November 15, 2013

ADDENDUM NO. 1
TO THE CONTRACT DOCUMENTS
For the Asbestos and Lead Based Paint Abatement and Demolition
Dormitories at 180 and 188 Corban Av. SW
Concord, North Carolina
Project No. 2013-050
City of Concord Bid # 2228

TO ALL PLANHOLDERS:

The following clarifications, changes, additions, and/or deletions are hereby made a part of the Contract Documents for the above-referenced project as fully and completely as if the same were fully set forth therein:

1. The contract time for completion of the work has been extended from **Sixty (60)** calendar days to **One-Hundred-Twenty (120)** calendar days.

2. Find attached the **Asbestos Abatement Design Specifications and Removal/Disposal of Building Components with LBP, prepared by Allied Consulting & Environmental Services, LLC and dated November 11, 2013.** This document becomes part of the bid documents and is the specifications for the abatement, removal and disposal of hazardous materials.

3. A demolition permit is required by Cabarrus County.

4. There are two storm water inlets at the low point of the site; contractor is to protect these inlets as per the attached detail.

5. The City will provide temporary power at a maximum of two locations within the proposed work area; it shall be the responsibility of the contractor to get a NC register electrician to make the necessary connections to run equipment.

6. Water service will be provided by the City at the curb, contractor is responsible to hire plumber run water to the work area.
7. Site to be seeded and straw after completion of grading, contractor is responsible to for the site erosion until stabilized.

All Bidders shall acknowledge receipt and acceptance of this Addendum No. 1 in the designated boxes as provided in the BID FORM.

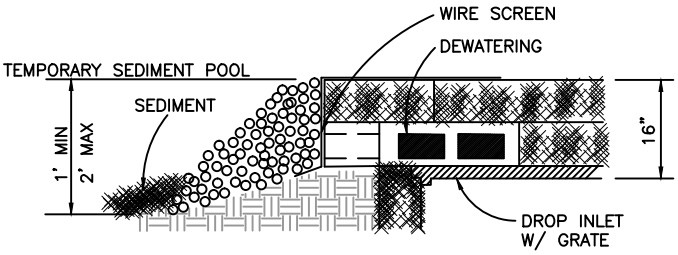
Sincerely,

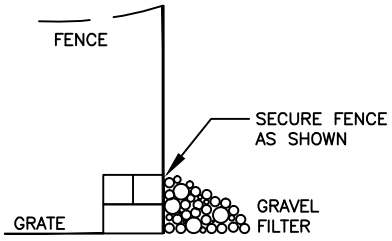
Enrique A. Blat, P.E.

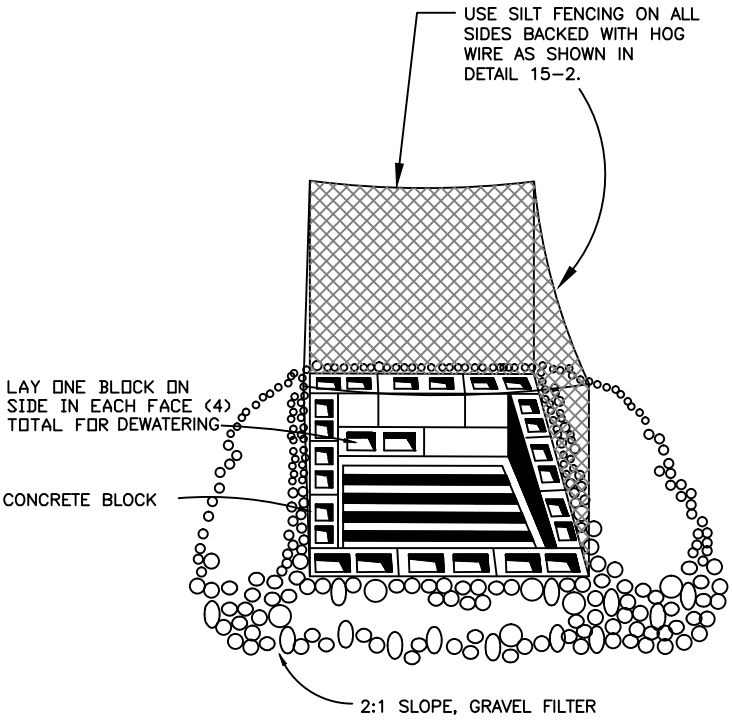
Deputy City Engineer

CITY OF CONCORD

Engineering Department – PO Box 308 – Concord NC 28026-0308
p 704.920.5425 f 704.786.4521
www.concordnc.gov







INLET PROTECTION
BLOCK & GRAVEL

Concord NORTH CAROLINA			CITY OF CONCORD STANDARD DETAIL INLET PROTECTION				
No.	Date	By	REVISION				
Drawn By: SVM			Checked By: PK	Approved By: MSH	Date 11/13	Sht 1	of 2

DEFINITION

A sediment control barrier formed around a storm drain inlet by the use of standard concrete block & gravel.

PURPOSE

To help prevent sediment from entering storm drains before stabilizing the contributing watershed. This practice allows early use of the storm drain system.

CONSTRUCTION SPECIFICATIONS

1 Lay one block on each side of the structure on its side in the bottom row to allow pool drainage. The foundation should be excavated at least 2 inches below the crest of the storm drain. Place the bottom row of blocks against the edge of the storm drain for lateral support and to avoid washouts when overflow occurs. If needed, give lateral support to subsequent rows by placing 2X4 wood studs through block openings.

2 Carefully fit hardware cloth or comparable wire mesh with 1/2 inch openings over all block openings to hold gravel in place.

3 Use clean gravel, 3/4 to 1/2 inch in diameter, placed 2 inches below the top of the block on a 2:1 slope or flatter and smooth it to an even grade. dot #57 washed stone is recommended.

4 If only stone and gravel are used, keep the slope toward the inlet no steeper than 3:1. Leave a minimum 1 ft. wide level stone area between the structure and around the inlet to prevent gravel from entering inlet. On the slope toward the inlet, use stone 3 inches in diameter or larger. On the slope away from the inlet use 1/2 – 3/4 inch gravel (ncdot #57 washed stone) at a minimum thickness of 1 ft.

MAINTENANCE

Inspect the barrier after each rain and make repairs as needed.

Remove sediment as necessary to provide adequate storage volume for subsequent rains.

When the contributing drainage area has been adequately stabilized, remove all materials and any unstable soil, and either salvage or dispose of it properly. Bring disturbed area to proper grade, then smooth and compact it. Appropriately stabilize all bare areas around the inlet.

INSTALLATION DETAIL

Concord NORTH CAROLINA

CITY OF CONCORD
STANDARD DETAIL
INLET PROTECTION

No.	Date	By	REVISION

Drawn By:	Checked By:	Approved By:	Date	Sht	of
SVM	PK	MSH	11/13	2	2

ASBESTOS ABATEMENT DESIGN SPECIFICATIONS AND REMOVAL/DISPOSAL OF BUILDING COMPONENTS WITH LBP

PROJECT

ABATEMENT OF ABESTOS CONTAINING MATERIALS AND REMOVAL/DISPOSAL OF BUILDING COMPONENTS WITH LBP

VARIOUS MATERIALS
THREE BUILDINGS – BARBER SCOTIA COLLEGE CAMPUS
180 AND 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FOR

CITY OF CONCORD
POST OFFICE BOX 308
CONCORD, NORTH CAROLINA 28026-0308

BY

ALLIED CONSULTING & ENVIRONMENTAL SERVICES, LLC
POST OFFICE BOX 2426
SHELBY, NORTH CAROLINA 28151
704.600.6255 (office)
704.482.5596 (fax)

ACES PROJECT NO. 2013 – 11 – 091

ISSUE DATE: NOVEMBER 11, 2013

ASBESTOS ABATEMENT DESIGN SPECIFICATIONS AND REMOVAL/DISPOSAL OF BUILDING COMPONENTS WITH LBP

PROJECT

ABATEMENT OF ABESTOS CONTAINING MATERIALS AND REMOVAL/DISPOSAL OF BUILDING COMPONENTS WITH LBP

VARIOUS MATERIALS
THREE BUILDINGS – BARBER SCOTIA COLLEGE CAMPUS
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POST OFFICE BOX 308
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BY

ALLIED CONSULTING & ENVIRONMENTAL SERVICES, LLC
POST OFFICE BOX 2426
SHELBY, NORTH CAROLINA 28151
704.600.6255 (off9ice)
704.482.5596 (fax)

ACES PROJECT NO. 2013 – 11 – 091

ISSUE DATE: July 19, 2013

PREPARED BY:

DeWitt Whitten, REM, CES, REPA
General Manager
NC Asbestos Project Designer #40459

REVIEWED BY:

Robert L. Smith, AIA, Leed AP
Managing Partner

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ASBESTOS ABATEMENT DESIGN SPECIFICATION
AND
REMOVAL/DISPOSAL OF BUILDING COMPONENTS WITH LBP
PROJECT SUMMARY

Project Site: Barber Scotia College Campus
180 and 188 Corban Avenue SW
Concord, North Carolina

General Description: The scope of work shall include the removal of various asbestos containing materials including roof mastic, floor tile, floor tile mastic, and sprayed-on ceiling finish present in three buildings located at the referenced project site (Figure 1 in Appendix 1) prior to the demolition of the three buildings. A summary of the ACM is presented in the Table 1.

TABLE 1 - SUMMARY OF ACM PRESENT IN BUILDINGS 1, 2, & 3

BUILDING NO.	ACM	ESTIMATED QUANTITY
1	Roof mastic	80 sq. ft.
1	Floor tile	13,280 sq. ft.
1	Sprayed-on ceiling finish	19,920 sq. ft.
2	Floor tile	2,750 sq. ft.
2	Sprayed-on ceiling finish	2,750 sq. ft.
3	Roof mastic	90 sq. ft.
3	Floor tile and mastic	20,190 sq. ft.
3	Sprayed-on ceiling finish	26,290 sq. ft.

Removal of the asbestos containing materials included in this project shall be performed in accordance with all applicable federal, state, and local regulations and per the conditions set forth within these project removal guidelines. Information concerning previous material sampling, testing, material locations, and general conditions is presented as an attachment (Appendix 2) to the asbestos abatement design specification package. This document is to provide criteria regarding asbestos removal activities conducted within the buildings. The abatement contractor shall follow the terms set forth in this specification during all phases of the asbestos abatement in addition to the terms and conditions of the City of Concord's bid documents for the project.

In addition to the abatement of asbestos containing materials, building components with lead-based paint (LBP) adhered to them are present at the project site. The building components with LBP that are present in the buildings which must be removed and disposed of properly are summarized in Table 2.

TABLE 2 – SUMMARY OF BUILDING COMPONENTS WITH LBP			
BUILDING NO.	**FEATURE**	**SUBSTRATE**	**COLOR**
1, 2, & 3	Window frames	Metal	White
2	Exterior door frames	Metal	White
2	Exterior doors	Metal	White
1 & 2	Stair frames	Metal	Black
1 & 2	Exterior decking	Metal	White

Mandatory Pre-Bid Meeting: November 12, 2013 (Project Site)

Bid Opening Date: November 25, 2013

Project Start date: TBD

Bids and other required bid data due by 2 pm on the November 25, 2013. Submit bid package to:

Mr. Enrique Blat, PE
City of Concord Engineering Department
Alfred M. Brown Operations Center
850 Warren C. Colman Boulevard
Concord, North Carolina 28026

PART 1 – GENERAL REQUIREMENTS

1.0 CODES AND REGULATIONS

A. REFERENCE SPECIFICATIONS

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 project site.

Unless modified by this project specification, all specifications for stripping, removal, repair, and disposal work shall conform to the following specifications and standards, as applicable, as if completely reproduced herein.

1. The following regulations published by the Environmental Protection Agency (EPA):
   a. "National Emissions Standards for Hazardous Air Pollutants Asbestos", 40 CFR Part 61, Subpart A.
   b. "General Provisions", 40 CFR Part 61, Subpart A.
   c. "Guidance for Controlling Asbestos-Containing Materials in Buildings", June 1985 (EPA # 560/5-85-024).
   d. "Asbestos-Containing Materials in Schools", 40 CFR Part 762, Subpart E and Appendices.
2. The following regulations published by the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA):
   a. "Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules", Title 29, Part 1910, Section 1001 and Part 1926, Section 1101 of the Code of Federal Regulations.
   b. "Respiratory Protection", Title 29, Part 1910, Section 134 of the Code of Federal Regulations.
   c. "Construction Industry", Title 29, Part 1926, Code of Federal Regulations.
   d. "Access to Employee Exposure and Medical Records", Title 29, Part 1910, Section 20 of the Code of Federal Regulations.
   e. "Hazard Communication", Title 29, Part 1926, Section 59 of the Code of Federal Regulations.
   f. "Specifications for Accident Prevention Signs and Tags", Title 29, Part 1910, Section 145 of the Code of Federal Regulations.
   g. "Safety and Health Regulations for Construction", Title 29, Part 1926, Section 62 of the Code of Federal Regulations

3. The following regulations published by North Carolina state agencies:
   a. North Carolina Asbestos Hazard Management Program Rules as adopted by 15 NCAC 19C .0600.
   b. "North Carolina Occupational Safety and Health Standards for the Construction Industry", 29 CFR Part 1926 as adopted by T13 NCAC 07F .0201 and Shipyard T13:07F .0500.
   c. North Carolina General Statutes, Chapters 95, 97, and 130.
4. The following documents published by the American National Standards Institute:
   a. "Fundamentals Governing the Design and Operation of Local Exhaust Systems", Z9.2-2006.
   b. "Standard for Respiratory Protection - Respiratory Use – Physical Qualifications for Personnel", Z88.6-2006.
   c. "Practices for Respiratory Protection", Z88.2-1992

B. DEFINITIONS

1. **Abatement** – Procedures used to control fiber release from ACBM using either asbestos removal, encapsulation, or enclosure.
2. **Asbestos Project Designer (APD)** – Allied Consulting and Environmental Services, LLC (ACES), Post Office Box 2426, Shelby, North Carolina 28151; Phone – 704.600.6255, Fax – 704.482.5596.
3. **ACBM** – Asbestos containing building materials.
4. **ACM** – Asbestos containing materials.
5. **Accessible** – Asbestos containing building material that is subject to disturbance by occupants or custodial or maintenance personnel in the course of their normal activities.
6. **ACGIH** – American Conference of Government Industrial Hygienists.
7. **Air Monitoring** – The process of measuring the approximate number of asbestos fibers in a specific volume of air in a stated period of time.
8. **Amended Water** – Water to which a surfactant has been added.
9. **Area Monitoring** – Sampling of airborne fiber levels within the asbestos control area and inside the physical boundaries which is representative of the airborne fiber levels but is not collected in the breathing zone of the personnel.
10. **APD** – Asbestos Project Designer, responsible for the preparation of the design document for the removal/abatement of the specified asbestos containing materials.
11. **Asbestos** – Asbestos includes but is not limited to the following minerals: actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite. Asbestos material means asbestos or any material containing asbestos such as asbestos waste, scraps, debris, containers, equipment, and asbestos contaminated clothing consigned for disposal.

12. **Asbestos Containing Waste Material** – any material which is or is suspected of being or any material contaminated with asbestos containing material which is to be removed or has been removed from a work area for disposal.
13. **Asbestos Fibers** – Airborne fibers having an aspect ratio of 3:1 longer than 5 micrometers when analyzed by the NIOSH 7400 Method.
14. **City of Concord** – Caldwell County School System
15. **Class I Asbestos Work** – Activities involving the removal of TSI and surfacing ACBM and PCAM.
16. **Class II Asbestos Work** – Activities involving the removal of ACBM which is not TSI insulation or surfacing material. This includes, but is not limited to, the removal of asbestos containing wallboard, floor tile and sheetgood flooring, roofing, siding shingles, and construction mastics.
17. **Class III Asbestos Work** – Repair and maintenance operations where ACBM, including TSI and surfacing ACBM and PACM, is likely to be disturbed.
18. **Class IV Asbestos Work** – Maintenance and custodial activities during which employees may contact but do not disturb ACBM or PACM and activities to clean-up dust, waste, and debris resulting from Class I, II, and III activities.
19. **Competent Person** – As used in this document, refers to a person employed by the contractor who is trained in the recognition and control of asbestos hazards in accordance with the current applicable federal, state, and local regulations.
20. **Contractor** – Refers to a North Carolina accredited and qualified asbestos abatement contractor.
21. **Control Area** – Designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. These areas have been sealed off from the outside, protected with 6 mil polyethylene sheeting, and are equipped with a decontamination enclosure system and reduced pressure system.
22. **Decontamination Area** – A series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers or materials and equipment. A decontamination enclosure system always contains at least one airlock.
23. **Decontamination Enclosure System** – A series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of workers or of materials and equipment. A decontamination enclosure system always contains at least one airlock.
24. **Disturbance** – Activities that disrupt or disturb the matrix of ACBM or PACM, crumble or pulverize ACBM, or generate visible debris from ACBM or PACM. Disturbance includes cutting away small amounts of ACBM or PACM, no greater than the amount that can be contained in one standard size glove bag or waste bag in order to access a building component. In no event shall the amount of ACBM or PACM so disturbed exceed that

which can be contained in one glove bag or waste bag which shall not exceed 60 inches in length and width.

25. **Eight-Hour Time Weighted Average (TWA)** – Airborne concentration of asbestos to which an employee is exposed, averaged over an 8-hour workday as indicated in 29 CFR 1926.62.
26. **Encapsulation** – The coating of asbestos containing materials with a bonding agent, sealing agent (encapsulant), or elastomer bridging agent to prevent the release of asbestos fibers following abatement.
27. **Encapsulant** – A liquid material that can be applied to asbestos containing materials, which controls the possible release of asbestos fibers from the materials either by creating a membrane over the surface (bridging) or by penetrating into the material and binding its components (penetrating).
28. **Enclosure** – Refers to the area in which asbestos containing materials are encased within permanent impermeable, airtight barriers.
29. **EPA** – Environmental Protection Agency
30. **Excursion Limit** – Airborne asbestos concentration (1.0 fiber/cc) as averaged over a 30-minute period.
31. **Friable Asbestos Containing Material** – Material that contains greater than 1.0 percent asbestos that when dry can be crumbled, pulverized, or reduced to powder by hand pressure or is damaged by operations such as drilling, sanding, sawing, or abrading.
32. **Glovebag** – 6-mil polyethylene bag with latex gloves extending inside the work bag and having ports for water and vacuum attachments.
33. **HEPA Filter** – High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining at least 99.97 percent of mono-dispersed particles of 0.3 micrometer in diameter or larger.
34. **HEPA Vacuum** – Vacuum equipped with HEPA filters used to clean-up dust and debris in work areas.
35. **HVAC** – Heating, ventilation, and air-conditioning
36. **NC HHCU** – The North Carolina Health Hazards Control Unit.
37. **Masking and Sealing Operations** – Procedures used to cover and protect floors, walls, and fixed objects as appropriate with 6 mil polyethylene plastic sheets during an asbestos abatement project.
38. **NIOSH** – National Institute for Occupational Safety and Health.
39. **OSHA** – Occupational Safety and Health Association.
40. **PACM** – Presumed asbestos containing materials.
41. **Permissible Exposure Limit (PEL)** – The PEL for asbestos is 0.1 asbestos fibers per cubic centimeter (f/cc) of air as an 8-hour time weighted average as determined by 29 CFR 1926.62. If an employee is exposed for more than eight hours in a work day, the PEL shall be determined by the following formula: PEL (f/cc) = $C_1 \times T_1 + C_2 \times T_2 + \ldots + C_n \times T_n / 8$ where C_x = airborne asbestos concentration collected over time period T_x

42. **Personnel Monitoring** – Sampling of the breathing zone of contractor personnel in accordance with 29 CFR 1926.1101 and appendices.
43. **Post-Removal Cleaning** – Refers to final cleaning of the control area following all asbestos removal using a combination of HEPA vacuuming and wet wiping.
44. **Pre-Cleaning** – Refers to the cleaning of fixed and movable items of equipment and material within the control area by the Contractor before set-up of the control area.
45. **Presumed Asbestos Containing Materials** – thermal system insulation and/or surfacing material found in buildings constructed no later than 1980. The designation of a material as "PACM" may be rebutted pursuant to paragraph (k)(5) of 29 CFR 1926.1101.
46. **Project Site** – the Gamewell Middle School campus
47. **Removal** – All specified procedures necessary to remove asbestos containing materials from an area and dispose of the materials at an authorized site in accordance with regulatory requirements of NESHAPS and applicable state and local guidelines.
48. **Renovation** – Altering, removing, or stripping of one or more facility components, including, but not limited to the stripping or removal of asbestos containing materials from facility components, retrofitting for fire protection, the installation or removal of heating, ventilation, and air conditioning (HVAC) system.
49. **Repair** – Returning damaged ACBM to an undamaged condition or to an intact state so as to prevent a fiber release using encapsulation, sealing, enclosure, or encasement.
50. **Respirator (Negative Pressure)** – A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.
51. **Respiratory Protection** – Protecting the employee, through the wearing of a respirator, from breathing airborne asbestos fibers.
52. **Testing Laboratory** – The term "testing laboratory" is defined as an independent entity engaged to perform specific inspections or air monitoring analysis of the work, either at the project site or elsewhere; and to report the results of those inspections and/or tests.
53. **TSI** – Thermal system insulation
54. **VAFT** – Vinyl asbestos floor tile
55. **Work Area** – The area where asbestos related work or removal operations are performed which is defined and/or isolated to prevent the spread of asbestos dust, fibers, debris, and to prevent entry by unauthorized personnel. The work area is a regulated area as defined by 29 CFR 1926.
56. **Work Site** – The work site consists of three areas at the Gamewell Middle School as defined and designated in the Project Specification.

2.0 PROJECT COORDINATION

A. GENERAL

1. The asbestos abatement contractor (Contractor) will be a licensed general contractor in either the specialty interior, building, unclassified, or asbestos categories by the North Carolina Licensing Board of General Contractors and limited for the bid amount.

2. The Contractor shall be responsible for visiting the site, prior to bidding, to confirm the scope of the work. Any quantities listed by the asbestos project designer (APD) in the plans, specifications, or surveys are done so as approximations. The Contractor has the responsibility for determining actual quantities of the materials to be removed/abated. No additional contract price adjustments will be allowed due to variances between actual quantities and the estimated quantities listed herein. Should additional ACM be discovered during abatement activities, which was not previously identified, the contractor shall immediately notify the City of Concord and the APD.

3. The Contractor shall furnish and is responsible for all costs including but not limited to: permit fees, containment preparation, labor, materials, services, insurance, bonding, and equipment necessary to perform and complete the asbestos abatement/removal and disposal of all asbestos containing materials in accordance with the plans and specifications, applicable EPA and OSHA regulations, and any applicable state and local government regulations.

4. The Contractor has and assumes the responsibility of proceeding in such a manner that he offers his employees and others a workplace free of recognized hazards causing or likely to cause death or serious injury. The Contractor shall be responsible for performing this abatement and disposal so that airborne asbestos fibers levels do not exceed established protective levels.

5. The Contractor will be responsible for all costs, including additional visits and analytical fees, should the City of Concord's air monitoring firm determine that the Contractor failed a visual and/or final air clearance inspection. Notification and scheduling of inspections during the project is the responsibility of the Contractor. The Contractor will allow a minimum notice of 48 hours prior to final visual assessment and air clearance sampling unless the City of Concord's air monitoring firm, Contractor, and the City of Concord agree upon a different time frame.

B. PERSONNEL

1. Supervisor

a. All supervisors shall be currently accredited by the NC HHCU for asbestos abatement.

b. All supervisors on the project shall have a minimum of two years experience in the administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, etc.

c. One supervisor shall be provided for every ten (10) workers at the project site during work hours. A minimum of one supervisor shall be present at the project site during all work hours.

d. The Contractor shall have at least one employee on the job, per shift, in either a foreman or supervisor's position, who is bilingual in the appropriate languages when employing workers who do not speak fluent English.

e. A minimum of one accredited supervisor per company shall have attended a 24-hour respiratory protection course and provide appropriate documentation of such.

2. Worker

a. All workers shall be currently accredited as such by the NC HHCU.

3. Competent Person

a. A competent person, as defined in the OSHA Asbestos Standard, 29 CFR 1926.1101, employed by the Contractor must be outside the work area at all times to monitor activity, ensure containment security, provide information to visitors, and provide access for authorized persons to the work area.

4. Employees

a. The Contractor is responsible for the behavior of workers within his employment. If at any time during the contracted work, or any of the Contractor's employees are judged to exhibit behavior unfitting for the area or judged to be a nuisance by the City of Concord or the City of Concord's

representative, the Contractor shall immediately remove them from the project site.

b. The contractor shall be responsible for compliance with the following behavior:

(i) Under no circumstances will alcohol, drugs, firearms, tobacco, tobacco products or any other type of controlled substances be permitted on the project site.

(ii) All workers are restricted to the area of asbestos abatement work.

(iii) All vehicles must be parked in the area designated by the Building Owner.

(iv) All workers must conform to the following basic dress code when in the public area of the work site: long pants and shirts with sleeves, i.e., no tank tops, no shorts, etc.

(v) The Contractor is responsible for disposal of all materials brought to the project site/work site by his employees including drink cans, bottles, wrappers, or other food containers.

c. Failure to adhere to these rules could result in criminal or civil prosecution and/or removal from the project site.

C. MEETINGS

1. Pre-Bid Meeting

A mandatory pre-bid meeting will be held at 10 am on November 12, 2013 at the project site located at 180 & 188 Corban Avenue SW in Concord, North Carolina. Contractors desiring to submit a bid must register to attend the pre-bid meeting, attend the pre-bid meeting, visit the work site, confirm quantities, site access issues, etc. Questions regarding the project design must be submitted to the Mr. Enrique A. Blat not later than 12 pm (noon) on November 20, 2013.

2. Periodic Project Meetings

The City of Concord and/or the project manager reserves the right to schedule meetings with a representative of the abatement contractor during the course of the project to discuss project activities, scheduling, etc.

D. SUBMITTALS

1. With Bid Documents

A. Bidders must demonstrate experience on asbestos abatement projects by the submission of a list of three (3) previous asbestos abatement removal projects; names, addresses, and phone numbers of clients; location of projects; and dates projects were performed.

B. An officer of the company must sign a statement containing the following information:

(i) Record of any citations issued by Federal, State, or Local regulatory agencies relating to asbestos abatement activity. Projects, dates, and resolutions must be included.

(ii) Situations in which an asbestos-related contract has been terminated including projects, dates, and reason(s) for termination.

(iii) Listing of any asbestos-related legal proceedings/claims in which the contractor (or employees scheduled to participate) are currently involved. Include descriptions of role, issue, and resolution to date.

C. Bidders shall provide evidence of insurance.

D. Bidders shall provide proposed detailed schedule of work.

E. Performance and Payment Bonds may be required for this project. Bidders shall provide documentation in accordance with City of Concord's bid documents.

2. Upon Award of Contract

The successful Contractor will submit two complete, bound sets of pre-job submittals within five days of the award of the contract for review and approval by the City of Concord and APD. A copy of the submittals shall also be kept in a three-ring binder as part of the project log by the Contractor at the work site in a clean room or on-site office of the Contractor. The submittals will contain, at a minimum, the following information:

A. A summary of the company's training program and/or a list of EPA approved training certification courses that the company's employees have attended.

B. A summary of the company's written respiratory protection program which is in compliance with OSHA regulations and other applicable state or local regulations.

C. Statement indicating the company has an established medical surveillance program in compliance with 29 CFR 1926.1101. The statement should also include documentation that all personnel participate in the medical surveillance program.

D. A copy of the Asbestos Permit Application and Notification for Demolition/Renovation (NC DENR Form 3768) submitted to the NC HHCU and any other required agency. The contractor will provide notification to the City of Concord and APD at the time the Form 3768 is submitted to the NC HHCU. The Contractor will also notify local fire and police departments and other local agencies as applicable or required. Upon receipt of the approved permit, the Contractor shall provide a copy of the approved permit to the City of Concord and APD. The actual permit will be posted outside the decontamination unit at the work site.

E. Provide documentation for of all employees that will be involved in the abatement/removal activities at the work site. The documentation should include the name of each individual, their position, their accreditation, social security number, and copy of the most recent certificate.

F. Documentation signed by each worker acknowledging their participation in the company's employee medical surveillance program.

G. Documentation for each worker reflecting their most recent fit test records and completion date of most recent respiratory protection program.

H. Copy of most recent Initial Exposure Assessment as required by the OSHA Construction Asbestos Standard, 29 CFR 1926.

I. Name, location, and applicable permit of asbestos waste disposal site. A contact name and phone number for the facility shall also be provided.

J. Manufacturer's technical data sheets, certificates of compliance, MSDS sheets, and additional information as appropriate for all equipment and materials to be utilized during the abatement/removal project.

K. Proposed location of decontamination unit.

L. Proposed project schedule including anticipated start date, set-up time, anticipated dates of work, number of shifts per day, anticipated completion date, etc.

M. Copy of Emergency Contingency Plan. The contractor shall prepare a Contingency Plan to address emergencies that may include fire, accident,

hazardous material release, power failure, negative pressure system failure, supplied air system failure, evacuation of injured person(s) for both life threatening and non-life threatening injuries, or any other event that may require modification or abridgement of the decontamination/isolation procedures. The Contingency Plan shall list phone numbers and locations of local emergency services including but not limited to: fire, ambulance, doctor, hospital, police, power company, and natural gas company. The Contingency Plan will be posted inside and outside the work area during all work shifts and be readily available to all personnel.

N. Provide Certificates of Insurance with the City of Concord and APD listed as an additional party.

O. If required, the Contractor shall furnish a Performance Bond and Payment Bond in accordance with guidelines that will be provided by the client.

3. Post-Job

Upon completion of the scope of work, the Contractor shall submit two complete, bound sets of post-job submittals to the APD. Request for final payment will not be approved until the post-job submittal package has been reviewed and approved by the City of Concord and the City of Concord's representative. The post-job submittal should include at a minimum:

A. Affidavits: Provide Contractor's affidavit of payment of debts and claims, affidavit of release of liens, and consent of the surety company to final payment.

B. Manifest: Provide North Carolina Asbestos Waste Shipment Record (NCDENR 3787) receipt from asbestos waste disposal site which acknowledges the Contractor's delivery(s) of waste material. Include date, name of waste transporter, quantity of material delivered, and signature of authorized representative of disposal site.

C. Daily Logs: Submit copies of all daily logs showing the following: name of all persons entering the work site, date, entering and leaving time, company or agency represented, reason for entering, employee's daily air monitoring data as required by the OSHA Standard, written comments by inspectors, APD, or other persons.

D. Medical: Provide copies of worker release forms.

E. Special Reports: All documents generated under Section 2.0, Paragraph D, Sub-paragraph 3.

4. Special Reports

A. General: Except as otherwise indicated, submit special reports to the APD within one day of occurrence. One copy should also be placed in the project logbook.

B. Unusual Events: When an event of unusual and significant nature occurs (i.e. failure of negative pressure system, rupture of temporary enclosure, etc.) at the work site, Contractor shall prepare and submit a special report to the APD within 3 hours of the occurrence. The report shall list chain of events, persons involved, response by Contractor's personnel, evaluation of results or effects, and any other pertinent information.

C. Accidents: Prepare and submit reports of significant accidents at the work site to the APD within 8 hours after occurrence. Reports should include date, person(s) involved, apparent cause, response, and if needed, actions taken to prevent further such accidents. For the purposes of this specification, a significant accident is defined to include events where personal injury is sustained, property loss occurs, or where an event posed a significant threat of personal injury or property loss.

3.0 GENERAL PROVISIONS

A. GENERAL

1. By submitting a bid on this project, the Contractor acknowledges that the work site has been visited and the Contractor is satisfied as to (1) the conditions affecting the work, including (but not limited to) the physical conditions of the work site which may bear upon site access, handling and storage of tools and materials, access to water, electric or other utilities or otherwise that may affect performance of the required activities; (2) the character and quantity of all surface and subsurface materials or obstacles to be encountered in so far as this information is reasonably ascertainable from a visit to the work site, including exploratory work done by the City of Concord, the APD, as well as, information presented in the project Specification. Any failure of the Contractor to became acquainted with available information shall not relieve the Contractor from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The City of Concord and the APD for this project are not responsible for any conclusions or interpretations made by the Contractor on the basis of the information presented in the Project Specification.

2. Should a Contractor find discrepancies in the plans and/or project specification or should Contractor be in doubt as to the meaning or intent of any part thereof, the Contractor must, prior to the bid, request in writing clarification from the City of Concord. Discrepancies with regard to conflicts between the project specification and applicable federal, state, or local regulations or requirements shall be included herein. Failure to request such clarification is a waiver to any claim by the Contractor for expense made necessary by reason of later interpretation of the project specification by the City of Concord and/or the APD.

3. Explanations desired by a prospective Contractor regarding the project specifications may be requested in writing from the City of Concord representative not later than 12 pm (noon) on November 20, 2013. The City of Concord's representative can be contacted at:

blatr@concordnc.gov

4. Liquidated Damages: Should the Contractor fail to substantially complete the scope of work on or before the date stipulated for Substantial Completion, or failure of the Contractor to complete all remedial work, correct deficient work, clean-up of work site, and/or other miscellaneous tasks as required to complete all work specified, or such later date as may result from an extension of time granted by the Building Owner, the Contractor shall pay the City of Concord, as liquidated damages, the sum of One hundred dollars ($100.00) for each consecutive calendar day that terms of the contract remain unfulfilled beyond the date allowed by the project specification and contract with the City of Concord, which sum is agreed upon as a reasonable and proper measure of damages which the City of Concord will sustain per day by failure of the Contractor to complete the scope of work within the time as stipulated; it being recognized by the City of Concord and the Contractor that the damage to the City of Concord which could result from the failure of the Contractor to complete on schedule is uncertain and cannot be computed exactly. In no way shall costs for liquidated damages be construed as a penalty on the Contractor. The amount of liquidated damages set forth as described previously shall be assessed cumulatively. This provision for liquidated damages does not bar the City of Concord's right to enforce other rights and remedies against the Contractor, including but not limited to, specific performance or injunctive relief.

4.0 INSURANCE REQUIREMENTS

A. GENERAL

1. The Contractor shall purchase and maintain in force, at their own expense, such insurance, satisfactory to the City of Concord, that will protect the City of Concord and the Contractor from claims set forth below which may arise out of or result from the Contractor's execution of the work, whether such execution be by himself, his employees, agents, subcontractors, or by anyone for whose acts any of them may be liable. The insurance coverage shall be such as to fully protect the City of Concord and the APD for this project, and the general public from any and all claims for injury and damage resulting from any actions on the part of the Contractor or his forces as enumerated above. The Contractor shall furnish a copy of an original certificate of insurance, naming the City of Concord as an additional insured party. Should any of the policies be cancelled, the issuing company will mail a written notice to the certificate holder 30 days prior to the cancellation. The Contractor shall submit copies of this insurance on proper forms from companies acceptable to the City of Concord. The additional insured shall be listed as:

2. Workman's Compensation and Employer's Liability: The Contractor shall carry Workman's Compensation Insurance with statutory limits and Employers' Liability Insurance of $500,000 for one accident or aggregate disease.

3. Automobile Liability, including Owned, Non-owned, and Hired Car Coverage: The Contractor will have the following limits of liability (at a minimum):

Bodily Injury	$1,000,000 each person
	$1,000,000 each occurrence
Property Damage	$1,000,000 each occurrence

Or

Single Limit: Bodily Injury/Property Damage	$2,000,000 each occurrence

4. Comprehensive General Liability: The Contractor will have the following limits of liability (at a minimum)

Bodily Injury	$1,000,000 each person
	$1,000,000 each occurrence
Property Damage	$1,000,000 each occurrence

Or

Single Limit: Bodily Injury/Property Damage	$2,000,000 each occurrence

Including: Completed Operations/Products
Contractual Liability for Specified Agreement
Personal Injury
(XCU) Explosion, Collapse, and Underground Coverage
Broad Form Property Damage

5. General Notes and Conditions:

a. The Contractor and his insurance company should carefully review the insurance requirements applicable to this project. All requirements must be met before the City of Concord will execute the contract.

b. The insurance certificate must state that the Comprehensive General Liability Insurance names the City of Concord as an additional insured party.

c. Contractual Liability covers the following indemnity agreement: "The Contractor shall indemnify and hold harmless the City of Concord and the APD for this project against and from all liability, claims, damages, and costs, including attorney's fees of every kind and nature and attributable to bodily injury, sickness, disease or death, or to damage or destruction of property resulting from or in any manner arising out of or in connection with the project and the performance of the work under this contract."

d. Property Insurance: The Contractor shall purchase and maintain property insurance during the entire work period at the work site and such materials and equipment as are stored at the work site or at an agreed upon location to the full insurable value thereof. This insurance shall include the interests of the City of Concord, the Contractor, subcontractors, and sub-subcontractors in the work and shall insure against the perils of fire and extended coverage, and shall include "all risk" insurance for physical loss and/or damage including theft, vandalism, and malicious mischief.

e. The intent of this specification is to provide the coverage required and the limits expected for each type of coverage. With regard to the Comprehensive Automobile Liability and Comprehensive General Liability, the total amount of coverage can be accomplished through any combination of primary and excess umbrella insurance and self-insured reserves. The Contractor shall submit evidence of self-insurance to the City of Concord for review and approval in addition to the required certificate of insurance. Such evidence shall consist of, at a minimum, current financial statements

that clearly indicates the reserves committed to the Contractor's self-insurance program. The Contractor shall for the duration of the project maintain the self-insurance reserves at a level not less than that which is stated by the Contractor at the time that the contract is executed. However, the total insurance protection provided for comprehensive General Liability protection or for Comprehensive Automobile Liability protection, either individually or in a combination with the Excess Liability Umbrella must total $2,000,000 per occurrence.

f. Repair or Replacement Endorsement: It is understood and agreed subject to all the terms, conditions, and stipulations of the contract and project specifications to which this endorsement is attached, not in conflict herewith, that in case of loss or damage to any property owned by the City of Concord being held or stored in the care, custody, and control of the Contractor or Suppliers, the Contractor shall be liable through an "All Risk" property policy or, in the event the policy cannot respond in full, self-insurance for any and all expenditures incurred to replace, repair, or rebuild the damaged or destroyed property to the equivalent size, kind, and quality that existed prior to the loss.

g. Insurance policies of this nature routinely prohibit recovery for incidents involving toxic substances. The Contractor must be able to document that he has notified his insurance carrier of the nature of his work involvement with asbestos and that the coverage in effect specifically includes an endorsement for asbestos abatement activities.

h. The Contractor must provide documentation that this coverage is classified as an occurrence-based policy.

5.0 TEMPORARY FACILITIES

A. GENERAL

1. The Contractor shall provide temporary connection to existing utilities or provide temporary facilities as required herein or as necessary to carry out the work.

2. The Contractor shall use qualified tradesmen for installation of temporary services and facilities. Locate, modify, and extend temporary services and facilities where they serve the project adequately and result in minimum interference with the performance of the work.

B. WATER SERVICE

1. The City of Concord will supply a source of water at the work site. The Contractor bears all expense of heating and getting water to the work site areas and decontamination locations. The Contractor shall be responsible for ensuring that the waterline(s) that they are using are properly maintained and protected and do not leak or break. Any resulting damage to the building or items within the building from water damage shall be replaced or repaired at the Contractor's expense to the City of Concord's satisfaction.

2. Supply hot and cold water to the decontamination unit(s) in accordance with Section 10.0. Hot water shall be supplied at a minimum temperature of 100^{o} Fahrenheit (F) and a maximum temperature of 110^{o} F.

3. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping and equipment.

C. ELECTRICAL SERVICE

1. The City of Concord will supply a source of electricity at the work site. The Contractor bears all expense of providing electricity to the work site areas and decontamination locations.

2. The Contractor will comply with all applicable NEMA, NEC, and UL standards and governing state and local regulations for materials and layout of temporary electrical service.

3. The Contractor will provide receptacle outlets equipped with ground fault circuit interrupters, reset button, and pilot light for plug-in connections of power tools and equipment.

4. The Contractor will provide a weatherproof, grounded temporary electric power service and distribution system of sufficient size, capacity, and power characteristics to accommodate performance of work during the abatement/removal period.

5. Install temporary lighting adequate to provide sufficient illumination for safe work and traffic conditions in every work area.

6. The Contractor will provide the services of an electrician, on a standby basis, to service electrical needs during the abatement process.

7. The Contractor will provide an additional power service and distribution service, consisting of individual dedicated 15 amp, 120 volt circuits to electrical drops with receptacle outlets equipped with ground fault interrupt protection, color coded for the exclusive use of the air monitoring firm.

D. FIRST AID

1. A minimum of one first aid kit shall be located in the clean room of the decontamination unit. Additional first aid kits, as the Contractor feels is adequate or is required by law, shall be located throughout the work area.

E. FIRE EXTINGUISHERS

1. The Contractor shall comply with the applicable recommendations of NFPA Standard 10 – "Standard for Portable Fire Extinguishers". Locate fire extinguishers where they are most convenient and effective for their intended purpose but provide not less than one extinguisher in each work area or floor level.

F. TOILET FACILITIES

1. The Contractor shall provide temporary toilet facilities to be used by the Contractor's employees.

G. PARKING

1. The Contractor's employees will park only in areas designated by the City of Concord.

H. SITE SECURITY

1. The Contactor is responsible for maintaining security in the work areas at all times during work hours at the work site. The Contractor is responsible for securing the work areas at the end of the work day.

I. STORAGE

1. The Contractor shall supply temporary storage for all equipment and materials for the duration of the project. Storage facilities and dumpster(s) will be maintained in areas designated by the City of Concord.

J. HEATING/COOLING

1. The Contractor shall provide adequate heating and cooling in the work areas of the building to perform his work as appropriate.

6.0 NEGATIVE PRESSURE SYSTEM

A. GENERAL

1. The Contractor will provide high-efficiency particulate air (HEPA) filter exhaust systems equipped with new HEPA filters for the project. Exhaust equipment and systems shall comply with ANSI Z9.2-79 and used according to the manufacturer's recommendations.

2. A system of HEPA-equipped air filtration devices shall be configured so that a pressure differential is established between the work area and the surrounding area (-0.02" to -0.04" water column). A continuous chart-recorded manometer shall be used to confirm this condition. The Contractor shall provide a manometer or magnehelic-type negative pressure differential monitor with minor scale divisions of 0.005 inches of water and accuracy within plus or minus one percent. The manometer will be calibrated daily as recommended by the manufacturer.

3. The Contractor will provide additional air filtration devices inside the work areas for emergency standby as well as for circulation of dead air space.

4. The pressure differential will be maintained at all times after preparation is complete and until the final visual inspection and clearance air tests confirm the area is clean and acceptable for re-occupancy and the designer confirms verbally with written follow-up to discontinue the use of the negative pressure system.

5. Air shall be exhausted outside the building and away from the decontamination chamber if at all feasible. Any variations must be approved by the NC HHCU.

6. The Contractor shall check daily for leaks and document his checks in the bound logbook.

7. There shall be a minimum of four air changes per hour in any air containment area.

8. The Contractor shall change the pre-filters, secondary filters, and the HEPA filters as necessary to ensure negative pressure is maintained throughout the duration of the project.

9. The Contractor will install observation windows where feasible. The Contractor will work with the City of Concord's Air Monitor to determine feasibility and location. The observation windows will be provide a minimum of one square foot of visible area using a plexi-glass type material.

7.0 WORK AREA PREPARATION

A. GENERAL

1. Before abatement work begins at the work site, a decontamination unit must be in operation as outlined in Section 10.0

2. Completely isolate the work area from the other parts of the buildings and/or other project site areas so as to prevent contamination beyond the isolated area.

3. The Contractor shall set-up a work area, load out area, and decontamination unit at locations approved by City of Concord's on-site representative. Any variations must be approved by the City of Concord or their representative. The decontamination facility outside the work area shall consist of a change room, shower room, and equipment room, at a minimum, as described in Section 10.0

4. The Contractor shall wet clean and/or HEPA vacuum all items and equipment in the work area suspected of being contaminated with asbestos but not in direct contact with the asbestos material to be removed and either secure these items in place with two layers of polyethylene sheeting, air tight, or have them removed from the work area.

5. Critical Barriers: The Contractor shall thoroughly seal the work area for the duration of the project by completely sealing off all individual openings and fixtures in the work area, including but limited to, heating and ventilation ducts, doorways, corridors, windows, skylights, and lighting with two layers polyethylene sheeting taped securely in place. If the Contractor is using sealant materials to fill in small holes or cracks, the material shall have appropriate fire ratings. Protection for any non-moveable fixtures that may be on the walls, floors, or ceilings that are not part of the work shall be protected by appropriate means.

6. Walls: Apply two or more layers of 3 mil (minimum) polyethylene plastic sheeting (or equivalent thickness) with joints overlapped 24 inches and taped securely. Where needed, plastic sheeting shall be extended to at least five (5) feet above the floor and should be taped securely along the top and bottom of the sheeting.

7. Polyethylene sheeting on floors and walls shall be installed in such a manner that they may be removed independently of the critical barriers.

8. Entrances and exits from a work area will have triple barriers of polyethylene plastic sheeting in a z-configuration so that the work area is always closed off by one barrier when workers enter or exit the work area. The containment exits shall be adequately labeled and emergency evacuation routes shall be demarcated.

9. No ACM or water may be left on the floor at the end of the workday.

10. Floor surfaces, walls, finishes, or coverings, etc. that in the Contractor's opinion will be damaged by water or that may become contaminated with asbestos shall have additional protective preparation as the Contractor sees appropriate, at his cost, to protect the original condition of the surfaces.

11. Any costs associated with physical damage caused by water or securing polyethylene sheeting to areas inside or outside the abatement area shall be the Contractor's responsibility.

12. Provide caution signs at all approaches to asbestos-control areas containing concentrations of airborne asbestos fibers. Locate signs at such distance that personnel may read the signage and take the necessary protective steps required before entering the area. All signs will conform to 29 CFR 1926.1101 and 29 CFR 1926.62 requirements.

13. A negative pressure system shall be addressed as outlined in Section 6.0.

14. After work area preparation, the Contractor shall notify the City of Concord and the City of Concord's air monitoring firm with written follow-up that the Contractor is ready for a pre-work inspection.

8.0 WORKER PROTECTION

A. GENERAL

1. The Contractor shall provide worker protection as required by OSHA, state, and local standards applicable to the work being performed. The Contractor is solely responsible for enforcing worker protection requirements at least equal to those specified in this Section.

2. Each time the work area is entered, the Contractor shall require all persons to remove street clothes in the changing room of the personnel decontamination unit and put on new disposable coveralls, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.

3. Workers shall not eat, drink, smoke, chew gum, apply cosmetics, or chew tobacco in the work area, the equipment room, the load out area, or the clean room.

B. WORKER TRAINING

1. The Contractor will have his workers trained in accordance with 29 CFR 1926 and applicable North Carolina regulations regarding the dangers inherent in handling, breathing asbestos fibers, proper work procedures, and personal and area protective measures.

C. MEDICAL EXAMINATIONS

1. The Contractor will provide medical examinations for all his workers. The medical examinations shall, at a minimum, meet the OSHA requirements as set forth in 29 CFR 1926.

D. PROTECTIVE CLOTHING

1. The Contractor will provide disposable full-body coveralls and disposable head covers and require that all workers in the work area wear them. Provide a sufficient number for all required changes for all workers in the work area. Cloth work clothing may be worn underneath disposable protective clothing. However, this clothing is to remain inside the work area and be disposed of as asbestos contaminated waste.

2. Boots: The Contractor will provide work boots with non-skid soles, and where required by OSHA, additional foot protection for all workers. All boots/footwear

worn within the control area will be considered as asbestos contaminated material and may not be worn outside the control area.

3. Gloves: The Contractor will provide suitable work gloves to all workers and require that they be worn at the appropriate times. The work gloves are not to be removed from the work area and shall be disposed of as asbestos containing waste at the completion of the work.

4. The Contractor shall provide eye and ear protection as appropriate.

E. ADDITIONAL PROTECTIVE EQUIPMENT

1. The Contractor will provide the appropriate respirators or respirator system to ensure adequate respiratory protection, disposable coveralls, head covers, gloves, and footwear covers for the City of Concord, the City of Concord's representative, the City of Concord's air monitoring firm, or other authorized representatives who may inspect the work site at no cost to the City of Concord. The personal protective equipment provided by the Contractor shall remain the property of the Contractor.

F. DECONTAMINATION PROCEDURES

1. The Contractor will require that all workers use the following decontamination procedures as a minimum requirement whenever leaving the work area.

a. Remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.

b. With respirator in-place, proceed to showers. Showering is mandatory. Care should be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is a minimum:

- Throughly wet body including hair and face
- With respirator still in place thoroughly wash body, hair, respirator face piece, and all exterior parts of the respirator
- Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breathe.
- Carefully wash face piece of respirator inside and out
- Shower completely with soap and water, rinse thoroughly
- Rinse shower room walls and floor prior to exit
- Proceed from shower to changing (clean) room and change into street clothes or new disposable work items

c. After showering, each employee shall inspect, clean and repair his respirator as needed. The respirator shall be dried, placed in a suitable storage bag and properly stored.

d. Proceed to clean room, dry off, and dress in street clothes.

9.0 RESPIRATORY PROTECTION

A. GENERAL

1. All respiratory protection programs shall be established in accordance with the respiratory protection requirements of 29 CFR 1910.134 and 29 CFR 1926.1101. These regulations shall be considered a requirement of these specifications. The following sub-sections provide for the establishment of standard protection program, but do not relieve the Contractor from the implementation or enforcement of a respiratory protection program.

2. The Contractor shall designate an administrator for their respiratory program. The administrator shall be responsible for the implementation and enforcement of the provisions and procedures set forth in the respiratory protection program. The Contractor shall submit the name of the administrator to the City of Concord and APD.

3. The Contractor shall ensure that only those individuals who are medically able to wear respiratory protection equipment shall be issued a respirator. Before being issued a respirator, an employee of the Contractor shall have received a medical and physical examination and approved to wear a respirator.

4. Each employee of the Contractor that is determined to be fit to wear a respirator shall be fit tested, following applicable procedures outlined in OSHA regulations, upon receiving the respiratory equipment and then regularly throughout the project.

10. DECONTAMINATION UNITS

A. GENERAL

1. Personnel Decontamination Area

a. The Contractor shall establish a decontamination unit to include an equipment room, clean room, and a shower, at a minimum, outside each work area. The decontamination unit shall be located immediately adjacent to the work area unless another location is approved by the City of Concord or the City of Concord's on-site representative.

b. The clean room will contain boxes or lockers for each worker's street clothes. The boxes or lockers will be provided by the Contractor.

c. Maintain floor of the changing room so that it is dry and clean at all times.

d. Damp wipe all surfaces twice after each shift change with a disinfectant solution.

e. Provide hot and cold water, adequate drainage, and standard fixtures including an elevated showerhead as necessary for a complete and operable shower. A water hose and bucket is not an acceptable shower. Arrange water shut-off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the work area. Do not allow the overflow water from shower to escape the shower room.

f. Pump shower wastewater to drain. Provide 20 micron and 5 micron wastewater filters in line to drain. Change filters daily or more often if necessary.

g. If the decontamination area is located within an area containing friable asbestos on overhead ceilings, ducts, piping, etc., provide the area with a minimum 3/8 inch plywood "ceiling" with two layers of polyethylene sheeting covering the top of the plywood "ceiling".

h. Visual Barrier: When the decontamination area is immediately adjacent to and/or within the view of an occupied or public area, provide a solid barrier so that worker privacy is maintained and work procedures are not visible to the building occupants.

Construct barrier using wood or metal studs, 16 inches on center maximum, covered with a minimum of 3/8 inch plywood or equivalent.

2. Equipment Decontamination Units

a. Provide an equipment decontamination unit consisting of a serial arrangement of rooms - clean room, holding area, and washroom (at a minimum) with each room separated by a minimum of three curtain doorways for removal of equipment and material from work area. Do not allow personnel to enter or exit work area through equipment decontamination unit.

b. Washroom: Provide a washroom for cleaning of bagged or drummed asbestos waste materials passed from the work area.

c. Holding Area: Provide a holding area as a drop location for sealed drums and bagged asbestos waste materials passed from the washroom.

d. Clean Room: Provide a clean room to isolate the holding area from the building exterior or occupied areas.

e. Equipment or Material: Obtain all equipment or materials from the work area through the equipment decontamination unit according to the following procedure (at a minimum):

(1) When passing contaminated equipment, sealed plastic bags, drums or containers into the washroom, close all doorways of the equipment decontamination unit, other than the doorway between the work area and the washroom. Keep all outside personnel clear of the equipment decontamination unit.

(2) Once inside the washroom, wet-clean the bags and/or equipment.

(3) When wet-cleaning is complete, insert bagged waste material into a clean container (bag, drum, etc.) during the pass between the washroom and holding area. Close all doorways except the doorway between the washroom and holding area.

(4) Workers from the exterior of the work area enter the clean room then the holding area to remove decontaminated equipment and/or

containers for disposal. Require these workers to wear full protective clothing and respiratory protection as described in Section 8.0 and Section 9.0.

3. Maintenance of Enclosure System

   a. The Contractor's supervisor shall ensure that the barriers and plastic linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery. Areas of damage and the required repairs will be documented in the project logbook.

   b. The Contractor's supervisor shall visually inspect the asbestos removal enclosure at the beginning of each work shift.

   c. Use smoke methods to test the effectiveness of the enclosure system when requested by the City of Concord of City or Concord's designated representative.

4. Decontamination Unit Contamination

   a. If the air quality in the decontamination unit exceeds 0.01 fibers per cubic centimeter analyzed by PCM or 70 structures per square millimeter analyzed by TEM or its integrity is diminished through use as the City of Concord's air monitoring firm or other designated representative, no employee shall use the unit until corrective steps are taken and approved by the City of Concord's air monitoring firm or other designated representative.

11.0 PROJECT DECONTAMINATION

A. GENERAL

1. Carry out a first cleaning of all surfaces of the work area including plastic sheeting, tools, scaffolding, and/or staging equipment/materials by use of damp cleaning and/or mopping and a HEPA vacuum until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces. Do not perform dry dusting, dry sweeping, or blow down with high-pressure air or water systems.

2. Equipment shall be cleaned and all contaminated materials removed before removing polyethylene from the walls and floors.

3. The Contractor shall replace all pre-filters and clean the inside and outside of the HEPA exhaust units.

4. After removing polyethylene sheets from walls and floors but with polyethylene sheets remaining on all windows, doors, and critical components, the Contractor shall clean all surfaces in the work area including ducts, electrical conduits, steel beams, roof deck, etc. with amended water and then HEPA vacuum all surfaces.

5. After cleaning the work area, the Contractor shall allow the area to thoroughly dry and then wet-clean and HEPA vacuum all surfaces in the work area again.

6. At completion of the cleaning operations, the Contractor's supervisor shall perform a thorough visual inspection of the work area to ensure that the work area is dust and fiber free. When the supervisor believes the work area is ready for a final project decontamination inspection, he shall notify the City of Concord's air monitoring firm.

7. Upon notification of the Contractor's supervisor and after all work areas are dry, the personnel of the project's air monitoring firm shall perform a visual inspection for dust and/or fibers. The air monitoring firm will notify the Contractor's supervisor of any discrepancies found during the visual inspection. If the work area has not been adequately cleaned/decontaminated, cleaning shall be repeated at the Contractor's expense including additional visual inspections by the project's air monitoring firm until the work is found to be in compliance.

8. Assuming no discrepancies are noted and/or the work area is found to be in compliance, the Contractor shall apply an approved and compatible lockdown sealant to surfaces in the work area.

9. Once the lockdown sealant has been applied and the work area has dried, all entrances and exits shall be unsealed and the plastic sheeting, tape, and any other trash/debris shall be disposed of as ACM waste material as outlined in Section 14.

10. All HEPA unit intakes and exhausts shall be wrapped and sealed with 6 mil polyethylene before removing from the work area.

11. After the air monitoring firm has approved the final project decontamination and the Contractor has completed the tear down for occupancy by others, the air monitoring firm shall perform a final visual inspection of the work area.

12. Any residual ACM that is present after removing critical barriers that in the opinion of the air monitoring firm should have been removed/cleaned during the pre-cleaning phase prior to installing critical barriers shall be cleaned and re-cleared at the Contractor's expense.

13. There shall be appropriate seals totally enclosing the inspection area to keep it separate from clean areas or other areas where abatement/removal of ACM is or will be in progress. Once an area has been accepted and air monitoring has determined an area is found in compliance for re-occupancy, a loss of the critical barrier integrity or escape of asbestos dust into a previously identified clean area shall void the previous visual acceptance and air sampling clearance testing. Additional visual cleaning and air clearance sampling shall be required at the Contractor's expense.

14. Upon completion of the work, the Contractor shall remove all tools, equipment, and materials from the work area.

15. The Contractor shall leave the site clean, neat, and orderly and in a condition to begin new construction and/or renovation. The Contractor will be responsible for repair or replacement of the City of Concord's property damaged by the Contractor during performance of this project.

12.0 WORK AREA CLEARANCE

A. GENERAL

1. Notification and scheduling of the final inspection during the project is the responsibility of the Contractor.

B. FINAL CLEARANCE TESTING

1. After the second cleaning operation and after the area is completely dry, the following test procedures shall be performed:

   a. The air monitoring firm retained by the City of Concord shall conduct a final inspection. The inspection shall be conducted following the guidelines set forth in the American Society for Testing and Materials (ASTM), Standard Practices for the Visual Inspection of Asbestos Abatement Projects, Designation E1368.90. If the work area is found visibly clean, the air monitoring firm will collect air samples for final clearance.

   b. During the air testing, the accredited air monitor shall perform aggressive air sampling as described in the EPA-AHERA regulations (40 CFR Part 763, Subpart E, Appendix A). Where non-friable removal techniques are utilized with limited containment, non-aggressive air sampling shall be performed.

   c. Final clearance testing samples will be analyzed using either Phase Contrast Microscopy (PCM) or Transmission Electron Microscopy (TEM) Method described in 40 CFR Part 763, Subpart E, Appendix F will sampled as follows: during sampling, the maximum flow rate shall be 10 liters per minute or less with a minimum sample size of 1,200 liters for each sample. Clearance criteria shall be less than 0.01 fibers per cubic centimeter or an arithmetic mean less than or equal to 70 structures per square millimeter,respectively. Final clearance samples will be analyzed by an accredited laboratory within a 24 hour turn-around-time.

   d. The client will pay for the initial clearance sampling and analysis. If the initial clearance does not pass the required clearance criteria, additional cleaning will be performed by the abatement contractor at no additional cost to the client. In addition, the contractor will be responsible for all additional costs for clearance testing until the clearance criteria is met.

e. Final clearance criteria shall be in accordance with applicable federal and state regulations, unless otherwise noted. The air monitoring firm will submit to the City of Concord a final report which shall describe the activities performed during the abatement of ACM at the building.

f. The use of the negative pressure system, if necessary, may be discontinued after the air monitoring firm instructs the Contractor that they have passed the final project decontamination inspection.

PART 2 - PRODUCTS

A. GENERAL

1. The Contractor shall submit a list of all materials and products to be used during this project. The City of Concord reserves the right to review this list and reject any products deemed unacceptable. The Contractor will not substitute materials unless prior receipt of written approval by the City of Concord.

PART 3.0 – EXECUTION

13.0 ASBESTOS REMOVAL

A. GENERAL

1. It is the intent of this specification that the Contractor shall completely remove and dispose of all ACM from the work site as described herein this document. The identified areas of ACM are further described in this section, on the attached figures, and the attached laboratory results.

2. The Contractor shall perform the removal of all friable ACM or significantly damaged non-friable ACM from within reduced pressure enclosures or reduced pressure glove bag enclosures.

3. Prior to the Contractor's mobilization to the project site or starting the asbestos removal, the Contractor shall thoroughly decontaminate all equipment. The Contractor's equipment, decontamination units, and work area set-up shall be approved by the City of Concord's designated representative.

4. The Contractor shall be responsible for collecting personnel air monitoring samples in accordance with OSHA Construction Asbestos Standard 29 CFR 1926.1101 unless an initial exposure assessment has been submitted and approved by the City of Concord's representative. Results of the occupational and environmental sampling shall be submitted to the City of Concord's representative within three working days of collection, signed by the testing laboratory responsible official, the employee that performed the sampling, and the Contractor's competent person.

   a. The sampling results shall represent each job classification, or if working conditions are similar to previous projects by the same employer, the Contractor may provide previously collected exposure data that can be used to estimate worker exposures in accordance with 29 CFR 1926.1101. The data shall represent the worker's regular daily exposure to asbestos.

   b. The initial monitoring shall determine the requirements for further monitoring and the need to fully implement the control and protective requirements included in 29 CFR 1926.1101.

5. All loose asbestos material removed in the work area shall be adequately wetted, bagged, sealed, and labeled properly before personnel breaks or end of each shift.

6. All plastic sheeting, tape, cleaning materials, clothing, and all other disposable materials or items used in the work area shall be packed into sealable plastic bags (6 mil minimum thickness), doubled, and treated as contaminated material.

7. All materials shall be double-bagged prior to removing it from the established waste load out area.

8. All excess water (except shower water) shall be combined with removed material or other absorptive material and properly disposed of per EPA regulations. The Contractor shall not place water into storm drains, onto lawns, into ditches, creeks, streams, rivers, or oceans.

9. The City of Concord and/or the City of Concord's designated representative may consider alternate removal procedures and methods, however, alternate removal procedures and methods shall not be utilized unless authorized in writing by the City of Concord or the City of Concord's designated representative.

10. Various tasks may be combined with the approval, in writing, by the City of Concord or City of Concord's designated representative.

B. SCOPE OF WORK

1. The Contractor shall furnish all labor, materials, services, insurance, and equipment necessary for the removal and disposal of ACM and materials as described in this section in the designated areas of the City of Concord Housing Authority Office building located at 180 and 188 Corban Avenue SW in Concord, North Carolina (Figure 1). The abatement/removal and disposal will be performed in accordance with the appropriate and applicable Federal, State, and Local guidelines and regulations.

2. The quantities shown in this Section are estimates only. The Contractor has the responsibility for determining the actual quantities of material to be abated, removed, and disposed of. No additional contract price adjustments will be allowed due to variances between actual and the estimated quantities listed herein.

3. Three Buildings – 180 and 188 Corban Avenue SW

Start Date: To Be Determined – Allowable work hours will be as follows:
Monday – Saturday 7 am to 7 pm

Prior to starting the abatement of asbestos containing mastic, the contractor will seal all HVAC vents or other openings in a manner to prevent migration of dust into the building's ductwork or outside the work area. If necessary, the contractor will seal all other items such as light fixtures, etc. to prevent possible contamination as a result of the abatement activities. Once the necessary prep work has been completed and the work area has been approved by the client or the client's approved representative, the contractor will proceed with the abatement of the following materials.

Roof Mastic – Buildings 1 and 3

Remove and dispose of an estimated 170 square feet of roof mastic on the rubber membrane roof layer of Buildings 1 and 3.

Floor Tile – Building 1

Remove and dispose of an estimated 13,280 square feet of floor tile on the 2nd and 3rd floors of Building 1.

Sprayed-on Ceiling Finish – Building 1

Remove and dispose of an estimated 19,920 square feet of sprayed-on ceiling finish on the 1st, 2nd, and 3rd floors of Building 1.

Floor Tile – Building 2

Remove and dispose of an estimated 2,750 square feet of floor tile in Building 2.

Sprayed-on Ceiling Finish – Building 2

Remove and dispose of an estimated 2,750 square feet of floor tile in Building 2.

Floor Tile – Building 3

Remove and dispose of an estimated 20,190 square feet of floor tile on the 1st, 2nd, and 3rd floors of Building 3.

Sprayed-on Ceiling Finish – Building 3

Remove and dispose of an estimated 26,290 square feet of sprayed-on ceiling finish on the Ground, 1st, 2nd, and 3rd floors of Building 3.

14.0 ASBESTOS REMOVAL METHODS

1. Asbestos Removal

   a. Establish a control area as outlined in Section 7.0 and 10.0 of this specification.

   b. Pre-clean and decontaminate all items appropriately that may be contaminated within the control area. Remove and dispose of any asbestos contaminated items if they cannot be decontaminated.

   c. The ACM shall be wet down and removed and placed into properly labeled 6 mil polyethylene bags and sealed with duct tape. Seal bag within a clean bag.

   d. Any additional waste materials shall be placed into properly labeled 6 mil polyethylene bags and seal with duct tape. Seal bag within a clean bag.

   e. After asbestos removal, no asbestos materials shall be visible on exposed surfaces. If so, clean-up work shall be done at the Contractor's expense until all visible evidence of asbestos has been removed.

   f. Glove Bag Removal: As appropriate or as needed, the Contractor may use glove bags for removal of pipe insulation as allowed by current OSHA Standard 1926.1101.

      (1) Position bag around the pipe insulation to be removed and seal to pipe with tape. Construct a sealed side port to allow access for wetting asbestos and evacuating the bag with a HEPA filtered vacuum. In accordance with the OSHA Standards, each glove bag shall be smoke-tested for leaks and any leaks sealed prior to use.

      (2) Wet the insulation as much as possible to minimize dust generation.

      (3) Cut insulation along a joint with a sharp knife into manageable sections and let fall into bag.

      (4) Scrape all residual insulation completely off pipes, brackets, and hangers.

      (5) Tape glove together below pipe before removing bag from pipe. Completely evacuate air from bag with a HEPA vacuum.

      (6) Place contaminated glove bag into a properly labeled 6 mil polyethylene bag and seal with duct tape.

15.0 DISPOSAL OF ASBESTOS CONTAINING WASTE MATERIAL

A. GENERAL

1. Within the work area, all asbestos containing materials and miscellaneous contaminated debris shall be immediately placed into properly labeled 6 mil polyethylene bags or appropriate non-porous waste containers; properly sealed and protected. All material shall be double bagged and wet-wiped prior to removing to waste load-out area.

2. If a dumpster is to remain on the project site during abatement/removal operations to accumulate waste before disposal, then it must be completely closed or covered (no open-top dumpsters). The load-out vehicle/dumpster shall be locked and labeled with warning signs while located at the project site. The placement of the dumpster shall be approved by the City of Concord.

3. Waste disposal polyethylene bags (6 mil thickness minimum) and containers, non-porous (steel/plastic) drums or equivalent, with labels, appropriate for storing asbestos waste during transportation to the disposal site shall be utilized. In addition to the OSHA, NESHAP, and DOT labeling requirements, all containers shall be labeled with the date of removal, the name of the waste generator, and the location at which the waste was generated.

4. The Contractor shall transport the containers and bags of ACM waste material to the approved waste disposal site. An enclosed vehicle will be used to haul the ACM waste materials to the disposal site. No rental vehicles or trailers shall be used. Vehicle selection, vehicle covers, and associated work practices shall assure that no asbestos dust becomes airborne during the loading, transport, and unloading activities, and that materials placed at the waste site is performed without breaking any seals. Transportation of the waste material to the pre-designated disposal site shall be in accordance with 40 CFR 61.150 and DOT 49 CFR Parts 100 – 399.

5. Workers loading and unloading the asbestos waste materials shall wear respirators and disposable clothing when handling waste materials. Asbestos warning signs shall be posted during loading and unloading the asbestos waste materials.

6. The Contractor shall use the NC HHCU's Waste Shipment Record (Form 3787) for disposal records per 40 CFR 61.150 and distribute a copy of all waste shipment records to the City of Concord after completion of the project.

16.0 REMOVAL AND DISPOSAL OF BUILDING COMPONENTS WITH LBP

A. GENERAL

Lead-based paint (LBP) was identified on various building components as follows:

Metal window frames (white) in Buildings 1, 2, & 3

Metal exterior door frames (white) in Building 2

Metal exterior doors (white) in Building 2

Metal stair frames (black) in Buildings 1 & 3

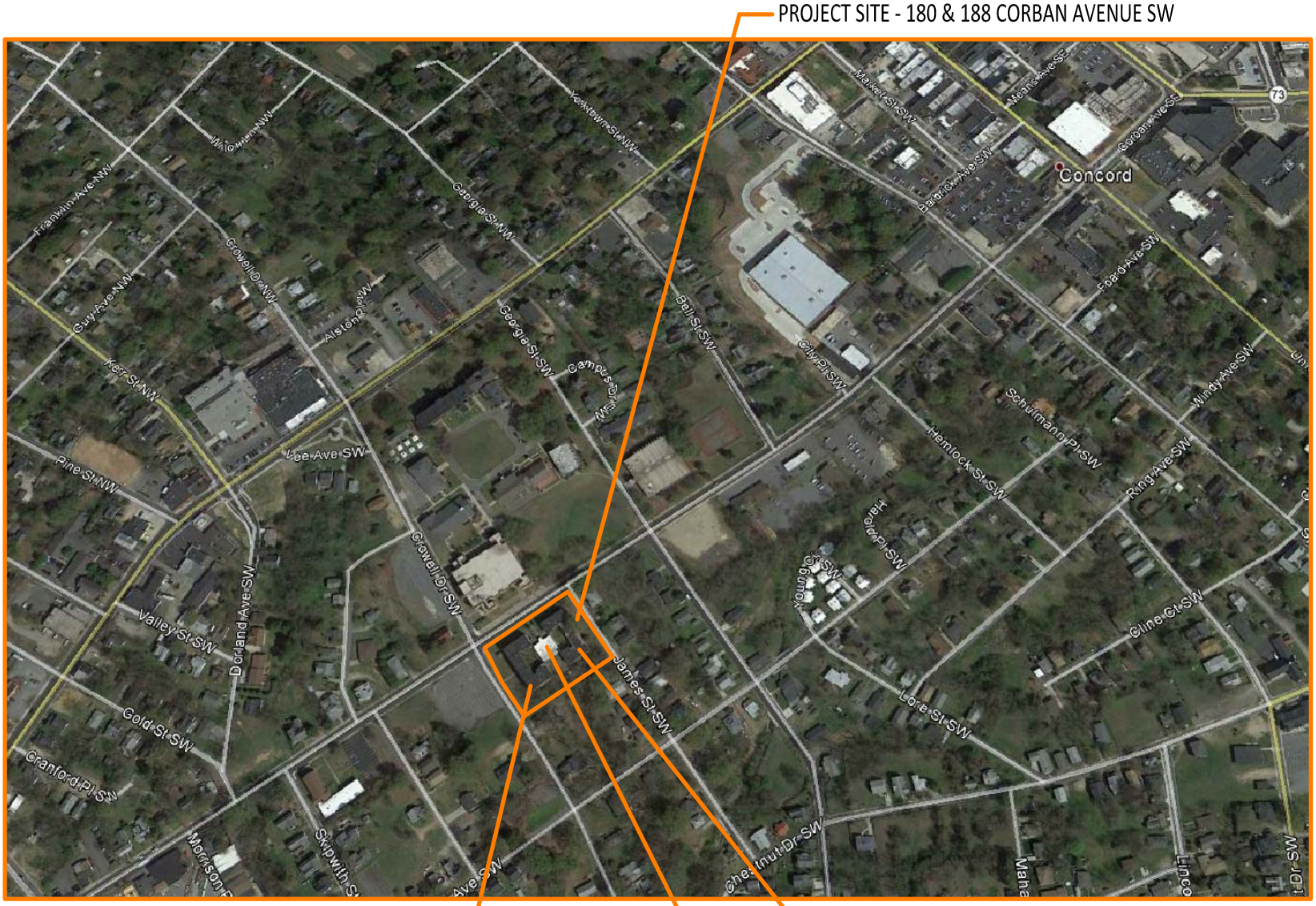
Metal exterior decking (white) in Buildings 1 & 3

The building components with LBP should be segregated from other debris during the demolition process and disposed of in accordance with applicable procedures regulations.

END OF SPECIFICATION

APPENDIX 1

FIGURE



PROJ. NUM.: 2013 - 11 - 091
DATE: November 11, 2013

SITE
LOCATION PLAN

ALLIED CONSULTING &
ENVIRONMENTAL SERVICES
SHELBY, NORTH CAROLINA
P.O. BOX 2426 (28151-2426) 704-600-6255
409 E. MARION ST. (28150) FAX 704-482-5596

ASBESTOS ABATEMENT & REMOVAL/DISPOSAL OF BUILDING COMPONENTS WITH LBP
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
1

APPENDIX 2

PREVIOUS ASBESTOS SURVEY REPORT

SURVEY REPORT FOR ASBESTOS CONTAINING MATERIALS AND LEAD PAINT

Prepared for:

CITY OF CONCORD

POST OFFICE BOX 308

CONCORD, NORTH CAROLINA 28026-0308

Regarding:

PROPOSED BUILDING DEMOLITION

THREE BUILDINGS @ BARBER SCOTIA COLLEGE

180 AND 188 CORBAN AVENUE SW

CONCORD, NORTH CAROLINA

ACES Project No.: 2013-10-083

October 25, 2013

SURVEY REPORT FOR ASBESTOS CONTAINING MATERIALS AND LEAD PAINT

Prepared for:

CITY OF CONCORD

POST OFFICE BOX 308

CONCORD, NORTH CAROLINA 28026-0308

Regarding:

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THREE BUILDINGS @ BARBER SCOTIA COLLEGE

180 AND 188 CORBAN AVENUE SW

CONCORD, NORTH CAROLINA

ACES Project No.: 2013-10-083

October 25, 2013

Prepared by:

DeWitt Whitten, CHMM, REM, CES, REPA
General Manager
NC Licensed Asbestos Inspector #10706

Reviewed by:

Robert L. Smith, AIA, LEED AP
Managing Partner

TABLE OF CONTENTS

1.0 INTRODUCTION

As authorized by Mr. Enrique Blat of the City of Concord on October 11, 2013, Allied Consulting and Environmental Services, LLC (ACES) personnel performed a survey for suspect asbestos containing materials (ACM) and lead paint for three buildings located on the campus of Barber Scotia College (Figure 1 in Appendix 1). The buildings are located at 180 and 188 Corban Avenue SW in Concord, North Carolina. The survey was performed on October 15, 2013. The survey was conducted for the purpose of identifying asbestos containing materials and painted surfaces of building components containing lead that may be impacted by the proposed demolition of the structures.

2.0 GENERAL BACKGROUND INFORMATION

2.1 Asbestos

The term "asbestos" refers to a group of naturally-occurring, fibrous minerals that are commercially mined throughout the world, primarily in Canada, Russia, and South Africa. Asbestos has been used in hundreds of products. Collectively, these products are referred to as asbestos-containing materials (ACMs). Asbestos gained wide use because it is plentiful, readily available, low in cost, and because of its unique properties – fire resistance, high tensile strength, resistance, and insulating characteristics.

As an insulator, asbestos received wide spread use for thermal insulation and condensation control. Asbestos is added to a variety of building materials to enhance strength. It is found in concrete and concrete-like products. Asbestos cement products are used as siding and roofing shingles, wallboard, as corrugated or flat sheets for roofing and partition walls, and as piping. Asbestos has also been added to asphalt, vinyl, and other materials to make products like roofing cements, felts and shingles, exterior siding materials, floor tiles, joint compounds, and mastics/adhesives. Asbestos also proved valuable as a component of acoustical plaster. This material was troweled on or sprayed on to ceilings or walls. As a decorative product, asbestos was frequently used to texture ceilings, walls, and other painted surfaces. Asbestos is still mined commercially and used in many common products, including brake shoes, roofing materials, and flooring products. It is important to realize that commercially available products containing asbestos can still be purchased. It is a common misconception that asbestos is no longer used.

The three most commonly encountered types of asbestos are sometimes referred to by their predominant color. Chrysotile (white) is by far the most frequently used asbestos mineral, constituting approximately 95% of all commercial and industrial applications. Chrysotile fibers are long and flexible and can be spun or woven into cloth. Amosite (brown) and crocidolite (blue) are used in approximately 4-5% of asbestos-containing products.

The U.S. Environmental Protection Agency promulgated the National Emission Standards for Hazardous Air Pollutants (NESHAP) [40 CFR Part 61], which addresses the application, removal, and disposal of asbestos-containing materials (ACM). Under NESHAP the following categories are defined for asbestos-containing materials:

Friable - When dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

Nonfriable - When dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

Category I Nonfriable ACM - Packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than 1% asbestos.

Category II Nonfriable ACM – Any material excluding Category I Nonfriable ACM containing more than 1% asbestos.

Regulated Asbestos Containing Material (RACM) – One of the following:

1. Friable ACM
2. Category I Nonfriable ACM that has become friable.
3. Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading.
4. Category II Nonfriable ACM that has a high probability of becoming, or has become, friable by the forces expected to act on the material in the course of demolition or renovation operations.

Under NESHAP, the following actions are required:

1. Prior to the commencement of demolition or renovation activities, the building owner must inspect the affected facility or part of the facility where the demolition or renovation activities will occur for the presence of asbestos.
2. Remove all RACM from the facility before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access for subsequent removal.
3. RACM need not be removed if:
   a) It is Category I nonfriable ACM that is not in poor condition.
   b) It is on a facility component that is encased in concrete or other similar material and is adequately wet whenever exposed.
   c) It was not accessible for testing and was therefore not discovered until after demolition began and because of the demolition the material cannot be safely removed.
   d) It is Category II nonfriable ACM and the probability is low that the material will become crumbled, pulverized, or reduced to powder during demolition.

The Occupational Safety and Health Administration (OSHA) has established three sets of regulatory standards pertaining to asbestos exposure:

29 CFR 1910.1001	General Industry
29 CFR 1926.1101	Construction Industry
29 CFR 1910.134	Respiratory Protection

The construction industry standard covers activities involving asbestos demolition, removal, alteration, repair, maintenance, installation, cleanup, transportation, disposal, and storage. The general industry standard covers other activities where asbestos exposure is possible. Addressed under the OSHA standards are building owner / employer responsibilities regarding the identification of identified or presumed asbestos containing materials (PACM), notification to tenants / employees of the presence of asbestos, employee training, and work procedures.

2.2 Lead-based Paint

Lead-based paint is paint containing lead, a heavy metal, which is used as pigment. Lead chromate (PbCrO4 - "chrome yellow") and lead carbonate(PbCO3 - "white lead") are the most common lead compounds used as pigments. Lead is also added to paint to speed drying, increase durability, retain a fresh appearance, and resist moisture that causes corrosion. Paint with significant lead content is still used in industry and by the military. For example, leaded paint is sometimes used to paint roadway markings and parking lot lines.

Although lead improves paint performance, it is a dangerous substance. It is especially damaging to children under age six whose bodies are still developing. Lead causes nervous system damage, hearing loss, stunted growth, and delayed development. It can cause kidney damage and affects every organ system of the body. It also is dangerous to adults, and can cause reproductive problems for both men and women. One myth related to lead-based paint is that the most common cause of poisoning was eating leaded paint chips. In fact, the most common pathway of childhood lead exposure is through ingestion of lead dust through normal hand-to-mouth contact during which children swallow lead dust dislodged from deteriorated paint or lead dust generated during remodeling or painting. Lead dust from remodeling or deteriorated paint lands on the floor near where children play and can ingest it. Paint containing more than 0.06% (600 ppm) lead was banned for residential use in the United States in 1978 by the U.S. Consumer Product Safety Commission (16 Code of Federal Regulations CFR 1303). The U.S. Government defines "lead-based paint" as any "paint, surface coating that contains lead equal to or exceeding one milligram per square centimeter (1.0 mg/cm^2) or 0.5% by weight." These definitions are used to enforce regulations that apply to certain activities conducted in housing constructed prior to 1978, such as abatement, or the permanent elimination of a "lead-based paint hazard." Construction activities that involve LBP are addressed OSHA in 29 CFR 1926.62 (Lead in Construction).

2.3 Project Scope

The three buildings are located at 180 and 188 Corban Avenue SW in Concord, North Carolina (Figure 1 in Appendix 1). The buildings are located on a portion of the campus of Barber Scotia College and at the time of our survey were not occupied. A summary of the buildings is presented in Table 1.

TABLE 1 – BUILDING SUMMARY				
BUILDING NO.	**BUILDING NAME**	**YEAR BUILT**	**NO. OF STORIES**	**ESTIMATED FLOOR AREA**
1	C.E. Boulware Hall	1968	3	6,640 sq. ft./floor
2	Director's Office	1968	1	2,862 sq. ft.
3	Mary McLeod Bethune Hall	1969	4	6,730 sq. ft./floor

3.0 METHODOLOGY

3.1 Asbestos

For this project, a visual, invasive survey and sampling for suspect asbestos containing materials (ACM) was conducted at the above referenced building. ACES personnel submitted a total of one hundred and twenty-four (124) bulk samples of suspect ACM that may be impacted by the planned renovation project. Samples were collected by a NC Licensed Asbestos Inspector (DeWitt Whitten - #10706) and submitted to a NVLAP Accredited Asbestos Laboratory (EMSL in Charlotte, NC). Samples were analyzed using Polarized Light Microscopy (PLM) by EPA Method 600/R-93/116. Due to some materials consisting of more than one layer, a total of one hundred and fifty-four (154) samples were analyzed by the laboratory. Samples included the following materials: ceiling finish, drywall, spackling (joint compound), lay-in ceiling tile, floor tile and associated mastic, and roofing materials. Please refer to the Sample Location Plans (Figure Nos. 2 - 11) and the Chain of Custody sheet in Appendices 1 and 2, respectively, for the approximate sample locations and the specific materials sampled.

3.2 Lead-based Paint

A North Carolina Lead-based Paint Risk Assessor (Mr. DeWitt Whitten, Risk Assessor #120118) performed a limited lead-based paint (LBP) survey of the interior and exterior painted surfaces at one hundred and fifteen (115) locations in the three structures. Please refer to the Sample Location Plans (Figure Nos. 12 - 19) and the XRF Tables in Appendices 1 and 3, respectively, for the approximate test locations and the specific materials sampled. The testing was conducted using a INNOV-X Portable X-ray Fluorescence (XRF) Analyzer to screen surface coatings that may contain lead. The sampling for lead-based paint was not a comprehensive surface by surface testing of the paint (*e.g.* a HUD level survey), but consisted of testing representative

painted surfaces for the presence of LBP. Surfaces tested included exterior and interior walls, metal columns and railings, ceilings, door frames, doors, and windows.

4.0 FINDINGS AND RECOMMENDATIONS

4.1 Non-Asbestos Containing Materials - Findings

Ninety-three (93) of the one hundred and fifty-four (154) samples of suspect ACM collected on October 16, 2013 and analyzed by EMSL did not contain asbestos, (i.e. greater than one percent asbestos).

4.2 Asbestos Containing Materials - Findings

Asbestos was detected in sixty-one (61) of the one hundred and fifty-four (154) samples analyzed by EMSL as shown in Table 2.

TABLE 2 - SUMMARY OF IDENTIFIED ACM

BUILDING NO.	SAMPLE ID	SAMPLE DESCRIPTION	LOCATION	PERCENT ASBESTOS	FRIABLE	APPROX. QUANTITY
1	M-1,2	Roof Mastic	Roof	3	No	80 sq. feet
1	CF-1, 2, 3, 4, 5	Ceiling Finish	1st Floor	1 - 4	Yes	6,640 sq. ft.
1	FT-3, 4	Floor Tile	2nd Floor	3	No	6,640 sq. ft.
1	CF-6, 7, 8, 9, 10	Ceiling Finish	2nd Floor	2 - 3	Yes	6,640 sq. ft.
1	FT-5, 6	Floor Tile	3rd Floor	2	No	6,640 sq. ft.
1	CF-11, 12, 13, 14, 15	Ceiling Finish	3rd Floor	2 - 3	Yes	6,640 sq. ft.
2	FT-1, 2	Floor Tile	1st Floor	2	No	2,750 sq. ft.
2	CF-1, 2, 3, 4, 5	Ceiling Finish	1st Floor	3 - 4	Yes	2,750 sq. ft.
3	M-1, 2	Roof Mastic	Roof	4	No	90 sq. ft.
3	CF-1, 2, 3, 4, 5, 6, 7	Ceiling Finish	Ground Floor	3 - 4	Yes	6,100 sq. ft.
3	FT-3, 4	Floor Tile & Mastic	1st Floor	3 - 5	No	6,730 sq. ft.
3	CF-8, 9, 10, 11, 12	Ceiling Finish	1st Floor	3 - 4	Yes	6,730 sq. ft.
3	FT-5, 6	Floor Tile & Mastic	2nd Floor	2 – 5	No	6,730 sq. ft.
3	CF-13, 14, 15, 16, 17	Ceiling Finish	2nd Floor	2 – 4	Yes	6,730 sq. ft.
3	FT-7, 8	Floor Tile & Mastic	3rd Floor	3 – 4	No	6,730 sq. ft.
3	CF-18, 19, 20, 21, 22	Ceiling Finish	3rd Floor	4 - 5	Yes	6,730 sq. ft.

4.3 Lead-based Paint Findings

The results of the testing (Appendix 3) revealed that lead-based paint is present on the painted surfaces at the buildings surveyed as shown in Table 3.

TABLE 3 – SUMMARY OF LEAD-BASED PAINT FINDINGS						
BUILDING NO.	**XRF TEST NO.**	**INT./EXT.**	**SUBSTRATE**	**FEATURE**	**COLOR**	**XRF RDG.** [1]
1	35	Interior	Metal	Window	White	> 1.0
2	52	Exterior	Metal	Door Frame	White	> 1.0
2	53	Exterior	Metal	Door	White	> 1.0
3	57	Exterior	Metal	Stair Frame	Black	1.04
3	66	Exterior	Metal	Decking	White	2.36

NOTES: 1 – Units are mg/cm^2

4.4 Lead Containing Materials - Findings

The results of the testing (Appendix 3) also revealed that lead containing paint is present on the painted surfaces at the buildings surveyed. While these painted materials do not have a sufficient quantity of lead to be classified as lead-based paint (≥ 1 mg/cm^2), lead is present and care should be taken to not disturb or damage lead containing materials in a manner that may create a lead dust hazard.

4.5 Recommendations - Asbestos Containing Materials

Based upon the analysis of the suspect asbestos containing materials (ACM), it appears that a asbestos containing materials are present in the buildings. The ACM includes the following materials.

TABLE 4 – SUMMARY OF ACM			
BUILDING NO.	**ACM**	**LOCATION**	**ESTIMATED QUANTITY**
1	Roof Mastic	Roof	80 sq. feet
1	Ceiling Finish	1st, 2nd, & 3rd Floors	19,920 sq. ft.
1	Floor Tile	2nd & 3rd Floors	13,280 sq. ft.
2	Ceiling Finish	1st Floor	2,750 sq. ft.
2	Floor Tile	1st Floor	2,750 sq. ft.
3	Roof Mastic	Roof	90 sq. feet
3	Ceiling Finish	1st, 2nd, & 3rd Floors	20,190 sq. ft.
3	Floor Tile & Mastic	1st, 2nd, & 3rd Floors	20,190 sq. ft.

The roof mastic, floor tile (9”x9”), and the mastic associated with the floor tile (9”x9”) in Building 3 are classified as Category 1 Non-friable ACM in its current condition. For demolition

purposes, it is recommended that the floor tile (9”x9”) in Buildings #1 and #3 and the mastic associated with the floor tile (9”x9”) in Building 3 be considered a Regulated Asbestos Containing Material (RACM) and be removed prior to demolition of the buildings. In addition, the ceiling finish is considered friable and is also a RACM and must be abated prior to demolition. Disposal of the removed ACM should be in accordance with applicable local, state, and federal regulations/guidelines by accredited personnel. Based upon the estimated quantity of ACM, an asbestos abatement design plan and permitting of the abatement and demolition is required by applicable federal and state regulations prior to the abatement of the RACM.

4.6 Recommendations – Lead-based Paint and Lead Containing Materials

Lead-based paint (LBP), i.e. paint that contains lead equal to or exceeding one milligram per square centimeter (1.0 mg/cm^2), was identified in the buildings including: interior windows of Building #1, exterior doors and door frames in Building #2, and decking in Building #3. In addition, lead was identified on other painted surfaces but the concentration did not meet the definition of LBP. Building components with LBP must be properly encapsulated, removed and disposed of properly in accordance with the appropriate local, state, and federal regulations by qualified personnel. If the LBP will be impacted as a result of the proposed demolition and the LBP must be abated, the abatement should be performed by accredited personnel in accordance with the appropriate local, state, and federal regulations. If the LBP is abated by wet scraping, use of removal agents, or other approved removal methods, the generated waste materials must be analyzed and disposed of in accordance with appropriate local, state, and federal regulations. Building components with LBP that can be removed as a unit without the disturbance of the LBP must be disposed of at a properly permitted construction and demolition (C&D) landfill or in a municipal solid waste landfill. For painted surfaces where LBP was not present but lead was present and would be impacted by the renovation activities, the necessary protection for the potential exposure to lead that may be present should be addressed as outlined in applicable Occupational Safety and Health Administration (OSHA) regulatory standards. All waste materials from the demolition should be collected and disposed of in accordance with applicable state and federal regulations,

5.0 LIMITATIONS

This report has been prepared for the exclusive use of The City of Concord and their agents for specific application to the three buildings located at 180 and 188 Corban Avenue SW in Concord, North Carolina. This report has been prepared in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made. Our observations are based upon conditions readily visible at the time of our site visit. We have not verified the completeness or accuracy of the information provided by others.

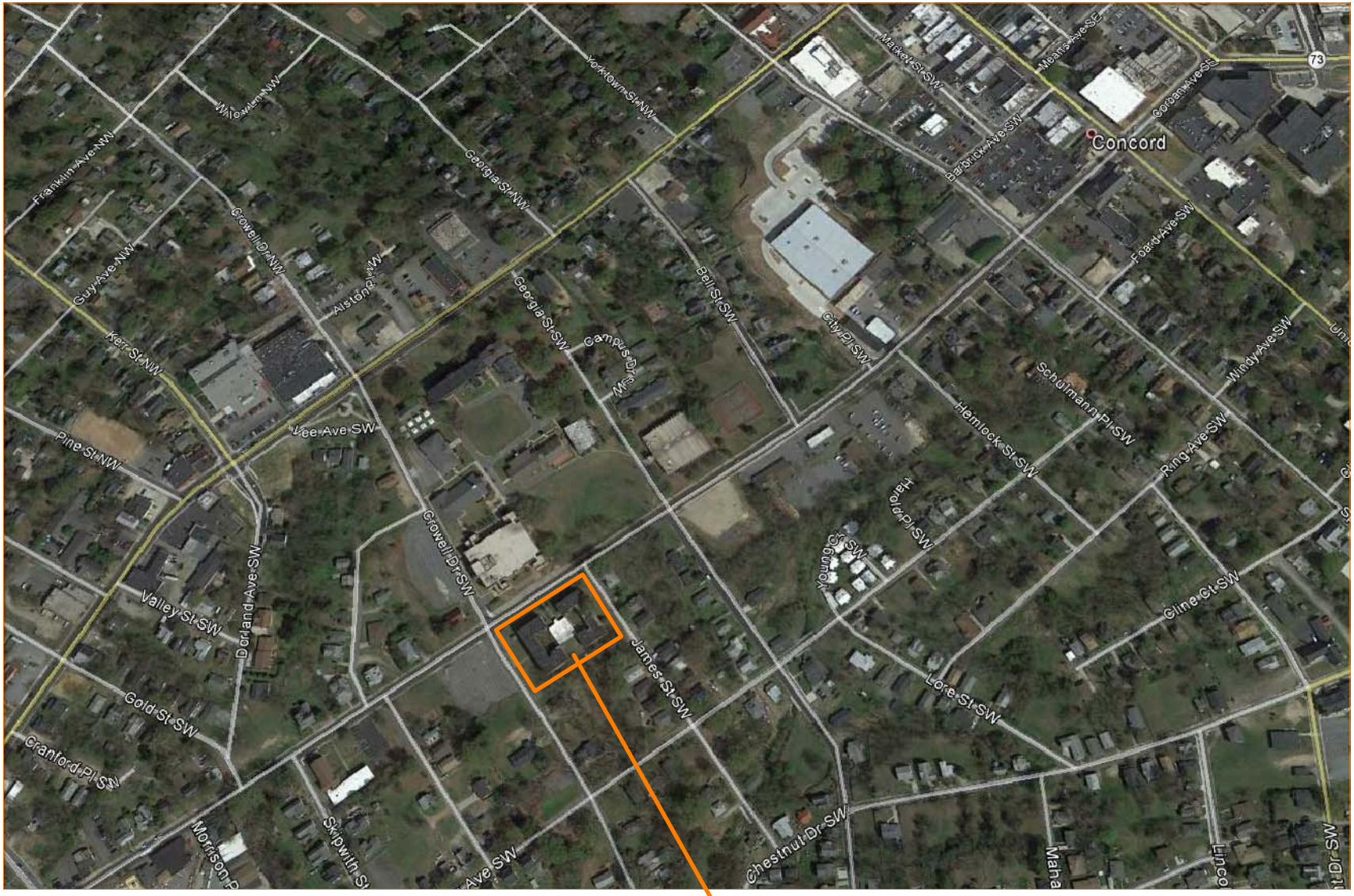
During the site visit, accessible areas were visually surveyed for the presence of suspect asbestos containing materials (ACM). Inaccessible areas, such as above ceilings or behind walls may have not been surveyed; therefore, all ACM may not have been identified. Areas inspected were those designated by the scope of services. As with any similar survey of this nature, actual conditions exist only at the precise locations from which bulk samples were collected. Certain inferences are based on the results of this sampling and related testing to form a professional opinion of conditions in areas beyond those from which the samples were collected. No other warranty, expressed or implied, is made.

Under the scope of services, ACES assumes no responsibility regarding response actions (e.g. O&M Plan, encapsulation, abatement, removal, worker notification, etc.) initiated as a result of these findings. ACES assumes no liability for the duties and responsibilities of the Building Owner with respect to compliance with these regulations. Compliance with regulations and response actions are the sole responsibility of the Building Owner and should be conducted in accordance with local, state and/or federal requirements, and should be performed by appropriately qualified and licensed personnel, as warranted.

ACES, by virtue of providing the services described in this report, does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies any conditions at the site that may present a potential danger to public health, safety, or the environment. It is the client's responsibility to notify the appropriate local, state, or federal public agencies as required by law, or otherwise to disclose, in a timely manner, any information that may be necessary to prevent any danger to public health, safety, or the environment.

APPENDIX 1

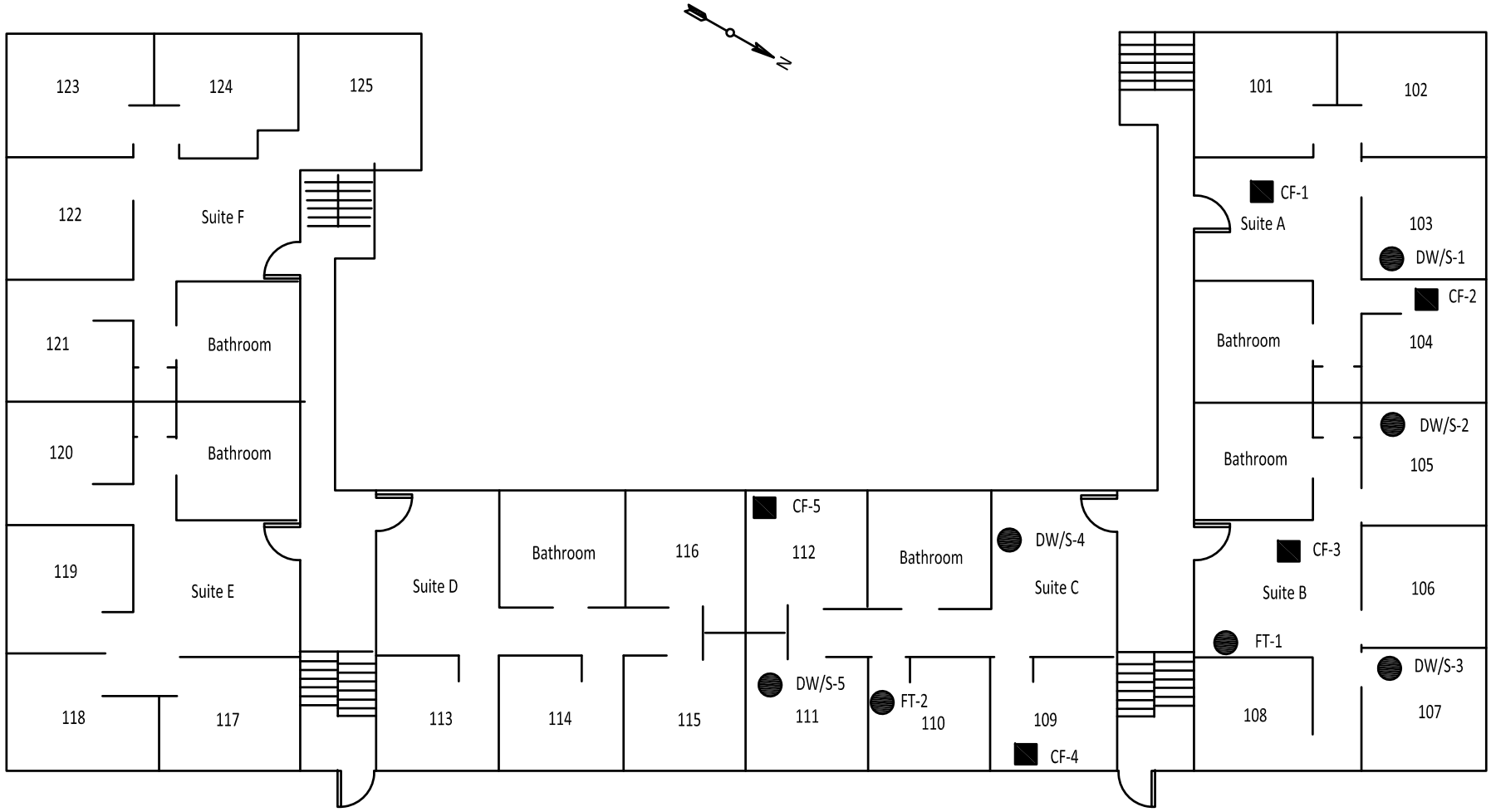
FIGURES



PROJ. NUM.: 2013 - 10 - 083 **DATE:** October 23, 2013 SITE LOCATION PLAN	ALLIED CONSULTING & ENVIRONMENTAL SERVICES SHELBY, NORTH CAROLINA P.O. BOX 2426 (28151-2426) 704-600-6255 409 E. MARION ST. (28150) FAX 704-482-5596	**ASBESTOS & LEAD PAINT SURVEYS** **180 & 188 CORBAN AVENUE SW** **CONCORD, NORTH CAROLINA**

FIGURE

1



LEGEND

APPROXIMATE SAMPLE LOCATION - NO ASBESTOS DETECTED or LESS THAN 1% ASBESTOS

APPROXIMATE SAMPLE LOCATION - ASBESTOS DETECTED

BUILDING #1 - FIRST FLOOR

PROJ. NUM.: 2013 - 10 - 083

DATE: October 23, 2013

SAMPLE LOCATION PLAN

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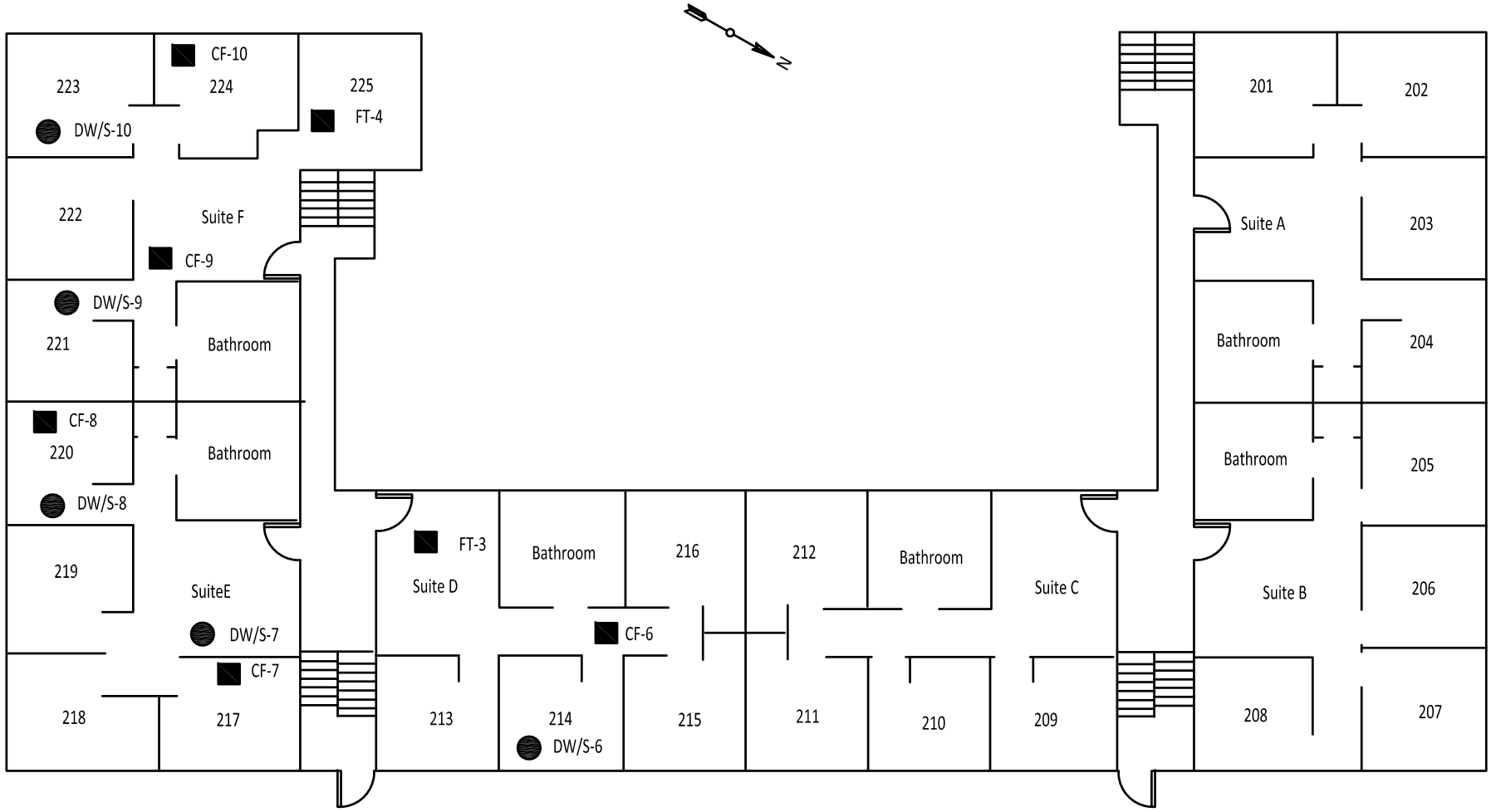
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE

2



LEGEND

APPROXIMATE SAMPLE LOCATION - NO ASBESTOS DETECTED

APPROXIMATE SAMPLE LOCATION - ASBESTOS DETECTED

BUILDING #1 - SECOND FLOOR

PROJ. NUM.: 2013 - 10 - 083

DATE: October 23, 2013

SAMPLE LOCATION PLAN

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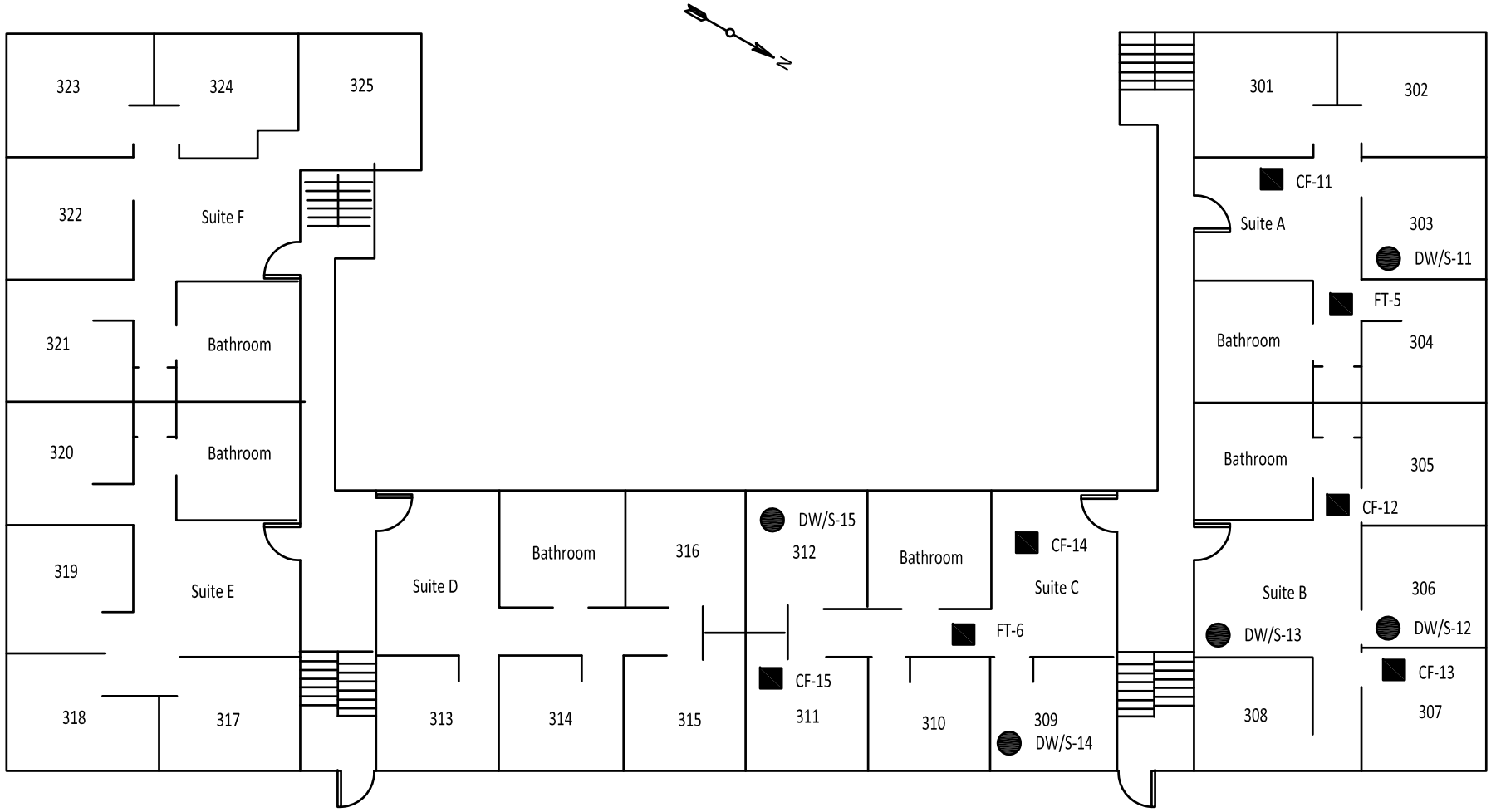
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE

3



LEGEND

APPROXIMATE SAMPLE LOCATION - NO ASBESTOS DETECTED

APPROXIMATE SAMPLE LOCATION - ASBESTOS DETECTED

BUILDING #1 - THIRD FLOOR

PROJ. NUM.: 2013 - 10 - 083

DATE: October 23, 2013

SAMPLE LOCATION PLAN

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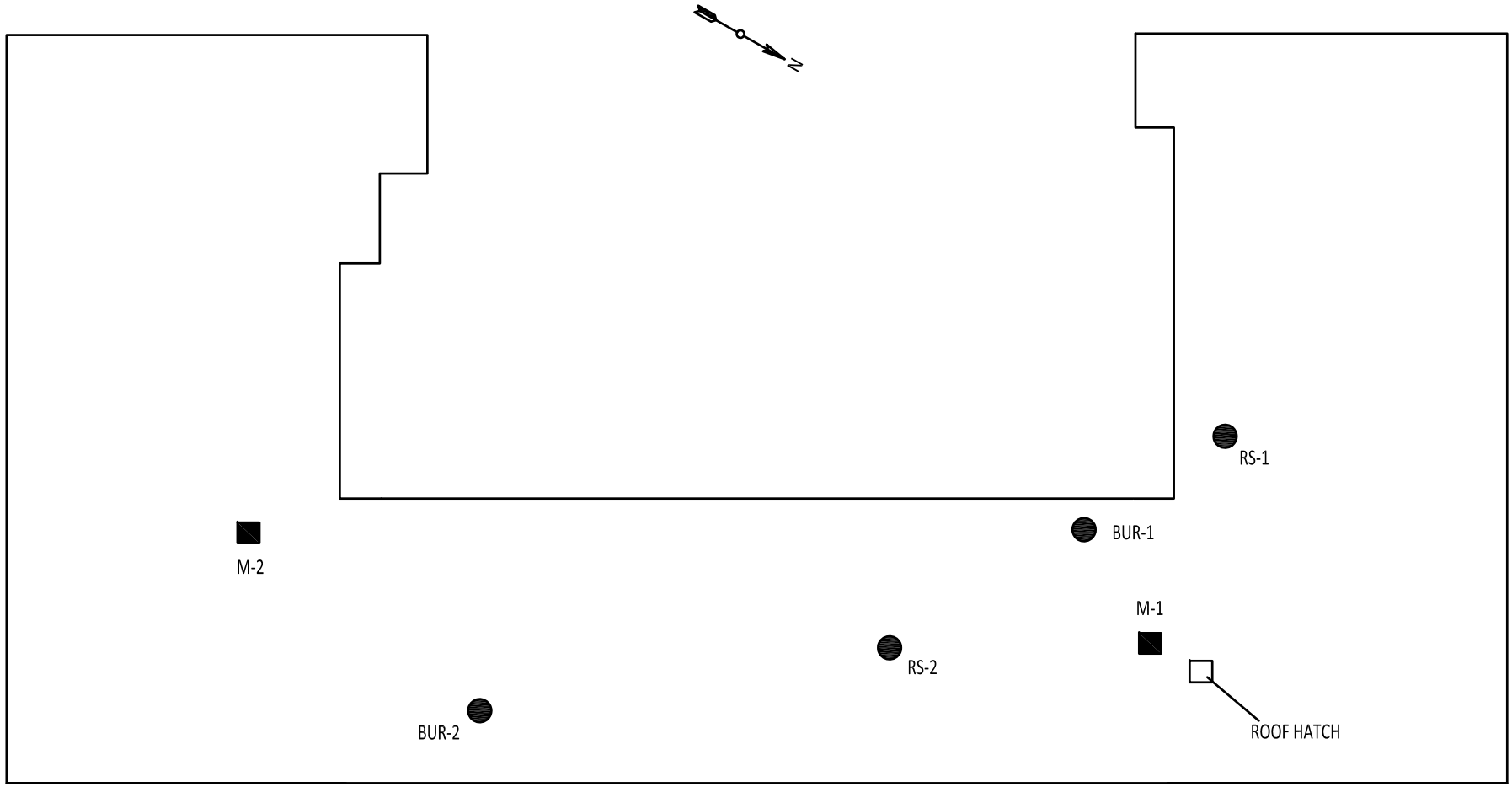
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE

4



LEGEND

APPROXIMATE SAMPLE LOCATION - NO ASBESTOS DETECTED

APPROXIMATE SAMPLE LOCATION - ASBESTOS DETECTED

BUILDING #1 - ROOF

PROJ. NUM.: 2013 - 10 - 083

DATE: October 23, 2013

SAMPLE LOCATION PLAN

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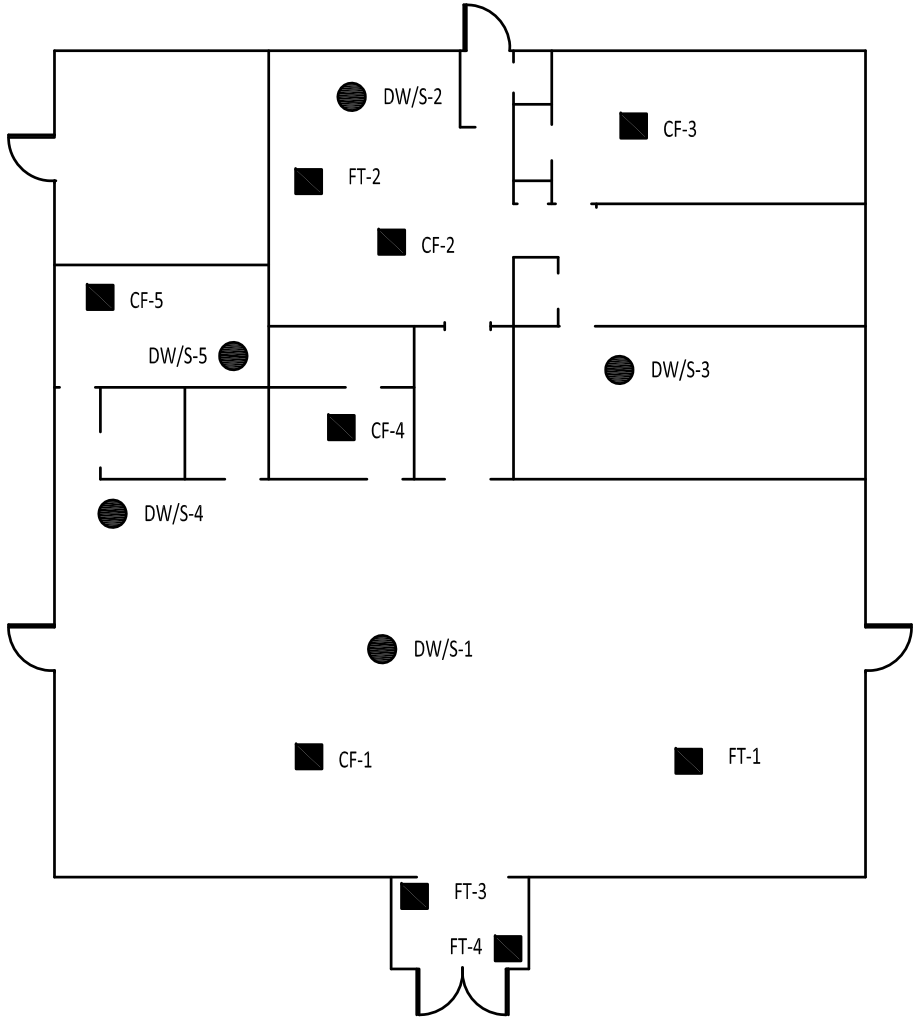
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE

5



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO ASBESTOS DETECTED
- APPROXIMATE SAMPLE LOCATION - ASBESTOS DETECTED

BUILDING #2 - DIRECTOR'S OFFICE

PROJ. NUM.: 2013 - 10 - 083
DATE: October 23, 2013

SAMPLE LOCATION PLAN

ALLIED CONSULTING & ENVIRONMENTAL SERVICES
SHELBY, NORTH CAROLINA
P.O. BOX 2426 (28151-2426) 704-600-6255
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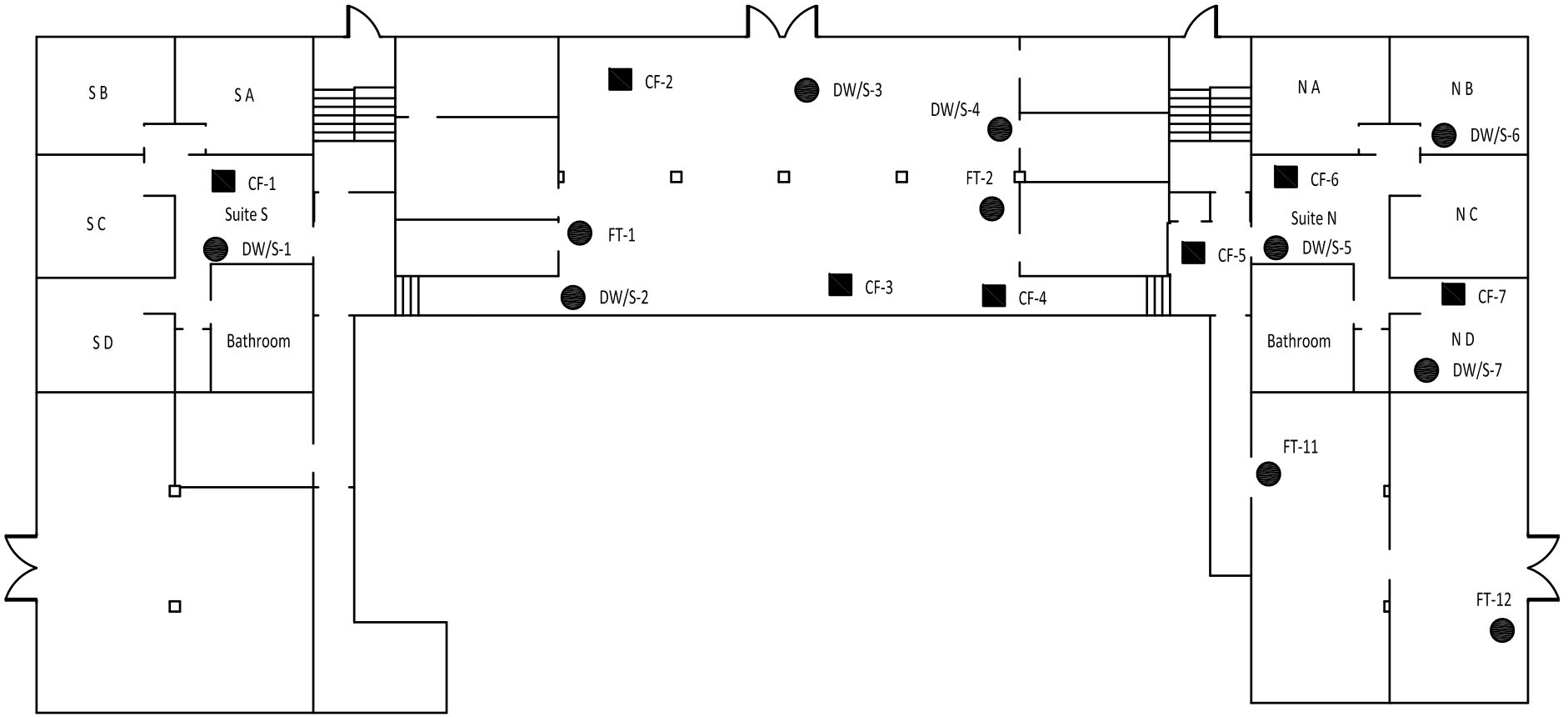
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
6



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO ASBESTOS DETECTED
- APPROXIMATE SAMPLE LOCATION - ASBESTOS DETECTED

BUILDING #3 - GROUND FLOOR

PROJ. NUM.: 2013 - 10 - 083
DATE: October 23, 2013

SAMPLE LOCATION PLAN

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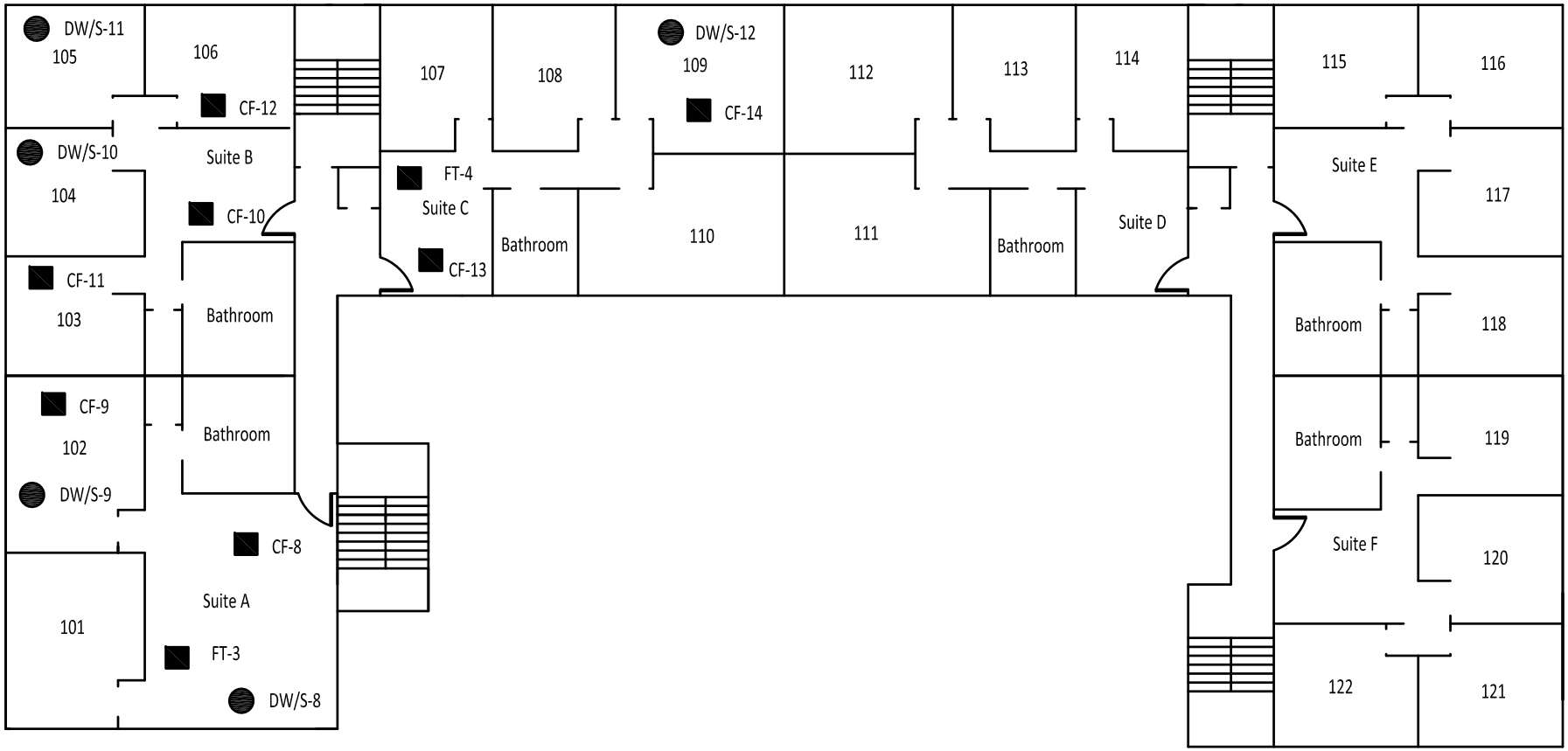
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
7



LEGEND

APPROXIMATE SAMPLE LOCATION - NO ASBESTOS DETECTED

APPROXIMATE SAMPLE LOCATION - ASBESTOS DETECTED

N

BUILDING #3 - FIRST FLOOR

PROJ. NUM.: 2013 - 10 - 083

DATE: October 23, 2013

SAMPLE LOCATION PLAN

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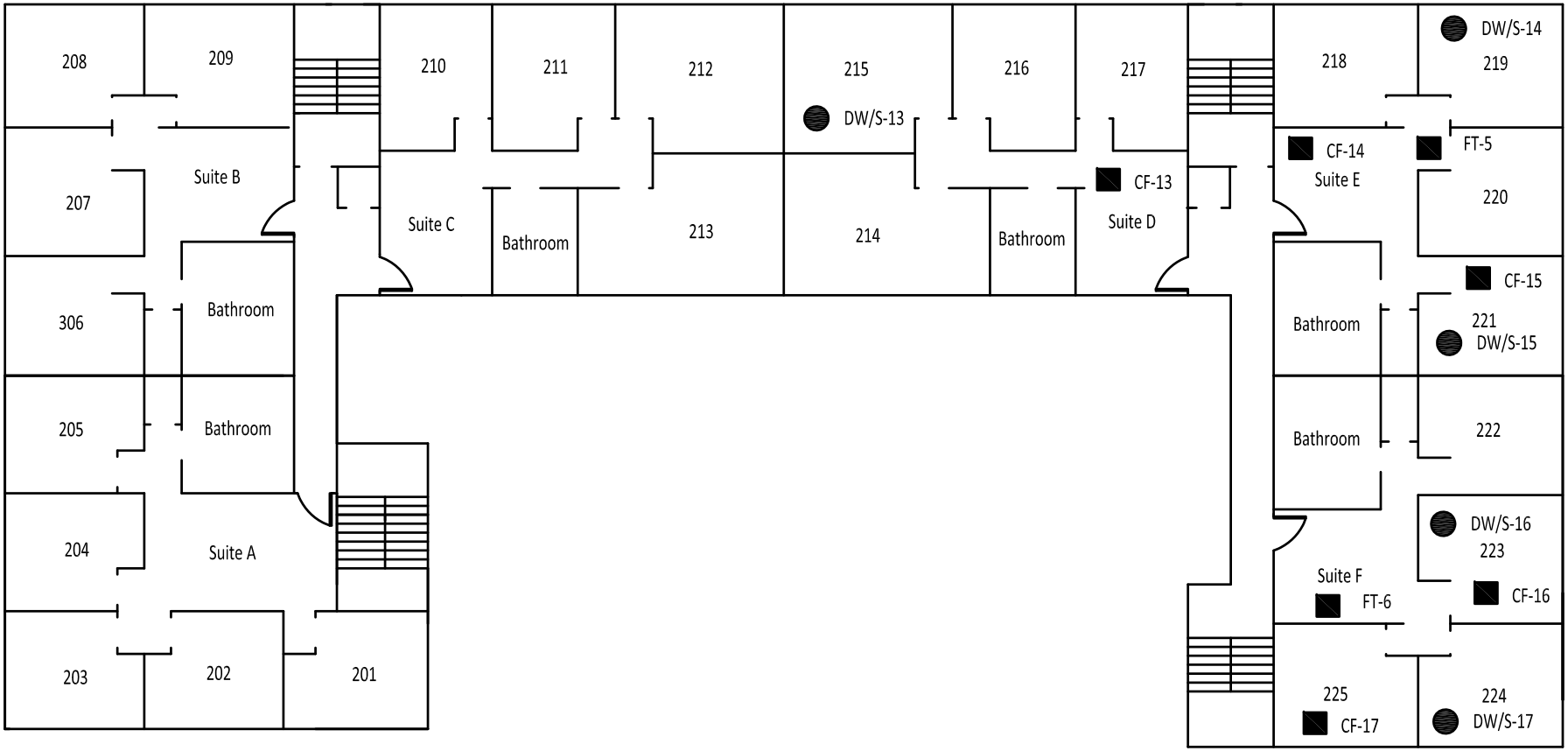
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
8



LEGEND

APPROXIMATE SAMPLE LOCATION - NO ASBESTOS DETECTED

APPROXIMATE SAMPLE LOCATION - ASBESTOS DETECTED

BUILDING #3 - SECOND FLOOR

PROJ. NUM.: 2013 - 10 - 083

DATE: October 23, 2013

SAMPLE LOCATION PLAN

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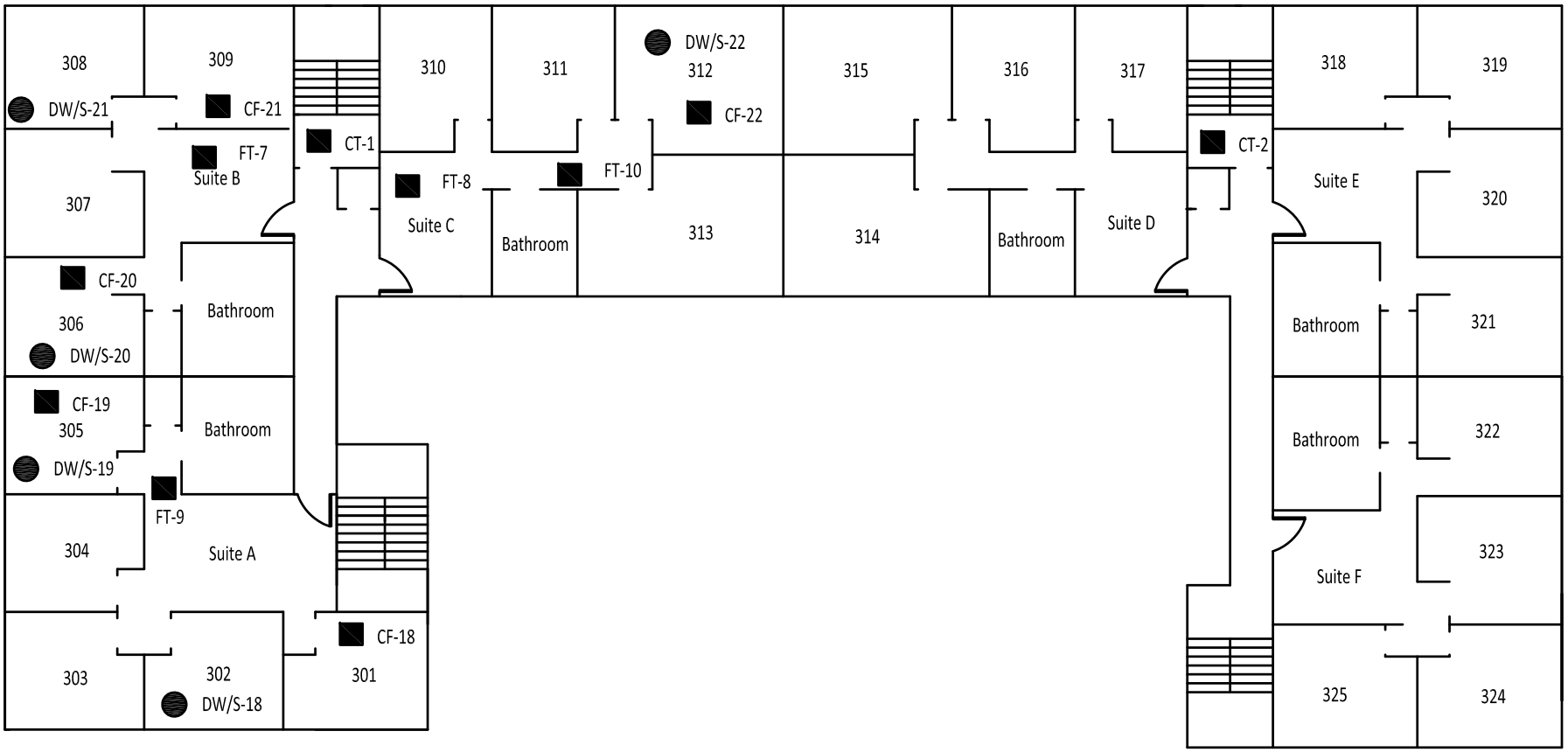
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
9



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO ASBESTOS DETECTED
- APPROXIMATE SAMPLE LOCATION - ASBESTOS DETECTED

BUILDING #3 - THIRD FLOOR

PROJ. NUM.: 2013 - 10 - 083
DATE: October 23, 2013

SAMPLE LOCATION PLAN

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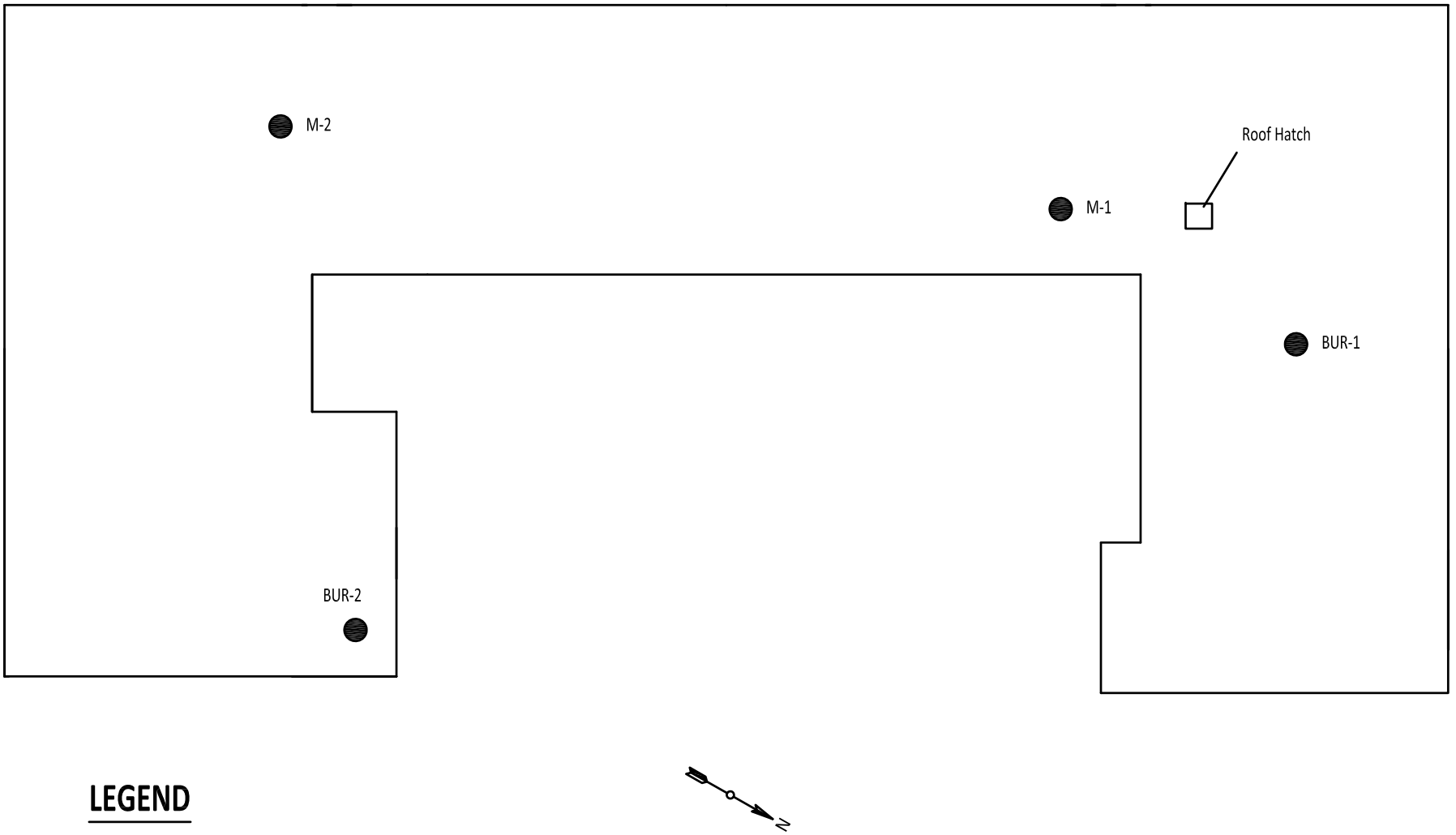
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
10



LEGEND

APPROXIMATE SAMPLE LOCATION - NO ASBESTOS DETECTED

APPROXIMATE SAMPLE LOCATION - ASBESTOS DETECTED

BUILDING #3 - ROOF

PROJ. NUM.: 2013 - 10 - 083

DATE: October 23, 2013

SAMPLE LOCATION PLAN

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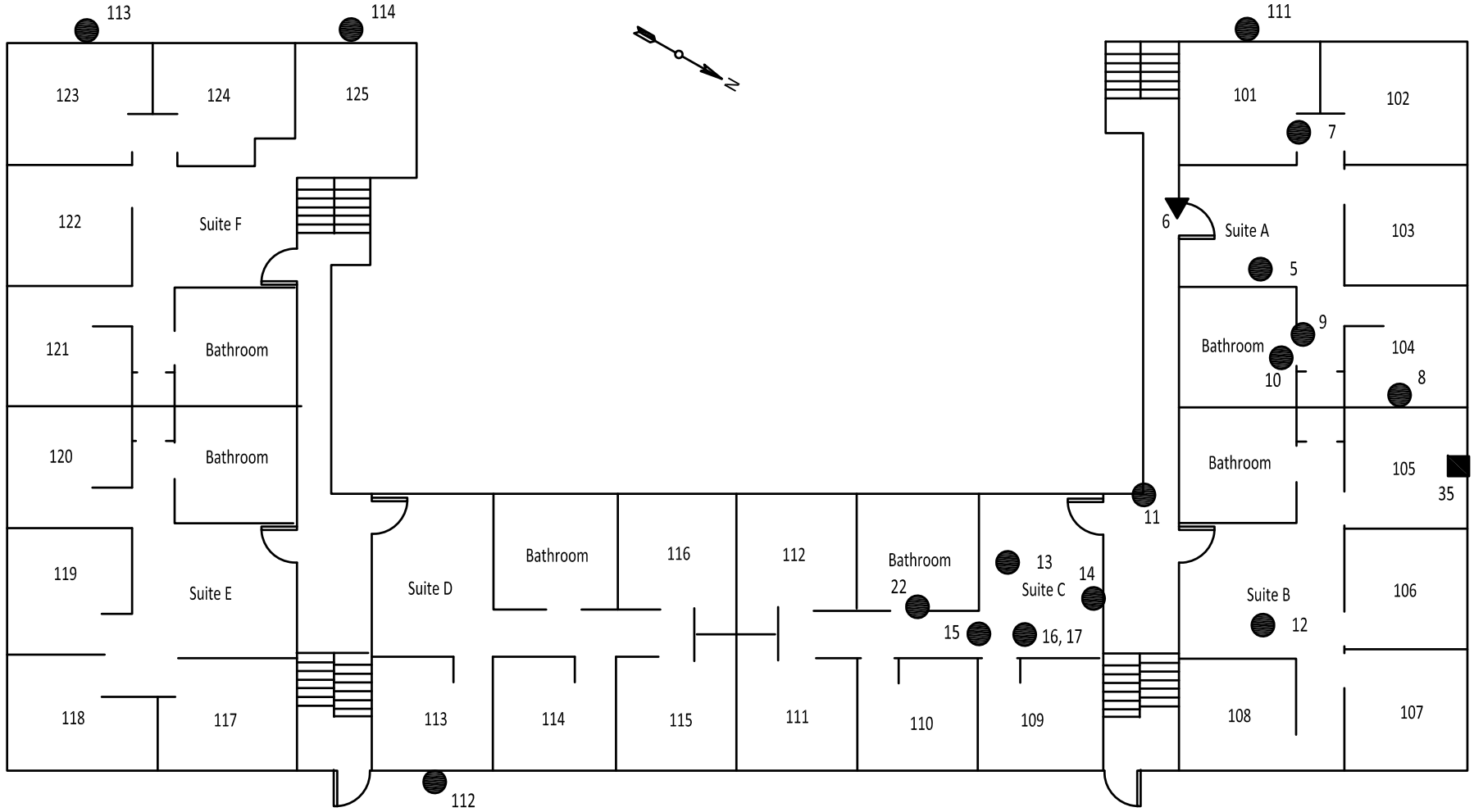
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE

11



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD DETECTED (> 0.10 mg/sq. cm)

BUILDING #1 - FIRST FLOOR

PROJ. NUM.: 2013 - 10 - 083
DATE: October 23, 2013

SAMPLE LOCATION PLAN

ALLIED CONSULTING & ENVIRONMENTAL SERVICES
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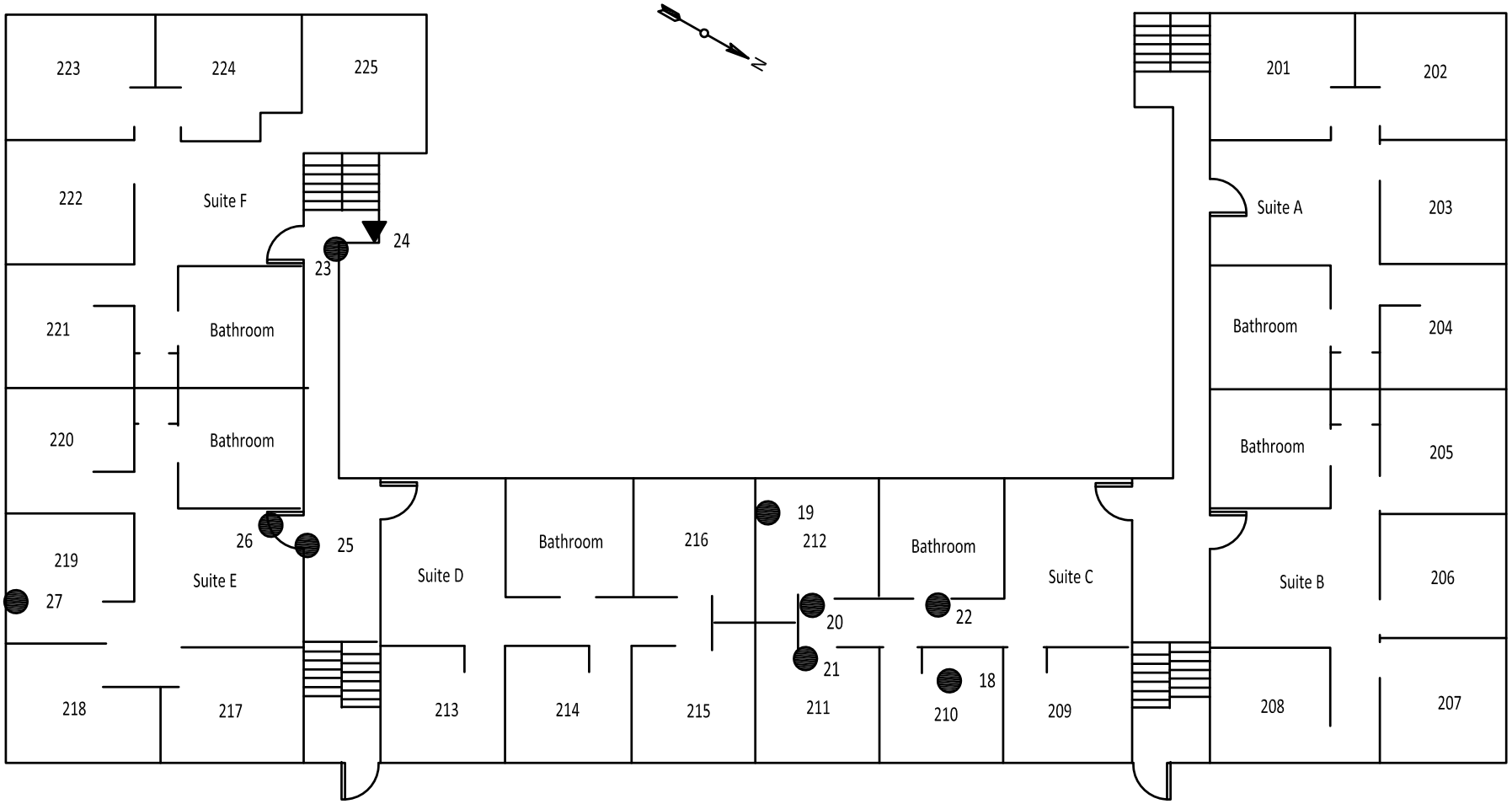
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
12



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD DETECTED (> 0.10 mg/sq. cm)

BUILDING #1 - SECOND FLOOR

PROJ. NUM.: 2013 - 10 - 083
DATE: October 23, 2013

SAMPLE LOCATION PLAN

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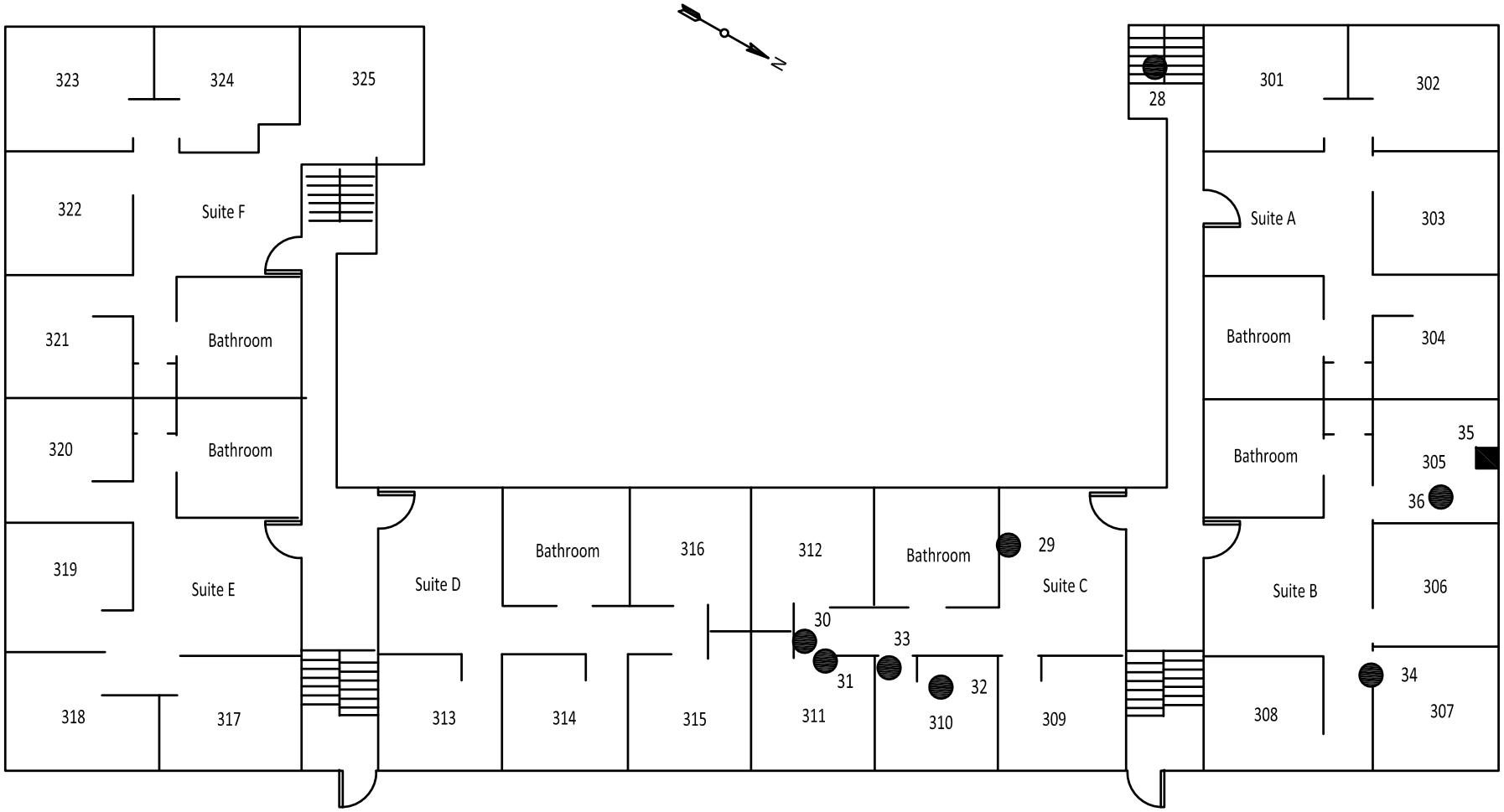
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
13



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD DETECTED (> 0.10 mg/sq. cm)

BUILDING #1 - THIRD FLOOR

PROJ. NUM.: 2013 - 10 - 083
DATE: October 23, 2013

SAMPLE LOCATION PLAN

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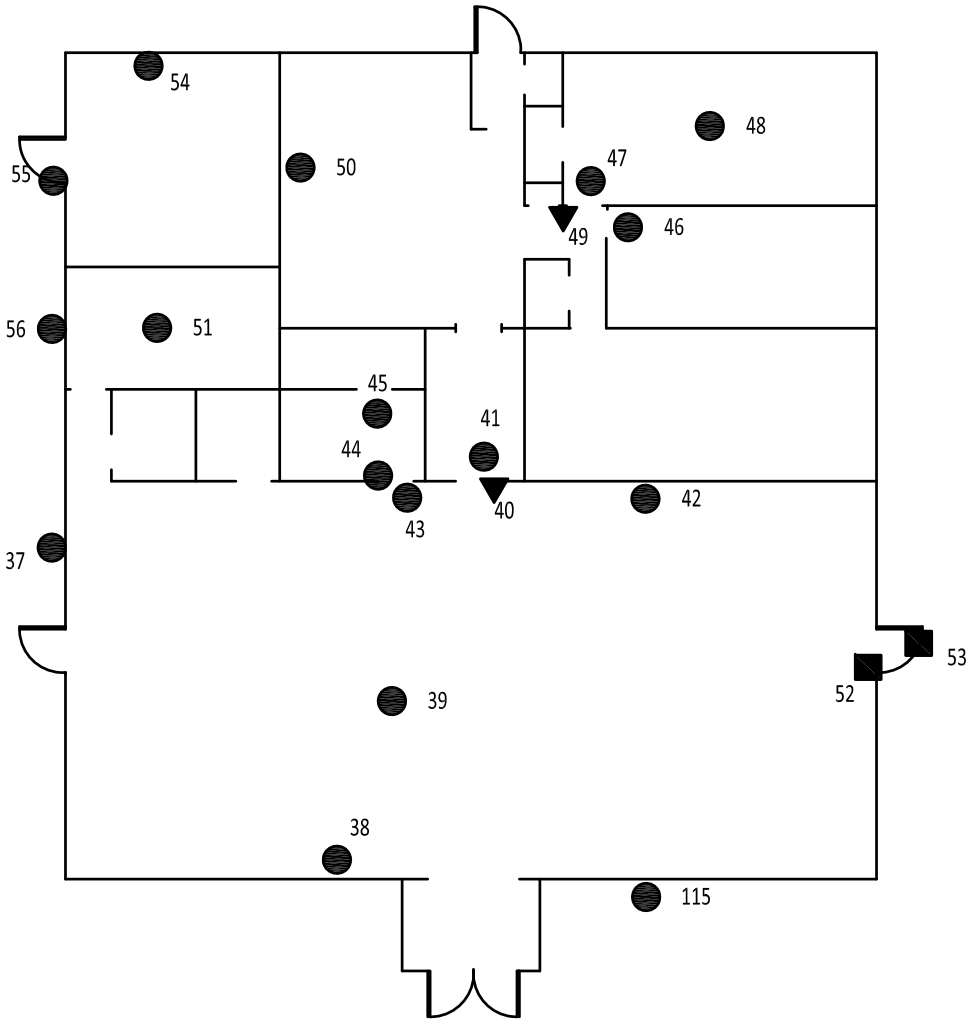
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
14



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD DETECTED (> 0.10 mg/sq. cm)

BUILDING #2 - DIRECTOR'S OFFICE

PROJ. NUM.: 2013 - 10 - 083
DATE: October 23, 2013

SAMPLE LOCATION PLAN

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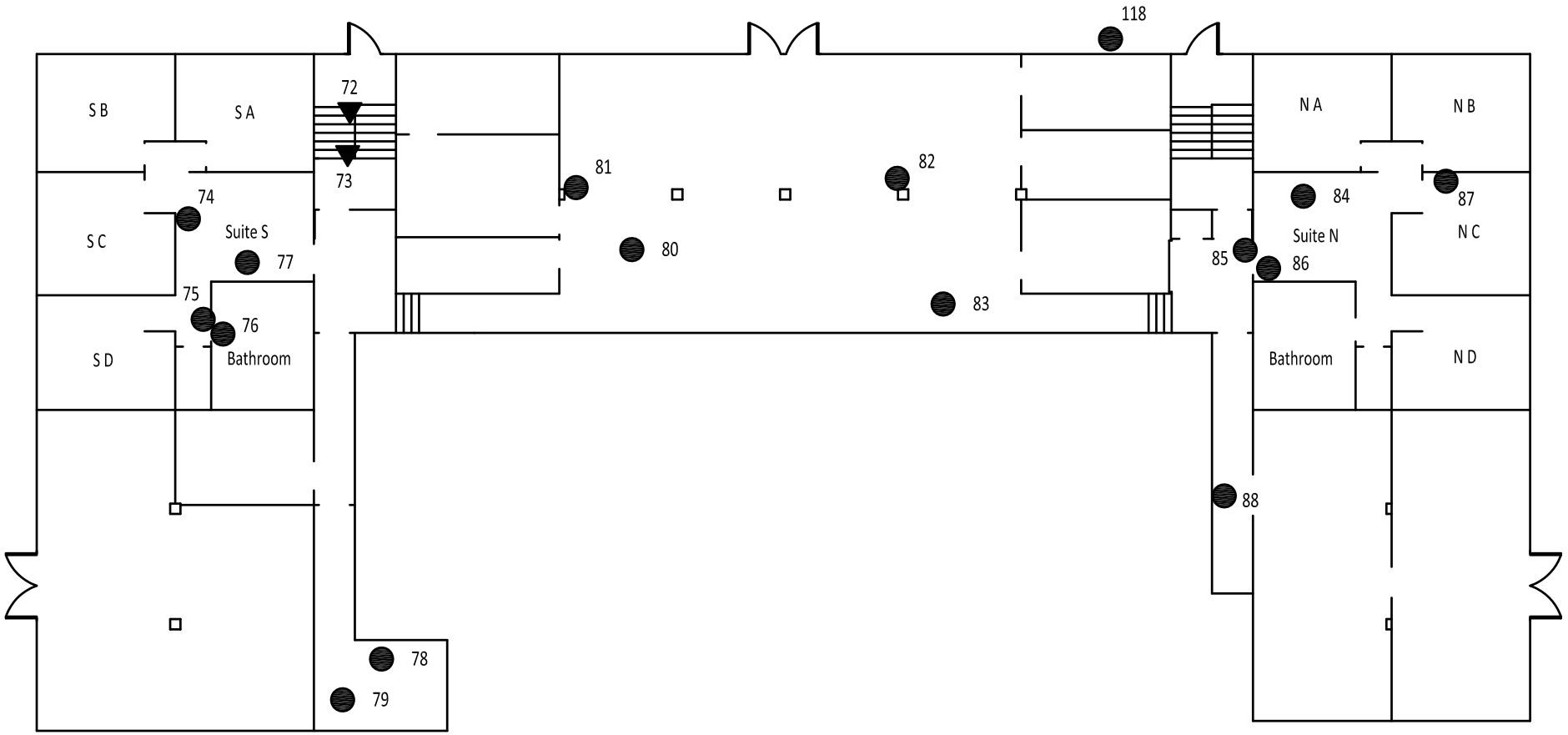
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
15



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD DETECTED (> 0.10 mg/sq. cm)

N

BUILDING #3 - GROUND FLOOR

PROJ. NUM.: 2013 - 10 - 083
DATE: October 23, 2013

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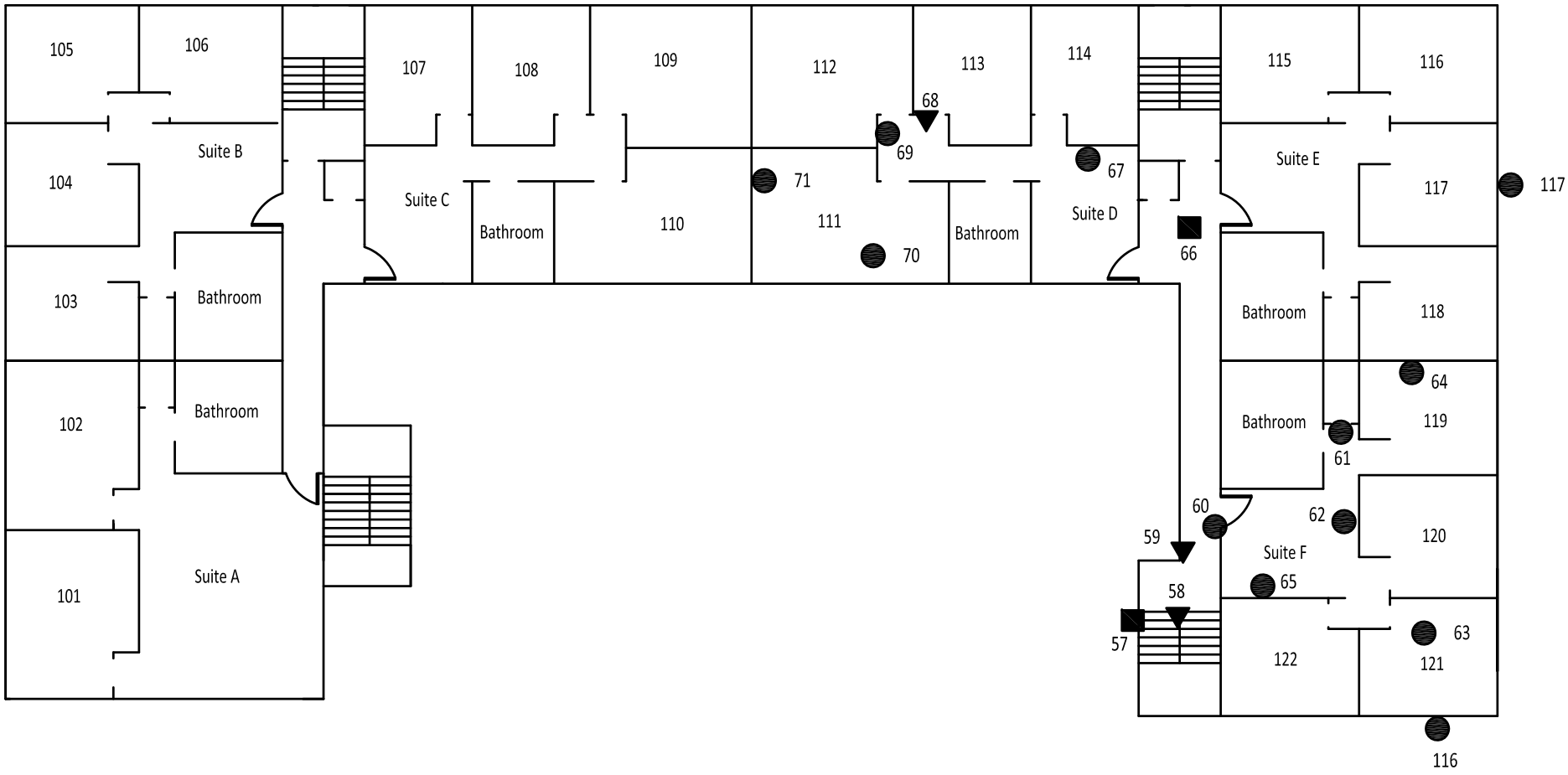
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
16



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD DETECTED (> 0.10 mg/sq. cm)

BUILDING #3 - FIRST FLOOR

PROJ. NUM.: 2013 - 10 - 083
DATE: October 23, 2013

SAMPLE LOCATION PLAN

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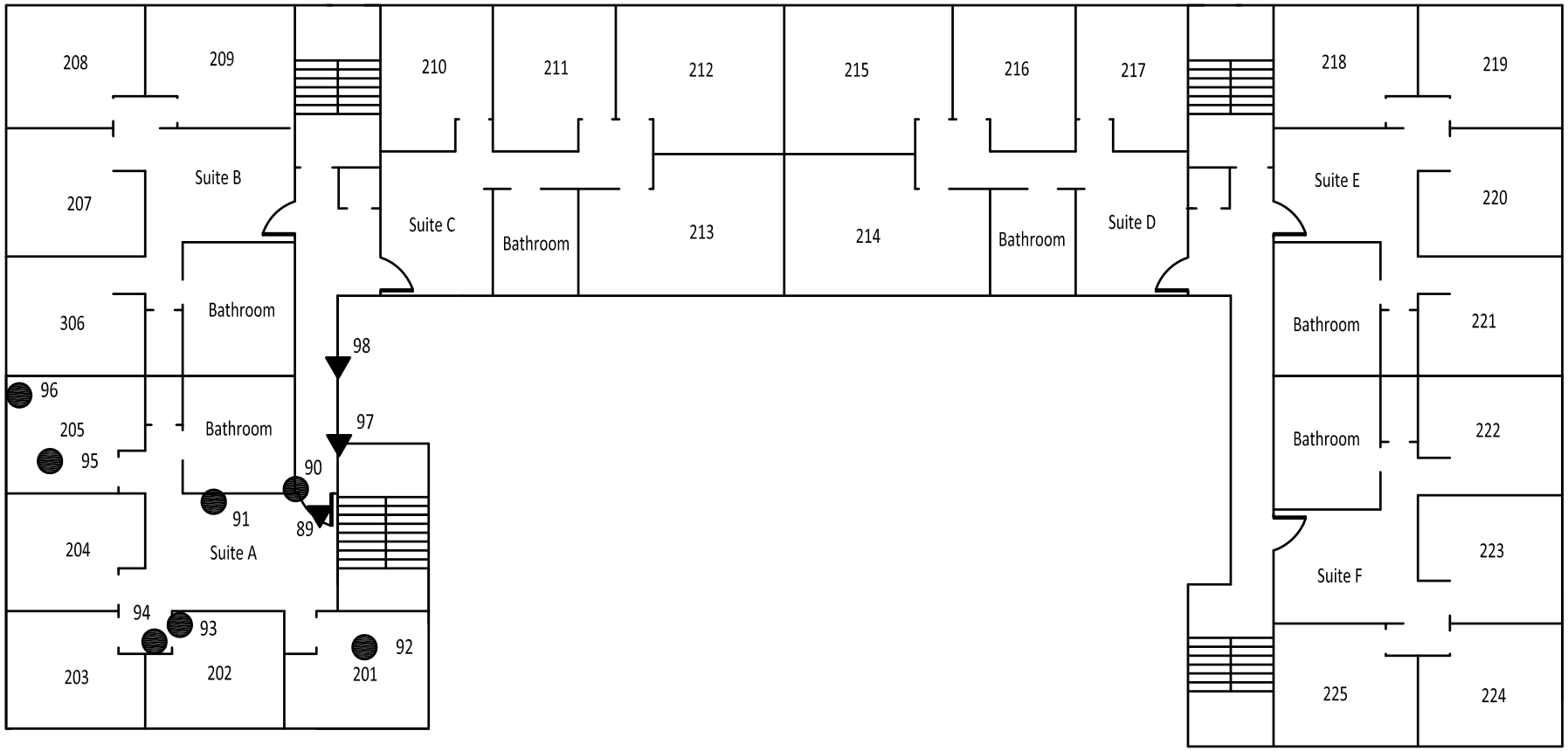
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
17



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD DETECTED (> 0.10 mg/sq. cm)

N

BUILDING #3 - SECOND FLOOR

PROJ. NUM.: 2013 - 10 - 083
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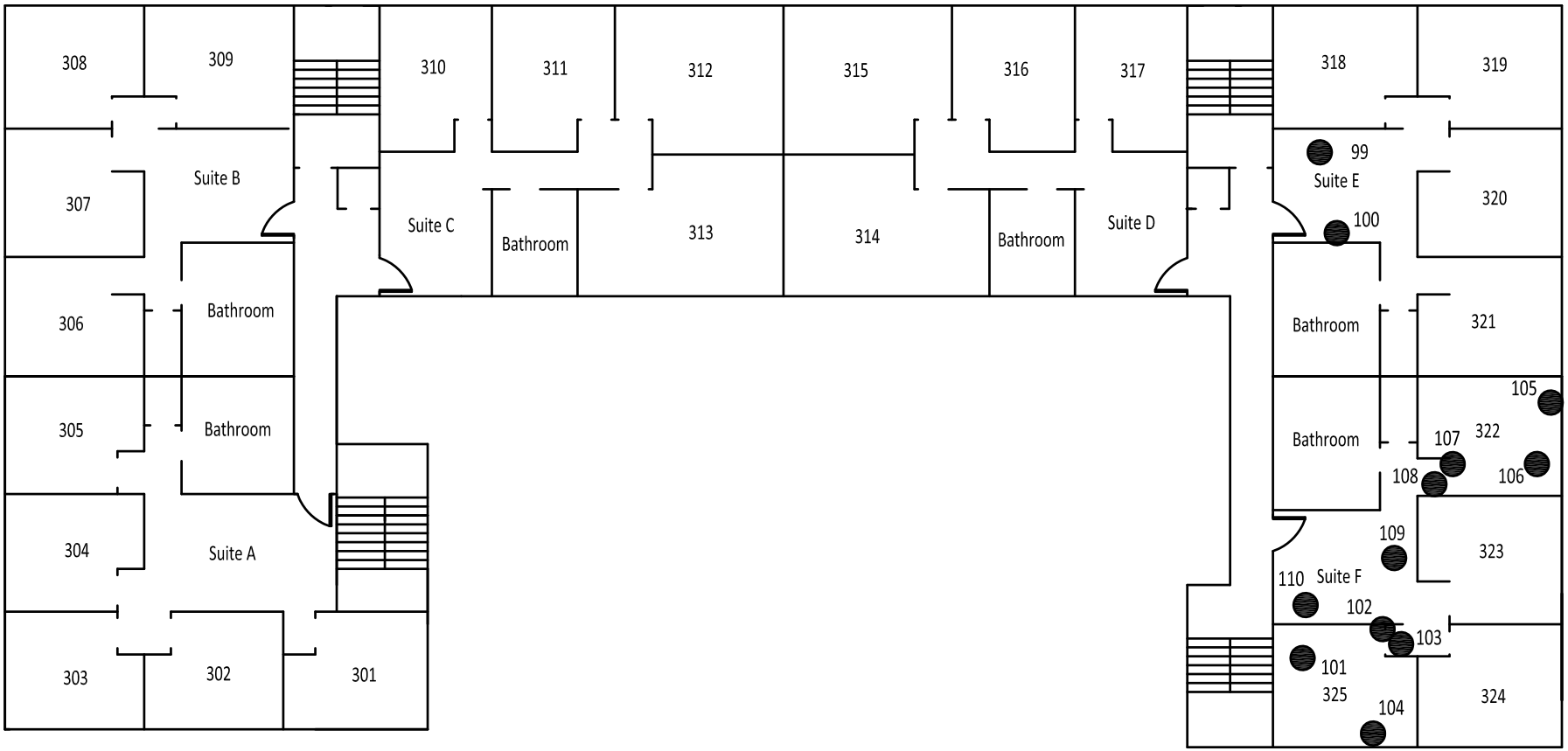
ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
18



LEGEND

- APPROXIMATE SAMPLE LOCATION - NO LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD PAINT DETECTED
- APPROXIMATE SAMPLE LOCATION - LEAD DETECTED (> 0.10 mg/sq. cm)

BUILDING #3 - THIRD FLOOR

PROJ. NUM.: 2013 - 10 - 083
DATE: October 23, 2013

SAMPLE LOCATION PLAN

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ASBESTOS & LEAD PAINT SURVEYS
180 & 188 CORBAN AVENUE SW
CONCORD, NORTH CAROLINA

FIGURE
19

APPENDIX 2

ASBESTOS ANALYTICAL RESULTS
CHAIN of CUSTODY SHEETS

EMSL Analytical, Inc.
376 Crompton Street, Charlotte, NC 28273
Phone/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com charlottelab@emsl.com

EMSL Order:	411305248
CustomerID:	ALLC25
CustomerPO:	
ProjectID:	

Attn: **Dewitt Whitten**
Allied Consulting & Environmental Svs
P.O. Box 2426
Shelby, NC 28151

Phone:	(704) 600-6255
Fax:	
Received:	10/16/13 8:00 AM
Analysis Date:	10/18/2013
Collected:	10/15/2013

Project: **Bldg. 1/ 2013-10-083**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
BUR-1-Tar *411305248-0001*	Built-Up Roof Section	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
BUR-1-Cellulose Layer *411305248-0001A*	Built-Up Roof Section	Black Fibrous Homogeneous	30%	Cellulose	70%	Non-fibrous (other)		**None Detected**
BUR-1-Insulation *411305248-0001B*	Built-Up Roof Section	Brown Non-Fibrous Homogeneous	70%	Cellulose	30%	Non-fibrous (other)		**None Detected**
BUR-2-Tar *411305248-0002*	Built-Up Roof Section	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
BUR-2-Cellulose Layer *411305248-0002A*	Built-Up Roof Section	Black Non-Fibrous Homogeneous	60%	Cellulose	40%	Non-fibrous (other)		**None Detected**
BUR-2-Insulation *411305248-0002B*	Built-Up Roof Section	Brown Non-Fibrous Homogeneous	8%	Cellulose	92%	Non-fibrous (other)		**None Detected**
M-1 *411305248-0003*	Roof Mastic	Black Fibrous Homogeneous			97%	Non-fibrous (other)	**3%**	**Chrysotile**
M-2 *411305248-0004*	Roof Mastic	Black Non-Fibrous Homogeneous			97%	Non-fibrous (other)	**3%**	**Chrysotile**

Analyst(s)

Aaron Hartley (25)
Eric Loomis (32)

Lee Plumley, Laboratory Manager
or other approved signatory

Initial report from 10/22/2013 11:58:19

EMSL Analytical, Inc.
376 Crompton Street, Charlotte, NC 28273
Phone/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com charlottelab@emsl.com

EMSL Order:	411305248
CustomerID:	ALLC25
CustomerPO:	
ProjectID:	

Attn: **Dewitt Whitten**
Allied Consulting & Environmental Svs
P.O. Box 2426
Shelby, NC 28151

Phone:	(704) 600-6255
Fax:	
Received:	10/16/13 8:00 AM
Analysis Date:	10/18/2013
Collected:	10/15/2013

Project: **Bldg. 1/ 2013-10-083**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**		**% Type**
RS-1-Shingle *411305248-0005*	Roof Section At Penetration	Gray/Black Fibrous Homogeneous	10%	Cellulose	90%	Non-fibrous (other)	**None Detected**
RS-1-Felt *411305248-0005A*	Roof Section At Penetration	Black Fibrous Homogeneous	30%	Cellulose	70%	Non-fibrous (other)	**None Detected**
RS-1-Tar *411305248-0005B*	Roof Section At Penetration	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
RS-2-Shingle *411305248-0006*	Roof Section At Penetration	Black Non-Fibrous Homogeneous	25%	Cellulose	75%	Non-fibrous (other)	**None Detected**
RS-2-Felt *411305248-0006A*	Roof Section At Penetration	Black Non-Fibrous Homogeneous	50%	Cellulose	50%	Non-fibrous (other)	**None Detected**
RS-2-Tar *411305248-0006B*	Roof Section At Penetration	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
FT-1-Floor Tile *411305248-0007*	Floor Tile (1st Floor)	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
FT-1-Mastic *411305248-0007A*	Floor Tile (1st Floor)	Tan/Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Analyst(s)

Aaron Hartley (25)
Eric Loomis (32)

Lee Plumley, Laboratory Manager
or other approved signatory

Initial report from 10/22/2013 11:58:19

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CustomerID:	ALLC25
CustomerPO:	
ProjectID:	

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P.O. Box 2426
Shelby, NC 28151

Phone:	(704) 600-6255
Fax:	
Received:	10/16/13 8:00 AM
Analysis Date:	10/18/2013
Collected:	10/15/2013

Project: **Bldg. 1/ 2013-10-083**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos	
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**%**	**Type**
FT-2-Floor Tile *411305248-0008*	Floor Tile (1st Floor)	Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)		**None Detected**
FT-2-Mastic *411305248-0008A*	Floor Tile (1st Floor)	Brown/Tan Non-Fibrous Homogeneous			100% Non-fibrous (other)		**None Detected**
CF-1 *411305248-0009*	Ceiling Finish (1st Floor)	White Non-Fibrous Homogeneous			100% Non-fibrous (other)		**None Detected**
CF-2 *411305248-0010*	Ceiling Finish (1st Floor)	Beige Non-Fibrous Homogeneous			97% Non-fibrous (other)	**3%**	**Chrysotile**
CF-3 *411305248-0011*	Ceiling Finish (1st Floor)	White Non-Fibrous Homogeneous			98% Non-fibrous (other)	**2%**	**Chrysotile**
CF-4 *411305248-0012*	Ceiling Finish (1st Floor)	White Non-Fibrous Homogeneous			96% Non-fibrous (other)	**4%**	**Chrysotile**
CF-5 *411305248-0013*	Ceiling Finish (1st Floor)	White Non-Fibrous Homogeneous			97% Non-fibrous (other)	**3%**	**Chrysotile**
DW/S-1 *411305248-0014*	Drywall/ Spackling (1st Floor)	Gray/White Fibrous Homogeneous	10% Cellulose 1% Glass		89% Non-fibrous (other)		**None Detected**
			Composite analysis				

Analyst(s)

Aaron Hartley (25)
Eric Loomis (32)

Lee Plumley, Laboratory Manager
or other approved signatory

Initial report from 10/22/2013 11:58:19

EMSL Analytical, Inc.
376 Crompton Street, Charlotte, NC 28273
Phone/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com charlottelab@emsl.com

EMSL Order:	411305248
CustomerID:	ALLC25
CustomerPO:	
ProjectID:	

Attn: **Dewitt Whitten**
Allied Consulting & Environmental Svs
P.O. Box 2426
Shelby, NC 28151

Phone:	(704) 600-6255
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Project: **Bldg. 1/ 2013-10-083**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
DW/S-2 *411305248-0015*	Drywall/ Spackling (1st Floor)	Gray/White Non-Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**None Detected**
DW/S-3 *411305248-0016*	Drywall/ Spackling (1st Floor)	Gray/Tan/White Fibrous Heterogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**None Detected**
DW/S-4 *411305248-0017*	Drywall/ Spackling (1st Floor)	Gray/White Fibrous Homogeneous	4% Cellulose 2% Glass Composite analysis	94% Non-fibrous (other)	**None Detected**
DW/S-5 *411305248-0018*	Drywall/ Spackling (1st Floor)	Brown/Tan/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
FT-3-Floor Tile *411305248-0019*	Floor Tile (2nd Floor)	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
FT-3-Mastic *411305248-0019A*	Floor Tile (2nd Floor)	Black Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**
FT-4-Floor Tile *411305248-0020*	Floor Tile (2nd Floor)	Gray Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
FT-4-Mastic *411305248-0020A*	Floor Tile (2nd Floor)	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
CF-6 *411305248-0021*	Ceiling Finish (2nd Floor)	White Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
CF-7 *411305248-0022*	Ceiling Finish (2nd Floor)	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
CF-8 *411305248-0023*	Ceiling Finish (2nd Floor)	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
CF-9 *411305248-0024*	Ceiling Finish (2nd Floor)	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
CF-10 *411305248-0025*	Ceiling Finish (2nd Floor)	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
DW/S-6 *411305248-0026*	Drywall/ Spackling (2nd Floor)	Gray/Tan/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
DW/S-7 *411305248-0027*	Drywall/ Spackling (2nd Floor)	Gray/Tan/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
DW/S-8 *411305248-0028*	Drywall/ Spackling (2nd Floor)	Gray/Tan/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**

Analyst(s)

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos	
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**%**	**Type**
DW/S-9 *411305248-0029*	Drywall/ Spackling (2nd Floor)	Brown/Gray/White Fibrous Homogeneous	8% 1%	Cellulose Glass	91% Non-fibrous (other)	**<1%**	**Chrysotile**
			Composite analysis				
DW/S-10 *411305248-0030*	Drywall/ Spackling (2nd Floor)	Brown/Gray/White Fibrous Homogeneous	10% 2%	Cellulose Glass	88% Non-fibrous (other)	**<1%**	**Chrysotile**
			Composite analysis				
FT-5-Gray Layer *411305248-0031*	Floor Tile (3rd Floor)	Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)		**None Detected**
FT-5-Floor Tile *411305248-0031A*	Floor Tile (3rd Floor)	White Fibrous Homogeneous			98% Non-fibrous (other)	**2%**	**Chrysotile**
FT-5-Mastic *411305248-0031B*	Floor Tile (3rd Floor)	Black Non-Fibrous Homogeneous	<1%	Cellulose	100% Non-fibrous (other)		**None Detected**
FT-6-Floor Tile *411305248-0032*	Floor Tile (3rd Floor)	Gray Non-Fibrous Homogeneous			98% Non-fibrous (other)	**2%**	**Chrysotile**
FT-6-Mastic *411305248-0032A*	Floor Tile (3rd Floor)	Black Non-Fibrous Homogeneous	<1%	Cellulose	100% Non-fibrous (other)		**None Detected**
CF-11 *411305248-0033*	Ceiling Finish (3rd Floor)	White Fibrous Homogeneous			97% Non-fibrous (other)	**3%**	**Chrysotile**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
CF-12 *411305248-0034*	Ceiling Finish (3rd Floor)	White Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
CF-13 *411305248-0035*	Ceiling Finish (3rd Floor)	White Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
CF-14 *411305248-0036*	Ceiling Finish (3rd Floor)	Brown/White Fibrous Homogeneous	8% Cellulose	89% Non-fibrous (other)	**3% Chrysotile**
CF-15 *411305248-0037*	Ceiling Finish (3rd Floor)	Tan/White Non-Fibrous Homogeneous	5% Cellulose	93% Non-fibrous (other)	**2% Chrysotile**
DW/S-11 *411305248-0038*	Drywall/ Spackling (3rd Floor)	Gray/Tan/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**None Detected**
DW/S-12 *411305248-0039*	Drywall/ Spackling (3rd Floor)	Gray/Tan/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**None Detected**
DW/S-13 *411305248-0040*	Drywall/ Spackling (3rd Floor)	Gray/Tan/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
DW/S-14 *411305248-0041*	Drywall/ Spackling (3rd Floor)	Brown/Tan/White Fibrous Homogeneous	5% Cellulose 1% Glass Composite analysis	94% Non-fibrous (other)	**<1% Chrysotile**

Analyst(s)

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Project: **Bldg. 1/ 2013-10-083**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**		**% Type**
DW/S-15 *411305248-0042*	Drywall/ Spackling (3rd Floor)	Brown/Gray/White Fibrous Homogeneous	8% Cellulose 1% Glass	91% Non-fibrous (other)		**<1% Chrysotile**

Composite analysis

Analyst(s)

Aaron Hartley (25)
Eric Loomis (32)

Lee Plumley, Laboratory Manager
or other approved signatory

Initial report from 10/22/2013 11:58:19

411305248

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number *(Lab Use Only)*: 411305248

Charlotte, NC
376 Crompton Street
Charlotte, NC 28273
PHONE: (704) 525-2205
FAX: (704) 525 2382

Company: Allied Consulting & Environmental Services, LLC	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: P. O. Box 2426	
City/State/Zip: Shelby, NC 28151	
Report To (Name): DeWitt Whitten	**Fax:** 7044825596
Telephone: 7042320152	**Email Address:** dewitt@aces-env.com
Project Name/Number: Bldg 1 / 2013-10-083	
Please Provide Results: Email	**Purchase Order:**
	State Samples Taken: NC

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 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 ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group** | **Filter Pore Size (Air Samples):** ☐ 0.8µm ☐ 0.45µm

Samplers Name: DeWitt Whitten | **Samplers Signature:** [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
BUR-1, 2	Built-up Roof Section		15 Oct 2013 PM
M-1, 2	Roof Mastic		"
RS-1, 2	Roof Section @ Penetration		"
FT-1, 2	Floor Tile (1st Floor)		"
CF-1, 2, 3, 4, 5	Ceiling Finish (1st Floor)		"
DW/S-1, 2, 3, 4, 5	Drywall/Sparkly (1st Floor)	see note	"
FT-3, 4	Floor Tile (2nd Floor)		"
CF-6, 7, 8, 9, 10	Ceiling Finish (2nd Floor)		"

Client Sample # (s): see above & next page | **Total # of Samples:** 48

Relinquished (Client): DeWitt Whitten | **Date:** 16 Oct 2013 | **Time:** 0530

Received (Lab): [signature] | **Date:** 10/16/13 | **Time:** 8:00 am PD

Comments/Special Instructions:

Analyze all drywall/sparkly samples as composite samples

411305248

2013-10-083

Bldg 1

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody
EMSL Order Number *(Lab Use Only)*:
411305248

Charlotte, NC
376 Crompton Street
Charlotte, NC 28273
PHONE: (704) 525-2205
FAX: (704) 525 2382

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
DW/S-6,7,8,9,10	Drywall/Spackly (2ND Floor)	See note	
FT-5,6	Floor Tile (3RD Floor)		
CF-11,12,13,14,15	Ceiling Finish (3RD Floor)		
DW/S-11,12,13,14,15	Drywall/Spackly (3RD Floor)		

Comments/Special Instructions:

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Attn: **Dewitt Whitten**
Allied Consulting & Environmental Svs
P.O. Box 2426
Shelby, NC 28151

Phone:	(704) 600-6255
Fax:	
Received:	10/16/13 8:00 AM
Analysis Date:	10/22/2013
Collected:	10/15/2013

Project: **Bldg. 2/ 2013-10-083**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
FT-1-Floor Tile *411305249-0001*	9x9 Floor Tile	Gray Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
FT-1-Mastic *411305249-0001A*	9x9 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-2-Floor Tile *411305249-0002*	9x9 Floor Tile	White Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
FT-2-Mastic *411305249-0002A*	9x9 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-3-Floor Tile *411305249-0003*	12x12 Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-3-Mastic *411305249-0003A*	12x12 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-4-Floor Tile *411305249-0004*	12x12 Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-4-Mastic *411305249-0004A*	12x12 Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Aaron Hartley (10)
Eric Loomis (8)

Lee Plumley, Laboratory Manager
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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos	
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**%**	**Type**
DW/S-1 *411305249-0005*	Drywall/ Spackling	Brown/Gray/Tan Fibrous Homogeneous	10% 2%	Cellulose Glass	88% Non-fibrous (other)	**<1%**	**Chrysotile**
			Composite analysis				
DW/S-2 *411305249-0006*	Drywall/ Spackling	Brown/Gray/White Fibrous Homogeneous	10% 3%	Cellulose Glass	87% Non-fibrous (other)	**<1%**	**Chrysotile**
			Composite analysis				
DW/S-3 *411305249-0007*	Drywall/ Spackling	Brown/Tan/White Fibrous Homogeneous	15%	Cellulose	85% Non-fibrous (other)	**<1%**	**Chrysotile**
			Composite analysis				
DW/S-4 *411305249-0008*	Drywall/ Spackling	Gray/White Fibrous Homogeneous	15%	Cellulose	85% Non-fibrous (other)	**<1%**	**Chrysotile**
			Composite analysis				
DW/S-5 *411305249-0009*	Drywall/ Spackling	Gray/White Fibrous Heterogeneous	10%	Cellulose	90% Non-fibrous (other)	**<1%**	**Chrysotile**
			Composite analysis				
CF-1 *411305249-0010*	Ceiling Finish	Tan/White Non-Fibrous Homogeneous			96% Non-fibrous (other)	**4%**	**Chrysotile**
CF-2 *411305249-0011*	Ceiling Finish	Gray/White Non-Fibrous Homogeneous			96% Non-fibrous (other)	**4%**	**Chrysotile**

Analyst(s)

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos	
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**	
CF-3 *411305249-0012*	Ceiling Finish	Tan/White Non-Fibrous Homogeneous		96% Non-fibrous (other)	**4%**	**Chrysotile**
CF-4 *411305249-0013*	Ceiling Finish	White Fibrous Homogeneous		97% Non-fibrous (other)	**3%**	**Chrysotile**
CF-5 *411305249-0014*	Ceiling Finish	White Fibrous Homogeneous		97% Non-fibrous (other)	**3%**	**Chrysotile**

Analyst(s)

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411305249

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number *(Lab Use Only)*: 411305249

Charlotte, NC
376 Crompton Street
Charlotte, NC 28273
PHONE: (704) 525-2205
FAX: (704) 525 2382

Company: Allied Consulting & Environmental Services, LLC	EMSL-Bill to: ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: P. O. Box 2426	
City/State/Zip: Shelby, NC 28151	
Report To (Name): DeWitt Whitten	Fax: 7044825596
Telephone: 7042320152	Email Address: dewitt@aces-env.com
Project Name/Number: Bldg 2 / 2013-10-083	
Please Provide Results: Email / Purchase Order:	State Samples Taken: NC

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 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 ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM - Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group** | **Filter Pore Size (Air Samples):** ☐ 0.8µm ☐ 0.45µm

Samplers Name: DeWitt Whitten | **Samplers Signature:** DeWitt Whitten

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
FT-1, 2	9x9 Floor Tile		15 Oct 2013 PM
FT-3, 4	12x12 Floor Tile		11
DW/S-1, 2, 3, 4, 5	Drywall/Spackling	see note	4
CF-1, 2, 3, 4, 5	Ceiling Finish		4

Client Sample # (s): see above | **Total # of Samples:** 14

Relinquished (Client): DeWitt Whitten | **Date:** 16 Oct 2013 | **Time:** 0530

Received (Lab): [signature] | **Date:** 10/16/13 | **Time:** 8:00 am DB

Comments/Special Instructions:

Analyze all drywall/spackly samples as composite samples

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376 Crompton Street, Charlotte, NC 28273
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http://www.EMSL.com charlottelab@emsl.com

EMSL Order:	411305247
CustomerID:	ALLC25
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ProjectID:	

Attn: **Dewitt Whitten**
Allied Consulting & Environmental Svs
P.O. Box 2426
Shelby, NC 28151

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Collected:	10/15/2013

Project: **Bldg. 3/ 2013-10-083**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos				Asbestos	
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**%**	**Type**
BUR-1-Membrane *411305247-0001*	Built-Up Roof Section	Black Non-Fibrous Homogeneous	10%	Cellulose	90%	Non-fibrous (other)		**None Detected**
BUR-1-Tar *411305247-0001A*	Built-Up Roof Section	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
BUR-1-Insulation *411305247-0001B*	Built-Up Roof Section	Brown Fibrous Homogeneous	75%	Cellulose	25%	Non-fibrous (other)		**None Detected**
BUR-2-Membrane *411305247-0002*	Built-Up Roof Section	Black Fibrous Heterogeneous	5%	Cellulose	95%	Non-fibrous (other)		**None Detected**
BUR-2-Tar *411305247-0002A*	Built-Up Roof Section	Black Non-Fibrous Homogeneous			100%	Non-fibrous (other)		**None Detected**
BUR-2-Insulation *411305247-0002B*	Built-Up Roof Section	Brown/Black Fibrous Homogeneous	60%	Cellulose	40%	Non-fibrous (other)		**None Detected**
M-1 *411305247-0003*	Roof Mastic	Black Non-Fibrous Homogeneous			96%	Non-fibrous (other)	**4%**	**Chrysotile**
M-2 *411305247-0004*	Roof Mastic	Black Fibrous Homogeneous			96%	Non-fibrous (other)	**4%**	**Chrysotile**

Analyst(s)

Aaron Hartley (41)
Eric Loomis (29)

Lee Plumley, Laboratory Manager
or other approved signatory

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
FT-1-Floor Tile *411305247-0005*	12x12 Floor Tile (Basement)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-1-Mastic *411305247-0005A*	12x12 Floor Tile (Basement)	Black Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**
FT-2-Floor Tile *411305247-0006*	12x12 Floor Tile (Basement)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-2-Mastic *411305247-0006A*	12x12 Floor Tile (Basement)	Black Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (other)	**None Detected**
CF-1 *411305247-0007*	Ceiling Finish (Basement)	White Non-Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**
CF-2 *411305247-0008*	Ceiling Finish (Basement)	White Non-Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**
CF-3 *411305247-0009*	Ceiling Finish (Basement)	White Non-Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**
CF-4 *411305247-0010*	Ceiling Finish (Basement)	White Non-Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
CF-5 *411305247-0011*	Ceiling Finish (Basement)	White Non-Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**
CF-6 *411305247-0012*	Ceiling Finish (Basement)	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
CF-7 *411305247-0013*	Ceiling Finish (Basement)	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
DW/S-1 *411305247-0014*	Drywall/ Spackling (Basement)	Brown/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
DW/S-2 *411305247-0015*	Drywall/ Spackling (Basement)	Brown/Gray/White Fibrous Homogeneous	10% Cellulose 2% Glass Composite analysis	88% Non-fibrous (other)	**<1% Chrysotile**
DW/S-3 *411305247-0016*	Drywall/ Spackling (Basement)	Brown/Gray Fibrous Homogeneous	10% Cellulose 2% Glass Composite analysis	88% Non-fibrous (other)	**<1% Chrysotile**
DW/S-4 *411305247-0017*	Drywall/ Spackling (Basement)	Brown/Gray/White Fibrous Homogeneous	8% Cellulose 1% Glass Composite analysis	91% Non-fibrous (other)	**<1% Chrysotile**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos	
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**%**	**Type**
DW/S-5 *411305247-0018*	Drywall/ Spackling (Basement)	Brown/Gray/White Fibrous Homogeneous	10% Cellulose 2% Glass Composite analysis		88% Non-fibrous (other)	**<1%**	**Chrysotile**
DW/S-6 *411305247-0019*	Drywall/ Spackling (Basement)	Gray/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis		89% Non-fibrous (other)	**<1%**	**Chrysotile**
DW/S-7 *411305247-0020*	Drywall/ Spackling (Basement)	Gray/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis		89% Non-fibrous (other)	**<1%**	**Chrysotile**
FT-3-Floor Tile *411305247-0021*	Floor Tile (1st Floor)	Gray/Beige Non-Fibrous Homogeneous			95% Non-fibrous (other)	**5%**	**Chrysotile**
FT-3-Mastic *411305247-0021A*	Floor Tile (1st Floor)	Black Non-Fibrous Homogeneous			97% Non-fibrous (other)	**3%**	**Chrysotile**
FT-4-Floor Tile *411305247-0022*	Floor Tile (1st Floor)	Tan Fibrous Homogeneous			96% Non-fibrous (other)	**4%**	**Chrysotile**
FT-4-Mastic *411305247-0022A*	Floor Tile (1st Floor)	Black Non-Fibrous Homogeneous			95% Non-fibrous (other)	**5%**	**Chrysotile**
CF-8 *411305247-0023*	Ceiling Finish (1st Floor)	White Non-Fibrous Homogeneous			96% Non-fibrous (other)	**4%**	**Chrysotile**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
CF-9 *411305247-0024*	Ceiling Finish (1st Floor)	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
CF-10 *411305247-0025*	Ceiling Finish (1st Floor)	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
CF-11 *411305247-0026*	Ceiling Finish (1st Floor)	White Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
CF-12 *411305247-0027*	Ceiling Finish (1st Floor)	White Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**
DW/S-8 *411305247-0028*	Drywall/ Spackling (1st Floor)	Brown/Gray/White Fibrous Homogeneous	10% Cellulose 2% Glass Composite analysis	88% Non-fibrous (other)	**<1% Chrysotile**
DW/S-9 *411305247-0029*	Drywall/ Spackling (1st Floor)	Brown/Gray/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
DW/S-10 *411305247-0030*	Drywall/ Spackling (1st Floor)	Brown/Gray/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
DW/S-11 *411305247-0031*	Drywall/ Spackling (1st Floor)	Gray/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
DW/S-12 *411305247-0032*	Drywall/ Spackling (1st Floor)	Gray/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
FT-5-Floor Tile *411305247-0033*	Floor Tile (2nd Floor)	Gray Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
FT-5-Mastic *411305247-0033A*	Floor Tile (2nd Floor)	Black Non-Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**
FT-6-Floor Tile *411305247-0034*	Floor Tile (2nd Floor)	Gray Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**
FT-6-Mastic *411305247-0034A*	Floor Tile (2nd Floor)	Black Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
CF-13 *411305247-0035*	Ceiling Finish (2nd Floor)	White Non-Fibrous Homogeneous		98% Non-fibrous (other)	**2% Chrysotile**
CF-14 *411305247-0036*	Ceiling Finish (2nd Floor)	White Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**
CF-15 *411305247-0037*	Ceiling Finish (2nd Floor)	Non-Fibrous Homogeneous		97% Non-fibrous (other)	**3% Chrysotile**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
CF-16 *411305247-0038*	Ceiling Finish (2nd Floor)	White Fibrous Homogeneous		96% Non-fibrous (other)	**4% Chrysotile**
CF-17 *411305247-0039*	Ceiling Finish (2nd Floor)	White Fibrous Heterogeneous		96% Non-fibrous (other)	**4% Chrysotile**
DW/S-13 *411305247-0040*	Drywall/ Spackling (2nd Floor)	Brown/Gray/White Fibrous Homogeneous	10% Cellulose 2% Glass Composite analysis	88% Non-fibrous (other)	**<1% Chrysotile**
DW/S-14 *411305247-0041*	Drywall/ Spackling (2nd Floor)	Brown/Gray/White Fibrous Homogeneous	10% Cellulose 2% Glass Composite analysis	88% Non-fibrous (other)	**<1% Chrysotile**
DW/S-15 *411305247-0042*	Drywall/ Spackling (2nd Floor)	Brown/Tan/White Fibrous Homogeneous	8% Cellulose 2% Glass Composite analysis	90% Non-fibrous (other)	**<1% Chrysotile**
DW/S-16 *411305247-0043*	Drywall/ Spackling (2nd Floor)	Gray/White Non-Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
DW/S-17 *411305247-0044*	Drywall/ Spackling (2nd Floor)	Gray/White Fibrous Homogeneous	10% Cellulose 2% Glass Composite analysis	88% Non-fibrous (other)	**<1% Chrysotile**

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos	
Sample	**Description**	**Appearance**	**% Fibrous**		**% Non-Fibrous**	**%**	**Type**
FT-7-Floor Tile *411305247-0045*	Floor Tile (3rd Floor)	Gray Non-Fibrous Homogeneous			97% Non-fibrous (other)	**3%**	**Chrysotile**
FT-7-Mastic *411305247-0045A*	Floor Tile (3rd Floor)	Black Non-Fibrous Homogeneous			96% Non-fibrous (other)	**4%**	**Chrysotile**
FT-8-Floor Tile *411305247-0046*	Floor Tile (3rd Floor)	White Non-Fibrous Homogeneous	<1%	Cellulose	100% Non-fibrous (other)		**None Detected**
FT-8-Mastic *411305247-0046A*	Floor Tile (3rd Floor)	Tan Non-Fibrous Homogeneous			100% Non-fibrous (other)		**None Detected**
CF-18 *411305247-0047*	Ceiling Finish (2nd Floor)	Gray/White Non-Fibrous Homogeneous			96% Non-fibrous (other)	**4%**	**Chrysotile**
CF-19 *411305247-0048*	Ceiling Finish (2nd Floor)	Gray/White Non-Fibrous Homogeneous			95% Non-fibrous (other)	**5%**	**Chrysotile**
CF-20 *411305247-0049*	Ceiling Finish (2nd Floor)	Gray/White Non-Fibrous Homogeneous			96% Non-fibrous (other)	**4%**	**Chrysotile**
CF-21 *411305247-0050*	Ceiling Finish (2nd Floor)	White Fibrous Homogeneous			96% Non-fibrous (other)	**4%**	**Chrysotile**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
CF-22 *411305247-0051*	Ceiling Finish (2nd Floor)	White Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
DW/S-18 *411305247-0052*	Drywall/ Spackling (2nd Floor)	Brown/Gray/White Fibrous Homogeneous	8% Cellulose 2% Glass Composite analysis	90% Non-fibrous (other)	**<1% Chrysotile**
DW/S-19 *411305247-0053*	Drywall/ Spackling (2nd Floor)	Brown/Gray/White Fibrous Homogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
DW/S-20 *411305247-0054*	Drywall/ Spackling (2nd Floor)	Brown/Gray/White Fibrous Homogeneous	10% Cellulose 2% Glass Composite analysis	88% Non-fibrous (other)	**<1% Chrysotile**
DW/S-21 *411305247-0055*	Drywall/ Spackling (2nd Floor)	Gray/White Fibrous Homogeneous	1% Glass 10% Cellulose Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
DW/S-22 *411305247-0056*	Drywall/ Spackling (2nd Floor)	Gray/White Fibrous Heterogeneous	10% Cellulose 1% Glass Composite analysis	89% Non-fibrous (other)	**<1% Chrysotile**
CT-1 *411305247-0057*	2x4 Lay-In Ceiling Tile (Stairwell)	Gray/White Fibrous Homogeneous	40% Cellulose 2% Min. Wool	58% Non-fibrous (other)	**None Detected**

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Fax:	
Received:	10/16/13 8:00 AM
Analysis Date:	10/22/2013
Collected:	10/15/2013

Project: **Bldg. 3/ 2013-10-083**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos			Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**		**% Type**
CT-2 *411305247-0058*	2x4 Lay-In Ceiling Tile (Stairwell)	Gray/White Fibrous Homogeneous	50% Cellulose 5% Min. Wool	45% Non-fibrous (other)		**None Detected**

Analyst(s)

Aaron Hartley (41)
Eric Loomis (29)

Lee Plumley, Laboratory Manager
or other approved signatory

Initial report from 10/22/2013 11:57:42

411305247

411305247

Asbestos Lab Services Chain of Custody

EMSL Order Number *(Lab Use Only):*

Charlotte, NC
376 Crompton Street
Charlotte, NC 28273
PHONE: (704) 525-2205
FAX: (704) 525 2382

Company: Allied Consulting & Environmental Services, LLC	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: P. O. Box 2426	
City/State/Zip: Shelby, NC 28151	
Report To (Name): DeWitt Whitten	**Fax:** 7044825596
Telephone: 7042320152	**Email Address:** dewitt@aces-env.com
Project Name/Number: Bldg3 / 2013-10-083	
Please Provide Results: Email	**Purchase Order:** **State Samples Taken:** NC

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 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 ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM - Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group** **Filter Pore Size (Air Samples):** ☐ 0.8µm ☐ 0.45µm

Samplers Name: DeWitt Whitten **Samplers Signature:** [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
BUR-1,2	Built-up Roof Section		15 OCT 13 PM
M-1,2	Roof Mastic		"
FT-1,2	12x12 Floor Tile (Basement)		"
CF-1,2,3,4,5,6,7	CEILING Finish (Basement)		"
DW/S-1,2,3,4,5,6,7	Drywall/Spackling (Basement)	see note	"
FT-3,4	Floor Tile (1st Floor)		"
CF-8,9,10,11,12	Ceiling finish (1st Floor)		"
DW/S-8,9,10,11,12	Drywall/Spackly (1st Floor)	see note	"

Client Sample # (s): see above & next page **Total # of Samples:** 58

Relinquished (Client): [signature] **Date:** 16 OCT 2013 **Time:** 0530

Received (Lab): [signature] **Date:** 10/16/13 **Time:** 8:00am

Comments/Special Instructions:

Analyze all drywall/spackly samples as composites PB

411305247

2013-10-083

Bldg 3

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number *(Lab Use Only)*:

411305247

Charlotte, NC
376 Crompton Street
Charlotte, NC 28273
PHONE: (704) 525-2205
FAX: (704) 525 2382

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
FT- 5, 6	Floor Tile (2ND Floor)		15OCT 2013 PM
CF - 13, 14, 15, 16, 17	Ceiling Finish (2ND floor)		"
DW/S - 13, 14, 15, 16, 17	Drywall / Spackle (2ND Floor)	see note	"
FT - 7, 8	Floor Tile (3RD Floor)		15 OCT 2013 PM
CF - 18, 19, 20, 21, 22	Ceiling Finish (2ND Floor)		"
DW/S - 18, 19, 20, 21, 22	Drywall / Spackle (2ND Floor)	See note	"
CT - 1, 2	2x4 lay-in ceiling tile (Stairwell		15OCT 2013 PM

Comments/Special Instructions:

EMSL Analytical, Inc.
376 Crompton Street, Charlotte, NC 28273
Phone/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com charlottelab@emsl.com

EMSL Order:	411305309
CustomerID:	ALLC25
CustomerPO:	
ProjectID:	

Attn: **Dewitt Whitten**
Allied Consulting & Environmental Svs
P.O. Box 2426
Shelby, NC 28151

Phone:	(704) 600-6255
Fax:	
Received:	10/17/13 1:55 PM
Analysis Date:	10/18/2013
Collected:	10/17/2013

Project: **Bldg. 3/ 2013-10-083**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
FT-9-Floor Tile *411305309-0001*	12x12 Floor Tile (White)	White/Blue Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-9-Mastic *411305309-0001A*	12x12 Floor Tile (White)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-10-Floor Tile *411305309-0002*	12x12 Floor Tile (White)	White/Various Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-10-Mastic *411305309-0002A*	12x12 Floor Tile (White)	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-11-Leveler *411305309-0003*	12x12 Floor Tile (Grey)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-11-Floor Tile *411305309-0003A*	12x12 Floor Tile (Grey)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-11-Mastic *411305309-0003B*	12x12 Floor Tile (Grey)	Brown/Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
FT-12-Floor Tile *411305309-0004*	12x12 Floor Tile (Grey)	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Aaron Hartley (5)
Christopher Estes (4)

Lee Plumley, Laboratory Manager
or other approved signatory

Initial report from 10/22/2013 09:14:34

EMSL Analytical, Inc.
376 Crompton Street, Charlotte, NC 28273
Phone/Fax: (704) 525-2205 / (704) 525-2382
http://www.EMSL.com charlottelab@emsl.com

EMSL Order:	411305309
CustomerID:	ALLC25
CustomerPO:	
ProjectID:	

Attn: **Dewitt Whitten**
Allied Consulting & Environmental Svs
P.O. Box 2426
Shelby, NC 28151

Phone:	(704) 600-6255
Fax:	
Received:	10/17/13 1:55 PM
Analysis Date:	10/18/2013
Collected:	10/17/2013

Project: **Bldg. 3/ 2013-10-083**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
FT-12-Mastic *411305309-0004A*	12x12 Floor Tile (Grey)	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

Analyst(s)

Aaron Hartley (5)
Christopher Estes (4)

Lee Plumley, Laboratory Manager
or other approved signatory

Initial report from 10/22/2013 09:14:34

411305309

411305309

EMSL ANALYTICAL, INC.

Asbestos Lab Services Chain of Custody

EMSL Order Number *(Lab Use Only):*

Charlotte, NC
376 Crompton Street
Charlotte, NC 28273
PHONE: (704) 525-2205
FAX: (704) 525 2382

Company: Allied Consulting & Environmental Services, LLC	**EMSL-Bill to:** ☑ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: P. O. Box 2426	
City/State/Zip: Shelby, NC 28151	
Report To (Name): DeWitt Whitten	**Fax:** 7044825596
Telephone: 7042320152	**Email Address:** dewitt@aces-env.com
Project Name/Number: Bldg 3 / 2013-10-083	
Please Provide Results: Email	**Purchase Order:**
	State Samples Taken: NC

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☒ 72 Hour ☒ ~~96 Hour~~ ☐ 1 Week ☐ 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 ☐ Check if samples are from NY
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☒ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ **4-4.5hr TAT (AHERA only)**
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group** | **Filter Pore Size (Air Samples):** ☐ 0.8µm ☐ 0.45µm

Samplers Name: DeWitt Whitten | **Samplers Signature:** [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
FT-9,10	12x12 Floor Tile (White)		17 Oct 13 AM
FT-11,12	12 x 12 Floor Tile (Grey)		11

Client Sample # (s): see above | **Total # of Samples:** 4

Relinquished (Client): [signature] **Date:** 17 Oct 2013 **Time:** 1352

Received (Lab): Kyle Nelson **Date:** 10/17/13 **Time:** 1:55pm W/IN

Comments/Special Instructions:

APPENDIX 3

XRF FIELD DATA SHEETS

XRF FIELD DATA SHEET							
BLDG ID	**XRF #**	**LEVEL**	**ROOM**	**SUBSTRATE**	**COMPONENT**	**COLOR**	**RESULT[1]**
1	5	1	Suite A	CMU	Wall	White	0.00
1	6	1	102 A	Metal	Door frame	White	0.10
1	7	1	101 A	Wood	Door	White	0.00
1	8	1	104 A	CMU	Wall	White	0.07
1	9	1	Bathroom	Metal	Door	White	0.00
1	10	1	Bathroom	Metal	Door frame	White	0.07
1	11	1	Exterior	Metal	Column	Black	0.05
1	12	1	Suite B	Metal	Bar joist	Black	0.00
1	13	1	Suite C	Metal	Bar joist	Black	0.00
1	14	1	Suite C	CMU	Wall	White	0.06
1	15	1	Suite C	Drywall	Ceiling	White	0.00
1	16	1	Suite C	Metal	Framing	White	0.00
1	17	1	Suite C	Metal	Framing	White	0.00
1	18	2	210 C	Drywall	Ceiling	White	0.00
1	19	2	212 C	CMU	Wall	White	0.06
1	20	2	212 C	Wood	Door	White	0.00
1	21	2	211 C	Metal	Door frame	White	0.00
1	22	2	Bathroom	Metal	Door frame	Gray	0.00
1	23	2	Exterior	Metal	Column	Black	0.00
1	24	2	Exterior	Metal	Railing	Black	0.11
1	25	2	Suite E	Metal	Door frame	White	0.07
1	26	2	Suite E	Metal	Door	White	0.09
1	27	2	219 E	CMU	Wall	White	0.10
1	28	3	Exterior	Metal	Stair frame	White	0.00
1	29	3	Suite C	CMU	Wall	Black	0.09
1	30	3	311 C	Wood	Door	White	0.00
1	31	3	311 C	Metal	Door frame	White	0.00
1	32	3	310 C	Drywall	Ceiling	White	0.00
1	33	3	310 C	Wood	Door	White	0.00
1	34	3	307 B	Metal	Door frame	White	0.00
1	**35**	**3**	**305 B**	**Metal**	**Window**	**White**	**> 1.0**
1	36	3	305 B	Metal	Roof decking	Gray	0.00
1	111	1	Exterior	CMU	Window panel	White	0.00

1) Units in milligrams per square centimeter – mg/cm^2

PROJECT NAME: Barber Scotia College **PROJECT NO.** ACES 2013-10-083

BUILDING ID: Bldg #1 - 1968 Building **DATE:** 15 October 2013

LOCATION: Concord, NC **INSPECTOR:** D. Whitten, NC RA #120118

XRF FIELD DATA SHEET							
BLDG ID	**XRF #**	**LEVEL**	**ROOM**	**SUBSTRATE**	**COMPONENT**	**COLOR**	**RESULT[1]**
1	112	1	Exterior	CMU	Window panel	White	0.00
1	113	1	Exterior	CMU	Window panel	White	0.00
1	114	1	Exterior	Metal	Window guard	Black	0.00

1) Units in milligrams per square centimeter – mg/cm^2

PROJECT NAME: Barber Scotia College **PROJECT NO.** ACES 2013-10-083

BUILDING ID: Bldg #1 - 1968 Building **DATE:** 15 October 2013

LOCATION: Concord, NC **INSPECTOR:** D. Whitten, NC RA #120118

XRF FIELD DATA SHEET							
BLDG ID	**XRF #**	**LEVEL**	**ROOM**	**SUBSTRATE**	**COMPONENT**	**COLOR**	**RESULT[1]**
2	37	1st	See Fig 5	Metal	Window	White	0.00
2	38	1st	See Fig 5	CMU	Wall	White	0.07
2	39	1st	See Fig 5	Drywall	Ceiling	White	0.00
2	40	1st	See Fig 5	Metal	Door frame	White	0.17
2	41	1st	See Fig 5	Metal	Door	White	0.00
2	42	1st	See Fig 5	CMU	Wall	White	0.00
2	43	1st	See Fig 5	Wood	Door casing	White	0.00
2	44	1st	See Fig 5	Wood	Door frame	White	0.00
2	45	1st	See Fig 5	Wood	Ceiling	White	0.01
2	46	1st	See Fig 5	Wood	Door	White	0.00
2	47	1st	See Fig 5	Metal	Door frame	White	0.00
2	48	1st	See Fig 5	Drywall	Ceiling	White	0.00
2	49	1st	See Fig 5	CMU	Wall	White	0.16
2	50	1st	See Fig 5	CMU	Wall	White	0.06
2	51	1st	See Fig 5	Drywall	Ceiling	White	0.00
2	**52**	**1st**	**See Fig 5**	**Metal**	**Door frame**	**White**	**> 1.0**
2	**53**	**1st**	**See Fig 5**	**Metal**	**Door**	**White**	**> 1.0**
2	54	1st	See Fig 5	CMU	Wall	White	0.04
2	55	1st	See Fig 5	Metal	Door frame	White	0.04
2	56	1st	See Fig 5	Metal	Window frame	Black	0.00
2	115	1st	See Fig 5	CMU	Window panel	White	0.00

1) Units in milligrams per square centimeter – mg/cm^2

PROJECT NAME: Barber Scotia College **PROJECT NO.** ACES 2013-10-083

BUILDING ID: Bldg #2 – Director's Building **DATE:** 15 October

LOCATION: Concord, NC **INSPECTOR:** D. Whitten, NC RA #120118

XRF FIELD DATA SHEET							
BLDG ID	**XRF #**	**LEVEL**	**ROOM**	**SUBSTRATE**	**COMPONENT**	**COLOR**	**RESULT[1]**
3	**57**	**1st**	**Exterior**	**Metal**	**Stair frame**	**Black**	**1.04**
3	58	1st	Exterior	Metal	Railing	Black	0.39
3	59	1st	Exterior	Metal	Column	Black	0.71
3	60	1st	Suite F	Metal	Door frame	White	0.03
3	61	1st	Suite F	Wood	Door	White	0.00
3	62	1st	Suite F	CMU	Wall	White	0.00
3	63	1st	121 F	Drywall	Ceiling	White	0.00
3	64	1st	119 F	CMU	Wall	White	0.01
3	65	1st	Suite F	CMU	Wall	White	0.47
3	**66**	**1st**	**Exterior**	**Metal**	**decking**	**White**	**2.36**
3	67	1st	Suite D	CMU	Wall	White	0.03
3	68	1st	113 D	Metal	Door frame	White	0.10
3	69	1st	112 D	Wood	Door	White	0.00
3	70	1st	111 D	Drywall	Ceiling	White	0.00
3	71	1st	111 D	CMU	Wall	White	0.00
3	72	South Stairwell	See Fig 6	Metal	Stair frame	Black	0.44
3	73	South Stairwell	See Fig 6	Metal	Stair frame	Black	0.97
3	74	Basement	See Fig 6	CMU	Wall	White	0.00
3	75	Basement	See Fig 6	Metal	Door frame	White	0.03
3	76	Basement	See Fig 6	Wood	Door	White	0.03
3	77	Basement	See Fig 6	Drywall	Ceiling	White	0.00
3	78	Basement	See Fig 6	Metal	I-beam	White	0.00
3	79	Basement	See Fig 6	Metal	Bar joist	White	0.00
3	80	Basement	See Fig 6	Drywall	Ceiling	White	0.02
3	81	Basement	See Fig 6	Concrete	Column	White	0.00
3	82	Basement	See Fig 6	Concrete	Column	White	0.00
3	83	Basement	See Fig 6	Drywall	Ceiling	White	0.00
3	84	Basement	See Fig 6	Drywall	Ceiling	White	0.00
3	85	Basement	See Fig 6	Metal	Door frame	White	0.08
3	86	Basement	See Fig 6	Wood	Door	White	0.00
3	87	Basement	See Fig 6	CMU	Wall	White	0.04
3	88	Basement	See Fig 6	CMU	Wall	White	0.00
3	89	2nd	Suite A	Metal	Door	White	0.13

1) Units in milligrams per square centimeter – mg/cm^2

PROJECT NAME: Barber Scotia College **PROJECT NO.** ACES 2013-10-083

BUILDING ID: Bldg #3 – 1969 Building **DATE:** 15 October 2013

LOCATION: Concord, NC **INSPECTOR:** D. Whitten, NC RA #120118

XRF FIELD DATA SHEET							
BLDG ID	**XRF #**	**LEVEL**	**ROOM**	**SUBSTRATE**	**COMPONENT**	**COLOR**	**RESULT[1]**
3	90	2nd	Suite A	Metal	Door frame	White	0.02
3	91	2nd	Suite A	CMU	Wall	White	0.00
3	92	2nd	201 A	Drywall	Ceiling	White	0.00
3	93	2nd	202 A	Wood	Door	White	0.00
3	94	2nd	202 A	Metal	Door frame	White	0.03
3	95	2nd	205 A	Drywall	Ceiling	White	0.00
3	96	2nd	205 A	CMU	Wall	White	0.00
3	97	2nd	Exterior	Metal	Column	Black	0.92
3	98	2nd	Exterior	Metal	Railing	Black	0.18
3	99	3rd	Suite E	Metal	Bar joist	Black	0.00
3	100	3rd	Suite E	CMU	Wall	White	0.00
3	101	3rd	325 F	Drywall	Ceiling	White	0.00
3	102	3rd	325 F	Metal	Door frame	White	0.07
3	103	3rd	325 F	Wood	Door	White	0.00
3	104	3rd	325 F	CMU	Wall	White	0.00
3	105	3rd	322 F	CMU	Wall	White	0.00
3	106	3rd	322 F	Drywall	Ceiling	White	0.00
3	107	3rd	322 F	Metal	Door frame	White	0.00
3	108	3rd	322 F	Wood	Door	White	0.00
3	109	3rd	Suite F	Metal	Bar joist	Black	0.00
3	110	3rd	Suite F	Metal	Roof decking	Gray	0.00
3	116	1st	Exterior	CMU	Window panel	White	0.00
3	117	1st	Exterior	CMU	Window panel	White	0.00
3	118	Ground	Exterior	CMU	Window panel	White	0.00

1) Units in milligrams per square centimeter – mg/cm^2

PROJECT NAME: Barber Scotia College

PROJECT NO. ACES 2013-10-083

BUILDING ID: Bldg #3 – 1969 Building

DATE: 15 October 2013

LOCATION: Concord, NC

INSPECTOR: D. Whitten, NC RA #120118

APPENDIX 4

LOG OF PHOTOGRAPHS

1. Building #1 located on Corban Avenue SW in Concord, NC.

2. Building #2 located on Corban Avenue SW in Concord, NC..

3. Building #3 located on Corban Avenue SW in Concord, NC.

4. Asbestos Containing Material – ceiling finish.

5. Asbestos Containing Material – 9” x 9” floor tile.

6. Asbestos Containing Material – mastic associated with floor tile.