

## **APPENDIX “5”**

# **Asbestos-Containing Building Materials Survey Report**

**Of**

## **Outpatient Support (Building 66) Fort Roots, North Little Rock, Arkansas 72114**



**Prepared For:  
Central Arkansas Veterans Affairs Healthcare System  
2200 Fort Roots Drive,  
North Little Rock, Arkansas 72114**

**Asbestos Inspection Performed By:**

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Report Date: May 19, 2014



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## **Executive Summary**

BES Design/Build, LLC (BES) was retained by the Central Arkansas Veterans Affairs Healthcare System (CAVAHS) to conduct an Asbestos-Containing Building Materials Survey at the Outpatient Support (Building 66) located at Fort Roots, North Little Rock, Arkansas 72114.

The presence of asbestos (greater than 1% and trace) was detected in eleven (11) homogeneous materials. The following list summarizes the homogenous materials found or assumed to be asbestos containing building materials (ACBM). For a detailed listing of ACBM results and locations, please refer to Section 6.

- Mastic (White) HVAC Duct Insulation
- Laboratory Countertops
- Transite Panels (inside Fume Hoods)
- 12x12 Floor Tile (Bright Green)
- 12x12 Floor Tile (Tan w/ White & Brown Spots)
- 12x12 Floor Tile (Blue)
- 12x12 Floor Tile (Green)
- 9x9 Floor Tile (Grey)
- Mastic (Black)
- Pipe Insulation Joint Sealant (White)
- Pipe Insulation Joint Sealant (Tan)

### **Recommended Response Actions:**

All the identified ACBM and assumed ACBM were in good condition at the time of the survey except the following materials:

- None

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## 1.0 Introduction

BES Design/Build, LLC (BES) was retained by the Central Arkansas Veterans Affairs Healthcare System (CAVAHS) to conduct an Asbestos-Containing Building Materials Survey at the Outpatient Support (Building 66) located at Fort Roots, North Little Rock, Arkansas 72114.

The scope of work included:

- 1) Visual identification and physical assessment of suspect ACBM;
- 2) Bulk sampling and analysis of suspect ACBM;
- 3) Room-by-room inventory and quantification of ACBM;
- 4) Preparation of drawings denoting sampling location and identifying ACBM presence;
- 5) Labeling and posting signs denoting certain ACBM and
- 6) Generation of this report documenting the findings.

## 2.0 Relevant Asbestos Regulations and Acronyms

### Asbestos Regulations

- 1) 40 CFR 763: Environmental Protection Agency (EPA); Code of Federal Regulation (CFR); Part 763 – Asbestos; Appendix E Sub Part E – Hazard Emergency Response Act (AHERA) Regulation
- 2) 29 CFR -1926.1101: Occupational Safety and Health Administration (OSHA), Code of Federal Regulation (CFR); Asbestos Standard for the Construction Industry
- 3) Arkansas Pollution Control and Ecology Commission, Regulation No. 21 Arkansas Asbestos Abatement Regulation
- 4) VA Asbestos Management Protocol: Department of Veterans Affairs, Veterans Health Administration (VHA), Asbestos Management Program (VHA Directive #2010-036)

### Lists of Acronyms

|        |  |
|--------|--|
| ACBM   | Asbestos-Containing Building Materials                   |
| ADEQ   | Arkansas Department of Environmental Quality             |
| BES    | BES Design/Build, LLC                                    |
| C      | Chrysotile Asbestos                                      |
| CAVAHS | Central Arkansas Veterans Affairs Healthcare System      |
| EA     | Each   |
| Homo   | Homogeneous Material                                     |
| LF     | Linear Foot or Linear Feet                               |
| NAD    | No Asbestos Detected                                     |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NVLAP  | National Voluntary Laboratory Accreditation Program      |
| N/A    | Not Applicable   |
| O&M    | Operation and Maintenance                                |
| PLM    | Polarized Light Microscopy                               |
| PS     | Positive Stop  |
| SF     | Square Foot or Square Feet                               |
| TEM    | Transmission Electron Microscopy                         |
| TSI    | Thermal System Insulation                                |
| TR     | Trace  |

### 3.0 Accreditation Credentials

#### Company, Staff and Laboratory Credentials

##### Asbestos Abatement Consultant

BES Design/Build, LLC License/Certification # 000566 Expiration Date: 10/22/2014

##### Inspector

Charles J. Fairchild ADEQ License # 014431 Expiration Date: 12/31/2014

##### Laboratory

Sanair Technologies Laboratory, Inc. NVLAP Lab Code: 200870-0 Expiration Date: 3/31/2015

The copies of the accreditation certificates and licenses are included in Appendix A.

### 4.0 Site Description

Building 66 (Outpatient Support) is a 45,190 square foot facility, consisting of three floors an attic and basement mechanical room. Floor plans are included in Appendix B. At the time of the survey the following areas were not accessible: None

### 5.0 Asbestos-Containing Materials (ACBMs) Survey Methodology

BES's accredited asbestos inspector, Charles J. Fairchild conducted the ACBM survey of the subject building in April, 2014. The scope of work included a visual evaluation of potential ACBMs and the collection of bulk samples of these materials. The following sections describe the methodology used during the asbestos inspection.

#### 5.1 Visual Inspection and Assessment of Asbestos Containing Materials

A visual inspection of the friable and non-friable known or assumed asbestos containing building materials (ACBM) for the subject site was performed. BES located and listed all homogenous areas of material that are suspected to contain asbestos. The materials suspected of containing asbestos were categorized as one of the following three types:

- Thermal System Insulations (TSI): The building materials applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain such as insulation wrapped on ducts or pipes.
- Surfacing Materials: The building materials that are sprayed-on, troweled-on, or otherwise applied to surfaces such as ceiling plaster or sprayed-on fireproofing.
- Miscellaneous Materials: The building materials on structural components that do not include surfacing material or TSI such as floor tiles or ceiling tiles.

A physical assessment of the suspect material was performed and the suspect material was placed in one of the three categories based on visual inspection.

- Good (No Damage): These are the materials which are intact and in good condition.
- Fair (Damaged): These materials correspond to the damaged categories in the 40 CFR 763.88 AHERA Rule.
- Poor (Significantly Damaged): These materials correspond to the significantly damaged categories in the 40 CFR 763.88 AHERA Rule.

## 5.2 Methodology of Sampling and Analysis

### **Bulk Sampling Protocol**

For each suspect homogeneous material, bulk samples were collected for analysis in general accordance with 40 CFR 763.86 as listed in Table 5.2.1

| <b>Table 5.2.1: Bulk Sampling Protocol</b>     |   |                          |
|--|---|--------------------------|
| <b>Type</b>                                    | <b>Quantity of Material</b>                     | <b>Number of Samples</b> |
| Surfacing Material                             | < 1,000 ft <sup>2</sup>                         | 3                        |
|  | >1,000 ft <sup>2</sup> ≤ 5,000 ft <sup>2</sup>  | 5                        |
|  | <5,000 ft <sup>2</sup>                          | 7                        |
| Thermal System Insulation (TSI)                | Each Homogenous System                          | 3                        |
|  | Per homogeneous patched area <6 ft <sup>2</sup> | 1                        |
| Miscellaneous Material (Friable / Non Friable) | Per homogenous area                             | 1                        |

The following suspect building materials were not included in the survey: ceramic tile grout / mastic, chalkboard / tack board mastic, fire curtains, interior mechanical and electrical equipment materials (gaskets, lining, insulating rope, packing), paint, pipe gaskets, roofing materials, sub-flooring, lightweight concrete, tarpaper moisture barrier, terrazzo, tectum board, vibration damper / vibration collars on ducts and air handling units, brake shoes, vinyl cove base and window caulking and glazing. These materials should either be properly inspected by an ADEQ licensed asbestos inspector or treated as ACBM prior to any disturbance of these materials.

### **Assumed Asbestos Containing Materials**

For the purpose of this report, certain building materials were assumed to contain asbestos due to limited accessibility, avoidance of damage to equipment, or warranty concerns. These materials should either be properly tested or treated as ACBM prior to demolition or renovation of these materials. The following suspect building materials were assumed to contain asbestos:

- Laboratory countertops
- Fume hoods that contain transite panels

### **Bulk Sample Collection Method**

Bulk samples of the suspect ACBMs were collected using appropriate hand tools that were driven through the suspect material to the substrate in order to obtain a sample containing all discrete layers after misting the sampling area with amended water. The samples were then placed in re-sealable plastic bags and assigned unique identifiers that were recorded on the bags and on the bulk survey sampling sheets. Sampling tools were cleaned with wet wipes after each sample was collected to minimize contamination. The sampled location was encapsulated / sealed immediately after sample was collected and the sampled area was cleaned using HEPA vacuum.

Many surveyed areas had carpeting. BES inspected the sub-surfaces under the carpet at the perimeter of the rooms due to limited access. Carpet was gently lifted in a corner to reveal the adhesive. All viewed sub-flooring below the carpet was inspected with a hammer and a chisel. Concrete was found below some of the carpet. Suspect vinyl flooring materials and suspect mastics were found below some of the carpet. In these areas, BES extracted samples of the floor tile and the mastic for laboratory analysis. If future carpet removal occurs in any carpeted area and sub-flooring is found (other than concrete or previously

sampld material included in this report), then these materials should be assumed to contain asbestos, unless laboratory analysis verifies that the suspect material is non-ACBM.

The suspect asbestos bulk samples collected by BES's building inspector were submitted, along with a chain-of-custody form to a NVLAP accredited laboratory to be analyzed by Polarized Light Microscopy (PLM) - EPA 600/R-93/116 method.

**Positive Stop Procedures for PLM analysis**

In accordance with U.S. EPA guidelines, samples are categorized into "homogeneous groups" by material type. The number of samples to be taken for each group is dictated by the type and quantity of the material. All samples within the homogeneous group must be less than 1% asbestos in order to classify the material as "non-asbestos." Conversely, the positive result of any one (1) sample dictates that the homogeneous group be classified as ACBM. Thus, when the individual samples of each homogeneous group are analyzed, the laboratory will discontinue analysis when asbestos has been identified in one (1) of the samples. These subsequent samples, which have not yet been analyzed, are reported as PS ("Positive Stop") and the homogeneous material is classified as an ACBM.

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## 6.0 Inspection Findings

The US Environmental Protection Agency (EPA) defines an asbestos-containing material as "any material containing greater than one percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, Section 1, PLM." For the purposes of this investigation, all materials with any detectable asbestos fibers were classified as asbestos-containing materials.

### 6.1 Bulk Sampling

A total of seventy-three (73) bulk samples were collected from the Outpatient Support (Building 66) Sampling locations are depicted on floor plans included as Appendix B. The results of the analysis of the bulk samples are summarized in Table 6.1.2. The asbestos certificates of analysis are included in Appendix D of this report.

| <b>Sample Number</b> | <b>Homo. ID</b> | <b>Material Description</b>                  | <b>Sample Location</b>        | <b>Result</b> |
|----------------------|-----------------|--|-------------------------------|---------------|
| 66FT-01-01           | FT01            | 12X12 Floor Tile (Black/Dark Brown)          | Door Threshold 158B-66        | NAD           |
| <b>66M-02-02</b>     | <b>M02</b>      | <b>Mastic (Black)</b>                        | <b>Door Threshold 158B-66</b> | <b>5% C</b>   |
| 66AD-03-03           | AD03            | Adhesive (Yellow)                            | 158B-66                       | NAD           |
| <b>66FT-04-04</b>    | <b>FT04</b>     | <b>12X12 Floor Tile (Bright Green)</b>       | <b>C15-66</b>                 | <b>2% C</b>   |
| 66FT-05-05           | FT05            | 12X12 Floor Tile (Tan w/ White & Brn Spots)  | C15-66                        | NAD           |
| <b>66M-02-06</b>     | <b>M02</b>      | <b>Mastic (Black)</b>                        | <b>C15-66</b>                 | <b>5% C</b>   |
| <b>66M-02-07</b>     | <b>M02</b>      | <b>Mastic (Black)</b>                        | <b>C15-66</b>                 | <b>5% C</b>   |
| <b>66S-06-08</b>     | <b>S06</b>      | <b>Pipe Insulation Joint Sealant (White)</b> | <b>147-66</b>                 | <b>3% C</b>   |
| 66DM-07-09           | DM07            | Duct Insulation Mastic (White)               | 147-66                        | NAD           |
| <b>66M-02-10</b>     | <b>M02</b>      | <b>Mastic (Black)</b>                        | <b>152-66</b>                 | <b>5% C</b>   |
| 66FT-08-11           | FT08            | 12X12 Floor Tile (Dark Tan w/ Multi Spots)   | 152B-66                       | NAD           |
| 66FT-09-12           | FT09            | 12X12 Floor Tile (Maroon)                    | 152D-66                       | NAD           |
| 66FT-10-13           | FT10            | 12x12 Floor Tile (Blue)                      | 152D-66                       | NAD           |
| 66SFP-11-14          | SFP11           | Spray Applied Fireproofing                   | 152B-66                       | NAD           |
| 66SFP-11-15          | SFP11           | Spray Applied Fireproofing                   | C15-66                        | NAD           |
| 66SFP-11-16          | SFP11           | Spray Applied Fireproofing                   | C15-66                        | NAD           |
| 66TSI-14-19          | TSI14           | Pipe Joint Insulation (Grey)                 | B1-66                         | NAD           |
| TSI-14-20            | TSI14           | Pipe Joint Insulation (Grey)                 | B1-66                         | NAD           |
| <b>66S-15-21</b>     | <b>S06</b>      | <b>Pipe Insulation Joint Sealant (White)</b> | <b>B1-66</b>                  | <b>5% C</b>   |
| 66DM-16-22           | DM16            | Mastic (White) HVAC Duct                     | B1-66                         | NAD           |
| <b>66FT-17-23</b>    | <b>FT17</b>     | <b>9x9 Floor Tile (Grey)</b>                 | <b>Elevator Equip Room</b>    | <b>5% C</b>   |

**Table 6.1.2: Suspect Asbestos Bulk Sample Log**

| Sample Number     | Homo. ID    | Material Description                         | Sample Location | Result      |
|-------------------|-------------|--|-----------------|-------------|
| <b>66S-15-24</b>  | <b>S06</b>  | <b>Pipe Insulation Joint Sealant (White)</b> | <b>Attic</b>    | <b>5% C</b> |
| <b>66DM-07-25</b> | <b>DM07</b> | <b>Duct Insulation Mastic (White)</b>        | <b>225-66</b>   | <b>5% C</b> |
| 66DM-07-26        | DM07        | Duct Insulation Mastic (White)               | 216-66          | NAD         |
| 66FT-05-27        | FT05        | 12X12 Floor Tile (Tan w/ White & Brn Spots)  | 208-66          | NAD         |
| <b>66M-02-28</b>  | <b>M02</b>  | <b>Mastic (Black)</b>                        | <b>208-66</b>   | <b>2% C</b> |
| 66FT-08-29        | FT08        | 12X12 Floor Tile (Dark Tan w/ Multi Spots)   | 223-66          | NAD         |
| 66FT-09-30        | FT09        | 12X12 Floor Tile (Maroon)                    | 201-66          | NAD         |
| <b>66FT-10-31</b> | <b>FT10</b> | <b>12x12 Floor Tile (Blue)</b>               | <b>201A-66</b>  | <b>2% C</b> |
| 66FT-11-32        | FT11        | 12x12 Floor Tile (Orange)                    | C27-66          | NAD         |
| <b>66M-02-33</b>  | <b>M02</b>  | <b>MASTIC (BLACK)</b>                        | <b>C27-66</b>   | <b>2% C</b> |
| 66CT-12-34        | CT12        | 2x4 Ceiling Tile (Pin Holes/Small Crevices)  | 223-66          | NAD         |
| 66CT-13-36        | CT13        | 2x4 Ceiling Tile (Tan Color/Large Crevices)  | C210-66         | NAD         |
| 66DW-14-37        | DW14        | Sheetrock                                    | 229-66          | NAD         |
| 66JC-15-38        | JC15        | Joint Compound                               | 229-66          | NAD         |
| 66P-16-39         | P16         | Plaster (Tan)                                | 243-66          | NAD         |
| 66P-16-40         | P16         | Plaster (Tan)                                | 215-66          | NAD         |
| 66P-16-41         | P16         | Plaster (Tan)                                | 161-66          | NAD         |
| 66P-16-42         | P16         | Plaster (Tan)                                | C14-66          | NAD         |
| 66P-16-43         | P16         | Plaster (Tan)                                | 38-66           | NAD         |
| 66SC-17-44        | SC17        | Surfacing Material (White) Skimcoat          | 243-66          | NAD         |
| 66SC-17-45        | SC17        | Surfacing Material (White) Skimcoat          | 215-66          | NAD         |
| 66SC-17-46        | SC17        | Surfacing Material (White) Skimcoat          | 161-66          | NAD         |
| 66SC-17-47        | SC17        | Surfacing Material (White) Skimcoat          | C14-66          | NAD         |
| 66SC-17-48        | SC17        | Surfacing Material (White) Skimcoat          | 38-66           | NAD         |
| 66CB-18-49        | CB18        | Adhesive (Yellow)                            | 226-66          | NAD         |
| 66CB-19-50        | CB19        | Adhesive (Brown) Covebase                    | C21-66          | NAD         |
| 66DW-20-51        | DW14        | Sheetrock                                    | C14-66          | NAD         |
| 66JC-21-52        | JC15        | Joint Compound                               | C14-66          | NAD         |
| 66JC-22-53        | JC22        | Joint Compound (Yellow)                      | C14-66          | NAD         |
| 66JC-22-54        | JC22        | Joint Compound (Yellow)                      | C14-66          | NAD         |

**Table 6.1.2: Suspect Asbestos Bulk Sample Log**

| Sample Number  | Homo. ID     | Material Description                                   | Sample Location    | Result          |
|--|--------------|--|--------------------|-----------------|
| <b>66FT-05-56</b>  | <b>FT05</b>  | <b>12X12 Floor Tile (Tan w/ White &amp; Brn Spots)</b> | <b>116-66</b>      | <b>2% C</b>     |
| <b>66M-02-57</b>   | <b>M02</b>   | <b>Mastic (Black)</b>                                  | <b>116-66</b>      | <b>2% C</b>     |
| 66LC-24-58   | LC24         | Leveling Compound (Tan)                                | 116-66             | NAD             |
| 66CB-19-59   | CB19         | Adhesive (Brown) Covebase                              | 113-66             | NAD             |
| 66CB-25-60   | CB25         | Adhesive (Light Brown) Covebase                        | 113-66             | NAD             |
| 66CT-13-61   | CT13         | 2x4 Ceiling Tile (Tan Color/Large Crevices)            | C14-66             | NAD             |
| 66DW-26-62   | DW14         | Sheetrock  | 38-66              | NAD             |
| 66FT-28-64   | FT28         | 12x12 Floor Tile (Tan w/Brown Swirls)                  | 38-66              | NAD             |
| <b>66FT-29-65</b>  | <b>FT29</b>  | <b>12x12 Floor Tile (Green)</b>                        | <b>51-66</b>       | <b>2% C</b>     |
| 66FT-30-66   | FT30         | 12x12 Floor Tile (Light Grey)                          | CG4-66             | NAD             |
| 66FT-31-67   | FT31         | 12x12 Floor Tile (Dark Grey)                           | 1A-66              | NAD             |
| 66FT-01-68   | FT01         | 12X12 Floor Tile (BlackDark Brown)                     | 1A-66              | NAD             |
| 66CT-32-69   | CT32         | 2x2 Ceiling Tile (Large Long Crevices)                 | CG12-66            | NAD             |
| <b>66S-33-70</b>   | <b>S06</b>   | <b>Pipe Insulation Joint Sealant (White)</b>           | <b>CG12-66</b>     | <b>&lt;1% C</b> |
| 66DM-34-71   | DM34         | Mastic (Yellow) HVAC Duct                              | CG12-66            | NAD             |
| <b>66FT-05-72</b>  | <b>FT05</b>  | <b>12X12 Floor Tile (Tan w/ White &amp; Brn Spots)</b> | <b>19-66</b>       | <b>2% C</b>     |
| <b>66M-02-73</b>   | <b>M02</b>   | <b>Mastic (Black)</b>                                  | <b>19-66</b>       | <b>5% C</b>     |
| 66DW-36-74   | DW14         | Sheetrock  | CG7-66             | NAD             |
| 66DM-38-76   | DM38         | Mastic (White) HVAC Duct                               | CG3-66             | NAD             |
| <b>ASM-00-01</b>   | <b>ASM01</b> | <b>Laboratory Countertops (Black)</b>                  | <b>Not sampled</b> | <b>Assumed</b>  |
| <b>ASM-00-02</b>   | <b>ASM02</b> | <b>Transite (Fume Hoods)</b>                           | <b>Not sampled</b> | <b>Assumed</b>  |
| 66JC-37-75   | JC15         | Joint Compound   | CG7-66             | NAD             |
| 66JC-27-63   | JC15         | Joint Compound   | 38-66              | NAD             |
| <b>Notes:</b><br>NAD – No Asbestos Detected      TR – Trace      C – Chrysotile Asbestos |              |  |                    |                 |

## 6.2 Homogenous Material Summary

Summary of suspect ACBM identified during BES's survey at the subject site is provided in Table 6.2.3

| Table 6.2.3: Homogenous Materials Summary |   |   |                                    |                |            |                    |
|---|---|---|------------------------------------|----------------|------------|--------------------|
| Homo. ID                                  | Material Description                        | Material Location   | Sample Numbers                     | Sample Results | Friability | Estimated Quantity |
| AD03                                      | Adhesive (Yellow)                           | N/A   | 66AD-03-03                         | NAD            | NF         | N/A                |
| ASM01                                     | Laboratory Countertops (Black)              | 2nd Floor Hematology Lab area (Rooms 206, 208 & 209), 1st Floor (Room 141)    | Not Sampled                        | Assumed        | NF         | 7 EA               |
| ASM02                                     | Transite (Fume Hoods)                       | 2nd Floor Hematology Lab area (Room 208) and Atomic Absorption Lab (Room 220) | Not Sampled                        | Assumed        | NF         | 3 EA               |
| CB18                                      | Adhesive (Yellow)                           | N/A   | 66CB-18-49                         | NAD            | NF         | N/A                |
| CB19                                      | Adhesive (Brown) Covebase                   | N/A   | 66CB-19-50                         | NAD            | NF         | N/A                |
| CB25                                      | Adhesive (Light Brown) Covebase             | N/A   | 66CB-25-60                         | NAD            | NF         | N/A                |
| CT12                                      | 2x4 Ceiling Tile (Pin Holes/Small Crevices) | N/A   | 66CT-12-34, 66CT-23-55             | NAD            | F          | N/A                |
| CT13                                      | 2x4 Ceiling Tile (Tan Color/Large Crevices) | N/A   | 66CT-13-36                         | NAD            | F          | N/A                |
| CT32                                      | 2x2 Ceiling Tile (Large Long Crevices)      | N/A   | 66CT-32-69                         | NAD            | F          | N/A                |
| DM07                                      | Duct Insulation Mastic (White)              | Mech Rooms 147, 136 & 225   | 66DM-07-09, 66DM-07-25, 66DM-07-26 | NAD, 5% C      | NF         | 1075 SF            |
| DM16                                      | Mastic (White) HVAC Duct                    | N/A   | 66DM-16-22                         | NAD            | NF         | N/A                |
| DM34                                      | Mastic (Yellow) HVAC Duct                   | N/A   | 66DM-34-71                         | NAD            | NF         | N/A                |

| <b>Table 6.2.3: Homogenous Materials Summary</b> |   |  |   |                             |                   |                           |
|--|---|--|---|-----------------------------|-------------------|---------------------------|
| <b>Homo. ID</b>                                  | <b>Material Description</b>                             | <b>Material Location</b>                                       | <b>Sample Numbers</b>                                   | <b>Sample Results</b>       | <b>Friability</b> | <b>Estimated Quantity</b> |
| DM38   | Mastic (White) HVAC Duct                                | N/A  | 66DM-38-76  | NAD                         | NF                | N/A                       |
| DW14   | Sheetrock   | N/A  | 66DW-14-37,<br>66DW-20-51,<br>66DW-26-62,<br>66DW-36-74 | NAD                         | F                 | N/A                       |
| FT01   | 12X12 Floor Tile (Black/Dark Brown)                     | N/A  | 66FT-01-01, 66FT-01-68                                  | NAD                         | NF                | N/A                       |
| <b>FT04</b>                                      | <b>12X12 Floor Tile (Bright Green)</b>                  | <b>C15-66</b>  | <b>66FT-04-04</b>                                       | <b>2% C</b>                 | <b>NF</b>         | <b>50 SF</b>              |
| <b>FT05</b>                                      | <b>12X12 Floor Tile (Tan w/ White &amp; Brn. Spots)</b> | <b>Throughout 1st, 2nd &amp; 3rd Floors</b>                    | <b>66FT-05-05, 66FT-05-27, 66FT-05-56, 66FT-05-72</b>   | <b>NAD, NAD, 2% C, 2% C</b> | <b>NF</b>         | <b>30,500 SF</b>          |
| FT08   | 12X12 Floor Tile (Dark Tan w/ Multi Spots)              | N/A  | 66FT-08-11, 66FT-08-29                                  | NAD                         | NF                | N/A                       |
| FT09   | 12X12 Floor Tile (Maroon)                               | N/A  | 66FT-09-12, 66FT-09-30                                  | NAD                         | NF                | N/A                       |
| <b>FT10</b>                                      | <b>12x12 Floor Tile (Blue)</b>                          | <b>210-66, 210B-66, C24-66, C23-66, C12-66, C14-66, C13-66</b> | <b>66FT-10-31</b>                                       | <b>2% C</b>                 | <b>NF</b>         | <b>275 SF</b>             |
| FT11   | 12x12 Floor Tile (Orange)                               | N/A  | 66FT-11-32  | NAD                         | NF                | N/A                       |
| <b>FT17</b>                                      | <b>9x9 Floor Tile (Grey)</b>                            | <b>Elevator Equipment Platform</b>                             | <b>66FT-17-23</b>                                       | <b>5% C</b>                 | <b>NF</b>         | <b>250 SF</b>             |
| FT28   | 12x12 Floor Tile (Tan w/Brown Swirls)                   | N/A  | 66FT-28-64  | NAD                         | SF                | N/A                       |
| <b>FT29</b>                                      | <b>12x12 Floor Tile (Green)</b>                         | <b>CG10-66, CG11-66, 65-66, 64-66, 63-66, 48-66, 51-66</b>     | <b>66FT-29-65</b>                                       | <b>2% C</b>                 | <b>NF</b>         | <b>1,240 SF</b>           |
| FT30   | 12x12 Floor Tile (Light Grey)                           | N/A  | 66FT-30-66  | NAD                         | NF                | N/A                       |
| FT31   | 12x12 Floor Tile (Dark                                  | N/A  | 66FT-31-67  | NAD                         | NF                | N/A                       |

| <b>Table 6.2.3: Homogenous Materials Summary</b> |  |   |   |                       |                   |                           |
|--|--|---|---|-----------------------|-------------------|---------------------------|
| <b>Homo. ID</b>                                  | <b>Material Description</b>                  | <b>Material Location</b>                    | <b>Sample Numbers</b>   | <b>Sample Results</b> | <b>Friability</b> | <b>Estimated Quantity</b> |
|  | Grey)  |   |   |                       |                   |                           |
| JC15   | Joint Compound                               | N/A   | 66JC-15- 38, 66JC-21-52, 66JC-27-63, 66JC-37-75   | NAD                   | F                 | N/A                       |
| JC22   | Joint Compound (Yellow)                      | N/A   | 66JC-22-53, 66JC-22-54  | NAD                   | F                 | N/A                       |
| LC24   | Leveling Compound (Tan)                      | N/A   | 66LC-24-58  | NAD                   | NF                | N/A                       |
| <b>M02</b>                                       | <b>Mastic (Black)</b>                        | <b>Throughout Building</b>                  | <b>66M-02-02, 66M-02-06, 66M-02-07, 66M-02-10, 66M-02-28, 66M-02-33, 66M-02-57, 66M-02-73</b> | <b>25 C - 5% C</b>    | <b>NF</b>         | <b>33,800 SF</b>          |
| P16  | Plaster (Tan)                                | N/A   | 66P-16-39, 66P-16-40, 66P-16-41, 66P-16-42, 66P-16-43   | NAD                   | F                 | N/A                       |
| <b>S06</b>                                       | <b>Pipe Insulation Joint Sealant (White)</b> | <b>Attic, B1-66, 147-66, 138-66, 216-66</b> | <b>66S-06-08, 66S-15-24, 66S-15-21</b>  | <b>3% C, 5% C</b>     | <b>NF</b>         | <b>1,000 LF</b>           |
| <b>S33</b>                                       | <b>Pipe Insulation Joint Sealant (Tan)</b>   | <b>CG12-66, 56-66</b>                       | <b>66S-33-70</b>  | <b>&lt;1% C</b>       | <b>NF</b>         | <b>160 LF</b>             |
| SC17   | Surfacing Material (White) Skimcoat          | N/A   | 66SC-17-44, 66SC-17-45, 66SC-17-46, 66SC-17-47, 66SC-17-47, 66SC-17-48                        | NAD                   | F                 | N/A                       |
| SFP11  | Spray Applied Fireproofing                   | N/A   | 66SPF-11-14, 66SPF-11-15, 66SPF-11-16   | NAD                   | F                 | N/A                       |
| TSI14  | Pipe Joint Insulation (Grey)                 | N/A   | 66TSI-14-19, 66TSI-14-20  | NAD                   | F                 | N/A                       |
| Notes:   |  |   |   |                       |                   |                           |

| Table 6.2.3: Homogenous Materials Summary   |                      |                   |                |                |            |                    |
|---|----------------------|-------------------|----------------|----------------|------------|--------------------|
| Homo. ID  | Material Description | Material Location | Sample Numbers | Sample Results | Friability | Estimated Quantity |
| NAD – No asbestos detected      TR - Trace      C – Chrysotile Asbestos<br>F – Friable      NF – Non Friable<br>SF – Square feet      LF – Linear feet      EA – Each |                      |                   |                |                |            |                    |

Floor plans depicting location of ACBM are included in Appendix C. Photographs of homogenous materials are included in Appendix E. A detailed room-by-room inventory of ACBM is included in Appendix F.

## Additional Clarification on ACBMs

Clarification needs to be made concerning the methods and the underlying rationale used to determine the quantity and location of certain ACBMs. The following are descriptions of materials determined to be asbestos containing materials:

- DM07: Mastic (White) HVAC Duct Insulation is a Category I non-friable ACM that currently exists in good condition. This material is located on the large ducts associated with air handlers on the first and second floors/
- ASM01: Laboratory Countertops are a Category II non-friable ACM and they currently exist in a good condition.
- ASM02: Transite Panels (inside Fume Hoods) are a Category II non-friable ACM and they currently exist in good condition. The fume hoods are located in the Hematology lab and Room 220 (Atomic Absorption Lab). They are labeled as an ACM.
- FT04: 12x12 Floor Tile (Bright Green) is a Category I non-friable ACM and currently exists in good condition. This material is located in the Pharmacy hallway and is under other flooring.
- FT05: 12x12 Floor Tile (Tan w/ White & Brown Spots) is a Category I non-friable ACM that currently exists in good condition. The material is found throughout the building.
- FT10: 12x12 Floor Tile (Blue) is a Category I non-friable ACM and currently exists in good condition. This material is located in south wings of the 1<sup>st</sup> and 2<sup>nd</sup> floors and is placed in strips down that corridors with other tile.
- FT29: 12x12 Floor Tile (Green) is a Category I non-friable ACM and currently exists in good condition. Material is in the north end of the ground floor as the 2<sup>nd</sup> layer of tile.
- FT17: 9x9 Floor Tile (Grey) is a Category I non-friable ACM and currently exists in good condition. This material is located in the Elevator Equipment Room accessed through the attic.
- M02: Mastic (Black) is a Category I non-friable ACM that currently exists in good condition. This material is the most prominent ACM identified. This material is located throughout the building and associated with most floor tiles.
- S06: Pipe Insulation Joint Sealant (White) is a Category I non-friable ACM and currently exists in good condition.
- S33: Pipe Insulation Joint Sealant (Tan) is a Category I non-friable ACM and currently exists in good condition.

## 7.0 Recommended Response Actions

BES assigned a response action for each homogenous material based on the evaluation of the information derived by the visual inspection, physical assessment and response action as shown in Table 7.0.4

| Table 7.0.4: Recommended Response Actions Protocol |   |
|--|---|
| Physical Assessment Categories                     | Response Action   |
| Good - No Damage                                   | O&M   |
| Fair - Damaged and/or Potential for Damage         | Evacuate or isolate area if needed. Remove, enclose, encapsulate or repair to correct damage. Take steps to reduce potential for disturbance. O&M |
| Poor - Significantly Damaged                       | Evacuate or isolate area if needed. Remove ACM. Repair TSI if feasible and safe. Operation and Maintenance (O&M)                                  |

All the identified ACBM and assumed ACBM were in good condition at the time of survey. No additional action is currently required.

The recommended response actions are included in Appendix F.



## **8.0 Disclaimer**

This report has been prepared by BES Design/Build, LLC, exclusively for our Client and their Authorized Representatives. The findings and recommendations presented are based upon discussions with the Client of the present conditions, and may not necessarily indicate future conditions.

Prior to renovation or demolition, BES recommends that this report be consulted to determine if asbestos-containing materials will be disturbed or removed. Further investigation may be warranted to determine precise quantities of asbestos-containing materials that will be affected by proposed renovations.

BES implies no warranty to the accuracy of information provided them by the Client or outside agents and transmitted herein. The locations and conditions of hazardous materials included in the report are based on the site observations performed during the survey.

# **Asbestos-Containing Building Materials Survey Report**

**Of**

**Education/Storage (Building 68)**

**Fort Roots, North Little Rock, Arkansas 72114**



**Prepared For:**

**Central Arkansas Veterans Affairs Healthcare System**

**2200 Fort Roots Drive,**

**North Little Rock, Arkansas 72114**

**Asbestos Inspection Performed By:**

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Charles J. Fairchild, Asbestos Inspector  
Arkansas Asbestos Inspector License # 014331  
BES Design/Build, LLC Arkansas Consultant License # 000566

Report Date: May 19, 2014



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766 Middle Street / Fairhope, Alabama 36532 /phone (251)990-5778 / fax (251)990-3716

## **Executive Summary**

BES Design/Build, LLC (BES) was retained by the Central Arkansas Veterans Affairs Healthcare System (CAVAHS) to conduct an Asbestos-Containing Building Materials Survey at the Building 68 (Education /Storage) located at Fort Roots, North Little Rock, Arkansas 72114.

The presence of asbestos (greater than 1% and trace) was detected in seven (7) homogeneous materials. The following list summarizes the homogenous materials found or assumed to be asbestos containing building materials (ACBM). For a detailed listing of ACBM results and locations, please refer to Section 6.

- **12x12 Floor Tile (Tan)**
- **12x12 Floor Tile (Orange)**
- **12x12 Floor Tile (Yellow)**
- **12x12 Floor Tile (Greenish Beige)**
- **9x9 Floor Tile (Grey)**
- **Mastic (Black)**
- **Pipe Lagging (White)**

### **Recommended Response Actions:**

All the identified ACBM and assumed ACBM were in good condition at the time of the survey except the following materials:

- None

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## **Appendices**

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| Appendix A: | Accreditations                                      |
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| Appendix D: | Asbestos Certificate of Analysis                    |
| Appendix E: | Site Photographs                                    |
| Appendix F: | Inventory of Asbestos-Containing Building Materials |

## 1.0 Introduction

BES Design/Build, LLC (BES) was retained by the Central Arkansas Veterans Affairs Healthcare System (CAVAHS) to conduct an Asbestos-Containing Building Materials Survey at the Education/Storage (Building 68) located at Fort Roots, North Little Rock, Arkansas 72114.

The scope of work included:

- 1) Visual identification and physical assessment of suspect ACBM;
- 2) Bulk sampling and analysis of suspect ACBM;
- 3) Room-by-room inventory and quantification of ACBM;
- 4) Preparation of drawings denoting sampling location and identifying ACBM presence;
- 5) Labeling and posting signs denoting certain ACBM and
- 6) Generation of this report documenting the findings.

## 2.0 Relevant Asbestos Regulations and Acronyms

### Asbestos Regulations

- 1) 40 CFR 763: Environmental Protection Agency (EPA); Code of Federal Regulation (CFR); Part 763 – Asbestos; Appendix E Sub Part E – Hazard Emergency Response Act (AHERA) Regulation
- 2) 29 CFR -1926.1101: Occupational Safety and Health Administration (OSHA), Code of Federal Regulation (CFR); Asbestos Standard for the Construction Industry
- 3) Arkansas Pollution Control and Ecology Commission, Regulation No. 21 Arkansas Asbestos Abatement Regulation
- 4) VA Asbestos Management Protocol: Department of Veterans Affairs, Veterans Health Administration (VHA), Asbestos Management Program (VHA Directive #2010-036)

### Lists of Acronyms

|        |  |
|--------|--|
| ACBM   | Asbestos-Containing Building Materials                   |
| ADEQ   | Arkansas Department of Environmental Quality             |
| BES    | BES Design/Build, LLC                                    |
| C      | Chrysotile Asbestos                                      |
| CAVAHS | Central Arkansas Veterans Affairs Healthcare System      |
| EA     | Each   |
| Homo   | Homogeneous Material                                     |
| LF     | Linear Foot or Linear Feet                               |
| NAD    | No Asbestos Detected                                     |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NVLAP  | National Voluntary Laboratory Accreditation Program      |
| N/A    | Not Applicable   |
| O&M    | Operation and Maintenance                                |
| PLM    | Polarized Light Microscopy                               |
| PS     | Positive Stop  |
| SF     | Square Foot or Square Feet                               |
| TEM    | Transmission Electron Microscopy                         |
| TSI    | Thermal System Insulation                                |
| TR     | Trace  |

### 3.0 Accreditation Credentials

#### Company, Staff and Laboratory Credentials

##### Asbestos Abatement Consultant

BES Design/Build, LLC License/Certification # 000566 Expiration Date: 10/22/2014

##### Inspector

Charles J. Fairchild ADEQ License # 014431 Expiration Date: 12/31/2014

##### Laboratory

Sanair Technologies Laboratory, Inc. NVLAP Lab Code: 200870-0 Expiration Date: 3/31/2015

The copies of the accreditation certificates and licenses are included in Appendix A.

### 4.0 Site Description

Building 68 (Education/Storage) is a 45,127 square foot facility, consisting of three floors, an attic and basement mechanical room. Floor plans are included in Appendix B. At the time of the survey the following areas were not accessible: None

### 5.0 Asbestos-Containing Materials (ACBMs) Survey Methodology

BES's accredited asbestos inspector, Charles J. Fairchild conducted the ACBM survey of the subject building in May, 2014. The scope of work included a visual evaluation of potential ACBMs and the collection of bulk samples of these materials. The following sections describe the methodology used during the asbestos inspection.

#### 5.1 Visual Inspection and Assessment of Asbestos Containing Materials

A visual inspection of the friable and non-friable known or assumed asbestos containing building materials (ACBM) for the subject site was performed. BES located and listed all homogenous areas of material that are suspected to contain asbestos. The materials suspected of containing asbestos were categorized as one of the following three types:

- Thermal System Insulations (TSI): The building materials applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain such as insulation wrapped on ducts or pipes.
- Surfacing Materials: The building materials that are sprayed-on, troweled-on, or otherwise applied to surfaces such as ceiling plaster or sprayed-on fireproofing.
- Miscellaneous Materials: The building materials on structural components that do not include surfacing material or TSI such as floor tiles or ceiling tiles.

A physical assessment of the suspect material was performed and the suspect material was placed in one of the three categories based on visual inspection.

- Good (No Damage): These are the materials which are intact and in good condition.
- Fair (Damaged): These materials correspond to the damaged categories in the 40 CFR 763.88 AHERA Rule.
- Poor (Significantly Damaged): These materials correspond to the significantly damaged categories in the 40 CFR 763.88 AHERA Rule.

## 5.2 Methodology of Sampling and Analysis

### **Bulk Sampling Protocol**

For each suspect homogeneous material, bulk samples were collected for analysis in general accordance with 40 CFR 763.86 as listed in Table 5.2.1

| <b>Table 5.2.1: Bulk Sampling Protocol</b>     |   |                          |
|--|---|--------------------------|
| <b>Type</b>                                    | <b>Quantity of Material</b>                     | <b>Number of Samples</b> |
| Surfacing Material                             | < 1,000 ft <sup>2</sup>                         | 3                        |
|  | >1,000 ft <sup>2</sup> ≤ 5,000 ft <sup>2</sup>  | 5                        |
|  | <5,000 ft <sup>2</sup>                          | 7                        |
| Thermal System Insulation (TSI)                | Each Homogenous System                          | 3                        |
|  | Per homogeneous patched area <6 ft <sup>2</sup> | 1                        |
| Miscellaneous Material (Friable / Non Friable) | Per homogenous area                             | 1                        |

The following suspect building materials were not included in the survey: ceramic tile grout / mastic, chalkboard / tack board mastic, fire curtains, interior mechanical and electrical equipment materials (gaskets, lining, insulating rope, packing), paint, pipe gaskets, roofing materials, sub-flooring, lightweight concrete, tarpaper moisture barrier, terrazzo, tectum board, vibration damper / vibration collars on ducts and air handling units, brake shoes, vinyl cove base and window caulking and glazing. These materials should either be properly inspected by an ADEQ licensed asbestos inspector or treated as ACBM prior to any disturbance of these materials.

### **Assumed Asbestos Containing Materials**

For the purpose of this report, certain building materials were assumed to contain asbestos due to limited accessibility, avoidance of damage to equipment, or warranty concerns. These materials should either be properly tested or treated as ACBM prior to demolition or renovation of these materials. The following suspect building materials were assumed to contain asbestos:

- Pipe Lagging – Located in the Room B37-68 is wrapped in 6 mil poly and labeled as Asbestos Containing Material.

### **Bulk Sample Collection Method**

Bulk samples of the suspect ACBMs were collected using appropriate hand tools that were driven through the suspect material to the substrate in order to obtain a sample containing all discrete layers after misting the sampling area with amended water. The samples were then placed in re-sealable plastic bags and assigned unique identifiers that were recorded on the bags and on the bulk survey sampling sheets. Sampling tools were cleaned with wet wipes after each sample was collected to minimize contamination. The sampled location was encapsulated / sealed immediately after sample was collected and the sampled area was cleaned using HEPA vacuum.

Many surveyed areas had carpeting. BES inspected the sub-surfaces under the carpet at the perimeter of the rooms due to limited access. Carpet was gently lifted in a corner to reveal the adhesive. All viewed sub-flooring below the carpet was inspected with a hammer and a chisel. Concrete was found below some of the carpet. Suspect vinyl flooring materials and suspect mastics were found below some of the carpet. In these areas, BES extracted samples of the floor tile and the mastic for laboratory analysis. If future carpet removal occurs in any carpeted area and sub-flooring is found (other than concrete or previously

sampld material included in this report), then these materials should be assumed to contain asbestos, unless laboratory analysis verifies that the suspect material is non-ACBM.

The suspect asbestos bulk samples collected by BES's building inspector were submitted, along with a chain-of-custody form to a NVLAP accredited laboratory to be analyzed by Polarized Light Microscopy (PLM) - EPA 600/R-93/116 method.

**Positive Stop Procedures for PLM analysis**

In accordance with U.S. EPA guidelines, samples are categorized into "homogeneous groups" by material type. The number of samples to be taken for each group is dictated by the type and quantity of the material. All samples within the homogeneous group must be less than 1% asbestos in order to classify the material as "non-asbestos." Conversely, the positive result of any one (1) sample dictates that the homogeneous group be classified as ACBM. Thus, when the individual samples of each homogeneous group are analyzed, the laboratory will discontinue analysis when asbestos has been identified in one (1) of the samples. These subsequent samples, which have not yet been analyzed, are reported as PS ("Positive Stop") and the homogeneous material is classified as an ACBM.

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## 6.0 Inspection Findings

The US Environmental Protection Agency (EPA) defines an asbestos-containing material as "any material containing greater than one percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, Section 1, PLM." For the purposes of this investigation, all materials with any detectable asbestos fibers were classified as asbestos-containing materials.

### 6.1 Bulk Sampling

A total of forty-seven (47) bulk samples were collected from the Education/Storage (Building 68). Sampling locations are depicted on floor plans included as Appendix B. The results of the analysis of the bulk samples are summarized in Table 6.1.2. The asbestos certificates of analysis are included in Appendix D of this report.

| <b>Sample Number</b> | <b>Homo. ID</b> | <b>Material Description</b>                 | <b>Sample Location</b>        | <b>Result</b> |
|----------------------|-----------------|---|-------------------------------|---------------|
| <b>68FT-01-01</b>    | <b>FT01</b>     | <b>12x12 Floor Tile (Tan/Brown Streaks)</b> | <b>Conference Room 118-68</b> | <b>2% C</b>   |
| <b>68M-02-01</b>     | <b>M01</b>      | <b>Mastic (Black)</b>                       | <b>118-68</b>                 | <b>3% C</b>   |
| <b>68M-02-02</b>     | <b>M01</b>      | <b>Mastic (Black)</b>                       | <b>130-68</b>                 | <b>3% C</b>   |
| <b>68M-02-03</b>     | <b>M01</b>      | <b>Mastic (Black)</b>                       | <b>C125-68</b>                | <b>3% C</b>   |
| 68-FT-04-01          | FT04            | 12X12 Floor Tile (Pink/Beige)               | Storage closet 138-68         | NAD           |
| 68-M-05-01           | M05             | Mastic (Black)                              | Storage closet 138-68         | NAD           |
| 68-CT-06-01          | CT06            | 2X2 Ceiling Tile                            | Hallway C123-68               | NAD           |
| 68-CT-06-02          | CT06            | 2X2 Ceiling Tile                            | 208-68                        | NAD           |
| 68-PS-07-01          | PS07            | Pipe Sealant                                | Hallway C123-68               | Not Analyzed  |
| 68-PS-08-01          | PS08            | Pipe Sealant (White)                        | 142-68                        | NAD           |
| 68-PS-08-02          | PS08            | Pipe Sealant (White)                        | B22-68                        | NAD           |
| 68-PS-08-03          | PS08            | Pipe Sealant (White)                        | B36-68                        | NAD           |
| 68-PS-08-04          | PS08            | Pipe Sealant (White)                        | BMR-68                        | NAD           |
| 68-SR-09-01          | SR09            | Sheetrock                                   | Storage 147A-68               | NAD           |
| 68-SR-09-02          | SR09            | Sheetrock                                   | B22-68                        | NAD           |
| 68-JC-10-01          | JC10            | Joint Compound                              | Storage 147A-68               | NAD           |
| 68-JC-10-02          | JC10            | Joint Compound                              | B22-68                        | NAD           |
| 68-CT-11-01          | CT11            | 2x4 Ceiling Tile                            | 107A-68                       | NAD           |
| 68-FT-12-01          | FT12            | 12X12 Floor Tile (Light Brown)              | B22-68                        | NAD           |
| 68-M-13-01           | M01             | Mastic (Black)                              | B22-68                        | NAD           |
| 68CT-14-01           | CT14            | 2X4 Ceiling Tile                            | B22-68                        | NAD           |
| <b>68-FT-15-01</b>   | <b>FT15</b>     | <b>12X12 Floor Tile (Greenish Beige)</b>    | <b>C44-68</b>                 | <b>5% C</b>   |
| 68-M-16-01           | M01             | Mastic (Black)                              | C44-68                        | NAD           |

| <b>Table 6.1.2: Suspect Asbestos Bulk Sample Log</b>                                     |                 |  |                            |               |
|--|-----------------|--|----------------------------|---------------|
| <b>Sample Number</b>   | <b>Homo. ID</b> | <b>Material Description</b>              | <b>Sample Location</b>     | <b>Result</b> |
| 68-CT-17-01  | CT17            | 2X4 Ceiling Tile (Hard)                  | B34-68                     | NAD           |
| 68-CT-18-01  | CT18            | 2X2 Ceiling Tile (Hard)                  | B39-68                     | NAD           |
| 68-FT-19-01  | FT19            | 12X12 Floor Tile (White)                 | B9-68                      | NAD           |
| 68-A-20-01   | A20             | Adhesive (Brown)                         | B9-68                      | NAD           |
| <b>68-PL-23-01</b>   | <b>PL23</b>     | <b>Pipe Lagging (White)</b>              | <b>B37-68</b>              | <b>60%</b>    |
| 68-FT-24-01  | FT24            | 12X12 Floor Tile (Greenish)              | B38-68                     | NAD           |
| 68-M-25-01   | M01             | Mastic (Black)                           | B38-68                     | NAD           |
| <b>68-FT-26-01</b>   | <b>FT15</b>     | <b>12X12 Floor Tile (Greenish Beige)</b> | <b>B36-68</b>              | <b>5% C</b>   |
| 68-M-27-01   | M05             | Mastic (Black)                           | B36-68                     | NAD           |
| 68-FT-28-01  | FT28            | 9X9 Floor Tile (Red & Green)             | B36-68                     | NAD           |
| 68-P-30-01   | P30             | Plaster (Brown)                          | 233-68                     | NAD           |
| 68-M-31-01   | M31             | Surfacing Material (Black)               | 233-68                     | NAD           |
| 68-FT-32-01  | FT32            | 12X12 Floor Tile (Gold)                  | 235-68                     | NAD           |
| 68-A-33-01   | A33             | Adhesive (Yellow)                        | 235-68                     | NAD           |
| 68-A-34-01   | A34             | Adhesive (Yellow) Carpet                 | 219-68                     | NAD           |
| <b>68-FT-35-01</b>   | <b>FT35</b>     | <b>9X9 Floor Tile (Grey)</b>             | <b>Elevator Equip Room</b> | <b>5% C</b>   |
| 68-PS-37-01  | PS37            | Pipe Insulation Sealant                  | 218-68                     | NAD           |
| 68-LC-39-01  | LC39            | Leveling Compound (White)                | B26-68                     | NAD           |
| 68-A-40-01   | A34             | Adhesive (Yellow) Carpet                 | B26-68                     | NAD           |
| <b>68FT-41-01</b>  | <b>FT41</b>     | <b>12X12 Floor Tile (Yellow)</b>         | <b>C123-68</b>             | <b>2% C</b>   |
| <b>68FT-42-01</b>  | <b>FT42</b>     | <b>12X12 Floor Tile (Orange)</b>         | <b>C125-68</b>             | <b>2% C</b>   |
| <b>68-M-29-01</b>  | <b>M01</b>      | <b>Mastic (Black)</b>                    | <b>B36-68</b>              | <b>3% C</b>   |
| <b>68-M-36-01</b>  | <b>M01</b>      | <b>Mastic (Black)</b>                    | <b>Elevator Equip Room</b> | <b>3% C</b>   |
| 68FT-43-01   | FT43            | 12X12 Floor Tile (Tan)                   | 130-68                     | NAD           |
| <b>Notes:</b><br>NAD – No Asbestos Detected      TR – Trace      C – Chrysotile Asbestos |                 |  |                            |               |

## 6.2 Homogenous Material Summary

Summary of suspect ACBM identified during BES's survey at the subject site is provided in Table 6.2.3

| <b>Table 6.2.3: Homogenous Materials Summary</b> |   |  |                                 |                       |                   |                           |
|--|---|--|---------------------------------|-----------------------|-------------------|---------------------------|
| <b>Homo. ID</b>                                  | <b>Material Description</b>                 | <b>Material Location</b>                 | <b>Sample Numbers</b>           | <b>Sample Results</b> | <b>Friability</b> | <b>Estimated Quantity</b> |
| A20  | Adhesive (Brown)                            | N/A                                      | 68-A-20-01                      | NAD                   | NF                | N/A                       |
| A33  | Adhesive (Yellow)                           | N/A                                      | 68-A-33-01                      | NAD                   | NF                | N/A                       |
| A34  | Adhesive (Yellow)<br>Carpet                 | N/A                                      | 68-A-34-01, 68-A-40-01          | NAD                   | NF                | N/A                       |
| CT06   | 2X2 Ceiling Tile                            | N/A                                      | 68-CT-06-01, 68-CT-06-02        | NAD                   | F                 | N/A                       |
| CT11   | 2x4 Ceiling Tile                            | N/A                                      | 68-CT-11-01                     | NAD                   | F                 | N/A                       |
| CT14   | 2X4 Ceiling Tile                            | N/A                                      | 68-CT-14-01                     | NAD                   | F                 | N/A                       |
| CT17   | 2X4 Ceiling Tile (Hard)                     | N/A                                      | 68-CT-17-01                     | NAD                   | F                 | N/A                       |
| CT18   | 2X2 Ceiling Tile (Hard)                     | N/A                                      | 68-CT-18-01                     | NAD                   | F                 | N/A                       |
| <b>FT01</b>                                      | <b>12x12 Floor Tile (Tan/Brown Streaks)</b> | <b>Throughout 1<sup>ST</sup> floor</b>   | <b>68FT-01-01</b>               | <b>2% C</b>           | <b>NF</b>         | <b>7,685 SF</b>           |
| FT04   | 12X12 Floor Tile (Pink/Beige)               | N/A                                      | 68-FT-04-01                     | NAD                   | NF                | N/A                       |
| FT12   | 12X12 Floor Tile (Light Brown)              | N/A                                      | 68-FT-12-01                     | NAD                   | NF                | N/A                       |
| <b>FT15</b>                                      | <b>12X12 Floor Tile (Greenish Beige)</b>    | <b>Throughout most of Basement floor</b> | <b>68-FT-15-01, 68-FT-26-01</b> | <b>3% C, 5% C</b>     | <b>NF</b>         | <b>8,000 SF</b>           |
| FT19   | 12X12 Floor Tile (White)                    | N/A                                      | 68-FT-19-01                     | NAD                   | NF                | N/A                       |
| FT24   | 12X12 Floor Tile (Greenish)                 | N/A                                      | 68-FT-24-01                     | NAD                   | NF                | N/A                       |
| FT28   | 9X9 Floor Tile (Red & Green)                | N/A                                      | 68-FT-28-01                     | NAD                   | NF                | N/A                       |
| FT32   | 12X12 Floor Tile (Gold)                     | N/A                                      | 68-FT-32-01                     | NAD                   | NF                | N/A                       |

| <b>Table 6.2.3: Homogenous Materials Summary</b> |                                  |   |  |                       |                   |                           |
|--|----------------------------------|---|--|-----------------------|-------------------|---------------------------|
| <b>Homo. ID</b>                                  | <b>Material Description</b>      | <b>Material Location</b>                        | <b>Sample Numbers</b>  | <b>Sample Results</b> | <b>Friability</b> | <b>Estimated Quantity</b> |
| <b>FT35</b>                                      | <b>9X9 Floor Tile (Grey)</b>     | <b>Elevator Equipment Room</b>                  | <b>68-FT-35-01</b>   | <b>5% C</b>           | <b>NF</b>         | <b>150 SF</b>             |
| <b>FT41</b>                                      | <b>12X12 Floor Tile (Yellow)</b> | <b>First Floor corridor</b>                     | <b>68FT-41-01</b>  | <b>2% C</b>           | <b>NF</b>         | <b>240 SF</b>             |
| <b>FT42</b>                                      | <b>12X12 Floor Tile (Orange)</b> | <b>First Floor C149 &amp; C125</b>              | <b>68FT-42-01</b>  | <b>2% C</b>           | <b>NF</b>         | <b>40 SF</b>              |
| FT43   | 12X12 Floor Tile (Tan)           | N/A   | 68FT-43-01   | NAD                   | NF                | N/A                       |
| JC10   | Joint Compound                   | N/A   | 68-JC-10-01, 68-JC-10-02   | NAD                   | NF                | N/A                       |
| LC39   | Leveling Compound (White)        | N/A   | 68-LC-39-01  | NAD                   | F                 | N/A                       |
| <b>M01</b>                                       | <b>Mastic (Black)</b>            | <b>First and Second Floor under floor tiles</b> | <b>68M-02-01, 68M-02-02, 68M-02-03, 68-M-13-01, 68-M-25-01, 68-M-29-01, 68-M-36-01, 68-M-16-01</b> | <b>3% C</b>           | <b>NF</b>         | <b>20,600 SF</b>          |
| M05  | Mastic (Black)                   | N/A   | 68-M-05-01, 68-M-27-01   | NAD                   | NF                | N/A                       |
| M31  | Surfacing Material (Black)       | N/A   | 68-M-31-01   | NAD                   | NF                | N/A                       |
| P30  | Plaster (Brown)                  | N/A   | 68-P-30-01   | NAD                   | F                 | N/A                       |
| <b>PL23</b>                                      | <b>Pipe Lagging (White)</b>      | <b>B37-68</b>                                   | <b>68-PL-23-01</b>   | <b>60% C</b>          | <b>F</b>          | <b>30 LF</b>              |
| PS07   | Pipe Sealant                     | N/A   | 68-PS-07-01  | NAD                   | NF                | N/A                       |
| PS08   | Pipe Sealant (White)             | N/A   | 68-PS-08-01, 68-PS-08-02, 68-PS-08-03, 68-PS-08-04   | NAD                   | NF                | N/A                       |
| PS37   | Pipe Insulation Sealant          | N/A   | 68-PS-37-01  | NAD                   | NF                | N/A                       |
| SR09   | Sheetrock                        | N/A   | 68-SR-09-01, 68-   | NAD                   | F                 | N/A                       |

| <b>Table 6.2.3: Homogenous Materials Summary</b>  |                             |                          |                       |                       |                   |                           |
|---|-----------------------------|--------------------------|-----------------------|-----------------------|-------------------|---------------------------|
| <b>Homo. ID</b>   | <b>Material Description</b> | <b>Material Location</b> | <b>Sample Numbers</b> | <b>Sample Results</b> | <b>Friability</b> | <b>Estimated Quantity</b> |
|   |                             |                          | SR-09-02              |                       |                   |                           |
| Notes:<br>NAD – No asbestos detected      TR - Trace      C – Chrysotile Asbestos<br>F – Friable      NF – Non Friable<br>SF – Square feet      LF – Linear feet      EA – Each |                             |                          |                       |                       |                   |                           |

Floor plans depicting location of ACBM are included in Appendix C. Photographs of homogenous materials are included in Appendix E. A detailed room-by-room inventory of ACBM is included in Appendix F.

## Additional Clarification on ACBMs

Clarification needs to be made concerning the methods and the underlying rationale used to determine the quantity and location of certain ACBMs. The following are descriptions of materials determined to be asbestos containing materials:

- FT01: 12x12 Floor Tile (Tan/Brown Streaks) is a Category I non-friable ACM and currently exists in good condition. The material is located throughout the majority of the First floor as the top layer of floor tile.
- FT15: 12x12 Floor Tile (Greenish Beige) is a Category I non-friable ACM and currently exists in good condition. The material is located throughout the majority of the Basement floor as the top layer of floor tile.
- FT35: 9x9 Floor Tile (Grey) is a Category I non-friable ACM that currently exists in good condition. The material is located in the Elevator Equipment Room accessed in the attic.
- FT41: 12x12 Floor Tile (Yellow) is a Category I non-friable ACM that currently exists in good condition. The materials is located on the First floor main corridors.
- FT42: 12x12 Floor Tile (Orange) is a Category I non-friable ACM that currently exists in good condition. The material is located in the corridors on each end of the First floor.
- M01: Mastic (Black) is a Category I non-friable ACM that currently exists in good condition. The material is found throughout the Basement and First floors under the various types of floor tile (both ACM and Non-ACM). The material was not observed on the Second floor, as this floor appears to have undergone an extensive renovation.
- PL23: Pipe Lagging (White) is a friable ACM and currently exists in good condition. The material is located in the basement floor mechanical room and is wrapped and labeled as ACM. This is the only material that was accessible during the inspection, but it should be assumed that more of this material is present in the building between floors and pipe chases and other areas that are not accessible.

## 7.0 Recommended Response Actions

BES assigned a response action for each homogenous material based on the evaluation of the information derived by the visual inspection, physical assessment and response action as shown in Table 7.0.4

| Table 7.0.4: Recommended Response Actions Protocol |   |
|--|---|
| Physical Assessment Categories                     | Response Action   |
| Good - No Damage                                   | O&M   |
| Fair - Damaged and/or Potential for Damage         | Evacuate or isolate area if needed. Remove, enclose, encapsulate or repair to correct damage. Take steps to reduce potential for disturbance. O&M |
| Poor - Significantly Damaged                       | Evacuate or isolate area if needed. Remove ACM. Repair TSI if feasible and safe. Operation and Maintenance (O&M)                                  |

All the identified ACBM and assumed ACBM were in good condition at the time of survey. No additional action is currently required.

The recommended response actions are included in Appendix F.

## 8.0 Disclaimer

This report has been prepared by BES Design/Build, LLC, exclusively for our Client and their Authorized Representatives. The findings and recommendations presented are based upon discussions with the Client of the present conditions, and may not necessarily indicate future conditions.

Prior to renovation or demolition, BES recommends that this report be consulted to determine if asbestos-containing materials will be disturbed or removed. Further investigation may be warranted to determine precise quantities of asbestos-containing materials that will be affected by proposed renovations.

BES implies no warranty to the accuracy of information provided them by the Client or outside agents and transmitted herein. The locations and conditions of hazardous materials included in the report are based on the site observations performed during the survey.

# **Asbestos-Containing Building Materials Survey Report**

**Of**

## **Conference Center (Building #103) Fort Roots, North Little Rock, Arkansas 72114**



**Prepared For:  
Central Arkansas Veterans Affairs Healthcare System  
2200 Fort Roots Drive,  
North Little Rock, Arkansas 72114**

**Asbestos Inspection Performed By:**

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Charles J. Fairchild, Asbestos Inspector  
Arkansas Asbestos Inspector License # 014431  
BES Design/Build, LLC Arkansas Consultant License # 000566

Report Date: April 07, 2014



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766 Middle Street / Fairhope, Alabama 36532 /phone (251)990-5778 / fax (251)990-3716



## **Executive Summary**

BES Design/Build, LLC (BES) was retained by the Central Arkansas Veterans Affairs Healthcare System (CAVAHS) to conduct an Asbestos-Containing Building Materials Survey at the Conference Center (Building #103) located at Fort Roots, North Little Rock, Arkansas 72114.

The presence of asbestos (greater than 1% and trace) was detected in three (3) homogeneous materials of the identified suspected Asbestos-Containing Building Materials (ACBM). The following list summarizes the homogenous materials found or assumed to be ACBM. For a detailed listing of ACBM results and locations, please refer to Section 6.

- 12x12 Floor Tile - yellow
- Mastic - black associated with the floor tile and beneath carpet
- Mastic - black on cork
- Fire Doors (assumed to contain asbestos)

### **Recommended Response Actions:**

All the identified ACBM and assumed ACBM were in good condition at the time of survey except the following materials:

- TSI02B: Mastic - Black on cork located in the attic was found to be in fair condition. The material is loose and not attached to any piping. It is recommended the area be restricted until the material can be removed.

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## Appendices

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| Appendix B: | Drawings – Sample Location                          |
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| Appendix D: | Asbestos Certificate of Analysis                    |
| Appendix E: | Site Photographs                                    |
| Appendix F: | Inventory of Asbestos-Containing Building Materials |

## 1.0 Introduction

BES Design/Build, LLC (BES) was retained by the Central Arkansas Veterans Affairs Healthcare System (CAVAHS) to conduct an Asbestos-Containing Building Materials Survey at the Conference Center (Building #103) located at Fort Roots, North Little Rock, Arkansas 72114.

The scope of work included:

- 1) Visual identification and physical assessment of suspect ACBM;
- 2) Bulk sampling and analysis of suspect ACBM;
- 3) Room-by-room inventory and quantification of ACBM;
- 4) Preparation of drawings denoting sampling location and identifying ACBM presence;
- 5) Labeling and posting signs denoting certain ACBM and
- 6) Generation of this report documenting the findings.

## 2.0 Relevant Asbestos Regulations and Acronyms

### Asbestos Regulations

- 1) 40 CFR 763: Environmental Protection Agency (EPA); Code of Federal Regulation (CFR); Part 763 – Asbestos; Appendix E Sub Part E – Hazard Emergency Response Act (AHERA) Regulation
- 2) 29 CFR -1926.1101: Occupational Safety and Health Administration (OSHA), Code of Federal Regulation (CFR); Asbestos Standard for the Construction Industry
- 3) Arkansas Pollution Control and Ecology Commission, Regulation No. 21 Arkansas Asbestos Abatement Regulation
- 4) VA Asbestos Management Protocol: Department of Veterans Affairs, Veterans Health Administration (VHA), Asbestos Management Program (VHA Directive #2010-036)

### Lists of Acronyms

|        |  |
|--------|--|
| ACBM   | Asbestos-Containing Building Materials                   |
| ADEQ   | Arkansas Department of Environmental Quality             |
| BES    | BES Design/Build, LLC                                    |
| C      | Chrysotile Asbestos                                      |
| CAVAHS | Central Arkansas Veterans Affairs Healthcare System      |
| EA     | Each   |
| Homo   | Homogeneous Material                                     |
| LF     | Linear Foot or Linear Feet                               |
| NAD    | No Asbestos Detected                                     |
| NESHAP | National Emission Standards for Hazardous Air Pollutants |
| NVLAP  | National Voluntary Laboratory Accreditation Program      |
| N/A    | Not Applicable   |
| O&M    | Operation and Maintenance                                |
| PLM    | Polarized Light Microscopy                               |
| PS     | Positive Stop  |
| SF     | Square Foot or Square Feet                               |
| TEM    | Transmission Electron Microscopy                         |
| TSI    | Thermal System Insulation                                |
| TR     | Trace  |

### 3.0 Accreditation Credentials

#### Company, Staff and Laboratory Credentials

##### Asbestos Abatement Consultant

BES Design/Build, LLC License/Certification # 000566 Expiration Date: 10/22/2014

##### Inspector

Charles J. Fairchild ADEQ License # 014431 Expiration Date: 12/31/2014

##### Laboratory

Sanair Technologies Laboratory, Inc. NVLAP Lab Code: 200870-0 Expiration Date: 3/31/2015

The copies of the accreditation certificates and licenses are included in Appendix A.

### 4.0 Site Description

Building Conference Center (Building#103) is a 23,676 square foot facility, consisting of three floors and an attic. Floor plans are included in Appendix B. At the time of the survey the following areas were not accessible: None

### 5.0 Asbestos-Containing Materials (ACBMs) Survey Methodology

BES's accredited asbestos inspector, Charles J. Fairchild conducted the ACBM survey of the subject building in December, 2013. The scope of work included a visual evaluation of potential ACBMs and the collection of bulk samples of these materials. The following sections describe the methodology used during the asbestos inspection.

#### 5.1 Visual Inspection and Assessment of Asbestos Containing Materials

A visual inspection of the friable and non-friable known or assumed asbestos containing building materials (ACBM) for the subject site was performed. BES located and listed all homogenous areas of material that are suspected to contain asbestos. The materials suspected of containing asbestos were categorized as one of the following three types:

- Thermal System Insulations (TSI): The building materials applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain such as insulation wrapped on ducts or pipes.
- Surfacing Materials: The building materials that are sprayed-on, troweled-on, or otherwise applied to surfaces such as ceiling plaster or sprayed-on fireproofing.
- Miscellaneous Materials: The building materials on structural components that do not include surfacing material or TSI such as floor tiles or ceiling tiles.

A physical assessment of the suspect material was performed and the suspect material was placed in one of the three categories based on visual inspection.

- Good (No Damage): These are the materials which are intact and in good condition.
- Fair (Damaged): These materials correspond to the damaged categories in the 40 CFR 763.88 AHERA Rule.
- Poor (Significantly Damaged): These materials correspond to the significantly damaged categories in the 40 CFR 763.88 AHERA Rule.

## 5.2 Methodology of Sampling and Analysis

### **Bulk Sampling Protocol**

For each suspect homogeneous material, bulk samples were collected for analysis in general accordance with 40 CFR 763.86 as listed in Table 5.2.1

| <b>Table 5.2.1: Bulk Sampling Protocol</b>     |   |                          |
|--|---|--------------------------|
| <b>Type</b>                                    | <b>Quantity of Material</b>                     | <b>Number of Samples</b> |
| Surfacing Material                             | < 1,000 ft <sup>2</sup>                         | 3                        |
|  | >1,000 ft <sup>2</sup> ≤ 5,000 ft <sup>2</sup>  | 5                        |
|  | <5,000 ft <sup>2</sup>                          | 7                        |
| Thermal System Insulation (TSI)                | Each Homogenous System                          | 3                        |
|  | Per homogeneous patched area <6 ft <sup>2</sup> | 1                        |
| Miscellaneous Material (Friable / Non Friable) | Per homogenous area                             | 1                        |

The following suspect building materials were not included in the survey: ceramic tile grout / mastic, chalkboard / tack board mastic, fire curtains, interior mechanical and electrical equipment materials (gaskets, lining, insulating rope, packing), paint, pipe gaskets, roofing materials, sub-flooring, lightweight concrete, tarpaper moisture barrier, terrazzo, tectum board, vibration damper / vibration collars on ducts and air handling units, brake shoes, vinyl cove base and window caulking and glazing. These materials should either be properly inspected by an ADEQ licensed asbestos inspector or treated as ACBM prior to any disturbance of these materials.

### **Assumed Asbestos Containing Materials**

For the purpose of this report, certain building materials were assumed to contain asbestos due to limited accessibility, avoidance of damage to equipment, or warranty concerns. These materials should either be properly tested or treated as ACBM prior to demolition or renovation of these materials. The following suspect building materials were assumed to contain asbestos:

- Fire doors

### **Bulk Sample Collection Method**

Bulk samples of the suspect ACBMs were collected using appropriate hand tools that were driven through the suspect material to the substrate in order to obtain a sample containing all discrete layers after misting the sampling area with amended water. The samples were then placed in re-sealable plastic bags and assigned unique identifiers that were recorded on the bags and on the bulk survey sampling sheets. Sampling tools were cleaned with wet wipes after each sample was collected to minimize contamination. The sampled location was encapsulated / sealed immediately after sample was collected and the sampled area was cleaned using HEPA vacuum.

Many surveyed areas had carpeting. BES inspected the sub-surfaces under the carpet at the perimeter of the rooms due to limited access. Carpet was gently lifted in a corner to reveal the adhesive. All viewed sub-flooring below the carpet was inspected with a hammer and a chisel. Concrete was found below some of the carpet. Suspect vinyl flooring materials and suspect mastics were found below some of the carpet. In these areas, BES extracted samples of the floor tile and the mastic for laboratory analysis. If future carpet removal occurs in any carpeted area and sub-flooring is found (other than concrete or previously sampled material included in this report), then these materials should be assumed to contain asbestos, unless laboratory analysis verifies that the suspect material is non-ACBM.

The suspect asbestos bulk samples collected by BES's building inspector were submitted, along with a chain-of-custody form to a NVLAP accredited laboratory to be analyzed by Polarized Light Microscopy (PLM) - EPA 600/R-93/116 method.

**Positive Stop Procedures for PLM analysis**

In accordance with U.S. EPA guidelines, samples are categorized into "homogeneous groups" by material type. The number of samples to be taken for each group is dictated by the type and quantity of the material. All samples within the homogeneous group must be less than 1% asbestos in order to classify the material as "non-asbestos." Conversely, the positive result of any one (1) sample dictates that the homogeneous group be classified as ACBM. Thus, when the individual samples of each homogeneous group are analyzed, the laboratory will discontinue analysis when asbestos has been identified in one (1) of the samples. These subsequent samples, which have not yet been analyzed, are reported as PS ("Positive Stop") and the homogeneous material is classified as an ACBM.

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## 6.0 Inspection Findings

The US Environmental Protection Agency (EPA) defines an asbestos-containing material as "any material containing greater than one percent asbestos as determined using the method specified in appendix A, subpart F, 40 CFR part 763, Section 1, PLM." For the purposes of this investigation, all materials with any detectable asbestos fibers were classified as asbestos-containing materials.

### 6.1 Bulk Sampling

A total of eighty (80) bulk samples were collected from the Conference Center (Building#103). Sampling locations are depicted on floor plans included as Appendix B. The results of the analysis of the bulk samples are summarized in Table 6.1.2. The asbestos certificates of analysis are included in Appendix D of this report.

| <b>Sample Number</b> | <b>Homo. ID</b> | <b>Material Description</b>                        | <b>Sample Location</b> | <b>Result</b> |
|----------------------|-----------------|--|------------------------|---------------|
| 103M-01-01           | M01             | Hard Layered Material - Gray                       | Attic                  | NAD           |
| 103M-01-02           | M01             | Hard Layered Material - Gray                       | Attic                  | NAD           |
| 103TSI-02-03A        | TSI02A          | Cork Material                                      | Attic                  | NAD           |
| <b>103TSI-02-03B</b> | <b>TSI02B</b>   | <b>Mastic - Black On Cork Material</b>             | <b>Attic</b>           | <b>3%C</b>    |
| 103DW-03-05A         | DW03A           | Sheetrock - White                                  | Attic                  | NAD           |
| 103DW-03-05B         | DW03B           | Paper Backing – Brown On Sheetrock                 | Attic                  | NAD           |
| 103DW-03-06A         | DW03A           | Sheetrock  | Attic                  | NAD           |
| 103DW-03-06B         | DW03B           | Paper Backing – Brown On Sheetrock                 | Attic                  | NAD           |
| 103CT-04-07          | CT04            | 2 X 2 Ceiling Tile - Pinholes And Crevices         | 200-103 Corridor       | NAD           |
| 103CT-04-08          | CT04            | 2 X 2 Ceiling Tile - Pinholes And Crevices         | 200E-103 Corridor      | NAD           |
| 103CT-04-09          | CT04            | 2 X 2 Ceiling Tile - Pinholes And Crevices         | B22-103                | NAD           |
| 103CT-05-10          | CT05            | 2 X 2 Ceiling Tile - Square Designed With Crevices | 210-103                | NAD           |
| 103CT-05-11          | CT05            | 2 X 2 Ceiling Tile - Square Designed With Crevices | 120-103                | NAD           |
| 103CT-05-12          | CT05            | 2 X 2 Ceiling Tile - Square Designed With Crevices | B21-103                | NAD           |
| 103P-06-13A          | P06A            | Plaster -Tan                                       | 223-103 Stair 1        | NAD           |
| 103P-06-13B          | P06B            | Surfacing Material - Skim Coat                     | 223-103 Stair 1        | NAD           |
| 103P-06-14A          | P06A            | Plaster -Tan                                       | 107-103                | NAD           |
| 103P-06-14B          | P06B            | Surfacing Material - Skim Coat                     | 103-103                | NAD           |
| 103P-06-15A          | P06A            | Plaster -Tan                                       | 101-103                | NAD           |
| 103P-06-15B          | P06B            | Surfacing Material - Skim Coat                     | 101-103                | NAD           |
| 103P-06-16A          | P06A            | Plaster -Tan                                       | B31-103                | NAD           |
| 103P-06-16B          | P06B            | Surfacing Material - Skim Coat                     | B31-103 Corridor       | NAD           |

**Table 6.1.2: Suspect Asbestos Bulk Sample Log**

| Sample Number | Homo. ID | Material Description                                 | Sample Location        | Result |
|---------------|----------|--|------------------------|--------|
| 103P-06-17A   | P06A     | Plaster - Tan  | B20-103 Meeting Room D | NAD    |
| 103P-06-17B   | P06B     | Surfacing Material - Skim Coat                       | B20-103 Meeting Room D | NAD    |
| 103P-07-18A   | P07A     | Plaster - Gray                                       | B21-103 Meeting Room C | NAD    |
| 103P-07-18B   | P07B     | Surfacing Material - Skim Coat                       | B21-103 Meeting Room C | NAD    |
| 103P-07-19A   | P07A     | Plaster - Gray                                       | B20-103 Meeting Room D | NAD    |
| 103P-07-19B   | P07B     | Surfacing Material - Skim Coat                       | B20-103 Meeting Room D | NAD    |
| 103P-07-20A   | P07A     | Plaster - Gray                                       | B20-103 Meeting Room D | NAD    |
| 103P-07-20B   | P07B     | Surfacing Material - Skim Coat                       | B20-103 Meeting Room D | NAD    |
| 103TSI-08-21  | TSI08    | Pipe Insulation Formed Block - White                 | B19-103 Mech           | NAD    |
| 103TSI-08-22  | TSI08    | Pipe Insulation Formed Block - White                 | B18-103 Break Room     | NAD    |
| 103TSI-08-23  | TSI08    | Pipe Insulation Formed Block - White                 | B03-103                | NAD    |
| 103TSI-09-24  | TSI08    | Pipe Insulation Formed Block - White                 | B19-103 Mech           | NAD    |
| 103TSI-10-25  | TSI10    | Insulating Material - Gray                           | B19-103 Mech           | NAD    |
| 103TSI-10-26  | TSI10    | Insulating Material - Gray                           | B19-103 Mech           | NAD    |
| 103TSI-10-27  | TSI10    | Insulating Material - Gray                           | B19-103 Mech           | NAD    |
| 103TSI-11-28  | TSI11    | Joint Mastic - White (On Pipe Insulation Paper Wrap) | B31-103 Corridor       | NAD    |
| 103TSI-11-29  | TSI11    | Joint Mastic - White (On Pipe Insulation Paper Wrap) | 126-103 Corridor       | NAD    |
| 103TSI-11-30  | TSI11    | Joint Mastic - White (On Pipe Insulation Paper Wrap) | 200-103 Corridor       | NAD    |
| 103TSI-12-31  | TSI12    | Insulation Compound Pipe Joint - Gray                | B06-103 Mech           | NAD    |
| 103TSI-12-32  | TSI12    | Insulation Compound Pipe Joint - Gray                | B06-103 Mech           | NAD    |
| 103TSI-12-33  | TSI12    | Insulation Compound Pipe Joint - Gray                | B06-103 Mech           | NAD    |
| 103DW-13-34A  | DW03A    | Sheetrock  | 203-103                | NAD    |
| 103DW-13-34B  | DW13B    | Joint Compound                                       | 203-103                | NAD    |
| 103DW-13-35A  | DW03A    | Sheetrock  | 120-103                | NAD    |
| 103DW-13-35B  | DW13B    | Joint Compound                                       | 120-103                | NAD    |
| 103DW-13-36A  | DW03A    | Sheetrock  | B10-103                | NAD    |
| 103DW-13-36B  | DW13B    | Joint Compound                                       | B10-103                | NAD    |
| 103TSI-14-37A | TSI14A   | Insulation - White                                   | B13-103 Mech Room      | NAD    |
| 103TSI-14-37B | TSI14B   | Sealant - Yellow (On Insulation Paper Wrap)          | B13-103 Mech Room      | NAD    |
| 103TSI-14-38A | TSI14A   | Insulation - White                                   | B13-103 Mech Room      | NAD    |
| 103TSI-14-38B | TSI14B   | Sealant - Yellow (On Insulation Paper Wrap)          | B13-103 Mech Room      | NAD    |
| 103TSI-14-39A | TSI14A   | Insulation - White                                   | B13-103 Mech Room      | NAD    |



**Table 6.1.2: Suspect Asbestos Bulk Sample Log**

| Sample Number  | Homo. ID     | Material Description                        | Sample Location         | Result     |
|--|--------------|---|-------------------------|------------|
| 103TSI-14-39B  | TSI14B       | Sealant - Yellow (On Insulation Paper Wrap) | B13-103 Mech Room       | NAD        |
| 103M-15-40   | M15          | Mastic - Brown Behind Cove Base             | B18-103 Break Room      | NAD        |
| 103M-15-41   | M15          | Mastic - Brown Behind Cove Base             | B18-103 Break Room      | NAD        |
| 103FT-16-42A   | FT16A        | 12x12 Floor Tile (White W/Blue Specks)      | B18-103 Break Room      | NAD        |
| 103FT-16-42B   | FT16B        | Mastic - Yellow (Beneath Floor Tile)        | B18-103 Break Room      | NAD        |
| 103FT-17-43A   | FT17A        | 12x12 Floor Tile (Yellow)                   | B18-103 Break Room      | NAD        |
| 103FT-17-43B   | FT17B        | Mastic - Pale Yellow (Beneath Floor Tile)   | B18-103 Break Room      | NAD        |
| 103FT-18-44A   | FT18A        | 12x12 Floor Tile (Green)                    | B18-103 Break Room      | NAD        |
| 103FT-18-44B   | FT18B        | Mastic - Yellow (Beneath Floor Tile)        | B18-103 Break Room      | NAD        |
| 103FT-19-45  | FT19         | 12x12 Floor Tile (Blue)                     | B18-103 Break Room      | NAD        |
| 103FT-20-46A   | FT20A        | Carpet Mastic - Yellow                      | 123-103 Stair 1         | NAD        |
| 103FT-20-46B   | FT20B        | 12x12 Floor Tile Beneath Carpet             | 123-103 Stair 1         | NAD        |
| 103FT-20-46C   | FT20C        | Mastic - Black Beneath FT20B                | 123-103 Stair 1         | NAD        |
| 103FT-20-47A   | FT20A        | Carpet Mastic - Yellow                      | 200F-103 Stair 2        | NAD        |
| <b>103FT-20-47B</b>  | <b>FT20B</b> | <b>12x12 Floor Tile Beneath Carpet</b>      | <b>200F-103 Stair 2</b> | <b>3%C</b> |
| <b>103FT-20-47C</b>  | <b>FT20C</b> | <b>Mastic - Black Beneath FT20B</b>         | <b>200F-103 Stair 2</b> | <b>3%C</b> |
| 103M-21-48A  | M21A         | Mastic - Black Beneath M21C                 | B29-103 Stair 1         | 3%C        |
| 103M-21-48B  | M21B         | Adhesive - Yellow (Beneath Carpet)          | B29-103 Stair 1         | NAD        |
| 103M-21-48C  | M21C         | Leveling Compound - Beige                   | B29-103 Stair 1         | NAD        |
| <b>103M-21-49A</b>   | <b>M21A</b>  | <b>Mastic - Black Beneath M21C</b>          | <b>130-103 Stair 2</b>  | <b>4%C</b> |
| 103M-21-49B  | M21B         | Adhesive - Yellow (Beneath Carpet)          | 130-103 Stair 2         | NAD        |
| 103M-21-49C  | M21C         | Leveling Compound - Beige                   | 130-103 Stair 2         | NAD        |
| 103M-22-50   | M22          | Mastic - Brown (Beneath Stair Vinyl)        | 220F-103 Stair 2        | NAD        |
| 103CT-23-51  | CT23         | 2x4 Ceiling Tile - Sheetrock Type           | B23B-Mech Room          | NAD        |
| 103M-24-52   | M24          | Mastic - Yellow (Beneath Carpet)            | B22-103 Corridor        | NAD        |
| 103M-25-53   | M25          | Mastic - Brown (Beneath Carpet)             | 200E-103 Corridor       | NAD        |
| <b>Notes:</b><br>NAD - No Asbestos Detected      TR - Trace      C - Chrysotile Asbestos |              |   |                         |            |

## 6.2 Homogenous Material Summary

Summary of suspect ACBM identified during BES's survey at the subject site is provided in Table 6.2.3

| Table 6.2.3: Homogenous Materials Summary |  |                   |  |                |           |            |                     |
|---|--|-------------------|--|----------------|-----------|------------|---------------------|
| Homo. ID                                  | Material Description                               | Material Location | Sample Numbers   | Sample Results | Condition | Friability | Estimated. Quantity |
| CT04                                      | 2 X 2 Ceiling Tile - Pinholes And Crevices         | N/A               | 103CT-04-07,<br>103CT-04-08,<br>103CT-04-09                                    | All NAD        | Good      | F          | N/A                 |
| CT05                                      | 2 X 2 Ceiling Tile - Square Designed With Crevices | N/A               | 103CT-05-10,<br>103CT-05-11,<br>103CT-05-12                                    | All NAD        | Good      | F          | N/A                 |
| CT23                                      | 2x4 Ceiling Tile - Sheetrock Type                  | N/A               | 103CT-23-51  | NAD            | Good      | NF         | N/A                 |
| DW03A                                     | Sheetrock - White                                  | N/A               | 103DW-03-05A,<br>103DW-03-06A,<br>03DW-13-34A,<br>103DW-13-35A,<br>03DW-13-36A | All NAD        | Good      | F          | N/A                 |
| DW03B                                     | Paper Backing - Brown                              | N/A               | 103DW-03-05B,<br>103DW-03-06B  | All NAD        | Good      | NF         | N/A                 |
| DW13B                                     | Joint Compound                                     | N/A               | 103DW-13-34B,<br>103DW-13-35B,<br>03DW-13-36B                                  | All NAD        | Good      | F          | N/A                 |
| FT16A                                     | 12 X12 Floor Tile - White With Blue Specks         | N/A               | 103FT-16-42A   | NAD            | Good      | NF         | N/A                 |
| FT16B                                     | Mastic -Yellow                                     | N/A               | 103FT-16-42B   | NAD            | Good      | NF         | N/A                 |
| FT17A                                     | 12 X 12 Floor Tile - Yellow                        | N/A               | 103FT-17-43A   | NAD            | Good      | NF         | N/A                 |
| FT17B                                     | Mastic - Pale Yellow                               | N/A               | 103FT-17-43  | NAD            | Good      | NF         | N/A                 |
| FT18A                                     | 12 X 12 Floor Tile - Green                         | N/A               | 103FT-18-44  | NAD            | Good      | NF         | N/A                 |
| FT18B                                     | Mastic - Yellow                                    | N/A               | 103FT-17-43B   | NAD            | Good      | NF         | N/A                 |
| FT19                                      | 12 X 12 Floor Tile - Blue                          | N/A               | 103FT-19-45  | NAD            | Good      | NF         | N/A                 |
| FT20A                                     | Yellow - Mastic                                    | N/A               | 103FT-20-46A,<br>103FT-20-47A  | All NAD        | Good      | NF         | N/A                 |

**Table 6.2.3: Homogenous Materials Summary**

| <b>Homo. ID</b> | <b>Material Description</b>          | <b>Material Location</b>                    | <b>Sample Numbers</b>   | <b>Sample Results</b> | <b>Condition</b> | <b>Friability</b> | <b>Estimated. Quantity</b> |
|-----------------|--------------------------------------|---|---|-----------------------|------------------|-------------------|----------------------------|
| <b>FT20B</b>    | <b>12 X 12 Floor Tile - Yellow</b>   | <b>123-103 Stair 1<br/>200F-103 Stair 2</b> | <b>103FT-20-46B,<br/>103FT-20-47B</b>                                       | <b>3%C</b>            | <b>Good</b>      | <b>NF</b>         | <b>347 SF</b>              |
| <b>FT20C</b>    | <b>Mastic -Black</b>                 | <b>123-103 Stair 1<br/>200F-103 Stair 2</b> | <b>103FT-20-46C,<br/>103FT-20-47C</b>                                       | <b>3%C</b>            | <b>Good</b>      | <b>NF</b>         | <b>347 SF</b>              |
| M01             | Hard Layered Material - Gray         | N/A   | 103M-01-01,<br>103M-01-02   | All NAD               | Good             | NF                | N/A                        |
| M15             | Mastic - Brown Behind Cove Base      | N/A   | 103M-15-40,<br>103M-15-41   | All NAD               | Good             | NF                | N/A                        |
| <b>M21A</b>     | <b>Mastic - Black Beneath M21C</b>   | <b>B29-103 Stair 1<br/>130-103 Stair 2</b>  | <b>103M-21-48A,<br/>103M-21-49A</b>   | <b>3%C, 4%C</b>       | <b>Good</b>      | <b>NF</b>         | <b>280 SF</b>              |
| M21B            | Adhesive - Yellow (Beneath Carpet)   | N/A   | 103M-21-48B,<br>103M-21-49B   | All NAD               | Good             | NF                | N/A                        |
| M21C            | Leveling Compound - Beige            | N/A   | 103M-21-48C,<br>103M-21-49C   | All NAD               | Good             | NF                | N/A                        |
| M22             | Mastic - Brown (Beneath Stair Vinyl) | N/A   | 103M-22-50  | NAD                   | Good             | NF                | N/A                        |
| M24             | Mastic - Yellow (Beneath Carpet)     | N/A   | 103M-24-52  | NAD                   | Good             | NF                | N/A                        |
| M25             | Mastic - Brown (Beneath Carpet)      | N/A   | 103M-25-53  | NAD                   | Good             | NF                | N/A                        |
| P06A            | Plaster - Tan                        | N/A   | 103P-06-13A,<br>103P-06-14A,<br>103P-06-15A,<br>103P-06-16A,<br>103P-06-17A | All NAD               | Good             | F                 | N/A                        |
| P06B            | Surfacing Material - Skim Coat       | N/A   | 103P-06-13B,<br>103P-06-14B,<br>103P-06-15B,<br>103P-06-16B,<br>103P-06-17B | All NAD               | Good             | F                 | N/A                        |
| P07A            | Plaster - Gray                       | N/A   | 103P-07-18A,<br>103P-07-19A,<br>103P-07-20A                                 | All NAD               | Good             | F                 | N/A                        |
| P07B            | Surfacing Material - Skim Coat       | N/A   | 103P-07-18B,  | All NAD               | Good             | F                 | N/A                        |

| <b>Table 6.2.3: Homogenous Materials Summary</b>  |  |                            |   |                       |                  |                   |                            |
|---|--|----------------------------|---|-----------------------|------------------|-------------------|----------------------------|
| <b>Homo. ID</b>   | <b>Material Description</b>                          | <b>Material Location</b>   | <b>Sample Numbers</b>   | <b>Sample Results</b> | <b>Condition</b> | <b>Friability</b> | <b>Estimated. Quantity</b> |
|   |  |                            | 103P-07-19B,<br>103P-07-20B                                     |                       |                  |                   |                            |
| TSI02A  | Cork Material  | N/A                        | 103TSI-02-03A   | NAD                   | Good             | NF                | N/A                        |
| <b>TSI02B</b>   | <b>Mastic - Black (On Cork)</b>                      | <b>Attic</b>               | <b>103TSI-02-03B</b>  | <b>3%C</b>            | <b>Fair</b>      | <b>NF</b>         | <b>4 LF</b>                |
| TSI08   | Pipe Insulation Formed Block - White                 | N/A                        | 103TSI-08-21,<br>103TSI-08-22,<br>103TSI-08-23,<br>103TSI-09-24 | All NAD               | Good             | F                 | N/A                        |
| TSI10   | Insulating Material - Gray                           | N/A                        | 103TSI-10-25,<br>103TSI-10-26,<br>103TSI-10-27                  | All NAD               | Good             | F                 | N/A                        |
| TSI11   | Joint Mastic - White (On Pipe Insulation Paper Wrap) | N/A                        | 103TSI-11-28,<br>103TSI-11-29,<br>103TSI-11-30                  | All NAD               | Good             | F                 | N/A                        |
| TSI12   | Insulation Compound Pipe Joint - Gray                | N/A                        | 103TSI-12-31,<br>103TSI-12-32,<br>103TSI-12-32                  | All NAD               | Good             | F                 | N/A                        |
| TSI14A  | Insulation -White                                    | N/A                        | 103TSI-14-37A,<br>103TSI-14-38A,<br>103TSI-14-39A               | All NAD               | Good             | F                 | N/A                        |
| TSI14B  | Sealant - Yellow (On Insulation Paper Wrap)          | N/A                        | 103TSI-14-37B,<br>103TSI-14-38B,<br>103TSI-14-39B               | All NAD               | Good             | NF                | N/A                        |
| <b>FD</b>   | <b>Fire Doors</b>                                    | <b>Throughout Building</b> | <b>Not Sampled</b>  | <b>Assumed</b>        | <b>Good</b>      | <b>NF</b>         | <b>4 EA</b>                |
| Notes:<br>NAD – No asbestos detected      TR - Trace      C – Chrysotile Asbestos<br>F – Friable      NF – Non Friable<br>SF – Square feet      LF – Linear feet      EA – Each |  |                            |   |                       |                  |                   |                            |

Floor plans depicting location of ACBM are included in Appendix C. Photographs of homogenous materials are included in Appendix E. A detailed room-by-room inventory of ACBM is included in Appendix F.

### Additional Clarification on ACBMs

Clarification needs to be made concerning the methods and the underlying rationale used to determine the quantity and location of certain ACBMs. The following are descriptions of materials determined to be asbestos containing materials:

- FT20B: 12x12 Floor Tile - yellow located on the landings of Stairs 1 & 2, is a Category I Non-Friable asbestos containing material and currently exists in good condition. The floor tile is located under the carpet on the landings.
- FT20C: Mastic - black associated with the floor tile (FT20B) and beneath carpet located on the landings of Stairs 1 & 2, is a Category II Non-Friable asbestos containing material and currently exists in good condition. The black mastic is located under carpet and under floor tile.
- TSI02B: Mastic - black on cork located in the attic area is a Category II Non-friable asbestos containing material and currently exists in fair condition. There is approx. 4 LF of the material in two separate pieces that are lying on the floor of the attic space.
- FD: Fire doors (4 each) have been assumed to contain asbestos

### 7.0 Recommended Response Actions

BES assigned a response action for each homogenous material based on the evaluation of the information derived by the visual inspection, physical assessment and response action as shown in Table 7.0.4

| <b>Table 7.0.4: Recommended Response Actions Protocol</b> |   |
|---|---|
| <b>Physical Assessment Categories</b>                     | <b>Response Action</b>  |
| Good - No Damage  | O&M   |
| Fair - Damaged and/or Potential for Damage                | Evacuate or isolate area if needed. Remove, enclose, encapsulate or repair to correct damage. Take steps to reduce potential for disturbance. O&M |
| Poor - Significantly Damaged                              | Evacuate or isolate area if needed. Remove ACBM. Repair TSI if feasible and safe. Operation and Maintenance (O&M)                                 |

All the identified ACBM and assumed ACBM were in good condition at the time of survey except the following materials:

- TSI02B: Mastic - Black (on Cork) located in the attic was found to be in fair condition. The material is loose and not attached to any piping. It is recommended the area be restricted until the material can be removed.

The recommended response actions are included in Appendix F.

### 8.0 Disclaimer

This report has been prepared by BES Design/Build, LLC. exclusively for our Client and their Authorized Representatives. The findings and recommendations presented are based upon discussions with the Client of the present conditions, and may not necessarily indicate future conditions.

Prior to renovation or demolition, BES recommends that this report be consulted to determine if asbestos-containing materials will be disturbed or removed. Further investigation may be warranted to determine precise quantities of asbestos-containing materials that will be affected by proposed renovations.

BES implies no warranty to the accuracy of information provided them by the Client or outside agents and transmitted herein. The locations and conditions of hazardous materials included in the report are based on the site observations performed during the survey.

## **Appendix A:**

### **Accreditations**



State of Arkansas  
Department of  
Environmental Quality



**BES DESIGN/BUILD, LLC**

is a licensed

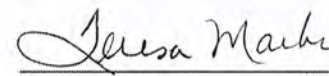
**Asbestos Abatement Consultant**

*having qualified as required by law in accordance with the regulations adopted by the Arkansas Pollution Control and Ecology Commission's Regulation 21 pursuant to Arkansas Code Annotated §20-27-1001 et seq., relative to abatement of asbestos-containing material within the state of Arkansas.*

License Number: 000566

Issue Date: 2013 December 10

Expire Date: 2014 October 22

  
ADEQ Director



State of Arkansas  
Department of  
Environmental Quality



**014431 CHARLES J. FAIRCHILD**

*having satisfied the requirements necessary to meet the provisions of AHERA/ASHARA under TSCA Title II and the Arkansas Pollution Control and Ecology Commission's Regulation 21 and is hereby certified in the State of Arkansas in the discipline(s) of Asbestos*

**Inspector 12/31/2014**

**Issue Date:03-Dec-2013**

  
ADEQ Director



United States Department of Commerce  
National Institute of Standards and Technology



---

**Certificate of Accreditation to ISO/IEC 17025:2005**

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NVLAP LAB CODE: 200870-0

**SanAir Technologies Laboratory, Inc.**  
Powhatan, VA

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

**BULK ASBESTOS FIBER ANALYSIS**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2014-04-01 through 2015-03-31

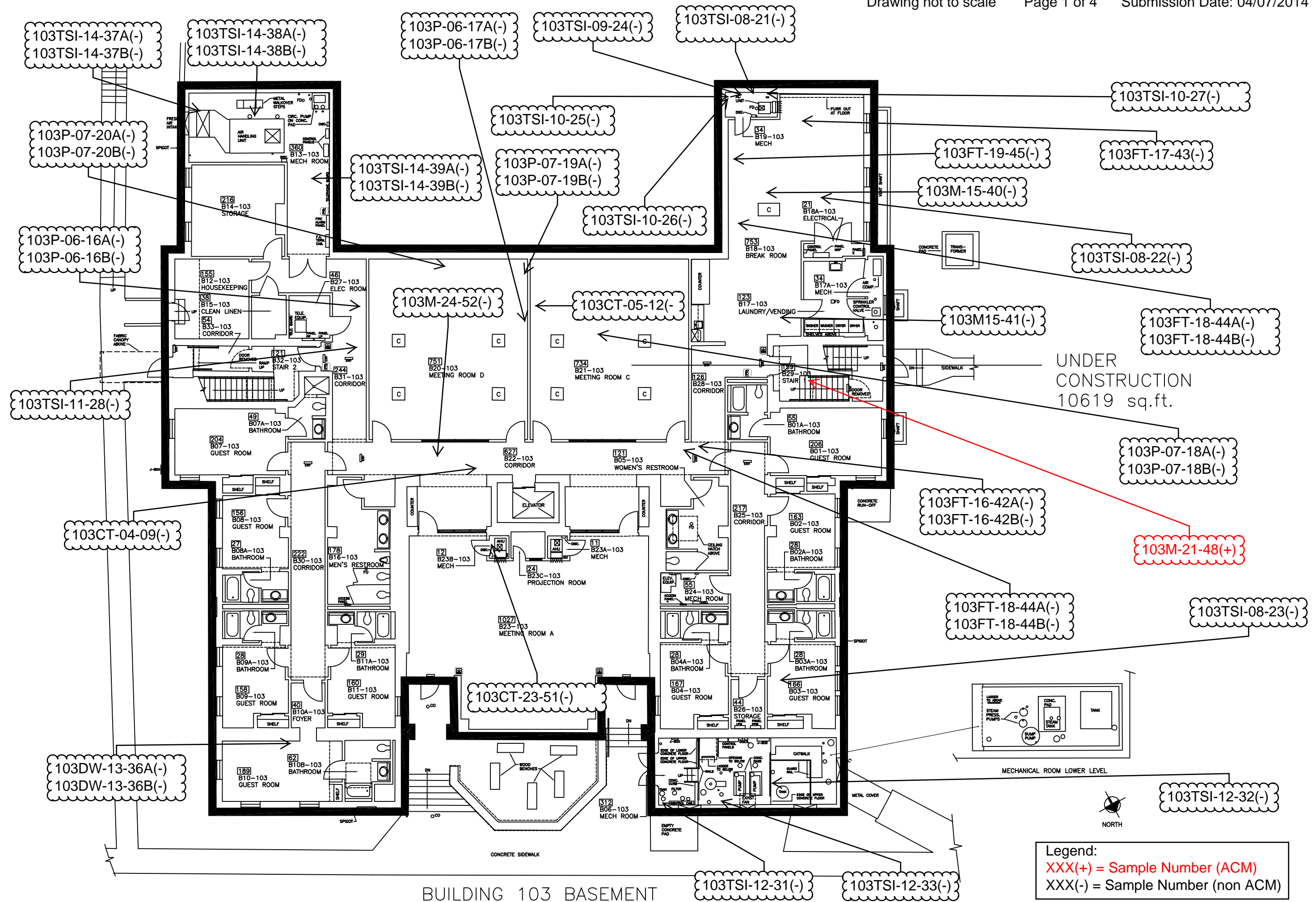
*Effective dates*

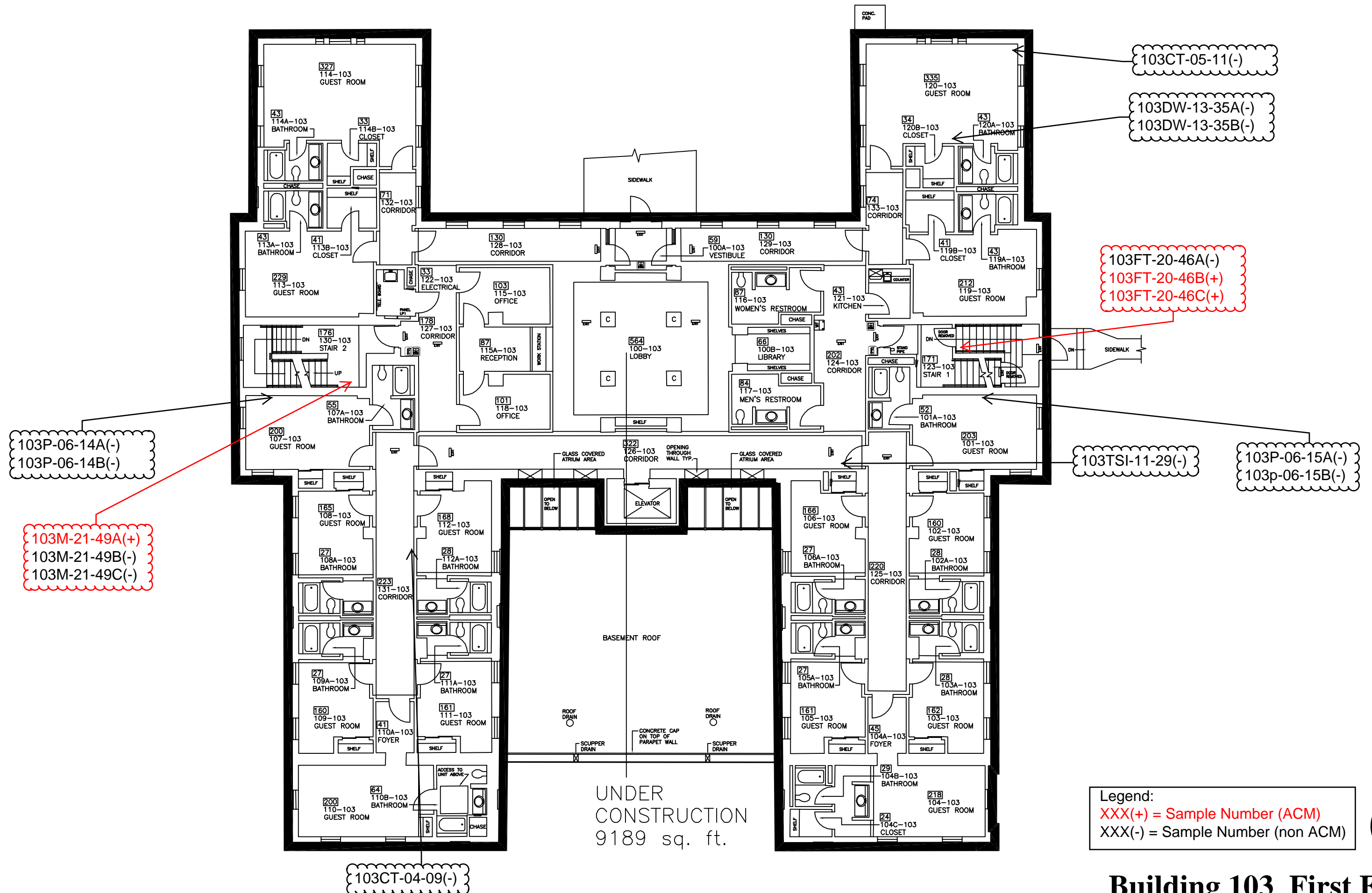


A handwritten signature in black ink, appearing to read "William R. M. L.", positioned above a horizontal line.

*For the National Institute of Standards and Technology*

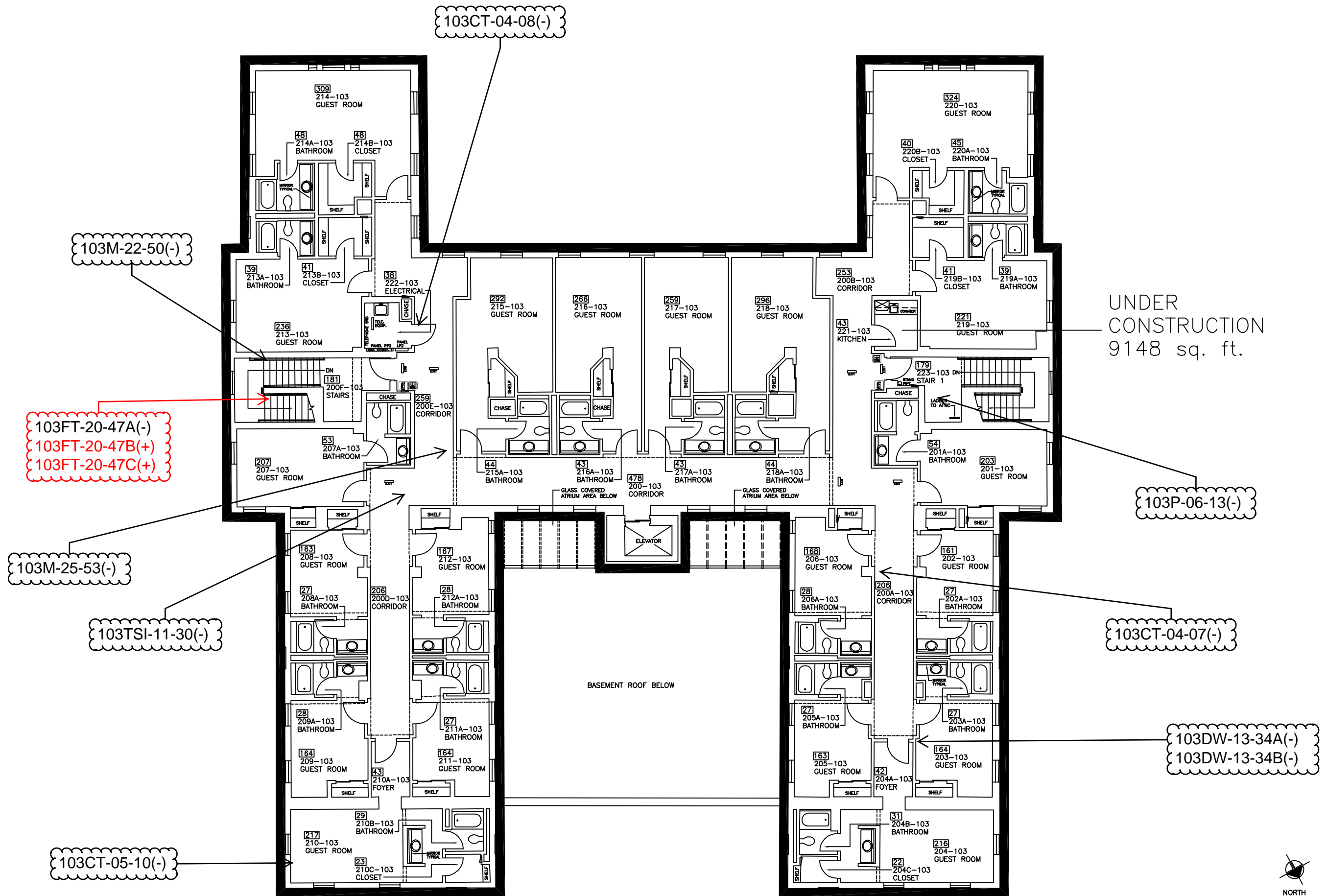
**Appendix B:**  
**Drawings – Sample Location**





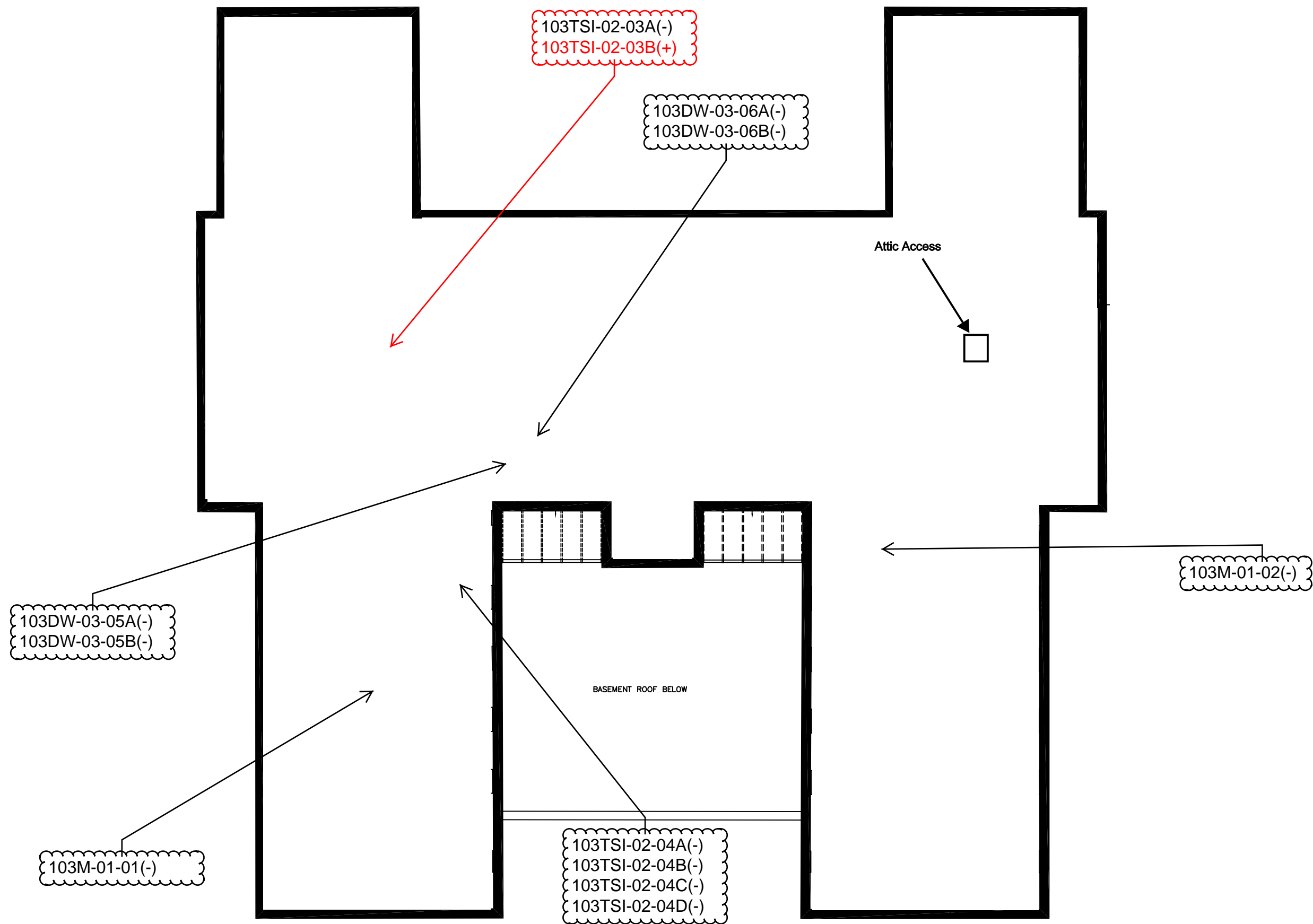
## Building 103 First Floor





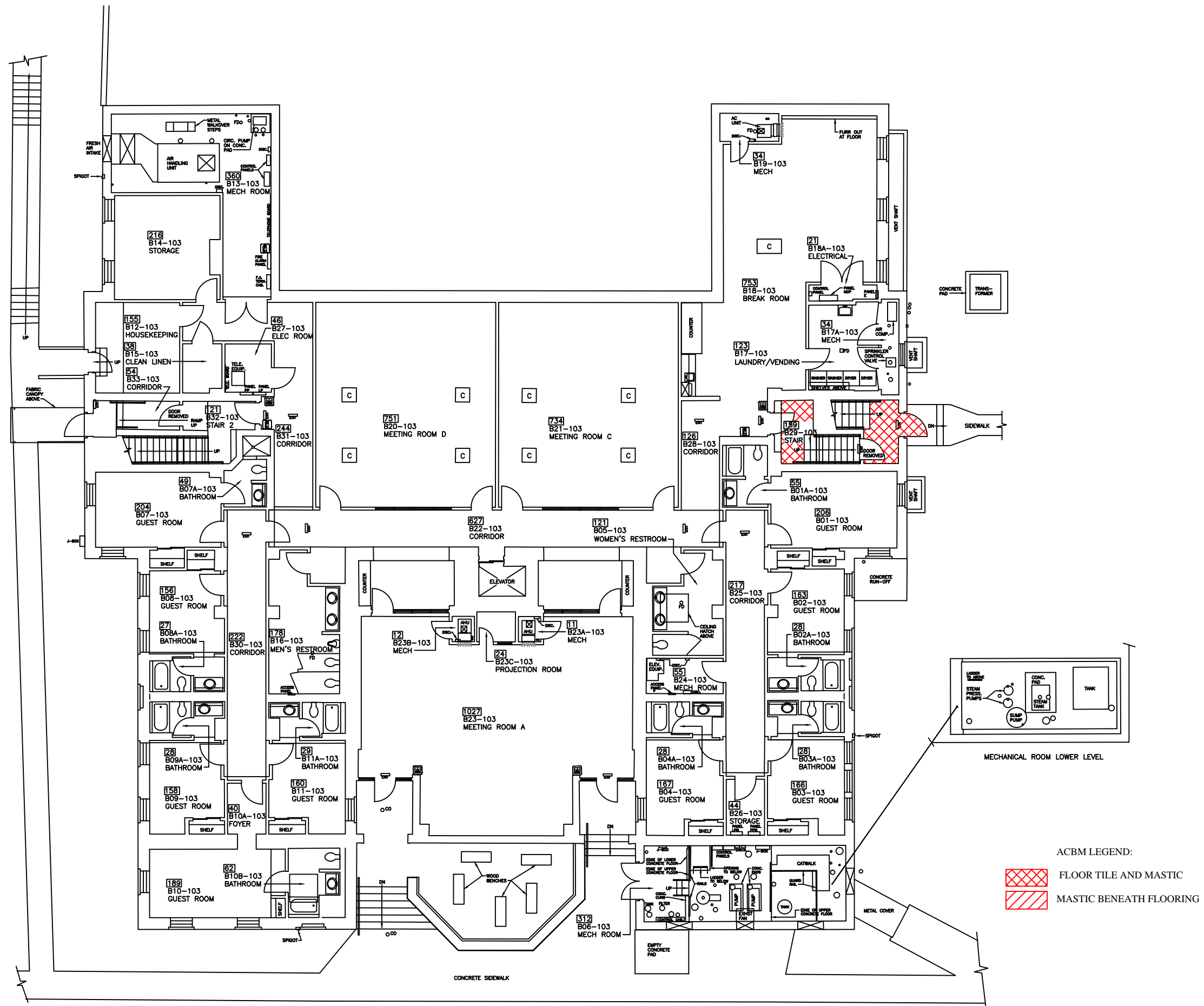
BUILDING 103 SECOND FLOOR

Legend:  
XXX(+) = Sample Number (ACM)  
XXX(-) = Sample Number (non ACM)



Legend:  
XXX(+) = Sample Number (ACM)  
XXX(-) = Sample Number (non ACM)

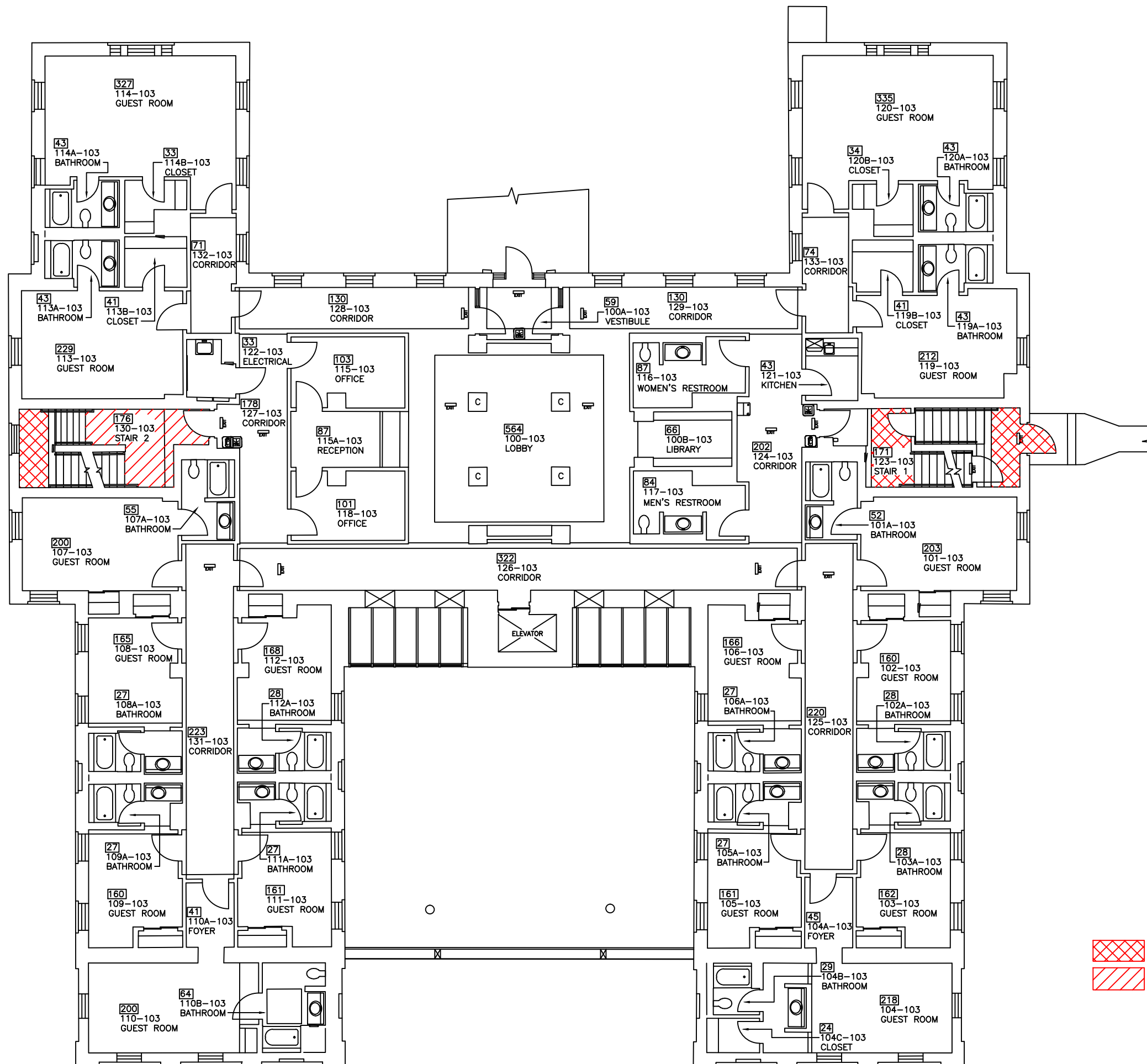
**Appendix C:**  
**Drawings – ACBM Location**



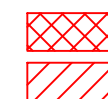
# BUILDING 103 BASEMENT

Drawing Not to Scale. Submission Date: April 07, 2014





ACBM LEGEND:

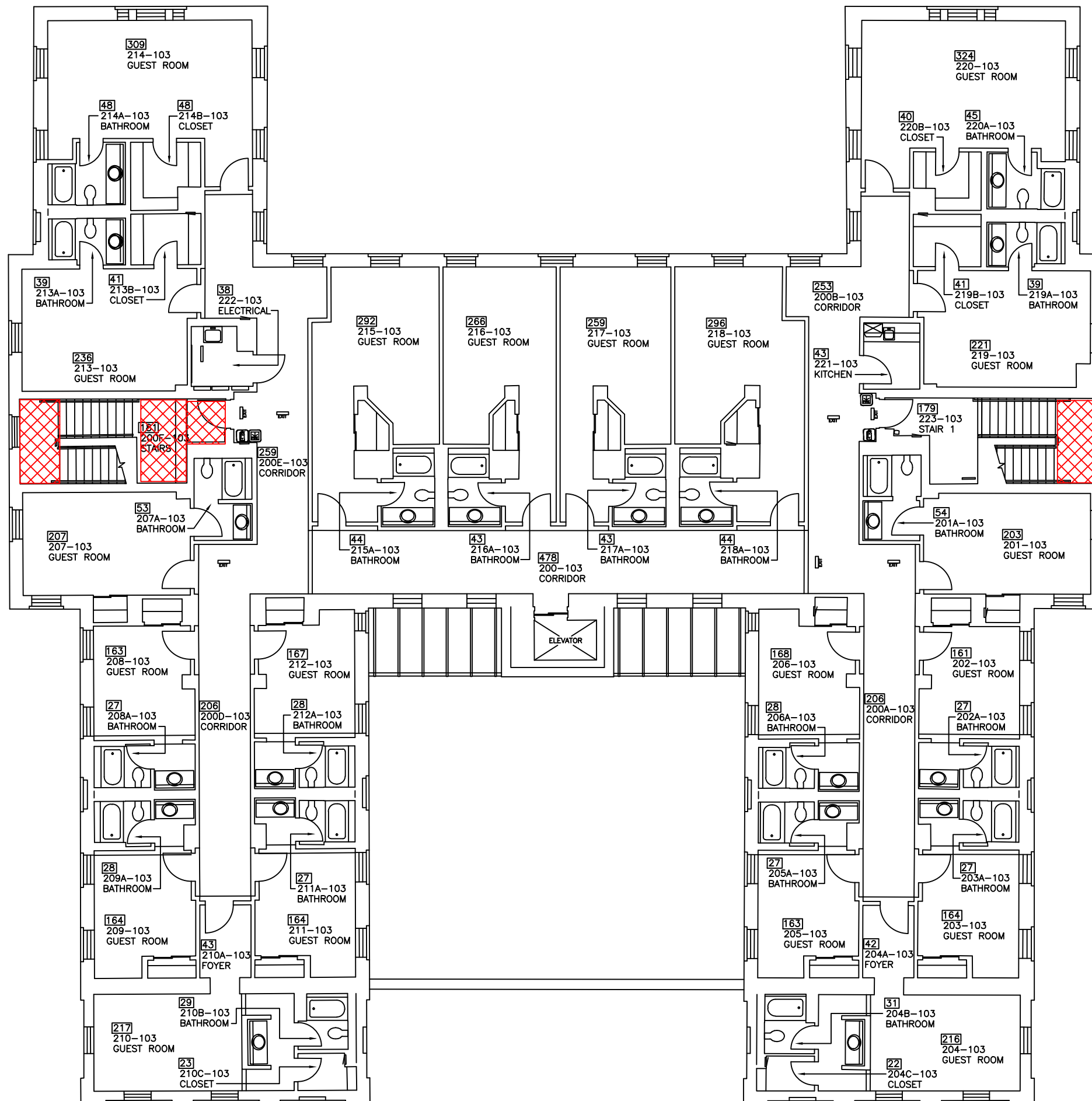


FLOOR TILE AND MASTIC

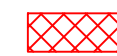

MASTIC BENEATH FLOORING

# BUILDING 103 FIRST FLOOR

Drawing Not to Scale. Submission Date: April 07, 2014

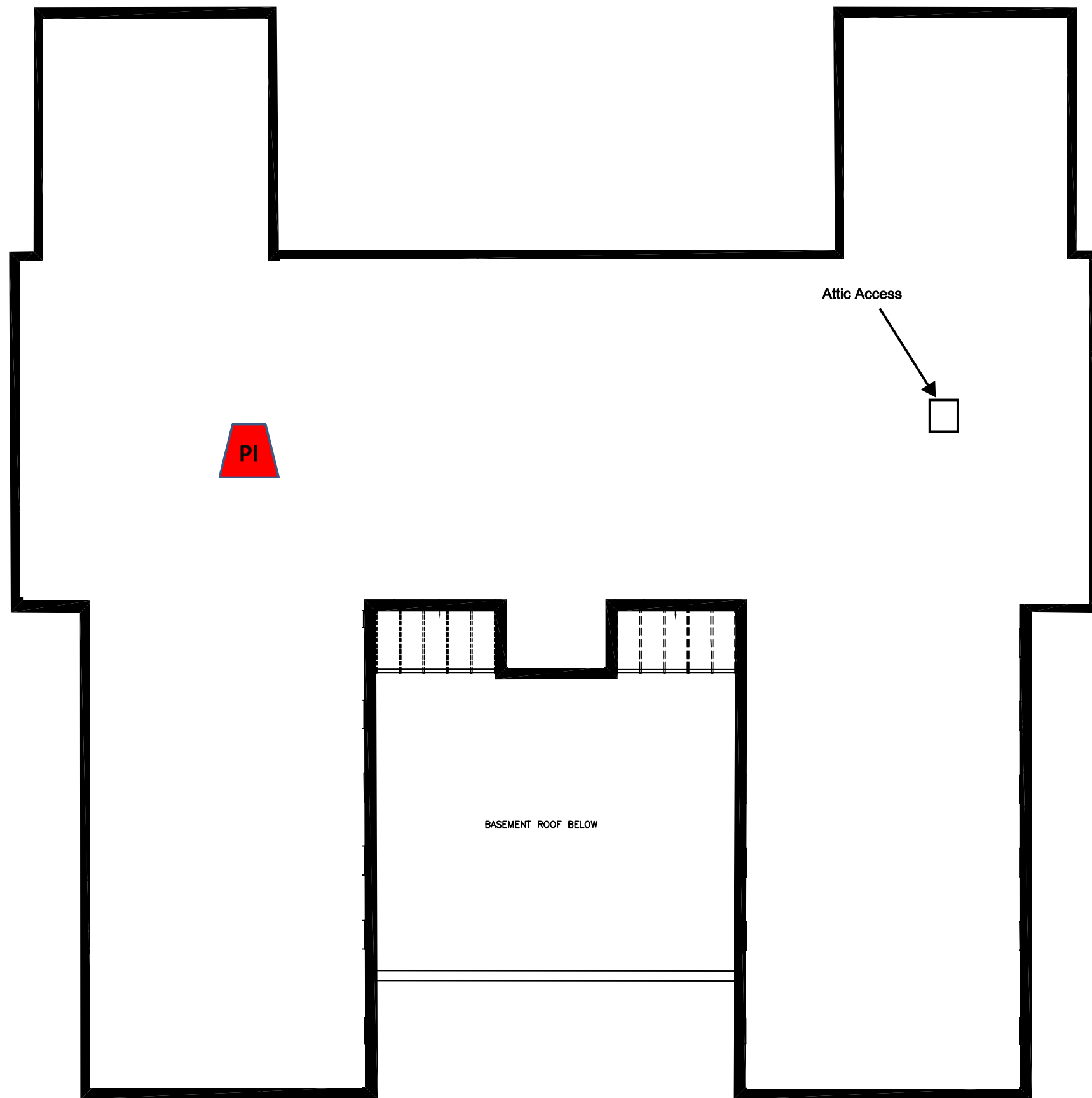


ACBM LEGEND:

-  FLOOR TILE AND MASTIC
-  MASTIC BENEATH FLOORING

BUILDING 103 SECOND FLOOR

Drawing Not to Scale. Submission Date: April 07, 2014



BUILDING 103 - ATTIC

Drawing Not to Scale

Submission Date: April 07, 2014



NORTH



Legend:  
Mastic - Black on Cork Pipe Insulation

**Appendix D:**  
**Asbestos Certificate of Analysis**



# SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139  
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070  
Web: <http://www.sanair.com> E-mail: [iaq@sanair.com](mailto:iaq@sanair.com)

SanAir ID Number

**13030028**

FINAL REPORT

**Name:** KCI Technologies  
**Address:** 936 Ridgebrook Road  
Sparks, MD 21152

**Project Number:** 10110414JJ  
**P.O. Number:** 103  
**Project Name:** CAVAHS, Amended Report SCS 1/20/14

**Collected Date:** 12/13/2013  
**Received Date:** 12/16/2013 8:40:00 AM  
**Report Date:** 1/20/2014 3:07:45 PM  
**Analyst:** Vaughan, Nathaniel

## Asbestos Bulk PLM EPA 600/R-93/116

| SanAir ID / Description  | Stereoscopic Appearance              | Components |               | Asbestos Fibers |
|--|--------------------------------------|------------|---------------|-----------------|
|  |                                      | % Fibrous  | % Non-Fibrous |                 |
| 103M-01-01 / 13030028-001<br>Hard Layered Material Attic Space | Grey<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance              | Components |               | Asbestos Fibers |
|--|--------------------------------------|------------|---------------|-----------------|
|  |                                      | % Fibrous  | % Non-Fibrous |                 |
| 103M-01-02 / 13030028-002<br>Hard Layered Material Attic Space | Grey<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|---|---------------------------------------|------------|---------------|-----------------|
|   |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-02-03 / 13030028-003<br>Cork Material W/ Mastic Attic Space, Cork Material - A | Brown<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |
| 103TSI-02-03 / 13030028-003<br>Cork Material W/ Mastic Attic Space, Mastic - B        | Black<br>Non-Fibrous<br>Heterogeneous |            | 97% Other     | 3% Chrysotile   |

| SanAir ID / Description  | Stereoscopic Appearance               | Components    |               | Asbestos Fibers |
|--|---------------------------------------|---------------|---------------|-----------------|
|  |                                       | % Fibrous     | % Non-Fibrous |                 |
| 103TSI-02-04 / 13030028-004<br>Sheetrock W/ Paper Backing Attic Space, Sheetrock - A |                                       |               |               | Not Submitted   |
| 103TSI-02-04 / 13030028-004<br>Sheetrock W/ Paper Backing Attic Space, Cork - B      | Brown<br>Non-Fibrous<br>Heterogeneous |               | 100% Other    | None Detected   |
| 103TSI-02-04 / 13030028-004<br>Sheetrock W/ Paper Backing Attic Space, Backing - C   | Black<br>Fibrous<br>Heterogeneous     | 85% Cellulose | 15% Other     | None Detected   |
| 103TSI-02-04 / 13030028-004<br>Sheetrock W/ Paper Backing Attic Space, Mastic - D    | Black<br>Non-Fibrous<br>Heterogeneous |               | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance               | Components    |               | Asbestos Fibers |
|---|---------------------------------------|---------------|---------------|-----------------|
|   |                                       | % Fibrous     | % Non-Fibrous |                 |
| 103DW-03-05 / 13030028-005<br>Sheetrock W/ Paper Backing Attic Space, Sheetrock - A | White<br>Non-Fibrous<br>Heterogeneous | 3% Cellulose  | 97% Other     | None Detected   |
| 103DW-03-05 / 13030028-005<br>Sheetrock W/ Paper Backing Attic Space, Backing - B   | Brown<br>Fibrous<br>Heterogeneous     | 85% Cellulose | 15% Other     | None Detected   |

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SanAir ID Number

**13030028**

FINAL REPORT

**Name:** KCI Technologies  
**Address:** 936 Ridgebrook Road  
Sparks, MD 21152

**Project Number:** 10110414JJ  
**P.O. Number:** 103  
**Project Name:** CAVAHS, Amended Report SCS 1/20/14

**Collected Date:** 12/13/2013  
**Received Date:** 12/16/2013 8:40:00 AM  
**Report Date:** 1/20/2014 3:07:45 PM  
**Analyst:** Vaughan, Nathaniel

## Asbestos Bulk PLM EPA 600/R-93/116

| SanAir ID / Description  | Stereoscopic Appearance               | Components    |               | Asbestos Fibers |
|--|---------------------------------------|---------------|---------------|-----------------|
|  |                                       | % Fibrous     | % Non-Fibrous |                 |
| 103DW-03-06 / 13030028-006<br>Sheetrock W/ Paper Backing<br>Attic Space, Sheetrock - A | White<br>Non-Fibrous<br>Heterogeneous | 3% Cellulose  | 97% Other     | None Detected   |
| 103DW-03-06 / 13030028-006<br>Sheetrock W/ Paper Backing<br>Attic Space, Backing - B   | Brown<br>Fibrous<br>Heterogeneous     | 85% Cellulose | 15% Other     | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance           | Components                                 |               | Asbestos Fibers |
|--|-----------------------------------|--|---------------|-----------------|
|  |                                   | % Fibrous                                  | % Non-Fibrous |                 |
| 103CT-04-07 / 13030028-007<br>2x2 Ceiling Tile 200-103<br>Corridor | White<br>Fibrous<br>Heterogeneous | 55% Cellulose<br>35% Glass<br>5% Min. Wool | 5% Other      | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance           | Components                                  |               | Asbestos Fibers |
|---|-----------------------------------|---|---------------|-----------------|
|   |                                   | % Fibrous                                   | % Non-Fibrous |                 |
| 103CT-04-08 / 13030028-008<br>2x2 Ceiling Tile 200E-103<br>Corridor | White<br>Fibrous<br>Heterogeneous | 55% Cellulose<br>25% Glass<br>10% Min. Wool | 10% Other     | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance           | Components                                 |               | Asbestos Fibers |
|--|-----------------------------------|--|---------------|-----------------|
|  |                                   | % Fibrous                                  | % Non-Fibrous |                 |
| 103CT-04-09 / 13030028-009<br>2x2 Ceiling Tile B22-103<br>Corridor | White<br>Fibrous<br>Heterogeneous | 55% Cellulose<br>35% Glass<br>5% Min. Wool | 5% Other      | None Detected   |

| SanAir ID / Description                                     | Stereoscopic Appearance           | Components                                  |               | Asbestos Fibers |
|---|-----------------------------------|---|---------------|-----------------|
|   |                                   | % Fibrous                                   | % Non-Fibrous |                 |
| 103CT-05-10 / 13030028-010<br>2x2 Ceiling Tile Room 210-103 | White<br>Fibrous<br>Heterogeneous | 55% Cellulose<br>25% Glass<br>10% Min. Wool | 10% Other     | None Detected   |

| SanAir ID / Description                                     | Stereoscopic Appearance           | Components                                  |               | Asbestos Fibers |
|---|-----------------------------------|---|---------------|-----------------|
|   |                                   | % Fibrous                                   | % Non-Fibrous |                 |
| 103CT-05-11 / 13030028-011<br>2x2 Ceiling Tile Room 120-103 | White<br>Fibrous<br>Heterogeneous | 55% Cellulose<br>25% Glass<br>10% Min. Wool | 10% Other     | None Detected   |

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|--|-----------------------------------|--|---------------|-----------------|
|  |                                   | % Fibrous                                  | % Non-Fibrous |                 |
| 103CT-05-12 / 13030028-012<br>2x2 Ceiling Tile B21-103<br>Meeting Rm C | White<br>Fibrous<br>Heterogeneous | 55% Cellulose<br>35% Glass<br>5% Min. Wool | 5% Other      | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|---|---------------------------------------|------------|---------------|-----------------|
|   |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103P-06-13 / 13030028-013<br>Plaster W/ Surfacing Material<br>2nd Floor, Plaster - A            | Brown<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |
| 103P-06-13 / 13030028-013<br>Plaster W/ Surfacing Material<br>2nd Floor, Surfacing Material - B | White<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|--|---------------------------------------|------------|---------------|-----------------|
|  |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103P-06-14 / 13030028-014<br>Plaster W/ Surfacing Material<br>Room 107-103, Plaster - A            | Brown<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |
| 103P-06-14 / 13030028-014<br>Plaster W/ Surfacing Material<br>Room 107-103, Surfacing Material - B | White<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|--|---------------------------------------|------------|---------------|-----------------|
|  |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103P-06-15 / 13030028-015<br>Plaster W/ Surfacing Material<br>Room 101-103, Plaster - A            | Brown<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |
| 103P-06-15 / 13030028-015<br>Plaster W/ Surfacing Material<br>Room 101-103, Surfacing Material - B | White<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|--|---------------------------------------|------------|---------------|-----------------|
|  |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103P-06-16 / 13030028-016<br>B31-103 Corridor, Plaster - A               | Brown<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |
| 103P-06-16 / 13030028-016<br>B31-103 Corridor, Surfacing<br>Material - B | White<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

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## Asbestos Bulk PLM EPA 600/R-93/116

| SanAir ID / Description  | Stereoscopic Appearance               | % Fibrous | Components<br>% Non-Fibrous | Asbestos Fibers |
|--|---------------------------------------|-----------|-----------------------------|-----------------|
| 103P-06-17 / 13030028-017<br>Plaster W/ Surfacing Material<br>B20-103 Meeting Rm D, Plaster - A            | Brown<br>Non-Fibrous<br>Heterogeneous |           | 100% Other                  | None Detected   |
| 103P-06-17 / 13030028-017<br>Plaster W/ Surfacing Material<br>B20-103 Meeting Rm D, Surfacing Material - B |                                       |           |                             | Not Submitted   |

| SanAir ID / Description   | Stereoscopic Appearance               | % Fibrous | Components<br>% Non-Fibrous | Asbestos Fibers |
|---|---------------------------------------|-----------|-----------------------------|-----------------|
| 103P-07-18 / 13030028-018<br>Plaster W/ Surfacing B21-103<br>Meeting Rm C, Plaster - A            | Brown<br>Non-Fibrous<br>Heterogeneous |           | 100% Other                  | None Detected   |
| 103P-07-18 / 13030028-018<br>Plaster W/ Surfacing B21-103<br>Meeting Rm C, Surfacing Material - B | White<br>Non-Fibrous<br>Heterogeneous |           |                             | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance               | % Fibrous | Components<br>% Non-Fibrous | Asbestos Fibers |
|--|---------------------------------------|-----------|-----------------------------|-----------------|
| 103P-07-19 / 13030028-019<br>Plaster W/ Surfacing B20-103<br>Meeting Rm D, Plaster - A           | Brown<br>Non-Fibrous<br>Heterogeneous |           | 100% Other                  | None Detected   |
| 103P-07-19 / 13030028-019<br>Plaster W/ Surfacing B20-103<br>Meeting Rm D, Surfacing Material -B | White<br>Non-Fibrous<br>Heterogeneous |           | 100% Other                  | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance               | % Fibrous | Components<br>% Non-Fibrous | Asbestos Fibers |
|---|---------------------------------------|-----------|-----------------------------|-----------------|
| 103P-07-20 / 13030028-020<br>Plaster W/ Surfacing B20-103<br>Meeting Rm D, Plaster - A            | Brown<br>Non-Fibrous<br>Heterogeneous |           | 100% Other                  | None Detected   |
| 103P-07-20 / 13030028-020<br>Plaster W/ Surfacing B20-103<br>Meeting Rm D, Surfacing Material - B | White<br>Non-Fibrous<br>Heterogeneous |           | 100% Other                  | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance               | % Fibrous | Components<br>% Non-Fibrous | Asbestos Fibers |
|---|---------------------------------------|-----------|-----------------------------|-----------------|
| 103TSI-08-21 / 13030028-021<br>Pipe Insulation Formed Block<br>B19-103 Mech | White<br>Non-Fibrous<br>Heterogeneous |           | 100% Other                  | None Detected   |

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## Asbestos Bulk PLM EPA 600/R-93/116

| SanAir ID / Description   | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|---|---------------------------------------|------------|---------------|-----------------|
|   |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-08-22 / 13030028-022<br>Pipe Insulation Formed Block<br>B18-103 Break Room | White<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|---|---------------------------------------|------------|---------------|-----------------|
|   |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-08-23 / 13030028-023<br>Pipe Insulation Formed Block<br>Room B03-103 | White<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|--|---------------------------------------|------------|---------------|-----------------|
|  |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-09-24 / 13030028-024<br>Pipe Insulation Formed Block<br>Room B19-103 Mech | White<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance         | Components |               | Asbestos Fibers |
|---|---------------------------------|------------|---------------|-----------------|
|   |                                 | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-10-25 / 13030028-025<br>Insulating Material B19-103 Mech | Tan<br>Fibrous<br>Heterogeneous | 75% Glass  | 25% Other     | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance         | Components |               | Asbestos Fibers |
|---|---------------------------------|------------|---------------|-----------------|
|   |                                 | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-10-26 / 13030028-026<br>Insulating Material B19-103 Mech | Tan<br>Fibrous<br>Heterogeneous | 85% Glass  | 15% Other     | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance         | Components |               | Asbestos Fibers |
|---|---------------------------------|------------|---------------|-----------------|
|   |                                 | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-10-27 / 13030028-027<br>Insulating Material B19-103 Mech | Tan<br>Fibrous<br>Heterogeneous | 85% Glass  | 15% Other     | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|---|---------------------------------------|------------|---------------|-----------------|
|   |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-11-28 / 13030028-028<br>Pipe Insulation Joint Mastic<br>B31-103 Corridor | White<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

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## Asbestos Bulk PLM EPA 600/R-93/116

| SanAir ID / Description   | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|---|---------------------------------------|------------|---------------|-----------------|
|   |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-11-29 / 13030028-029<br>Pipe Insulation Joint Mastic<br>126-103 Corridor | White<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|---|---------------------------------------|------------|---------------|-----------------|
|   |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-11-30 / 13030028-030<br>Pipe Insulation Joint Mastic<br>200-103 Corridor | White<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance         | Components |               | Asbestos Fibers |
|---|---------------------------------|------------|---------------|-----------------|
|   |                                 | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-12-31 / 13030028-031<br>Insulation Compound Pipe Joint<br>B06-103 Mech | Tan<br>Fibrous<br>Heterogeneous | 75% Glass  | 25% Other     | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance         | Components |               | Asbestos Fibers |
|---|---------------------------------|------------|---------------|-----------------|
|   |                                 | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-12-32 / 13030028-032<br>Insulation Compound Pipe Joint<br>B06-103 Mech | Tan<br>Fibrous<br>Heterogeneous | 75% Glass  | 25% Other     | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance         | Components |               | Asbestos Fibers |
|---|---------------------------------|------------|---------------|-----------------|
|   |                                 | % Fibrous  | % Non-Fibrous |                 |
| 103TSI-12-33 / 13030028-033<br>Insulation Compound Pipe Joint<br>B06-103 Mech | Tan<br>Fibrous<br>Heterogeneous | 75% Glass  | 25% Other     | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance               | Components    |               | Asbestos Fibers |
|--|---------------------------------------|---------------|---------------|-----------------|
|  |                                       | % Fibrous     | % Non-Fibrous |                 |
| 103DW-13-34 / 13030028-034<br>Paper Room 203-103, Sheetrock - A      | White<br>Non-Fibrous<br>Heterogeneous | 12% Cellulose | 88% Other     | None Detected   |
| 103DW-13-34 / 13030028-034<br>Paper Room 203-103, Joint Compound - B | White<br>Non-Fibrous<br>Heterogeneous |               | 100% Other    | None Detected   |

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| SanAir ID / Description  | Stereoscopic Appearance               | Components    |               | Asbestos Fibers |
|--|---------------------------------------|---------------|---------------|-----------------|
|  |                                       | % Fibrous     | % Non-Fibrous |                 |
| 103DW-13-35 / 13030028-035<br>Paper Room 120-103, Sheetrock - A      | White<br>Non-Fibrous<br>Heterogeneous | 10% Cellulose | 90% Other     | None Detected   |
| 103DW-13-35 / 13030028-035<br>Paper Room 120-103, Joint Compound - B | White<br>Non-Fibrous<br>Heterogeneous |               | 100% Other    | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance               | Components    |               | Asbestos Fibers |
|--|---------------------------------------|---------------|---------------|-----------------|
|  |                                       | % Fibrous     | % Non-Fibrous |                 |
| 103DW-13-33 / 13030028-036<br>Paper Room B10-103, Sheetrock - A      | White<br>Non-Fibrous<br>Heterogeneous | 12% Cellulose | 88% Other     | None Detected   |
| 103DW-13-33 / 13030028-036<br>Paper Room B10-103, Joint Compound - B | White<br>Non-Fibrous<br>Heterogeneous |               | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance             | Components |               | Asbestos Fibers |
|---|-------------------------------------|------------|---------------|-----------------|
|   |                                     | % Fibrous  | % Non-Fibrous |                 |
| 103TSI14-37 / 13030028-037<br>Insulation And Sealant B13-103<br>Mech Rm, Insulation - A | White<br>Fibrous<br>Heterogeneous   | 85% Glass  | 15% Other     | None Detected   |
| 103TSI14-37 / 13030028-037<br>Insulation And Sealant B13-103<br>Mech Rm, Sealant - B    | Tan<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance             | Components |               | Asbestos Fibers |
|---|-------------------------------------|------------|---------------|-----------------|
|   |                                     | % Fibrous  | % Non-Fibrous |                 |
| 103TSI14-38 / 13030028-038<br>Insulation And Sealant B13-103<br>Mech Rm, Insulation - A | White<br>Fibrous<br>Heterogeneous   | 85% Glass  | 15% Other     | None Detected   |
| 103TSI14-38 / 13030028-038<br>Insulation And Sealant B13-103<br>Mech Rm, Sealant -B     | Tan<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance             | Components |               | Asbestos Fibers |
|---|-------------------------------------|------------|---------------|-----------------|
|   |                                     | % Fibrous  | % Non-Fibrous |                 |
| 103TSI14-39 / 13030028-039<br>Insulation And Sealant B13-103<br>Mech Rm, Insulation - A | White<br>Fibrous<br>Heterogeneous   | 90% Glass  | 10% Other     | None Detected   |
| 103TSI14-39 / 13030028-039<br>Insulation And Sealant B13-103<br>Mech Rm, Sealant - B    | Tan<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

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|--|---------------------------------------|------------|---------------|-----------------|
|  |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103M-15-40 / 13030028-040<br>Mastic B18-103 Break Rm (Cove Base) | Brown<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance               | Components |               | Asbestos Fibers |
|--|---------------------------------------|------------|---------------|-----------------|
|  |                                       | % Fibrous  | % Non-Fibrous |                 |
| 103M-15-41 / 13030028-041<br>Mastic B18-103 Break Rm (Cove Base) | Brown<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance                | Components |               | Asbestos Fibers |
|--|--|------------|---------------|-----------------|
|  |  | % Fibrous  | % Non-Fibrous |                 |
| 103FT-16-42 / 13030028-042<br>12x12 Floor Tile B18-103 Break Room, Floor Tile -A | White<br>Non-Fibrous<br>Heterogeneous  |            | 100% Other    | None Detected   |
| 103FT-16-42 / 13030028-042<br>12x12 Floor Tile B18-103 Break Room, Mastic - B    | Yellow<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance                | Components |               | Asbestos Fibers |
|---|--|------------|---------------|-----------------|
|   |  | % Fibrous  | % Non-Fibrous |                 |
| 103FT-17-43 / 13030028-043<br>12x12 Floor Tile B18-103 Break Room, Floor Tile - A | Yellow<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |
| 103FT-17-43 / 13030028-043<br>12x12 Floor Tile B18-103 Break Room, Mastic - B     | Yellow<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance                | % Fibrous | Components    |  | Asbestos Fibers |
|---|--|-----------|---------------|--|-----------------|
|   |  |           | % Non-Fibrous |  |                 |
| 103FT-18-44 / 13030028-044<br>12x12 Floor Tile B18-103 Break Room, Floor Tile - A | Green<br>Non-Fibrous<br>Heterogeneous  |           | 100% Other    |  | None Detected   |
| 103FT-18-44 / 13030028-044<br>12x12 Floor Tile B18-103 Break Room, Mastic - B     | Yellow<br>Non-Fibrous<br>Heterogeneous |           | 100% Other    |  | None Detected   |

## Certification

Signature:   
Date: 12/23/2013

Reviewed:   
Date: 12/23/2013



# SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139  
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070  
Web: <http://www.sanair.com> E-mail: [iaq@sanair.com](mailto:iaq@sanair.com)

SanAir ID Number

**13030028**

FINAL REPORT

**Name:** KCI Technologies  
**Address:** 936 Ridgebrook Road  
Sparks, MD 21152

**Project Number:** 10110414JJ  
**P.O. Number:** 103  
**Project Name:** CAVAHS, Amended Report SCS 1/20/14

**Collected Date:** 12/13/2013  
**Received Date:** 12/16/2013 8:40:00 AM  
**Report Date:** 1/20/2014 3:07:45 PM  
**Analyst:** Vaughan, Nathaniel

## Asbestos Bulk PLM EPA 600/R-93/116

| SanAir ID / Description   | Stereoscopic Appearance              | Components |               | Asbestos Fibers |
|---|--------------------------------------|------------|---------------|-----------------|
|   |                                      | % Fibrous  | % Non-Fibrous |                 |
| 103FT-19-45 / 13030028-045<br>12x12 Floor Tile B18-103 Break Room | Blue<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance                | Components |               | Asbestos Fibers |
|---|--|------------|---------------|-----------------|
|   |  | % Fibrous  | % Non-Fibrous |                 |
| 103FT-20-46 / 13030028-046<br>12x12 Floor Tile W/ Mastic<br>123-103 Stair 1, Mastic - A     | Yellow<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |
| 103FT-20-46 / 13030028-046<br>12x12 Floor Tile W/ Mastic<br>123-103 Stair 1, Floor Tile - B | Beige<br>Non-Fibrous<br>Heterogeneous  |            | 97% Other     | 3% Chrysotile   |
| 103FT-20-46 / 13030028-046<br>12x12 Floor Tile W/ Mastic<br>123-103 Stair 1, Mastic - C     | Black<br>Non-Fibrous<br>Heterogeneous  |            | 97% Other     | 3% Chrysotile   |

| SanAir ID / Description  | Stereoscopic Appearance                | Components |               | Asbestos Fibers |
|--|--|------------|---------------|-----------------|
|  |  | % Fibrous  | % Non-Fibrous |                 |
| 103FT-20-47 / 13030028-047<br>12x12 Floor Tile W/ Mastic<br>200F-103 Stair 2, Mastic - A     | Yellow<br>Non-Fibrous<br>Heterogeneous |            | 100% Other    | None Detected   |
| 103FT-20-47 / 13030028-047<br>12x12 Floor Tile W/ Mastic<br>200F-103 Stair 2, Floor Tile - B |  |            |               | Not Analyzed    |
| 103FT-20-47 / 13030028-047<br>12x12 Floor Tile W/ Mastic<br>200F-103 Stair 2, Mastic - C     |  |            |               | Not Analyzed    |

| SanAir ID / Description   | Stereoscopic Appearance              | Components |               | Asbestos Fibers |
|---|--------------------------------------|------------|---------------|-----------------|
|   |                                      | % Fibrous  | % Non-Fibrous |                 |
| 103M-21-48 / 13030028-048<br>B29-103 Stair 1, Mastic - A            | Black<br>Non-Fibrous<br>Homogeneous  |            | 97% Other     | 3% Chrysotile   |
| 103M-21-48 / 13030028-048<br>B29-103 Stair 1, Adhesive - B          | Yellow<br>Non-Fibrous<br>Homogeneous |            | 100% Other    | None Detected   |
| 103M-21-48 / 13030028-048<br>B29-103 Stair 1, Leveling Compound - C | Beige<br>Non-Fibrous<br>Homogeneous  |            | 100% Other    | None Detected   |

## Certification

Signature:   
Date: 12/23/2013

Reviewed:   
Date: 12/23/2013



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**13030028**

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**Name:** KCI Technologies  
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**Collected Date:** 12/13/2013  
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**Analyst:** Vaughan, Nathaniel

## Asbestos Bulk PLM EPA 600/R-93/116

| SanAir ID / Description  | Stereoscopic Appearance              | Components |               | Asbestos Fibers |
|--|--------------------------------------|------------|---------------|-----------------|
|  |                                      | % Fibrous  | % Non-Fibrous |                 |
| 103M-21-49 / 13030028-049<br>130-103 Stair 2, Mastic - A               | Black<br>Non-Fibrous<br>Homogeneous  |            | 96% Other     | 4% Chrysotile   |
| 103M-21-49 / 13030028-049<br>130-103 Stair 2, Adhesive - B             | Yellow<br>Non-Fibrous<br>Homogeneous |            | 100% Other    | None Detected   |
| 103M-21-49 / 13030028-049<br>130-103 Stair 2, Leveling<br>Compound - C | Beige<br>Non-Fibrous<br>Homogeneous  |            | 100% Other    | None Detected   |

| SanAir ID / Description                              | Stereoscopic Appearance             | Components |               | Asbestos Fibers |
|--|-------------------------------------|------------|---------------|-----------------|
|  |                                     | % Fibrous  | % Non-Fibrous |                 |
| 103M-22-50 / 13030028-050<br>Mastic 220F-103 Stair 2 | Brown<br>Non-Fibrous<br>Homogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description                                      | Stereoscopic Appearance             | Components     |               | Asbestos Fibers |
|--|-------------------------------------|----------------|---------------|-----------------|
|  |                                     | % Fibrous      | % Non-Fibrous |                 |
| 103CT-23-51 / 13030028-051<br>2x4 Ceiling Tile B23B-103 Mech | White<br>Non-Fibrous<br>Homogeneous | < 1% Cellulose | 100% Other    | None Detected   |

| SanAir ID / Description  | Stereoscopic Appearance              | Components |               | Asbestos Fibers |
|--|--------------------------------------|------------|---------------|-----------------|
|  |                                      | % Fibrous  | % Non-Fibrous |                 |
| 103M-24-52 / 13030028-052<br>Mastic B22-103 Corridor (Under<br>Carpet) | Yellow<br>Non-Fibrous<br>Homogeneous |            | 100% Other    | None Detected   |

| SanAir ID / Description   | Stereoscopic Appearance             | Components |               | Asbestos Fibers |
|---|-------------------------------------|------------|---------------|-----------------|
|   |                                     | % Fibrous  | % Non-Fibrous |                 |
| 103M-25-53 / 13030028-053<br>Mastic 200E-103 Corridor (Under<br>Carpet) | Brown<br>Non-Fibrous<br>Homogeneous |            | 100% Other    | None Detected   |

## Certification

Signature:   
Date: 12/23/2013

Reviewed:   
Date: 12/23/2013



# ASBESTOS BULK SAMPLE SHEET/ CHAIN OF CUSTODY

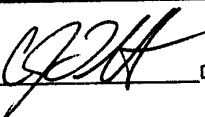
KCI TECHNOLOGIES INC.  
936 Ridgebrook Road,  
Sparks, MD 21152

Contact: Jeff Fairchild  
Office Phone: 501-313-2925  
Cell Phone: 501-258-0810  
Email1: jfairchild@bes-design-build.com  
Email2: 10110414JJ@kci.com

Samples Collected By: Jeff Fairchild  
Project Name: CAVAHS  
Project #: 10110414JJ  
Building Surveyed: 103


Analysis Information for BULK Samples:  
PLM EPA 600/R-93/116  
Apply Positive Stop (PS) as indicated  
TAT: 5-day

| Sample No    | Homo ID | Material Description                      | Sampling Location               | Comments                          |
|--------------|---------|---|---------------------------------|-----------------------------------|
| 103M-01-01   | M01     | Hard Layered material (Gray)              | Attic space                     | Fragments in and under insulation |
| 103M-01-02   | M01     | Hard Layered material (Gray)              | Attic space                     | Fragments in and under insulation |
| 103TSI-02-03 | TSI02   | Cork material w/black mastic              | Attic space                     | Loose piece approx. 2 LF          |
| 103TSI-02-04 | TSI02   | Sheetrock w/ paper backing                | Attic space                     | Loose piece approx. 2 LF          |
| 103DW-03-05  | DW03    | Sheetrock w/ paper backing                | Attic space                     | Under insulation                  |
| 103DW-03-06  | DW03    | Sheetrock w/ paper backing                | Attic space                     | Under insulation                  |
| 103CT-04-07  | CT04    | 2x2 Ceiling Tile                          | 200-103 Corridor                | Throughout all corridors in bldg. |
| 103CT-04-08  | CT04    | 2x2 Ceiling Tile                          | 200E-103 Corridor               |                                   |
| 103CT-04-09  | CT04    | 2x2 Ceiling Tile                          | B22-103 Corridor                |                                   |
| 103CT-05-10  | CT05    | 2x2 Ceiling Tile                          | Room 210-103                    | Thoroughout all room in bldg.     |
| 103CT-05-11  | CT05    | 2x2 Ceiling Tile                          | Room 120-103                    |                                   |
| 103CT-05-12  | CT05    | 2x2 Ceiling Tile                          | B21-103 Meeting Rm C            |                                   |
| 103P-06-13   | P06     | Plaster (Tan) w/ white surfacing material | 2nd Floor at attic access hatch |                                   |
| 103P-06-14   | P06     | Plaster (Tan) w/ white surfacing material | Room 107-103 (above ceiling)    |                                   |
| 103P-06-15   | P06     | Plaster (Tan) w/ white surfacing material | Room 101-103 (above ceiling)    |                                   |
| 103P-06-16   | P06     | Plaster (Tan) w/ white surfacing material | B31-103 Corridor                |                                   |
| 103P-06-17   | P06     | Plaster (Tan) w/ white surfacing material | B20-103 Meeting Rm D            |                                   |
| 103P-07-18   | P07     | Plaster (Gray) w/ white surfacing         | B21-103 Meeting Rm C            |                                   |
| 103P-07-19   | P07     | Plaster (Gray) w/ white surfacing         | B20-103 Meeting Rm D            |                                   |
| 103P-07-20   | P07     | Plaster (Gray) w/ white surfacing         | B20-103 Meeting Rm D            |                                   |
| 103TSI-08-21 | TSI08   | Pipe Insulation (White) Formed Block      | B19-103 Mech                    | Approx. 550 LF                    |
| 103TSI-08-22 | TSI08   | Pipe Insulation (White) Formed Block      | B18-103 Break Room              | Two runs above the ceiling        |
| 103TSI-08-23 | TSI08   | Pipe Insulation (White) Formed Block      | Room B03-103                    |                                   |
| 103TSI-09-24 | TSI09   | Pipe Insulation (White) Formed Block      | B19-103 Mech                    | Approx. 4 inches                  |
| 103TSI-10-25 | TSI10   | Insulating Material (Gray)                | B19-103 Mech                    | Approx. 5 LF                      |
| 103TSI-10-26 | TSI10   | Insulating Material (Gray)                | B19-103 Mech                    |                                   |
| 103TSI-10-27 | TSI10   | Insulating Material (Gray)                | B19-103 Mech                    |                                   |
| 103TSI-11-28 | TSI11   | Pipe Insulation Joint Mastic (White)      | B31-103 Corridor                |                                   |
| 103TSI-11-29 | TSI11   | Pipe Insulation Joint Mastic (White)      | 126-103 Corridor                |                                   |

Relinquished by  Date: 12/13/13 Time: 1500

Received by \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Page 1 of 2

 8:40AM

**ASBESTOS BULK SAMPLE SHEET/ CHAIN OF CUSTODY**

**KCI TECHNOLOGIES INC.**  
936 Ridgebrook Road,  
Sparks, MD 21152

**Samples Collected By:** Jeff Fairchild  
**Project Name:** CAVAHS  
**Project #:** 10110414JJ  
**Building Surveyed:** 103

| Sample No    | Homo ID | Material Description                        | Sampling Location                       | Comments                         |
|--------------|---------|---|---|----------------------------------|
| 103TSI-11-30 | TSI11   | Pipe Insulation Joint Mastic (White)        | 200-103 Corridor (above ceiling)        |                                  |
| 103TSI-12-31 | TSI12   | Insulation Compound (Gray) Pipe Joint       | B06-103 Mech (pipe joint on upper deck) |                                  |
| 103TSI-12-32 | TSI12   | Insulation Compound (Gray) Pipe Joint       | B06-103 Mech (pipe joint on upper deck) |                                  |
| 103TSI-12-33 | TSI12   | Insulation Compound (Gray) Pipe Joint       | B06-103 Mech (pipe joint on upper deck) |                                  |
| 103DW-13-34  | DW13    | Sheetrock, Joint Compound, Paper            | Room 203-103 (above ceiling)            | All interior room/corridor walls |
| 103DW-13-35  | DW13    | Sheetrock, Joint Compound, Paper            | Room 120-103 (above ceiling)            |                                  |
| 103DW-13-36  | DW13    | Sheetrock, Joint Compound, Paper            | Room B10-103 (above ceiling)            |                                  |
| 103TSI-14-37 | TSI14   | Insulation (White) and Sealant (Tan)        | B13-103 Mech Rm (Air Handler Duct)      |                                  |
| 103TSI-14-38 | TSI14   | Insulation (White) and Sealant (Tan)        | B13-103 Mech Rm (Air Handler Duct)      |                                  |
| 103TSI-14-39 | TSI14   | Insulation (White) and Sealant (Tan)        | B13-103 Mech Rm (Air Handler Duct)      |                                  |
| 103M-15-40   | M15     | Mastic (Brown)                              | B18-103 Break Rm (Cove Base)            |                                  |
| 103M-15-41   | M15     | Mastic (Brown)                              | B18-103 Break Rm (Cove Base)            |                                  |
| 103FT-16-42  | FT16    | 12x12 Floor Tile (White w/Blue Specks)      | B18-103 Break Room                      |                                  |
| 103FT-17-43  | FT17    | 12x12 Floor Tile (Yellow)                   | B18-103 Break Room                      |                                  |
| 103FT-18-44  | FT18    | 12x12 Floor Tile (Green)                    | B18-103 Break Room                      |                                  |
| 103FT-19-45  | FT19    | 12x12 Floor Tile (Blue)                     | B18-103 Break Room                      |                                  |
| 103FT-20-46  | FT20    | 12x12 Floor Tile w/ Black Mastic            | 123-103 Stair 1                         | Located under carpet on landing  |
| 103FT-20-47  | FT20    | 12x12 Floor Tile w/ black mastic            | 200F-103 Stair 2                        | Located under carpet on landing  |
| 103M-21-48   | M21     | Black mastic/yellow adhesive/leveling comp. | B29-103 Stair 1                         | Located under carpet on landing  |
| 103M-21-49   | M21     | Black mastic/yellow adhesive/leveling comp. | 130-103 Stair 2                         | Located under carpet on landing  |
| 103M-22-50   | M22     | Mastic (Brown)                              | 220F-103 Stair 2                        | Under rubber step mat            |
| 103CT-23-51  | CT23    | 2x4 Ceiling Tile                            | B23B-103 Mech                           | Material also in B06-103 Mech    |
| 103M-24-52   | M24     | Mastic (Yellow)                             | B22-103 Corridor (under carpet)         | Throughout floor                 |
| 103M-25-53   | M25     | Mastic (Brown)                              | 200E-103 Corridor (under carpet)        | Throughout floor                 |
|              |         |   |   |                                  |
|              |         |   |   |                                  |
|              |         |   |   |                                  |
|              |         |   |   |                                  |
|              |         |   |   |                                  |
|              |         |   |   |                                  |
|              |         |   |   |                                  |

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Page 2 of 2

CP 12/13/13 8:40AM



### **Disclaimer**

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

NY ELAP lab ID 11983

**Appendix E:**  
**Site Photographs**



Hard Layered Material (Grey)



Hard Layered Material (Grey)



Sheetrock (NOT SUBMITTED) - A, Cork (Brown) - B,  
Backing (Black) - C, Mastic (Black) -



Sheetrock (White) - A  
Backing (Brown) - B