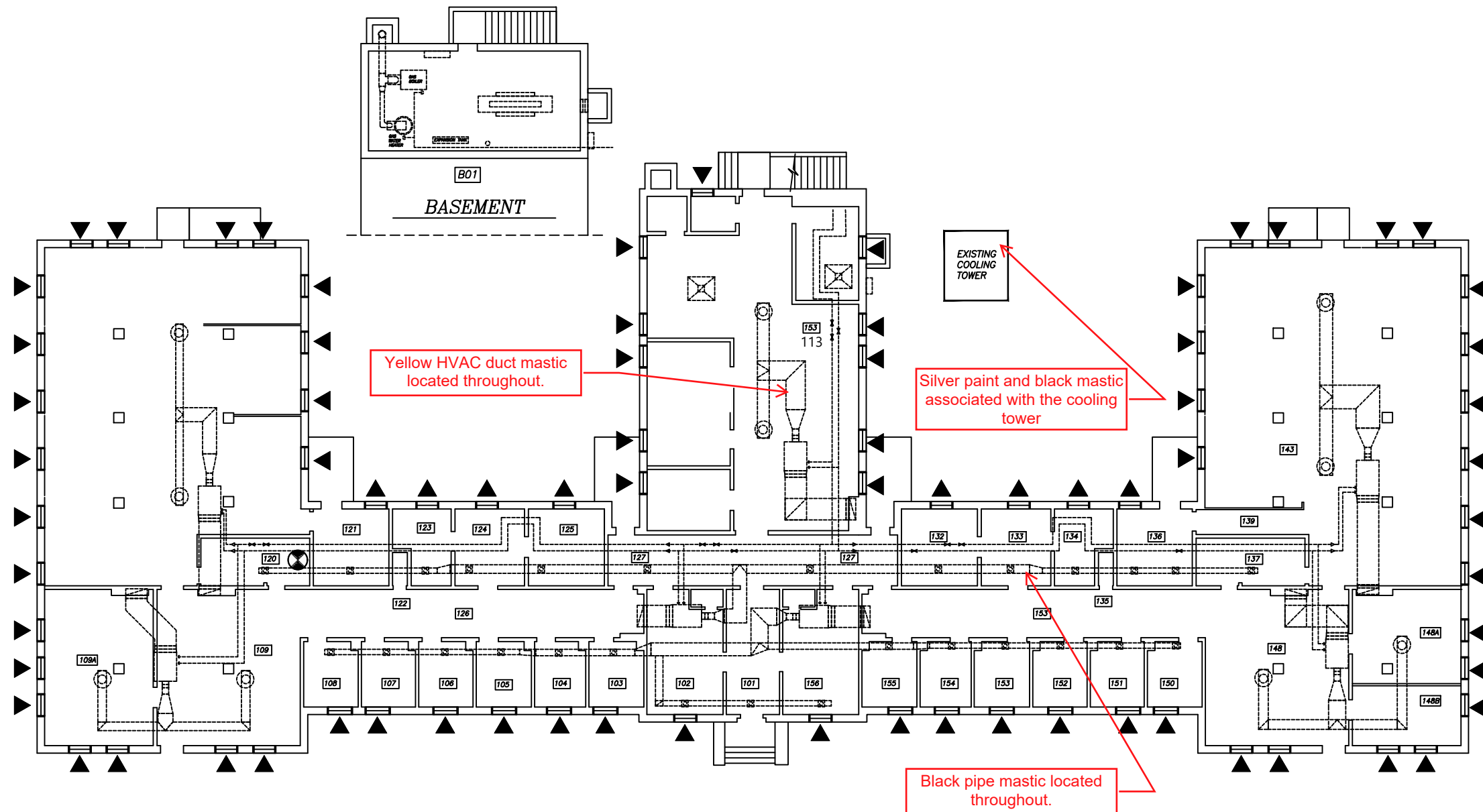
DATE:
1-14-21
PROJECT NUMBER
210385

EXHIBIT NO.

1

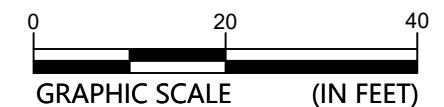
Appendix II – ACM Photographs & Diagram

T:\ENV\Projects\2021\210385 SCDMH CFSS Bldg. 15 Project Design-AAM\CAD\210385.dwg



ASBESTOS CONTAINING MATERIALS

- GRAY SINK COATING (4% CHRYSOTILE)
- ▲ WINDOW GLAZING ON ALL EXTERIOR WINDOWS (2% CHRYSOTILE)
- SILVER PAINT ASSOCIATED WITH COOLING TOWER (3% CHRYSOTILE)
- BLACK MASTIC ASSOCIATED WITH COOLING TOWER (4% CHRYSOTILE)
- HARD JOINT INSULATION ASSOCIATED WITH COOLING TOWER (2% CHRYSOTILE)
- YELLOW HVAC DUCT MASTIC THROUGHOUT (2% CHRYSOTILE)
- BLACK PIPE MASTIC THROUGHOUT (2% CHRYSOTILE)
- ASPHALT SHINGLES (2% CHRYSOTILE)



HAZARDOUS MATERIALS ASSESSMENT

BUILDING 15 - CRAFTS FARROW STATE HOSPITAL
7901 FARROW ROAD
COLUMBIA, SOUTH CAROLINA

SCALE:
AS SHOWN

DATE:
1-18-2021

PROJECT NUMBER
210385

FIGURE NO.

2



1 General view of Building 15.



2 The asphalt shingles tested positive for asbestos (2% chrysotile).



3 The silver paint located on the cooling tower tested positive for asbestos (3% chrysotile).



4 The exterior window glazing tested positive for asbestos (2% chrysotile).





5 The pipe wrap on the sulfur rock insulation tested positive for asbestos (6% chrysotile).



6 The black mastic located between the joints of the sulfur rock insulation tested positive for asbestos (4% chrysotile).



7 The gray sink coating located on the south side of the building tested positive for asbestos (4% chrysotile).



8 The yellow duct mastic located on the HVAC ducts tested positive for asbestos (5% chrysotile).





9 The black pipe mastic located in the building tested positive for asbestos (5% chrysotile).



10 The hard-joint insulation over the sulfur rock insulation tested positive for asbestos (2% Chrysotile).



11 Typical interior view of the subject building.



12 Additional interior view of the subject building.



Appendix III– Asbestos Assessment Report



Asbestos & Lead-Based Paint
Assessment Report
CFSH – Building 15
7901 Farrow Road
Columbia, South Carolina
S&ME Project No. 4261-20-015

PREPARED FOR:

**South Carolina Department of Mental Health
Physical Plant Services
7901 Farrow Road, Building 4
Columbia, SC 29203**

PREPARED BY:

**S&ME, Inc.
134 Suber Road
Columbia, SC 29210
(803) 561-9024**

ASSESSMENT PERFORMED BY:

**Travis Knight, CHMM, CIEC & Bobby McAllister
SCDHEC Lic. #BI-00885 & BI-01429
Assessment date: February 7, 2020 & May 15, 2020**

May 27, 2020



May 27, 2020

South Carolina Department of Mental Health
Physical Plant Services
7901 Farrow Road, Building 4
Columbia, South Carolina 29203

Attention: Mr. Ray Nanney
ray.nanney@scdmh.org

Reference: **Asbestos & Lead-Based Paint Assessment**
CFSH – Building 15
7901 Farrow Road
Columbia, South Carolina
S&ME Project No. 4261-20-015

Dear Mr. Nanney;

S&ME, Inc. (S&ME) is pleased to provide the enclosed report detailing our asbestos and lead-based paint assessment at the referenced site. The purpose of the assessment was to identify, to the extent feasible, potential asbestos-containing materials (ACMs) and lead-based paint (LBP) associated with Building 15 and associated cooling tower located at the South Carolina Department of Mental Health (SCDMH) Crafts Farrow State Hospital (CFSH) campus located at 7901 Farrow Road in Columbia, South Carolina. Our services were performed in general accordance with S&ME Proposal 42-1901340, dated December 4, 2019, and Indefinite Quantity Contract between SCDMH and S&ME dated October 14, 2019.

This report is provided for the use of the client. Use of this report by any other parties will be at such party's sole risk and S&ME, Inc. disclaims liability for any such use or reliance by third parties. The results presented in this report are indicative of conditions only during the time of the assessment and of the specific areas referenced.

We appreciate the opportunity to provide you with our industrial hygiene/environmental services. If you have any questions concerning this report, please call us at (803) 561-9024.

Sincerely,

S&ME, Inc.

A handwritten signature in black ink, appearing to read 'Travis Knight'.

Travis Knight, CHMM, CIEC
Project Manager
(SCDHEC Lic. No. BI-00885)

A handwritten signature in black ink, appearing to read 'Tom Behnke'.

Tom Behnke, P.G., CHMM
Environmental Services Manager
(SCDHEC Lic. No. MP-0004)



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Appendices

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Appendix II – Photographs

Appendix III – XRF Lead-Based Paint Reading Summary Table

Appendix IV – Asbestos Bulk Sample Analysis Sheets and Chain of Custody Record

Appendix V – Copy of SCDHEC Inspectors’ Licenses



◆ Executive Summary

S&ME conducted an asbestos and lead-based paint assessment of Building 15 and associated cooling tower located at the South Carolina Department of Mental Health (SCDMH) Crafts Farrow State Hospital (CFSH) campus located at 7901 Farrow Road in Columbia, South Carolina on February 7, 2020. The basement was subsequently assessed on May 15, 2020. The subject building is a single-story brick structure with a basement and a pitched shingle roof. Building 15 was constructed in 1943 and contains approximately 13,589 square feet of space. The purpose of the assessment was to identify asbestos-containing materials (ACMs) and lead-based paint coatings associated with the building and associated cooling tower prior to demolition or renovation activities. The subject building has been vacant for many years was vacant at the time of the assessment.

Asbestos

The asbestos assessment was performed in general accordance with the South Carolina Department of Health and Environmental Control (SCDHEC) Regulation 61-86.1, *Standards of Performance for Asbestos Projects* effective May 27, 2011 and with the National Emission Standards for Hazardous Air Pollutants (NESHAP) and the Asbestos Hazard Emergency Response Act (AHERA). The purpose of the assessment was to identify the presence and quantity of ACMs associated with the building prior to demolition activities.

The asbestos assessment included the bulk sampling and analysis of suspect ACMs from the building and associated cooling tower. The suspect materials identified consist of asphalt shingles, two layers of felt paper silver paint, exterior window glazing, pipe wrap, hard joint insulation, black mastic, plaster, ceiling tiles, gray sink coating, drywall and associated joint compound, yellow duct mastic, brown baseboard mastic, and black pipe wrap.

The Environmental Protection Agency (EPA) and SCDHEC define materials as asbestos-containing if an asbestos content of greater than one percent (>1%) is detected in a representative sample. *Asbestos, in concentrations greater than one percent, was identified as a result of the assessment.* Below is a summary of ACMs identified in the structure:

Table E-1 ACM Summary

Material	¹ Material Location	² Type	Asbestos Type & Percent	³ Condition	⁴ Approx. Quantity
Asphalt shingles	Roof	Misc.	Chrysotile 2%	Good, NF	13,589 SF
Silver paint	Cooling tower	Misc.	Chrysotile 3%	Good, NF	100 SF

Asbestos & Lead-Based Paint Assessment**CFSH – Building 15**

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Material	¹ Material Location	² Type	Asbestos Type & Percent	³ Condition	⁴ Approx. Quantity
Window glazing	Exterior windows	Misc.	Chrysotile 2%	Damaged, F	2,600 LF
Pipe wrap	Pipe wrap on sulfur rock insulation – cooling tower	Misc.	Chrysotile 6%	Good, NF	20 LF
Black mastic	Between sulfur rock insulation joints – cooling tower	Misc.	Chrysotile 4%	Good, NF	20 LF
Gray sink coating	Single sink south end	Misc.	Chrysotile 4%	Good, NF	1 sink
Hard Joint Insulation	Basement (over sulfur rock)	TSI	Chrysotile 2%	Good, F	20 Hard joints
⁵ Yellow duct mastic	HVAC system throughout	Misc.	Chrysotile 5%	Good, NF	> 1,000 LF
⁵ Black pipe mastic	Throughout building above ceiling and in pipe chases	Misc.	Chrysotile 5%	Good, NF	> 1,000 LF

NF = Non-friable F = Friable SF = Square feet LF = Linear feet

¹Refer to Appendix I for specific sample locations.²Type: Misc. = Miscellaneous Surf. = Surfacing TSI = Thermal System Insulation³Cond = Condition: Good, Damaged or Significantly Damaged⁴Quantities are approximate and should not be used for cost estimates or bidding purposes.⁵The complete removal of the ceiling grid is needed for the quantification of the pipe mastic and HVAC duct mastic.

Both layers of the roofing felt was reported to contain less than one percent of asbestos. A material with an asbestos content less than or equal to one percent is not classified as an ACM applicable to EPA and SCDHEC; however, trace levels of asbestos (less than one percent) in a material is subject to OSHA regulatory requirements in 29 CFR 1926.1101, to include, but not limited to, worker protection, using wet methods, proper clean-up, use of proper tools/equipment, engineering controls, etc.

Lead-Based Paint

Painted surfaces throughout the interior and exterior of the subject building and associated cooling tower were considered suspect and analyzed for lead content. The coated surfaces exceeding the SCDHEC disposal criteria of 0.7 milligrams per square centimeter (mg/cm²) were considered lead-based paint for the purpose of this assessment. The below tested surface exceeded the 0.7 mg/cm² threshold.

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- White fascia board on exterior of building.

This summary is for convenience only and should not be relied upon without first reading the full contents of this report, including appended materials.



1.0 Introduction

South Carolina Department of Mental Health (SCDMH) retained S&ME to conduct an asbestos and lead-based paint assessment of Building 15 and associated cooling tower located at the South Carolina Department of Mental Health (SCDMH) Crafts Farrow State Hospital (CFSH) campus located at 7901 Farrow Road in Columbia, South Carolina. The assessment was performed by Travis Knight, CHMM, CIEC and Bobby McAllister of S&ME on February 7, 2020 and May 15, 2020. Mr. Knight and Mr. McAllister are Asbestos Building Inspectors licensed by the South Carolina Department of Health and Environmental Control (SCDHEC). Mr. Knight is an EPA certified Lead Risk Assessor. An Asbestos-Containing Material (ACM) is defined by State and Federal regulations as a building material containing greater than one percent (>1%) of one of the six asbestos minerals regulated by the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA).

This asbestos and lead-based paint assessment was performed in general accordance with S&ME Proposal No. 42-1901340, dated December 4, 2019 and SCDHEC Regulation 61-86.1.

Demolition and renovation activities in public and commercial buildings are regulated by OSHA, EPA and SCDHEC. The EPA and SCDHEC require asbestos assessments, conducted by licensed individuals, prior to renovation and/or demolition projects. Code 40 of Federal Regulations Part 61, Subpart M, Final Rule, National Emissions Standards for Hazardous Air Pollutants (NESHAP) and SCDHEC Regulation 61-86.1 require asbestos assessments, followed by the proper removal, and disposal of ACM that is affected by renovation or demolition. The identification of ACMs will aid in the prevention of occupational exposures and/or environmental releases of airborne asbestos. Identification of ACM is also required by OSHA 1926.1101. The EPA, OSHA and SCDHEC define ACM as materials containing greater than one (1) percent asbestos in a representative sample. However, OSHA also regulates materials containing less than or equal to one percent asbestos.

2.0 Asbestos Assessment

2.1 Purpose

The purpose of the asbestos assessment was to identify the presence and quantity of asbestos-containing materials associated with the building and associated cooling tower prior to demolition or renovation activities. The identification of ACMs will aid in the prevention of occupational exposures and/or environmental releases of airborne asbestos. Identification of ACMs also complies with Title 40 Code of the Federal Regulations, part 61, and State Regulation 61-86.1 enforced by the SCDHEC, along with Title 29 Code of Federal Regulations, part 1926 enforced by OSHA.

2.2 Site Description

The subject building is a single-story brick structure with a pitched shingle roof. Building 15 was constructed in 1943 and contains approximately 13,589 square feet of space. The building consists of a foyer, offices, and patient rooms and a basement containing mechanical equipment. A cooling tower is located beside the building. The building was vacant at the time of the site visit.



The following sections describe the assessment procedures used, results of the suspect ACMs sampled and analyzed, and conclusions and recommendations regarding the subject site as related to ACMs.

2.3 Investigative Procedures and Analysis

A visual assessment of the building and associated cool tower was performed to determine the homogeneous areas (HAs) of suspect ACMs. Based on EPA definitions used in the Asbestos Hazard Emergency Response Act (AHERA), 40 CFR 763, an HA of suspect asbestos-containing building material has the same color and texture and is thought to be installed within the same timeframe. S&ME assessed the interior and exterior of the structure, including roofing materials for suspect ACMs, surfacing materials, and miscellaneous materials. Significant destructive investigative techniques and sampling were not performed as part of this assessment. Consequently, the possibility exists that suspect materials were not detected in inaccessible areas such as flooring overlays, pipe chases, locked rooms, or wall voids or in areas deemed unsafe to enter by the asbestos inspectors. If additional suspect materials are discovered during future renovation or demolition activities, bulk samples should be collected and analyzed for asbestos content.

Suspect surfacing materials consisted of plaster and joint compound associated with the wall systems. Additional suspect ACMs that were observed include asphalt shingles, two layers of felt paper silver paint, exterior window glazing, pipe wrap, black mastic, plaster, ceiling tiles, gray sink coating, drywall and associated joint compound, yellow duct mastic, brown baseboard mastic and black pipe wrap.

A sampling strategy was developed to provide representative samples of the suspect asbestos-containing materials in accordance with OSHA, SCDHEC and EPA. Bulk samples were then extracted from suspect ACMs, recorded on a chain of custody record and submitted to S&ME's in-house polarized light microscopy (PLM) lab in Charlotte, North Carolina for analysis. Non-friable, organically bound (NOB) samples that tested negative via PLM were submitted to EMSL Analytical's asbestos laboratory in Pineville, North Carolina for analysis via transmission electron microscopy (TEM).

Polarized Light Microscopy (PLM)

The suspect materials were analyzed by trained microscopists using PLM techniques coupled with dispersion staining in accordance with EPA Test Method Title 40 Code of Federal Regulations, Chapter I (1-1-87 edition), Part 763, Subpart F-APPENDIX A. This method identifies asbestos mineral fibers based on six optical characteristics: morphology, birefringence, refractive index, extinction angle, sign of elongation and dispersion staining colors. The laboratory analysis reports the specific type of asbestos identified (there are six asbestos minerals) and the percentage of asbestos present.

Transmission Electron Microscopy (TEM)

In accordance with SCDHEC Regulation 61-86.1, Transmission Electron Microscopy (TEM) confirmation analysis is required to be performed on one sample of any non-friable organically bound material (NOB) that tests negative via PLM analysis. The TEM analysis was performed using EPA 600 Method in accordance with ASTM E2356.

Both the PLM and the TEM laboratories are accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), which is administered by the National Institute of Standards and Technology.



2.4 Assessment

Identified ACMs were assessed based on the observed condition (good, damaged or significantly damaged) and potential for disturbance. Identified ACMs were also categorized based on the EPA's NESHAP regulation categories. A friable ACM is classified as an ACM that can be crumbled to a powder by moderate hand pressure. A non-friable ACM is classified as either Category I or Category II non-friable ACM. Category I and Category II non-friable ACMs are distinguished from each other by their fiber release potential when damaged. Generally, Category I non-friable ACM, which by definition includes intact asbestos-containing roofing materials, gaskets, packing, and resilient floor coverings is less likely to become friable and release fibers in a damaged state. Category II non-friable ACM include all other non-friable ACMs excluding Category I that have a high probability of being rendered friable during removal activities or demolition. All friable ACM, Category I non-friable ACM that has become friable, Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations are considered to be a Regulated Asbestos-Containing Material (RACM).

2.5 Findings and Results

The asbestos assessment conducted on February 7, 2020 and May 15, 2020 included the quantification and random bulk sampling of various suspect asbestos-containing materials located on the interior and exterior of the subject building and associated cooling. Of the representative materials sampled and analyzed during this assessment, asbestos in concentrations > 1% was identified in the following materials summarized below.

Table 2-1 ACM Summary

Material	¹ Material Location	² Type	Asbestos Type & Percent	³ Condition	⁴ Approx. Quantity
Asphalt shingles	Roof	Misc.	Chrysotile 2%	Good, NF	13,589 SF
Silver paint	Cooling tower	Misc.	Chrysotile 3%	Good, NF	100 SF
Window glazing	Exterior windows	Misc.	Chrysotile 2%	Damaged, F	2,600 LF
Pipe wrap	Pipe wrap on sulfur rock insulation – cooling tower	Misc.	Chrysotile 6%	Good, NF	20 LF
Black mastic	Between sulfur rock insulation joints – cooling tower	Misc.	Chrysotile 4%	Good, NF	20 LF



Material	¹ Material Location	² Type	Asbestos Type & Percent	³ Condition	⁴ Approx. Quantity
Gray sink coating	Single sink south end	Misc.	Chrysotile 4%	Good, NF	1 sink
Hard Joint Insulation	Basement (over sulfur rock)	TSI	Chrysotile 2%	Good, F	20 Hard joints
⁵ Yellow duct mastic	HVAC system throughout	Misc.	Chrysotile 5%	Good, NF	>1,000 LF
⁵ Black pipe mastic	Throughout building above ceiling and in pipe chases	Misc.	Chrysotile 5%	Good, NF	>1,000 LF

NF = Non-friable F = Friable SF = Square feet LF = Linear feet

¹Refer to Appendix I for specific sample locations.

²Type: Misc. = Miscellaneous Surf. = Surfacing TSI = Thermal System Insulation

³Cond = Condition: Good, Damaged or Significantly Damaged

⁴Quantities are approximate and should not be used for cost estimates or bidding purposes.

⁵The complete removal of the ceiling grid is needed for the quantification of the pipe mastic and HVAC duct mastic.

Both layers of the roofing felt was reported to contain less than one percent of asbestos. A material with an asbestos content less than or equal to one percent is not classified as an ACM applicable to EPA and SCDHEC; however, trace levels of asbestos (less than one percent) in a material is subject to OSHA regulatory requirements in 29 CFR 1926.1101, to include, but not limited to, worker protection, using wet methods, proper clean-up, use of proper tools/equipment, engineering controls, etc.

In accordance with SCDHEC Regulation 61-86.1, TEM analysis was performed on one sample of each of the non-friable, organically-bound (NOB) materials that displayed a result of no asbestos detected or less than 1% asbestos via PLM analysis. NOBs consist of materials such as vinyl floor tiles, vinyl baseboards and mastics. Please refer to Table I-I in Appendix I for more detail regarding which samples of NOB materials were submitted for TEM analysis.

Photographs of site conditions are provided in Appendix II. The laboratory reports are provided in Appendix IV.

3.0 Lead-Based Paint Assessment

3.1 Investigative Procedures

The lead-based paint assessment was conducted for compliance with the SCDHEC limit of 0.7 milligrams (mg) of lead per square centimeter (cm²) of painted surface for lead-based paint coated waste. SCDHEC, Health Division



defines lead-based paint as a coating containing lead in quantities ≥ 0.7 mg/cm² (SCDHEC, Health Division definition #4-53-1320f). Any coated surfaces meeting or exceeding the SCDHEC limit of 0.7 mg/cm² were considered lead-based paint for the purpose of this assessment.

OSHA does not recognize a threshold level of lead for definition purposes, only the presence or absence of lead. The current OSHA regulations recognize an airborne action level of thirty micrograms of lead per cubic meter of air (30 µg/m³) during an eight-hour day and a permissible exposure level of fifty micrograms per cubic meter (50 µg/m³).

Representative covered building components and surfaces were analyzed utilizing a Niton XLp-300A X-Ray Fluorescence (XRF) spectrum analyzer (serial #95004). The suspect painted finishes were selected based on the color of the topcoat and the underlying paint layers and/or the substrate on which it was applied. The possibility exists that lead-based paint finishes are present in inaccessible areas not tested such as pipe chases, wall voids, etc.

Attached in Appendix III is a summary of the paint readings analyzed by the XRF spectrum lead analyzer. The XRF summary provides the sample numbers, sample location, component, substrate, paint color, condition, and results.

3.2 Findings and Results

Coated surfaces throughout the interior and exterior of subject building and associated cooling tower were tested for the presence of lead-based paint. Coated surfaces meeting or exceeding the SCDHEC limit of 0.7 milligrams of lead per square centimeter (0.7 mg/cm²) were considered lead-based paint for the purpose of this assessment. The below tested surface exceeded the 0.7 mg/cm².

- White fascia board on exterior of building (6.4 mg/cm²).

4.0 Conclusions and Recommendations

The asbestos and lead-based paint assessment conducted on Building 15 and the associated cooling tower located at the SCDMH CFSH campus located at 7901 Farrow Road in Columbia, South Carolina identified the presence of asbestos-containing materials and lead-based paint

4.1 Asbestos Conclusions

If additional suspect ACMs not included in this report are discovered and will be disturbed by renovation or demolition activities, bulk samples must be collected by a licensed asbestos inspector and analyzed for asbestos content, prior to disturbance of the suspect material(s). This report should be provided to the contractor(s) to assist with compliance with applicable State and Federal regulations.

S&ME recommends proper removal and disposal of the ACMs by a licensed asbestos abatement contractor, prior to activities that may disturb an ACM. State and Federal regulations should be carefully considered in order to verify compliance before any actions are initiated that may disturb an ACM. If additional suspect ACMs not included in this report are discovered and will be disturbed by the renovation/demolition activities, bulk samples



must be collected by a licensed asbestos inspector and analyzed for asbestos content, prior to disturbance of the suspect material(s).

Both layers of the roofing felt was reported to contain less than one percent of asbestos. A material with an asbestos content less than or equal to one percent is not classified as an ACM applicable to EPA and SCDHEC; however, trace levels of asbestos (less than one percent) in a material is subject to OSHA regulatory requirements in 29 CFR 1926.1101, to include, but not limited to, worker protection, using wet methods, proper clean-up, use of proper tools/equipment, engineering controls, etc.

Asbestos removal requires written notification to SCDHEC, specific removal procedures, proper transportation, and disposal per state and federal regulations. The identification and proper removal of ACM prior to demolition or renovation will aid in the prevention of occupational exposures and/or environmental releases of airborne asbestos. In accordance with SCDHEC Regulation 61-86.1, project air monitoring must be performed by a SCDHEC licensed air sampler in conjunction with the removal of regulated asbestos materials (e.g. friable materials or non-friable materials rendered friable) that exceed the classification of a Small Project or are not regulated exterior removals. SCDHEC also requires a written project design when 3,000 square feet (or greater) of regulated are to be removed.

4.2 Lead-Based Paint Conclusions

The following coating exceed the SCDHEC 0.7 mg/cm² limit for lead-based paint:

- White fascia board on exterior of building (6.4 mg/cm²).

The client is advised that OSHA does not recognize a threshold level of lead for definition purposes, only the presence or absence of lead. Consequently, the OSHA regulations governing worker protection for lead-based paint may apply to work practices including the disturbance of paint systems with detectable levels of lead. Destructive actions (sanding, burning, demolition, component removal, paint preparation) to the lead-containing paint surfaces will require the contractor comply with the standards of OSHA, including but not limited to initial exposure monitoring, the use of personal protective equipment, and medical surveillance.

SCDHEC Regulation 61-107.19 permits demolition materials painted with lead-based paint (≥ 0.7 mg/cm²) to be disposed in a permitted Class Two (C&D) or Class Three Subtitle D, Municipal Solid Waste (MSW) landfill.

Accumulations of paint waste (chips, dust, or flakes) must be tested by the Toxicity Characteristic Leaching Procedure (TCLP) to determine if the waste is classified as hazardous, which requires disposal in a Subtitle C (hazardous waste) landfill. Lead waste, at a minimum, must be disposed in a Class Two or Three landfill.

5.0 Limitations

This report is provided for the sole use of the Client. Use of this report by any other parties will be at such party's sole risk, and S&ME disclaims liability for any such use or reliance by third parties. The results presented in this report are indicative of conditions only during the time of the sampling period and of the specific areas

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referenced. Under no circumstances is this report to be used as a bidding document, or as a project design or specification for removal of ACM.

S&ME performed the services in accordance with generally accepted practices of reputable environmental consultants undertaking similar studies at the same time and in the same geographical area. S&ME has endeavored to meet this standard of care. No other warranty, expressed or implied, is intended or made with respect to this report or S&ME's services. Users of this report should consider the scope and limitations related to these services when developing opinions as to risks associated with the site. Additional limitations to our survey are as follows:

- Significant destructive sampling was not performed during the asbestos assessment. Additional suspect ACMs may be present in inaccessible locations such as in wall voids, pipe chases or flooring overlays. Consequently, if additional suspect materials are discovered during future renovation or demolition activities, bulk samples must be collected and analyzed for asbestos content.
- Portions of the subject building are finished with a suspended ceiling. Our assessment included observations above the ceiling in random locations; however, the complete removal of the ceiling and grid would be necessary to account for any additional suspect ACMs that may be present.
- Asbestos duct and pipe mastic quantities cannot be verified without total removal of the ceiling systems.

Appendices

Appendix I – Summary of Asbestos Sampling

Summary of Asbestos Sampling

Project Name:	CFSH – Building 15	Project Number:	4261-20-015
Location:	Columbia, South Carolina	Sampling Date(s):	February 7, 2020

Table I-I Summary of Asbestos Sampling

HOMOGENEOUS AREA				SAMPLE DATA					
HA Area	Material Description	Material Location	Quantity	¹ Cat (F/I/II)	² Type	³ Condition / Potential for Disturbance	Sample Number	Sample Location	Percent and Type Asbestos
SH	Asphalt shingles	Roof	13,589 SF	NF	Misc.	Good/Low	SH-1	Roof	2% Chrysotile
							SH-2	Roof	Positive Stop – Samples Not Analyzed
							⁴ SH-3	Roof	
FP1	Felt paper	Roof – 1 st layer	13,589 SF	NF	Misc.	Good/Low	FP-1	Roof – 1 st layer	NAD
							FP-2	Roof – 1 st layer	<1% Chrysotile
							⁴ FP-3	Roof – 1 st layer	NAD
FP2	Felt paper	Roof - 2 nd layer	13,589 SF	NF	Misc.	Good/Low	FP-4	Roof – 2 nd layer	NAD
							FP-5	Roof – 2 nd layer	NAD
							⁴ FP-6	Roof – 2 nd layer	0.16% Chrysotile
SS-1	Silver Paint	Cooling tower	100 SF	NF	Misc.	Good/Low	SS-1	Cooling tower	3% Chrysotile
							SS-2	Cooling tower	Positive Stop – Samples Not Analyzed
							⁴ SS-3	Cooling tower	
WG	Exterior window glazing	Exterior windows	2,600 LF	NF	Misc.	Damaged	WG-1	Exterior window	2% Chrysotile
							WG-2	Exterior window	Positive Stop – Samples Not Analyzed
							⁴ WG-3	Exterior window	

NAD = No Asbestos Detected

NA = Not Applicable

SF = Square feet

LF = Linear feet

CF = Cubic Feet

¹Category: F = Friable I = Category I, Non-Friable II = Category II, Non-Friable

²Type; Misc. = Miscellaneous Surf. = Surfacing TSI = Thermal System Insulation

³Condition: Good, Damaged or Significantly Damaged Accessible during renovation or demolition with Potential for Disturbance; Low or High

⁴Sample analyzed by TEM

⁵ The complete removal of the ceiling grid is needed for the quantification of the pipe mastic and HVAC duct mastic.

Quantities are approximate and should not be used for cost estimates or bidding purposes.

Summary of Asbestos Sampling

Project Name:	CFSH – Building 15	Project Number:	4261-20-015
Location:	Columbia, South Carolina	Sampling Date(s):	February 7, 2020

HOMOGENEOUS AREA

SAMPLE DATA

HA Area	Material Description	Material Location	Quantity	¹ Cat (F/I/II)	² Type	³ Condition / Potential for Disturbance	Sample Number	Sample Location	Percent and Type Asbestos
PW	Pipe Wrap	Pipe wrap on sulfur rock – cooling tower	20 LF	NF	Misc.	Good/Low	PW-1	Pipe wrap on sulfur rock - cooling tower	6% Chrysotile
							PW-2	Pipe wrap on sulfur rock - cooling tower	Positive Stop – Samples Not Analyzed
							⁴ PW-3	Pipe wrap on sulfur rock - cooling tower	
M	Black mastic	Between sulfur rock – cooling tower	20 LF	NF	Misc.	Good/Low	M-1	Between sulfur rock – cooling tower	4% Chrysotile
							M-2	Between sulfur rock – cooling tower	Positive Stop – Samples Not Analyzed
							⁴ M-3	Between sulfur rock – cooling tower	
PL	Plaster	Throughout	10,500 SF	NA	Surf.	NA/NA	PL-1	Southwest wall by exit	NAD
							PL-2	Southeast wall	NAD
							PL-3	Column south end building	NAD
							PL-4	Central portion east wall	NAD
							PL-5	Central portion west wall	NAD
							PL-6	West end column	NAD
							PL-7	Northwest wall by exit	NAD

NAD = No Asbestos Detected

NA = Not Applicable

SF = Square feet

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CF = Cubic Feet

¹Category: F = Friable I = Category I, Non-Friable II = Category II, Non-Friable

²Type: Misc. = Miscellaneous Surf. = Surfacing TSI = Thermal System Insulation

³Condition: Good, Damaged or Significantly Damaged Accessible during renovation or demolition with Potential for Disturbance; Low or High

⁴Sample analyzed by TEM

⁵ The complete removal of the ceiling grid is needed for the quantification of the pipe mastic and HVAC duct mastic.

Quantities are approximate and should not be used for cost estimates or bidding purposes.

Summary of Asbestos Sampling

Project Name:	CFSH – Building 15	Project Number:	4261-20-015
Location:	Columbia, South Carolina	Sampling Date(s):	February 7, 2020

HOMOGENEOUS AREA

SAMPLE DATA

HA Area	Material Description	Material Location	Quantity	¹ Cat (F/I/II)	² Type	³ Condition / Potential for Disturbance	Sample Number	Sample Location	Percent and Type Asbestos
CT	2x4 Ceiling tile	Throughout	13,589 SF	NA	Misc.	NA/NA	CT-1	South end	NAD
							CT-2	Central	NAD
							CT-3	North end	NAD
SC	Gray sink coating	Single sink south end	1 sink	NF	Misc.	Good/Low	SC-1	Single sink south end	4% Chrysotile
							SC-2	Single sink south end	Positive Stop – Samples Not Analyzed
							⁴ SC-3	Single sink south end	
DW	Drywall	Throughout	6,500 SF	NA	Misc.	NA/NA	DW-1	Central office wall	NAD
							DW-2	South side office wall	NAD
							DW-3	South side fire wall above ceiling	NAD
JC	Joint compound	Drywall system	6,500 SF	NA	Surf.	NA/NA	JC-1	North side office wall	NAD
							JC-2	South side office wall	NAD
							JC-3	South side firewall above ceiling	NAD
							JC-4	North side office wall	NAD
							JC-5	Central office wall	NAD
							JC-6	South side office wall	NAD
							JC-7	South side firewall above ceiling	NAD

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¹Category: F = Friable I = Category I, Non-Friable

II = Category II, Non-Friable

²Type: Misc. = Miscellaneous Surf. = Surfacing

TSI = Thermal System Insulation

³Condition: Good, Damaged or Significantly Damaged

Accessible during renovation or demolition with Potential for Disturbance; Low or High

⁴Sample analyzed by TEM

⁵ The complete removal of the ceiling grid is needed for the quantification of the pipe mastic and HVAC duct mastic.

Quantities are approximate and should not be used for cost estimates or bidding purposes.

Summary of Asbestos Sampling

Project Name:	CFSH – Building 15	Project Number:	4261-20-015
Location:	Columbia, South Carolina	Sampling Date(s):	February 7, 2020

HOMOGENEOUS AREA

SAMPLE DATA

HA Area	Material Description	Material Location	Quantity	¹ Cat (F/I/II)	² Type	³ Condition / Potential for Disturbance	Sample Number	Sample Location	Percent and Type Asbestos
DM	⁵ Yellow duct mastic	HVAC system throughout	>1,000 LF	NF	Misc.	Good/Low	DM-1	South side	5% Chrysotile
							DM-3	Central	Positive Stop – Sample Not Analyzed
							⁴ DM-3	North side	
BBM	Brown baseboard mastic	North side building	250 LF	NA	Misc.	NA/NA	BBM-1	North side office	NAD
							BBM-2	North side office	NAD
							⁴ BBM-3	North side office	NAD
PM-1	⁵ Black pipe mastic	Throughout building above ceiling and in pipe chases	>1,000 LF	NF	Misc.	NA/NA	PM-1	South side above ceiling	5% Chrysotile
							PM-2	Central above ceiling	Positive Stop – Sample Not Analyzed
							⁴ PM-3	North side above ceiling	
PC	Pipe covering	Basement covering sulfur rock	65 LF	NA	Misc.	NA/NA	PC-1	Piping	NAD
							PC-2	Piping	NAD
							PC-3	Piping	NAD
HJ	Hard joint material	Covering sulfur rock	20 HJ	F	TSI	Good/Low	HJ-1	Hard joints	2% Chrysotile
							HJ-2	Hard joints	2% Chrysotile
							HJ-3	Hard joints	2% Chrysotile
F	Felt paper	Beneath sulfur rock	65 LF	NA	Misc.	NA/NA	F-1	Piping	NAD
							F-2	Piping	NAD
							⁴ F-3	Piping	NAD

NAD = No Asbestos Detected

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SF = Square feet

LF = Linear feet

CF = Cubic Feet

¹Category: F = Friable I = Category I, Non-Friable II = Category II, Non-Friable

²Type: Misc. = Miscellaneous Surf. = Surfacing TSI = Thermal System Insulation

³Condition: Good, Damaged or Significantly Damaged Accessible during renovation or demolition with Potential for Disturbance; Low or High

⁴Sample analyzed by TEM

⁵ The complete removal of the ceiling grid is needed for the quantification of the pipe mastic and HVAC duct mastic.

Quantities are approximate and should not be used for cost estimates or bidding purposes.

Summary of Asbestos Sampling

Project Name:	CFSH – Building 15	Project Number:	4261-20-015
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⁴Sample analyzed by TEM

⁵ The complete removal of the ceiling grid is needed for the quantification of the pipe mastic and HVAC duct mastic.

Quantities are approximate and should not be used for cost estimates or bidding purposes.

Abbreviations and Hazard Assessment Key

In accordance with the EPA and SCDHEC, a confirmed ACM is assigned a hazard assessment based on its present condition and potential for disturbance. The hazard assessment is used as a tool for prioritization in remedial actions regarding any identified ACM(s). The following key exhibits the criteria that compose the hazard assessment.

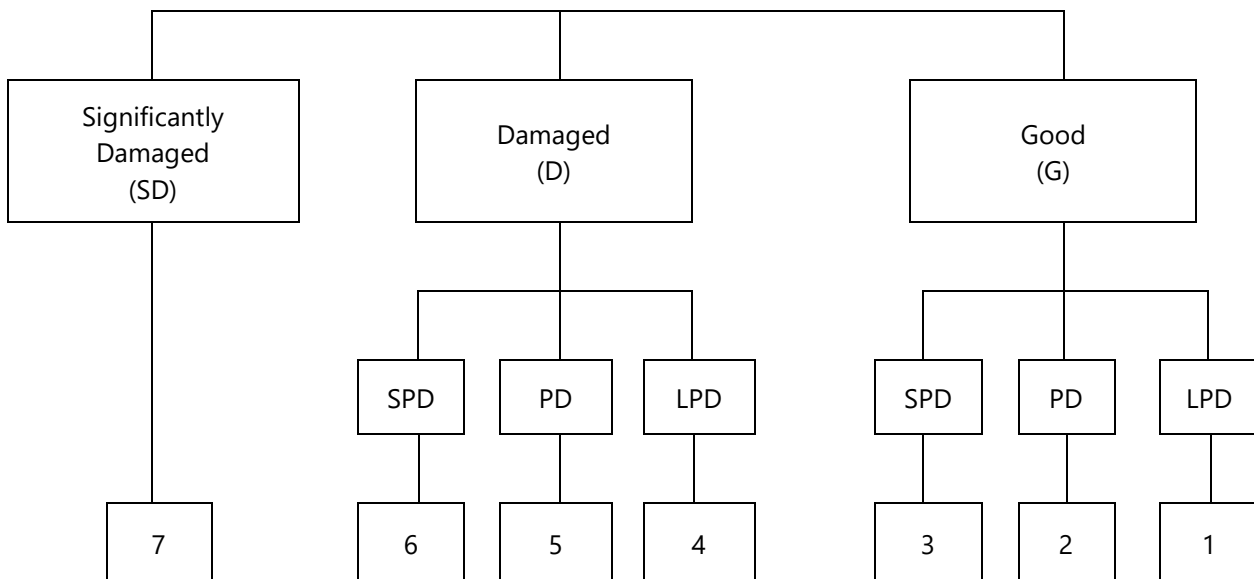
Present Condition

F = Friable
NF = Non-friable
G = Good (Very localized limited damage)
D = Damaged (Damage of less than 10% distributed and less than 25% localized)
SD = Significantly Damaged (Damage equal to or greater than 10% distributed, 25% localized)

Potential for Future Disturbance

LPD = Low Potential for Disturbance (Contact, Vibration, and Air Erosion all of Low Concern)
PD = Potential for Disturbance (Contact, Vibration, or Air Erosion of Moderate Concern)
SPD = Significant Potential for Disturbance (Contact, Vibration, or Air Erosion of High Concern)

Hazard Assessment



Appendix II – Photographs



1 General view of Building 15.



2 The asphalt shingles tested positive for asbestos (2% chrysotile).



3 The silver paint located on the cooling tower tested positive for asbestos (3% chrysotile).



4 The exterior window glazing tested positive for asbestos (2% chrysotile).





5 The pipe wrap on the sulfur rock insulation tested positive for asbestos (6% chrysotile).



6 The black mastic located between the joints of the sulfur rock insulation tested positive for asbestos (4% chrysotile).



7 The gray sink coating located on the south side of the building tested positive for asbestos (4% chrysotile).



8 The yellow duct mastic located on the HVAC ducts tested positive for asbestos (5% chrysotile).





9 The black pipe mastic located in the building tested positive for asbestos (5% chrysotile).



10 The white fascia board tested positive for lead-based paint (6.4 mg/cm²).



11 Typical interior view of the building.



12 The hard joint insulation over the sulfur rock insulation tested positive for asbestos (2% Chrysotile).



Appendix III – XRF Lead-Based Paint Reading Summary Table

XRF LEAD-BASED PAINT READING SUMMARY TABLE

Serial #95004
 PAINT
 Project No.: 4261-20-015
 Site: CFSH Building 15
 Date: February 7, 2020
 Ranges (NEG<INC<POS): Device PCS



Reading Number	Floor/Area	Room	Feature	Substrate	Condition	Color	Result	XRF Reading (mg/cm²)
24			Shutter					
25			Calibrate					0.90
26			Calibrate					1.00
27			Calibrate					0.90
28	Exterior	Rear	Window	Wood	Non-intact	White	Negative	0.12
29	Exterior	Rear	Fascia board	Wood	Non-intact	White	Positive	6.40
30	Exterior	Rear	Window	Wood	Non-intact	White	Negative	<LOD
31	Interior	Rear	Door	Wood	Non-intact	White	Negative	0.12
32	Interior	South side	Wall	Plaster	Non-intact	White	Negative	<LOD
33	Interior	South side	Door frame	Wood	Non-intact	Gray	Negative	<LOD
34	Interior	South side	Nurse station wall	Wood	Non-intact	White	Negative	<LOD
35	Interior	Restroom	Door	Wood	Intact	Gray	Negative	<LOD
36	Interior	Restroom	Wall	Ceramic	Non-intact	White	Negative	<LOD
37	Interior	South side	Door	Wood	Non-intact	Blue	Negative	<LOD
38	Interior	South side	Wall	Plaster	Non-intact	Pink	Negative	<LOD
39	Interior	South hallway	Window	Wood	Non-intact	White	Negative	0.18
40	Interior	South hallway	Wall	Plaster	Non-intact	White	Negative	<LOD
41	Interior	Central	Door	Wood	Non-intact	Blue	Negative	<LOD
42	Interior	Central	Wall	Plaster	Non-intact	White	Negative	<LOD
43	Interior	Central	Door	Wood	Non-intact	Blue	Negative	<LOD
44	Interior	Central	Door frame	Wood	Non-intact	Brown	Negative	0.17
45	Interior	Central	Window	Wood	Non-intact	White	Negative	<LOD
46	Interior	Central	Pipe	Metal	Intact	White	Negative	<LOD
47	Interior	Janitor closet	Shelf	Wood	Intact	White	Negative	<LOD
48	Interior	North side hall	Wall	Plaster	Non-intact	White	Negative	<LOD
49	Interior	North side hall	Door	Wood	Non-intact	Blue	Negative	<LOD
50	Interior	Open area	Pipe	Metal	Non-intact	White	Negative	<LOD
51	Interior	Open area	Door frame	Wood	Non-intact	Brown	Negative	0.13
52	Interior	Open area	Wall	Drywall	Intact	White	Negative	<LOD
53	Interior	Open area	Door frame	Wood	Intact	Gray	Negative	0.12
54	Interior	Open area	Door	Wood	Intact	White	Negative	<LOD
55	Interior	Open area	Wall	Plaster	Intact	White	Negative	<LOD
56			Post-Calibrate					1.00
57			Post-Calibrate					0.90
58			Post-Calibrate					1.00

Appendix IV – Asbestos Bulk Sample Analysis Sheets and Chain of Custody Record



9771D Southern Pine Boulevard
Charlotte, NC 28273
704-940-1830 Fax 704-565-4929
NVLAP Lab Code 102075-0

POLARIZED LIGHT MICROSCOPY

Performed by EPA 600/R-93/116 Method

Asbestos Analysis Summary

Client Name Columbia Branch

134 Suber Rd.
Columbia SC 29210

Date Received 2/10/2020

Client Job DMH Bldg 15

Date Analyzed 2/11/2020

Job Number 4261-20-015

Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
20-1791	SH-1	BLACK FIBROUS		2 CHRYSOTILE	25 CELLULOSE	73 OTHER
20-1794	FP-1	BLACK FIBROUS		ND	20 CELLULOSE	80 OTHER
20-1795	FP-2	BLACK FIBROUS		<1 CHRYSOTILE	20 CELLULOSE	80 OTHER
20-1797	FP-4	BLACK FIBROUS		ND	75 CELLULOSE	25 OTHER

Analyzed by: Jane Wasilewski

Additional Comments:

Jane Wasilewski
Laboratory Manager

For heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. ND = None Detected (Asbestos Not Present In Representative Sample). RCF= (Refractory Ceramic Fiber) The results relate only to the items tested. The sample may not be fully representative of the larger material in question. This sheet may not be reproduced except with permission from SME, Inc. This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. Although Polarized Light Microscopy (PLM/Dispersion Staining) (Method EPA 600/R-93/116) is the specified method for analysis of bulk material samples for asbestos under the EPA Asbestos Hazard Emergency Response Act, there have been reports that this method may not identify asbestos when fiber sizes are extremely small or if they are bound in a resinous material. Such materials include floor tile, mastic and asphaltic roofing. Currently, reanalysis by Transmission Electron Microscopy (TEM) to verify results of <1% or "None Detected" for these materials is recommended.

Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
20-1798	FP-5	BLACK FIBROUS		ND	75 CELLULOSE	25 OTHER
20-1800	SS-1	SILVER FIBROUS		3 CHRYSOTILE		97 OTHER
20-1803	WG-1	BEIGE NONFIBROUS		2 CHRYSOTILE		98 OTHER
20-1806	PW-1	SILVER/BLACK FIBROUS		6 CHRYSOTILE	10 GLASS	84 OTHER
20-1809	M-1	BLACK FIBROUS		4 CHRYSOTILE		96 OTHER
20-1812A	PL-01	WHITE NONFIBROUS	SKIM COAT	ND		100 OTHER

Analyzed by: Jane Wasilewski

Additional Comments:

Jane Wasilewski
Laboratory Manager

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Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
20-1812B	PL-01	GREY GRANULAR	PLASTER	ND		100 OTHER
20-1813	PL-02	GREY GRANULAR	PLASTER (ONLY)	ND		100 OTHER
20-1814	PL-03	GREY GRANULAR	PLASTER (ONLY)	ND		100 OTHER
20-1815	PL-04	GREY GRANULAR	PLASTER (ONLY)	ND		100 OTHER
20-1816	PL-05	GREY GRANULAR	PLASTER (ONLY)	ND		100 OTHER
20-1817	PL-06	GREY GRANULAR	PLASTER (ONLY)	ND		100 OTHER

Analyzed by: Jane Wasilewski

Additional Comments:


Jane Wasilewski
Laboratory Manager

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Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
20-1818	PL-07	GREY GRANULAR	PLASTER (ONLY)	ND		100 OTHER
20-1819	CT-1	GREY FIBROUS		ND	85 MINERAL WOOL 15 CELLULOSE	
20-1820	CT-2	GREY FIBROUS		ND	85 MINERAL WOOL 15 CELLULOSE	
20-1821	CT-3	GREY FIBROUS		ND	85 MINERAL WOOL 15 CELLULOSE	
20-1822	SC-1	GREY FIBROUS		4 CHRYSOTILE		96 OTHER
20-1825	DW-1	BEIGE FIBROUS		ND	2 GLASS	98 GYPSUM


Analyzed by: Jane Wasilewski

Additional Comments:


Jane Wasilewski
Laboratory Manager

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<i>Lab ID:</i>	<i>Sample #:</i>	<i>Appearance</i>	<i>Comments</i>	<i>Asbestos %/Type</i>	<i>Non-Asbestos Fibrous %/Type</i>	<i>Non-Fibrous %/Type</i>
20-1826	DW-2	TAN/BEIGE FIBROUS		ND	10 CELLULOSE 2 GLASS	88 GYPSUM
20-1827	DW-3	TAN/BEIGE FIBROUS		ND	5 CELLULOSE 2 GLASS	93 GYPSUM
20-1828	JC-1	WHITE NONFIBROUS		ND		100 OTHER
20-1829	JC-2	WHITE NONFIBROUS		ND		100 OTHER
20-1830	JC-3	WHITE NONFIBROUS		ND		100 OTHER
20-1831	JC-4	WHITE NONFIBROUS		ND		100 OTHER

Analyzed by: Jane Wasilewski

Additional Comments:

Jane Wasilewski
Laboratory Manager

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Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
20-1832	JC-5	WHITE NONFIBROUS		ND		100 OTHER
20-1833	JC-6	WHITE NONFIBROUS		ND		100 OTHER
20-1834	JC-7	WHITE NONFIBROUS		ND		100 OTHER
20-1835	DM-1	YELLOW PLIABLE		5 CHRYSOTILE		95 OTHER
20-1838	BBM-1	BROWN NONFIBROUS		ND	1 FIBROUS TALC	99 OTHER
20-1839	BBM-2	BROWN NONFIBROUS		ND	1 FIBROUS TALC	99 OTHER

Analyzed by: Jane Wasilewski

Additional Comments:

Jane Wasilewski
Laboratory Manager


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Job Number 4261-20-015

<i>Lab ID:</i>	<i>Sample #:</i>	<i>Appearance</i>	<i>Comments</i>	<i>Asbestos %/Type</i>	<i>Non-Asbestos Fibrous %/Type</i>	<i>Non-Fibrous %/Type</i>
20-1841	PM-1	BLACK FIBROUS		5 CHRYSOTILE		95 OTHER


Analyzed by: Jane Wasilewski

Additional Comments:


Jane Wasilewski
Laboratory Manager

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BULK SAMPLE

CHAIN OF CUSTODY RECORD



Requested Turn Around Time:			<input type="checkbox"/> Same Day
<input type="checkbox"/> 24-Hour	<input type="checkbox"/> 48-Hour	<input checked="" type="checkbox"/> 3 Day	<input type="checkbox"/> 6-10 Day

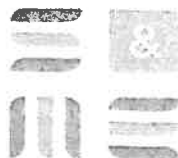
PROJECT NO. 4261-20-015		PROJECT NAME: DMH Bldg. 15		RELINQUISHED BY: <i>[Signature]</i>	DATE 2/7/20	TIME 1600
FACILITY Bldg. 15				RECEIVED BY: <i>[Signature]</i>	DATE 2/10/2020	TIME 1:10 pm
SAMPLER(S) TK/Bm		DATE TAKEN 2/7/20		RELINQUISHED BY:	DATE	TIME
RECEIVED BY:						

SAMPLE #	LAB NUMBER	MATERIAL	LOCATION	QUANTITY	COMMENTS / SPECIAL INSTRUCTIONS
SH-1	20-1791	Asphalt Shingle	Roof		NOB
2	92	↓	↓		
3	93				
FP-1	94	Felt Paper	Roof - 1 st Layer		NOB
2	95	↓	↓		
3	96				
FP-4	97	Felt Paper	Roof - 2 nd Layer		NOB
5	98	↓	↓		
6	1799				
SS-1	1800	Silver Paint	Cooling tower		NOB
2	01	↓	↓		
3	02				
WG-1	03	Ext. Window Glazing	Exterior Window	Damaged	NOB
2	04	↓	↓		
3	05				
PW-1	06	Pipe Wrap	Pipe wrap on Sulfur Rock - Cooling tower		NOB
2	07	↓	↓		
3	08				
M-1	09	Black Mastic	Between Sulfur Rock - Cooling tower		NOB
2	1810	↓	↓		
3	1811				

Positive Stop

BULK SAMPLE

CHAIN OF CUSTODY RECORD



Requested Turn Around Time:

☐ Same Day

☐ 24-Hour

☐ 48-Hour

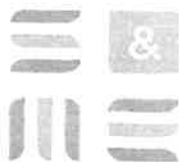
☒ 3 Day

☐ 6-10 Day

PROJECT NO. 4261-20-015		PROJECT NAME: DMH Bldg. 15		RELINQUISHED BY: 		DATE: 2/7/20	TIME: 1600
FACILITY: Bldg. 15				RECEIVED BY: 		DATE: 2/10/20	TIME:
SAMPLER(S) 7K		DATE TAKEN 2/7/20		NOTES: Positive STOP			

SAMPLE #	LAB NUMBER	MATERIAL	LOCATION	QUANTITY	COMMENTS / SPECIAL INSTRUCTIONS
PL-1	20-1812	Plaster	South West wall by Exit		
2	13		South East Wall		
3	14		Column South end Bldg		
4	15		Central portion East wall		
5	16		Central portion West wall		
6	17		West end Column		
7	18		North West end by exit		
CT-1	19	2X4 Ceiling tile	South end		
2	20		Central		
3	21		North end		
SC-1	22	Grey single coating	single side south end		} NO.3
2	23				
3	24				
DW-1	25	Drywall	Central Office Wall		
2	26		S. Side Office Wall		
3	27		S. Side Firewall above Ceiling		
JC-1	28	Joint Compound	N. Side Office Wall		
2	29		Central Office Wall		
3	30		S. Side Office Wall		
4	1831		S.A. DW-3		

CHAIN OF CUSTODY RECORD



Requested Turn Around Time:			<input type="checkbox"/> Same Day
<input type="checkbox"/> 24-Hour	<input type="checkbox"/> 48-Hour	<input checked="" type="checkbox"/> 3 Day	<input type="checkbox"/> 6-10 Day

[illegible]



9771D Southern Pine Boulevard
Charlotte, NC 28273
704-940-1830 Fax 704-565-4929
NVLAP Lab Code 102075-0

POLARIZED LIGHT MICROSCOPY

Performed by EPA 600/R-93/116 Method

Asbestos Analysis Summary

Client Name Columbia Office

134 Suber Rd.
Columbia SC 29210

Date Received 5/18/2020

Client Job DMH Bldg 15

Date Analyzed 5/19/2020

Job Number 4261-20-015

Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
20-7204	PC-1	BEIGE/TAN FIBROUS		ND	98 CELLULOSE	2 OTHER
20-7205	PC-2	ORANGE/TAN FIBROUS		ND	98 CELLULOSE	2 OTHER
20-7206	PC-3	GREEN/TAN FIBROUS		ND	98 CELLULOSE	2 OTHER
20-7207	HJ-1	GREY FIBROUS		2 CHRYSOTILE	45 MINERAL WOOL	53 OTHER

Analyzed by: Jane Wasilewski

Additional Comments:


Jane Wasilewski
Laboratory Manager

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Lab ID:	Sample #:	Appearance	Comments	Asbestos %/Type	Non-Asbestos Fibrous %/Type	Non-Fibrous %/Type
20-7208	HJ-2	GREY FIBROUS		2 CHRYSOTILE	45 MINERAL WOOL	53 OTHER
20-7209A	HJ-3	GREY FIBROUS	WRAP	ND	99 CELLULOSE	1 OTHER
20-7209B	HJ-3	GREY FIBROUS	INSULATION	2 CHRYSOTILE	45 MINERAL WOOL	53 OTHER
20-7210	F-1	BLACK FIBROUS		ND	80 CELLULOSE	20 OTHER
20-7211	F-2	BLACK FIBROUS		ND	80 CELLULOSE	20 OTHER


Analyzed by: Jane Wasilewski

Additional Comments:


Jane Wasilewski
Laboratory Manager

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CHAIN OF CUSTODY RECORD

[illegible]

6565
2045



EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

<http://www.EMSL.com> / charlottelab@emsl.com

EMSL Order: 412001409

Customer ID: SMEI54

Customer PO:

Project ID:

Attention: Jane Wasilewski
S&ME, Inc.
9771D Southern Pine Blvd.
Charlotte, NC 28273

Phone: (704) 940-1830

Fax: (704) 565-4929

Received Date: 02/12/2020 11:45 AM

Analysis Date: 02/14/2020

Collected Date:

Project: 4261-20-015

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
FP-3 412001409-0001	Felt	Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected
FP-6 412001409-0002	Felt	Black Non-Fibrous Heterogeneous	99.84 Other	None	0.16% Chrysotile
BBM-3 412001409-0003	Mastic Only	Brown Non-Fibrous Heterogeneous	95.3 Other	4.7 Fibrous_Other	No Asbestos Detected

Analyst(s)

Aaron Hartley (3)

Lee Plumley, Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 02/14/2020 17:40:48

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

412001409

EMSL ANALYTICAL, INC.
10801 SOUTHERN LOOP BLVD
PINEVILLE, NC 28134

PHONE: 704-525-2205

FAX: 704-525-2382

Company : S&ME Inc.		EMSL-Bill to: <input type="checkbox"/> Same <input checked="" type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 9771D Southern Pine Blvd.		Third Party Billing requires written authorization from third party	
City: Charlotte	State/Province: NC	Zip/Postal Code: 28273	Country:
Report To (Name): Jane Wasilewski		Telephone #: 704-940-1830	
Email Address: jwasilewski@smeinc.com		Fax #:	Purchase Order:
Project Name/Number:		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
U.S. State Samples Taken:		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
Turnaround Time (TAT) Options - Please Check			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.			
PCM - Air <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)		TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input checked="" type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
TEM- Dust <input type="checkbox"/> Microvac - ASTM D 5755 <input type="checkbox"/> Wipe - ASTM D6480 <input type="checkbox"/> Carpet Sonication (EPA 600/J-93/167) Soil/Rock/Vermiculite <input type="checkbox"/> PLM CARB 435 - A (0.25% sensitivity) <input type="checkbox"/> PLM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - B (0.1% sensitivity) <input type="checkbox"/> TEM CARB 435 - C (0.01% sensitivity) <input type="checkbox"/> TEM Qual. via Filtration Technique <input type="checkbox"/> TEM Qual. via Drop-Mount Technique Other: <input type="checkbox"/>			
<input type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name:		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
FP-3	Felt		
FP-6	Felt		
BBM-3	Mastic only		
Client Sample # (s):		Total # of Samples: 3	
Relinquished (Client):		Date: 2/12/20	Time:
Received (Lab):		Date: 2/12/20	Time: 11:45AM/12
Comments/Special Instructions: Bill to S&ME, Inc., 9751 Southern Pine Blvd., Charlotte NC 28273 ****EMAIL INVOICE TO JANE WASILEWSKI****			
4261-20-015			



EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

<http://www.EMSL.com> / charlottelab@emsl.com

EMSL Order: 412004292

Customer ID: SMEI54

Customer PO: 4261-20-015

Project ID:

Attention: Jane Wasilewski
S&ME, Inc.
9771D Southern Pine Blvd.
Charlotte, NC 28273

Phone: (704) 940-1830

Fax: (704) 565-4929

Received Date: 05/20/2020 2:05 PM

Analysis Date: 05/21/2020

Collected Date:

Project: 4261-20-015

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
F-3 412004292-0001	Felt	Black Non-Fibrous Heterogeneous	100.0 Other	None	No Asbestos Detected

Analyst(s)

Aaron Hartley (1)

Lee Plumley, Laboratory Manager
or other approved signatory

This laboratory is not responsible for % asbestos in total sample when the residue only is submitted for analysis. The above report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical, Inc. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.

Samples analyzed by EMSL Analytical, Inc. Pineville, NC

Initial report from: 05/21/2020 09:32:16



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (Lab Use Only):

412004292

EMSL ANALYTICAL, INC.
10801 SOUTHERN LOOP BLVD
PINEVILLE, NC 28134

PHONE: 704-525-2205
FAX: 704-525-2382

Company : S&ME Inc.		EMSL-Bill to: <input type="checkbox"/> Same <input checked="" type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 9771D Southern Pine Blvd.		Third Party Billing requires written authorization from third party	
City: Charlotte	State/Province: NC	Zip/Postal Code: 28273	Country:
Report To (Name): Jane Wasilewski		Telephone #: 704-940-1830	
Email Address: jwasilewski@smeinc.com		Fax #:	Purchase Order:
Project Name/Number:		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email	
U.S. State Samples Taken:		OT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	
Turnaround Time (TAT) Options* - Please Check			
<input type="checkbox"/> 3 Hour <input type="checkbox"/> 6 Hour <input type="checkbox"/> 24 Hour <input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 72 Hour <input type="checkbox"/> 96 Hour <input type="checkbox"/> 1 Week <input type="checkbox"/> 2 Week			
*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.			
PCM - Air <input type="checkbox"/> Check if samples are from NY <input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> w/ OSHA 8hr. TWA PLM - Bulk (reporting limit) <input type="checkbox"/> PLM EPA 600/R-93/116 (<1%) <input type="checkbox"/> PLM EPA NOB (<1%) Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%) <input type="checkbox"/> NYS 198.1 (friable in NY) <input type="checkbox"/> NYS 198.6 NOB (non-friable-NY) <input type="checkbox"/> NIOSH 9002 (<1%)		TEM - Air <input type="checkbox"/> 4-4.5hr TAT (AHERA only) <input type="checkbox"/> AHERA 40 CFR, Part 763 <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> EPA Level II <input type="checkbox"/> ISO 10312 TEM - Bulk <input checked="" type="checkbox"/> TEM EPA NOB <input type="checkbox"/> NYS NOB 198.4 (non-friable-NY) <input type="checkbox"/> Chatfield SOP <input type="checkbox"/> TEM Mass Analysis-EPA 600 sec. 2.5 TEM - Water: EPA 100.2 Fibers >10µm <input type="checkbox"/> Waste <input type="checkbox"/> Drinking All Fiber Sizes <input type="checkbox"/> Waste <input type="checkbox"/> Drinking	
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<input type="checkbox"/> Check For Positive Stop - Clearly Identify Homogenous Group		Filter Pore Size (Air Samples): <input type="checkbox"/> 0.8µm <input type="checkbox"/> 0.45µm	
Samplers Name:		Samplers Signature:	
Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
F-3	Fe H		
Client Sample # (s):		Total # of Samples: 1	
Relinquished (Client):		Date: 5/20/20	Time:
Received (Lab):		Date: 5/20/20	Time: 2:05pm DB
Comments/Special Instructions: Bill to S&ME, Inc., 9751 Southern Pine Blvd., Charlotte NC 28273			
****EMAIL INVOICE TO JANE WASILEWSKI****			
4261-20-015			

Appendix V – Copy of SCDHEC Inspectors' Licenses




South Carolina Department
of
Health and Environmental Control

Asbestos License

Travis L. Knight

SCDHEC ISSUED
Asbestos ID Card

Travis Knight



CONSULTPD	PD-00166	12/10/20
AIRSAMPLER	AS-00237	01/05/21
CONSULTBI	BI-00885	01/06/21
SUPERAHERA	SA-01266	01/05/21



South Carolina Department
of
Health and Environmental Control
Asbestos License

Bobby J. McAllister

