

## **Addendum #2**

### **Greenway Farms New Conference Facility**

**CONTRACT NO. R-17-004**

#### **Schedule per Contract Documents**

Pre-Bid Meeting            April 24, 2019 at 10AM  
Last Day for Questions   May 15, 2019  
Bid Opening                May 21, 2019 at 2:00 pm

#### **Attachments**

1. Pre-bid meeting sign in sheet
2. Preliminary geotechnical report from GeoServices
3. Environmental survey from Alternative Actions
4. Spec sheets for owner supplied sink and grease trap

#### **Questions Received at Pre-bid meeting**

1. Sheets A-101, A-102, and A-111 are in the wrong section of the plan set. The table of contents has been updated to reflect their location behind sheet A-901.
2. Owner will remove all materials/ equipment that is to remain property of owner. All other demolition material shall become property of contractor during demolition. Contractor is responsible for the safe disposal of all such materials.
3. A subcontractor walkthrough has been scheduled for May 9<sup>th</sup> at 10:00AM. No further site visits are planned at this time.

**Prebid Meeting  
CITY OF CHATTANOOGA  
Greenway Farms New Conference Facility**

4/25/19 10:00AM  
Greenway Farms Farmhouse

Attendance: \_\_\_\_\_

Name	Representing/Phone Number	Email Address
1.) Jonathan Lewis	(423) 634 9959 Dillard Construction	jlewis@dillardconstruction.com
2.) Clea Klagstad	Circadian Consulting/ (423) 443-5317	clea@circadianconsulting.com
3.) Eric Rucht	Skilled Services, LLC (905) 844-8036	eric@skservicesllc.com
4.) Luke Hudson	miles electric 423-718-7097	Luke@mikselect.com
5.) JON CLINARD	423-643-8448 INTEGRATED PROPERTIES	JCLINARD@INTEGRATEDBUILDS.COM
6.) JASON BLACK	P&C CONSTRUCTION	jason@pc-const.com
7.) Logan Langlais	TERRACON	loganlanglais@TERRACON.COM
8.) DANIEL KRUSZCOWSKI	TERRACON	DAN.KRUSZ@TERRACON.COM
9.) SCOTT TURK	1 SQUARED LLC	SCOTT@1SQUARED.BUILD
10.) Travis Brooks	423-710-4785 Wilder Contracting, LLC	Tbrooks@WilderCON.com
11.) Debbie Talley	423-643-7230	dtalley@chattanooga.gov
12.) Levi Bouton	J. CUMBY CONST. 931-526-5158	levi@jcumbyconstruction.com
13.)		
14.)		
15.)		
16.)		
17.)		
18.)		
19.)		
20.)		

Mr. Eric Booker  
Public Works  
City of Chattanooga  
Development Resource Center  
1250 Market Street, Suite 2100  
Chattanooga, TN 37402

February 5, 2016

**Subject: NESHAP Inspection – Greenway Farms Residence Building  
5051 Gann Store Road  
Hixson, Tennessee**

Dear Mr. Booker,

At your request, Alternative Actions, Inc. made a site visit to conduct an asbestos NESHAP inspection and collect samples of suspect materials which may be disturbed during the planned renovation of 5051 Gann Store Road, Hixson, Tennessee. The initial field inspection was conducted on January 7, 2016. The building was occupied at the time of the inspection. In addition to the current inspection and sampling, we have included the previous targeted asbestos NESHAP inspection dated May 9, 2012.

The bulk samples collected were sent to a third party laboratory for analysis and the results were e-mailed to our office. The report outlines the materials sampled, the general condition of said materials, special notes as well as recommendations on how to handle this material.

As required by EPA, all layered samples, such as adhesives, linoleums and floor tiles were separated by the laboratory for analysis. This includes the separation of multi-layer floor coverings and their associated mastics.

A total of 45 samples were collected and submitted to an accredited laboratory using PLM analysis. Due to positive stop protocols, a total of 43 samples were analyzed by the accredited laboratory. Materials sampled are discussed in greater detail on the attached "Sample Spreadsheet".

**OVERVIEW:**

A full asbestos NESHAP inspection was conducted at 5051 Gann Store Road, Hixson, Tennessee. The building was once a private residence. It is now being used for special events and park maintenance. The building has a perimeter foundation with interior piers. The foundation is concrete masonry units with a stone veneer. The building is a one story wood framed structure. It has a crawlspace beneath the mail level of the house and a basement used for storage under the carport. The exterior walls have wood siding and a gable roof system with three tab fiberglass roof shingles.

The interior floor finishes are a combination of sheet vinyl, vinyl floor tile, carpet and ceramic tile. The walls and ceilings are covered in drywall over wood framing. A past roof leak has damaged some drywall ceilings allowing the material to come loose from the framing. The roof has been replaced stopping the leak. This structure has approximately 4,500 square foot of finished floor area and was constructed around 1968.

The building has a central HVAC system. Air ducts are insulation with fiberglass duct wrap. Fiberglass insulation is located between the floor joists.

See the attached sample spreadsheets for materials sampled and associated laboratory findings. See attached drawings for sample locations and asbestos locations.

### **Sampling Procedures**

Samples of homogenous materials located within the area were collected using a three negative protocol. This is a "Baseline Survey" following recommended procedures contained in the ASTM Standard E 2356-04 known as the "Standard Practice for Comprehensive Building Asbestos Surveys". Multiple samples of each material are preferred by EPA/OSHA and help to prevent false negative readings. Sampling was performed by a State of Tennessee accredited asbestos inspector.

### **Sampling Summary**

Asbestos fibers, greater than 1% by weight, were found to be present in the following materials and locations;

- Spray Applied Ceiling Texture (1) RM-5, RM-6, RM-7, RM-8, RM-11, RM-12, RM-13, RM-14, RM-15

While not regulated by EPA, the following was found to contain less than 1% by weight. OSHA does not use a 1% cut off for calling a material asbestos containing or not. OSHA looks at any percentage. Workers coming in contact with or disturbing any asbestos materials must be notified and need to follow the OSHA Regulations including engineering controls.

- Drywall System All RMs  
2% Chrysotile in Joint Compound. Less than 1% by weight as a drywall system.

### **Recommendations**

***Asbestos Spray Applied Texture*** – Asbestos spray applied texture is considered to be a Regulated Asbestos Containing Building Material (RACBM) by Federal NESHAP Regulations. The disturbance and removal of this material is regulated by both EPA and TOSHA. The removal, repairs or encapsulation of the spray applied texture should be made by an asbestos contractor with accredited supervision and workers. All material and debris must be properly disposed of at an approved sanitary landfill. EPA and TOSHA require special training and other requirements for anyone disturbing any asbestos material. OSHA also has procedural requirements pertaining to asbestos removal and handling. Contractor must comply with State of Tennessee Asbestos Program requirements and TOSHA.

## **Additional Notes**

A previous targeted asbestos NESHAP inspection was performed by Alternative Actions, Inc., dated May 9, 2012. The inspection at that time identified floor tile, sheet vinyl and mastic adhesives to contain asbestos fibers. The identified floor tile, sheet vinyl and mastic adhesives were removed in June 2012 and replaced with new, non-asbestos, replacement floor coverings. The current inspection sampling had some overlap. Drywall and spray applied texture was resampled. The current samples had the same findings as the original sampling.

We appreciate your business. Should you have any questions or need additional information, please contact our office at (423) 843-0773.

Sincerely,



Mark Dempsey  
Environmental Inspector/Project Mgr.

Tennessee Certification  
Certification No.: A-I-15280-41599  
Expiration Date: February 29, 2016

*Attachments: Sample Spreadsheet  
Asbestos Quantity Sheet  
Sample Location Drawings  
Asbestos Location Drawings  
Independent Laboratory Report*

Sample Spreadsheet  
 Greenway Farms Residence Building  
 5051 Gann Store Road  
 Hixson, Tennessee

Sample Number	Sample Description	Sample Location	Condition	Laboratory Results
4545-01A	Spray Applied Ceiling Texture (1)	RM 5	Good	<b>2% Chrysotile Asbestos</b> Trace <1% Tremolite/Actinolite
4545-01B	Spray Applied Ceiling Texture (1)	RM 7	Good	<b>Not Analyzed - Positive Stop</b>
4545-01C	Spray Applied Ceiling Texture (1)	RM 6	Good	<b>Not Analyzed - Positive Stop</b>
4545-02A	Drywall	RM 8 (Rear Closet)	Good	No Asbestos Detected
4545-02B	Drywall	RM 14	Good	Trace <1% Chrysotile
4545-02C	Drywall	RM 13	Good	Trace <1% Chrysotile
4545-03A	12" x 12" Beige w/Gray Streaks Floor Tile	RM 1	Good	No Asbestos Detected
4545-03A	Tan Mastic Adhesive	RM 1	Good	No Asbestos Detected
4545-03B	12" x 12" Beige w/Gray Streaks Floor Tile	Kit. 1	Good	No Asbestos Detected
4545-03B	Tan Mastic Adhesive	Kit. 1	Good	No Asbestos Detected
4545-03C	12" x 12" Beige w/Gray Streaks Floor Tile	Kit. 1 (Closet)	Good	No Asbestos Detected
4545-03C	Tan Mastic Adhesive	Kit. 1 (Closet)	Good	No Asbestos Detected
4545-04A	Spray Applied Ceiling Texture (2)	RM 1	Good	No Asbestos Detected
4545-04B	Spray Applied Ceiling Texture (2)	RM 3	Good	No Asbestos Detected
4545-04C	Spray Applied Ceiling Texture (2)	RM 2	Good	No Asbestos Detected
4545-05A	4" Light Brown Base Cove	RM 4	Good	No Asbestos Detected
4545-05A	Beige Mastic Adhesive	RM 4	Good	No Asbestos Detected
4545-05B	4" Light Brown Base Cove	RM 4	Good	No Asbestos Detected
4545-05B	Beige Mastic Adhesive	RM 4	Good	No Asbestos Detected
4545-05C	4" Light Brown Base Cove	RM 4	Good	No Asbestos Detected

Sample Spreadsheet  
 Greenway Farms Residence Building  
 5051 Gann Store Road  
 Hixson, Tennessee

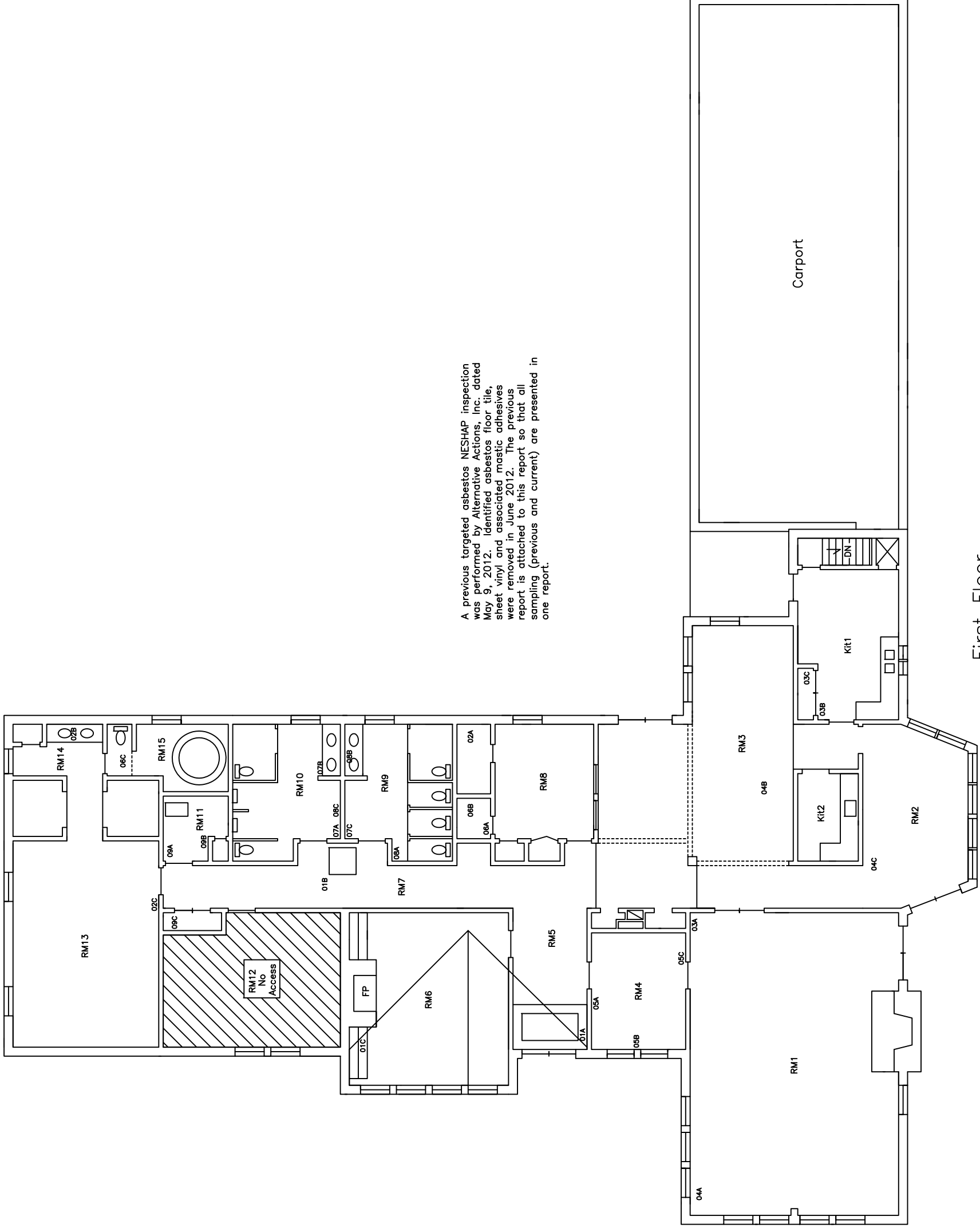
Sample Number	Sample Description	Sample Location	Condition	Laboratory Results
4545-05C	Beige Mastic Adhesive	RM 4	Good	No Asbestos Detected
4545-06A	Tan Sheet Vinyl	RM 8 (Closet)	Good	No Asbestos Detected
4545-06A	Tan Mastic Adhesive	RM 8 (Closet)	Good	No Asbestos Detected
4545-06B	Tan Sheet Vinyl	RM 8 (Closet)	Good	No Asbestos Detected
4545-06B	Tan Mastic Adhesive	RM 8 (Closet)	Good	No Asbestos Detected
4545-06C	Tan Sheet Vinyl	RM 15	Good	No Asbestos Detected
4545-06C	Tan Mastic Adhesive	RM 15	Good	No Asbestos Detected
4545-07A	12" x 12" Off White w/Brown Streaks Floor Tile	RM 10	Good	No Asbestos Detected
4545-07A	Tan Mastic Adhesive	RM 10	Good	No Asbestos Detected
4545-07B	12" x 12" Off White w/Brown Streaks Floor Tile	RM 10	Good	No Asbestos Detected
4545-07B	Tan Mastic Adhesive	RM 10	Good	No Asbestos Detected
4545-07C	12" x 12" Off White w/Brown Streaks Floor Tile	RM 9	Good	No Asbestos Detected
4545-07C	Tan Mastic Adhesive	RM 9	Good	No Asbestos Detected
4545-08A	4" Dark Gray Base Cove	RM 9	Good	No Asbestos Detected
4545-08A	Beige Mastic Adhesive	RM 9	Good	No Asbestos Detected
4545-08B	4" Dark Gray Base Cove	RM 9	Good	No Asbestos Detected
4545-08B	Beige Mastic Adhesive	RM 9	Good	No Asbestos Detected
4545-08C	4" Dark Gray Base Cove	RM 10	Good	No Asbestos Detected
4545-08C	Beige Mastic Adhesive	RM 10	Good	No Asbestos Detected
4545-09A	4" Light Gray Base Cove	RM 11	Good	No Asbestos Detected

Sample Spreadsheet  
Greenway Farms Residence Building  
5051 Gann Store Road  
Hixson, Tennessee

<b>Sample Number</b>	<b>Sample Description</b>	<b>Sample Location</b>	<b>Condition</b>	<b>Laboratory Results</b>
4545-09A	Beige Mastic Adhesive	RM 11	Good	No Asbestos Detected
4545-09B	4" Light Gray Base Cove	RM 11	Good	No Asbestos Detected
4545-09B	Beige Mastic Adhesive	RM 11	Good	No Asbestos Detected
4545-09C	4" Light Gray Base Cove	RM 7 (Closet)	Good	No Asbestos Detected
4545-09C	Beige Mastic Adhesive	RM 7 (Closet)	Good	No Asbestos Detected



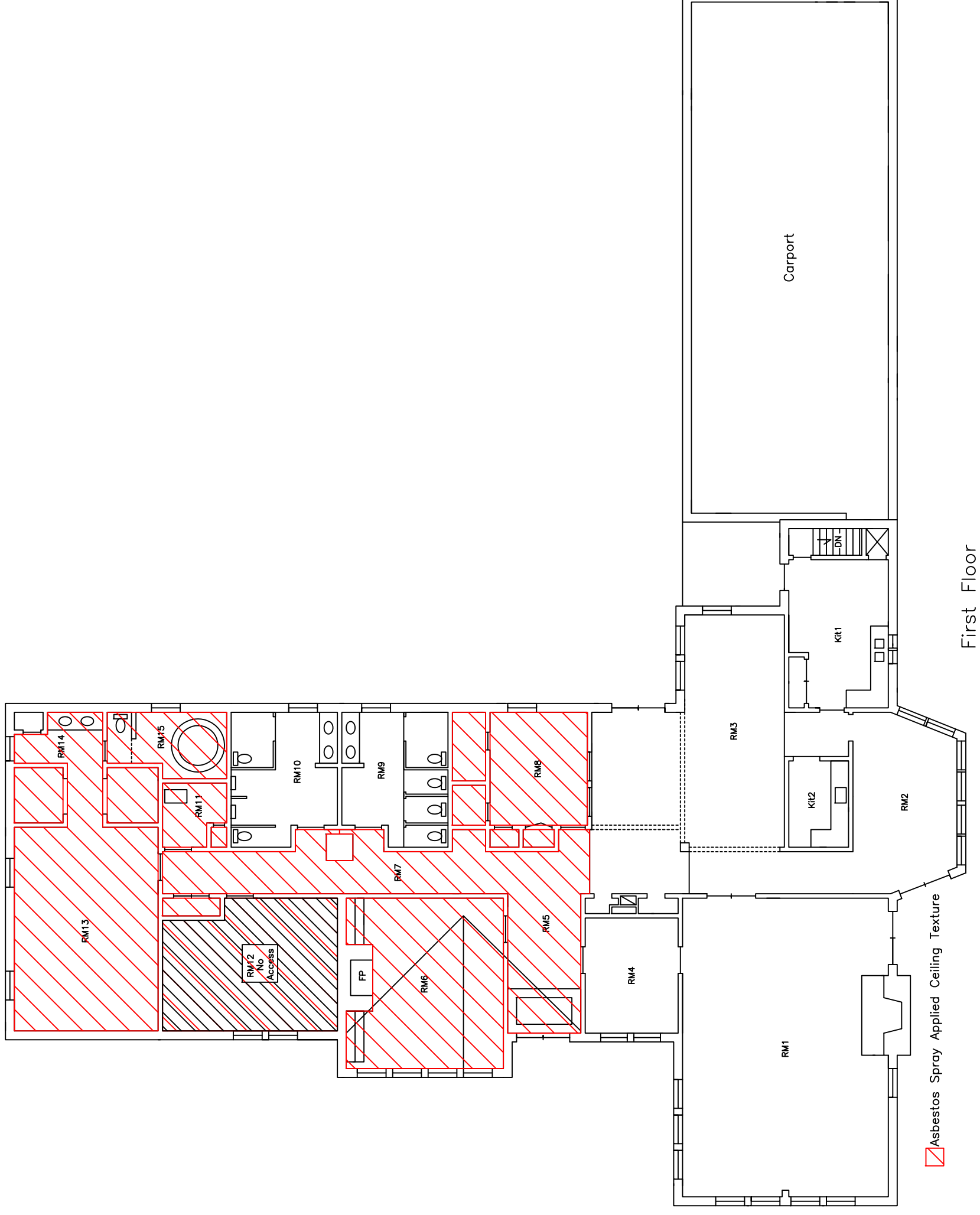
Sample Locations  
Greenway Farms Residence Building  
5051 Gann Store Road  
Hixson, Tennessee



A previous targeted asbestos NESHAP inspection was performed by Alternative Actions, Inc. dated May 9, 2012. Identified asbestos floor tile, sheet vinyl and associated mastic adhesives were removed in June 2012. The previous report is attached to this report so that all sampling (previous and current) are presented in one report.

First Floor

Asbestos Locations  
Greenway Farms Residence Building  
5051 Gann Store Road  
Hixson, Tennessee



Asbestos Spray Applied Ceiling Texture

First Floor



# Asbestos Bulk Analysis Report

Environmental Hazards Services, L.L.C.  
7469 Whitepine Rd  
Richmond, VA 23237  
Telephone: 800.347.4010

Report Number: 16-01-00689

Client: Alternative Actions Inc.  
7505 Middle Valley Rd. Ste 113  
Hixson, TN 37343

Received Date: 01/08/2016  
Analyzed Date: 01/09/2016  
Reported Date: 01/11/2016

Project/Test Address: AAI-4545; Chattanooga, TN

Client Number:  
44-1169

Fax Number:  
423-843-9526

## Laboratory Results

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-01-00689-001	4545-01A		Beige Granular; White Paint-Like; Inhomogeneous	2% Chrysotile Trace <1% Trem/Actin*	98% Non-Fibrous
				Total Asbestos: 2%	
Chrysotile and *Tremolite/Actinolite Series Asbestos present throughout sample.					
16-01-00689-002	4545-01B			Did Not Analyze (Positive Stop)	
16-01-00689-003	4545-01C			Did Not Analyze (Positive Stop)	
16-01-00689-004	4545-02A		White Granular; Powder; Tan Fibrous; Gray Paint-Like; Inhomogeneous	NAD	18% Cellulose 82% Non-Fibrous
16-01-00689-005	4545-02B		White Granular; Powder; White/Tan Fibrous; Inhomogeneous	Trace <1% Chrysotile	21% Cellulose 79% Non-Fibrous
				Total Asbestos: Trace <1%	
2% Chrysotile present in joint compound-like material.					

## Environmental Hazards Services, L.L.C

Client Number: 44-1169  
 Project/Test Address: AAI-4545; Chattanooga, TN

Report Number: 16-01-00689

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-01-00689-006	4545-02C		White Granular; Gray Powder; Tan Fibrous; Inhomogeneous	Trace <1% Chrysotile	17% Cellulose 83% Non-Fibrous
				Total Asbestos: Trace <1%	
2% Chrysotile present in joint compound-like material.					
16-01-00689-007A	4545-03A	Tile	Beige Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-007B	4545-03A	Mastic	Tan Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-008A	4545-03B	Tile	Beige Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-008B	4545-03B	Mastic	Tan Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-009A	4545-03C	Tile	Beige Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-009B	4545-03C	Mastic	Tan Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-010	4545-04A		White Granular; Foam; Inhomogeneous	NAD	100% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 44-1169  
 Project/Test Address: AAI-4545; Chattanooga, TN

Report Number: 16-01-00689

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-01-00689-011	4545-04B		White Granular; Foam; Inhomogeneous	NAD	100% Non-Fibrous
16-01-00689-012	4545-04C		White Granular; Foam; Inhomogeneous	NAD	100% Non-Fibrous
16-01-00689-013A	4545-05A	Cove Base	Light Brown Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-013B	4545-05A	Mastic	Beige Adhesive; Fibrous; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous
16-01-00689-014A	4545-05B	Cove Base	Light Brown Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-014B	4545-05B	Mastic	Beige Adhesive; Fibrous; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous
16-01-00689-015A	4545-05C	Cove Base	Light Brown Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-015B	4545-05C	Mastic	Beige Adhesive; Fibrous; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 44-1169  
 Project/Test Address: AAI-4545; Chattanooga, TN

Report Number: 16-01-00689

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-01-00689-016A	4545-06A	Linoleum	Tan Vinyl; Fibrous; Inhomogeneous	NAD	30% Cellulose 4% Fibrous Glass 66% Non-Fibrous
16-01-00689-016B	4545-06A	Mastic	Tan Adhesive; White Granular; Inhomogeneous	NAD	1% Cellulose 99% Non-Fibrous
16-01-00689-017A	4545-06B	Linoleum	Tan Vinyl; Fibrous; Inhomogeneous	NAD	30% Cellulose 4% Fibrous Glass 66% Non-Fibrous
16-01-00689-017B	4545-06B	Mastic	Tan Adhesive; White Granular; Inhomogeneous	NAD	1% Cellulose 99% Non-Fibrous
16-01-00689-018A	4545-06C	Linoleum	Tan Vinyl; Fibrous; Inhomogeneous	NAD	30% Cellulose 4% Fibrous Glass 66% Non-Fibrous
16-01-00689-018B	4545-06C	Mastic	Tan Adhesive; White Granular; Inhomogeneous	NAD	1% Cellulose 99% Non-Fibrous
16-01-00689-019A	4545-07A	Tile	Off-White Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-019B	4545-07A	Mastic	Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 44-1169  
 Project/Test Address: AAI-4545; Chattanooga, TN

Report Number: 16-01-00689

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-01-00689-020A	4545-07B	Tile	Off-White Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-020B	4545-07B	Mastic	Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
16-01-00689-021A	4545-07C	Tile	Off-White Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-021B	4545-07C	Mastic	Tan Adhesive; Homogeneous	NAD	1% Cellulose 99% Non-Fibrous
16-01-00689-022A	4545-08A	Cove Base	Dark Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-022B	4545-08A	Mastic	Beige Adhesive; Fibrous; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous
16-01-00689-023A	4545-08B	Cove Base	Dark Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-023B	4545-08B	Mastic	Beige Adhesive; Fibrous; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous

## Environmental Hazards Services, L.L.C

Client Number: 44-1169  
 Project/Test Address: AAI-4545; Chattanooga, TN

Report Number: 16-01-00689

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-01-00689-024A	4545-08C	Cove Base	Dark Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-024B	4545-08C	Mastic	Beige Adhesive; Fibrous; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous
16-01-00689-025A	4545-09A	Cove Base	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-025B	4545-09A	Mastic	Beige Adhesive; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
16-01-00689-026A	4545-09B	Cove Base	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-026B	4545-09B	Mastic	Beige Adhesive; White Granular; Inhomogeneous	NAD	100% Non-Fibrous
16-01-00689-027A	4545-09C	Cove Base	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-01-00689-027B	4545-09C	Mastic	Beige Adhesive; White Granular; Inhomogeneous	NAD	100% Non-Fibrous




# Environmental Hazards Services, L.L.C

Client Number: 44-1169  
Project/Test Address: AAI-4545; Chattanooga, TN

Report Number: 16-01-00689

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
-------------------	----------------------	------------	-----------------------	----------	-----------------

QC Sample: 81-M22014-3  
QC Blank: SRM 1866 Fiberglass  
Reporting Limit: 1% Asbestos  
Method: EPA Method 600/R-93/116, EPA Method 600/M4-82-020  
Analyst: Vickie Holmes

Reviewed By Authorized Signatory:   
Howard Varner  
General Manager

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Each distinct component in an inhomogeneous sample was analyzed separately and reported as a composite. Results represent the analysis of samples submitted by the client. Sample location, description, area, volume, etc., was provided by the client. This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of the Environmental Hazards Service, L.L.C. California Certification #2319 NY ELAP #11714 NVLAP #101882-0 VELAP 460172. All information concerning sampling location, date, and time can be found on Chain-of-Custody. Environmental Hazards Services, L.L.C. does not perform any sample collection.

Environmental Hazards Services, L.L.C. recommends reanalysis by point count (for more accurate quantification) or Transmission Electron Microscopy (TEM), (for enhanced detection capabilities) for materials regulated by EPA NESHAP (National Emission Standards for Hazardous Air Pollutants) and found to contain less than ten percent (<10%) asbestos by polarized light microscopy (PLM). Both services are available for an additional fee.

400 Point Count Analysis, where noted, performed per EPA Method 600/R-93/116 with a Reporting Limit of 0.25%.

\* All California samples analyzed by Polarized Light Microscopy, EPA Method 600/M4-82-020, Dec. 1982.

LEGEND: NAD = no asbestos detected

**TARGETED LEAD INSPECTION  
REPORT**

**Greenway Farms Residence Building  
5051 Gann Store Road  
Hixson, Tennessee**

**For**

**Mr. Eric Booker  
Public Works  
City of Chattanooga  
Development Resource Center  
1250 Market Street, Suite 2100  
Chattanooga, TN 37402**



by

Alternative Actions, Inc.  
7505 Middle Valley Road, Suite 113  
Hixson, Tennessee 37343  
(423) 843-0773

February 3, 2016

TN Firm # FTN-2000-39-5138R  
TN Risk Assessor # TNLBP2014-2880-5030R

**AAI-4545**

# **Table of Contents**

## **Targeted LBP Inspection Report Summary**

## **Inspection Forms – Chapter 7**

<b>AAI Form 7.1</b>	<b>Targeted LBP Testing Data Sheet(s)</b>
<b>AAI Form 7.2</b>	<b>Calibration Check Test Results</b>
<b>AAI Form 7.3</b>	<b>Substrate Correction Values</b>

## **XRF Performance Specification**

## Targeted LBP Inspection Report Summary

**DISCLOSURE RESPONSIBILITY:** A copy of this summary must be provided to the various contractors which will be performing work on the affected building and will have a possibility of coming in contact with any components found to be painted with Lead Based Paint (LBP). The report is required to be given to the contractors in its entirety.

**DISCLAIMER:** This is our report of a visual survey, X-Ray Fluorescence (XRF) analysis, of the readily accessible areas of this building and tested components. The presence or absence of lead based paint or lead based paint hazards applies only to tested or assessed surfaces on the date of the field visit and that conditions may change due to deterioration or maintenance. Ongoing monitoring by the owner is usually necessary.

This document is provided for informational purposes only. The information contained in this document and these references represents the current view of Alternative Actions, Inc. on the issues discussed as of the date of publication. Information provided in this document is provided "as is" without warranty of any kind, either expresses or implied, including but not limited to the implied warranties of merchantability, fitness for a particular purpose and freedom from infringement. The user assumes the entire risk as to the accuracy and the use of this document.

This document may be copied and distributed subject to the following conditions:

1. All text must be copied without modification and all pages must be included.
2. This document may not be distributed for profit.

Please review this report fully; including any REMARKS printed on each page and call us for an explanation of any aspect of this report, written or printed, which you do not fully understand.

**IDENTIFYING INFORMATION:** A targeted lead based paint (LBP) evaluation was conducted at the request of Mr. Eric Booker, Public Works, City of Chattanooga, at the building located at 5051 Gann Store Road, Hixson, Tennessee, commonly referred to as the Greenway Farms Residence Building. This property is a one story residence converted into a community center for meetings and public gatherings. The building is approximately 4,699 finished square feet and was constructed around 1968. There is also a partial basement with storage areas.

The purpose of the inspection was to determine if lead based paint has been used on any of the painted or stained surfaces. The inspection and sample collection was performed on Thursday, January 7, 2016. The inspection included conducting on-site testing of painted surfaces using an X-Ray Fluorescence (XRF) device. This was an inspection only. No dust wipe samples or soil samples were collected. Dust wipe samples and soil samples are typically collected when performing a Risk Assessment. A combination of the State of Tennessee, EPA and HUD standards were used to determine the presence of lead and the appropriate recommendations.

### RESULTS:

#### Lead Paint Testing

No Lead-Based Paint (LBP) was found on any interior or exterior painted or stained components.

Additional information can be found on Form 7.1 (XRF Results) and the attached drawing.

**SPECIFIC RECOMMENDATIONS:**

There are no recommendations to be made since no LBP painted or stained components were found.

This report has been produced in accordance with accepted guidelines and standards as outlined by the State of Tennessee, EPA and HUD. Feel free to contact our office for any clarifications, etc. that you might need. Our office number is (423) 843-0773 and our fax number is (423) 843-9526.

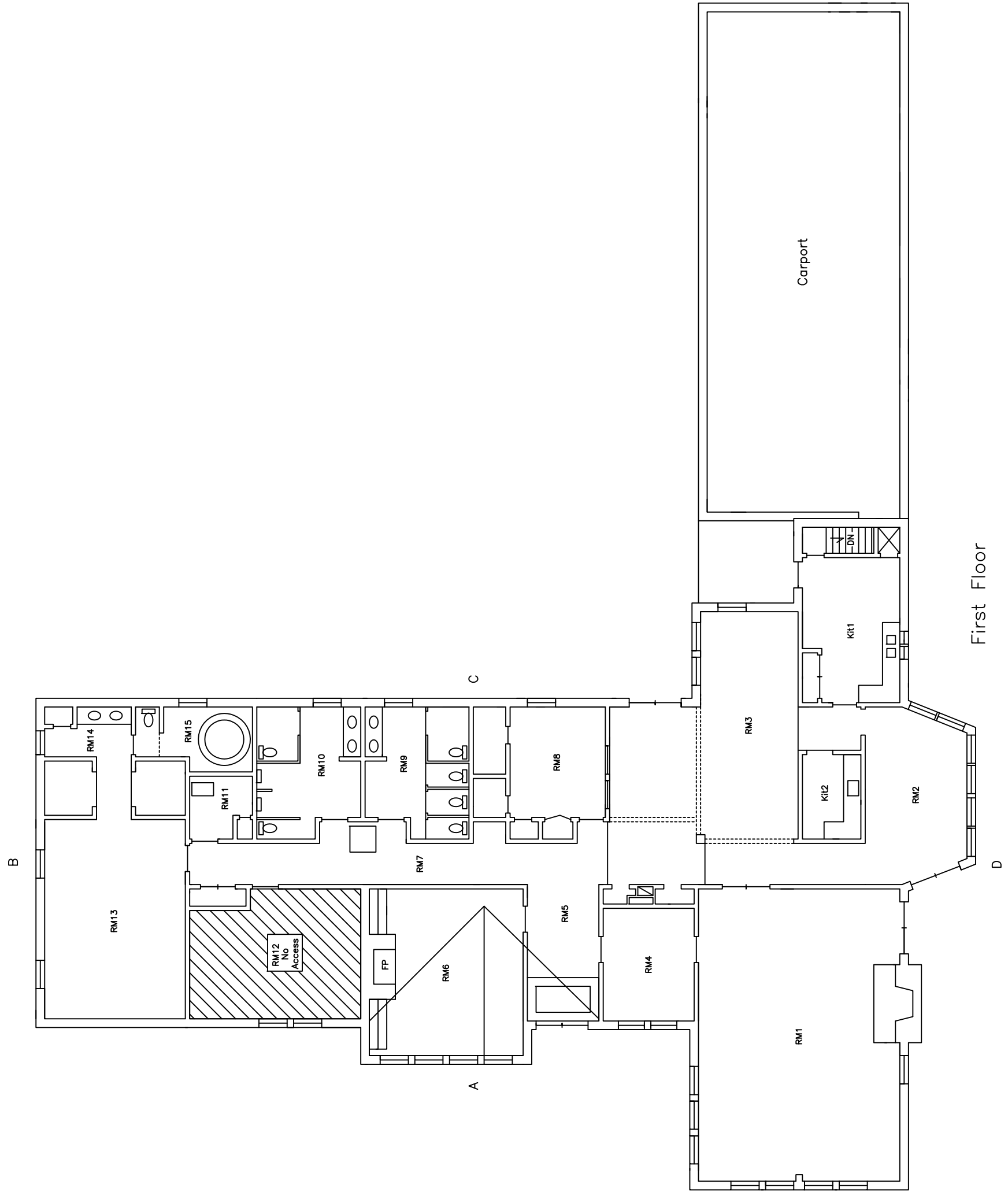
Inspector/Risk Assessor:

A handwritten signature in black ink, appearing to read 'Mark Dempsey', with a stylized flourish at the end.

Mark Dempsey  
Environmental Inspector/Project Mgr.

Date: February 3, 2016

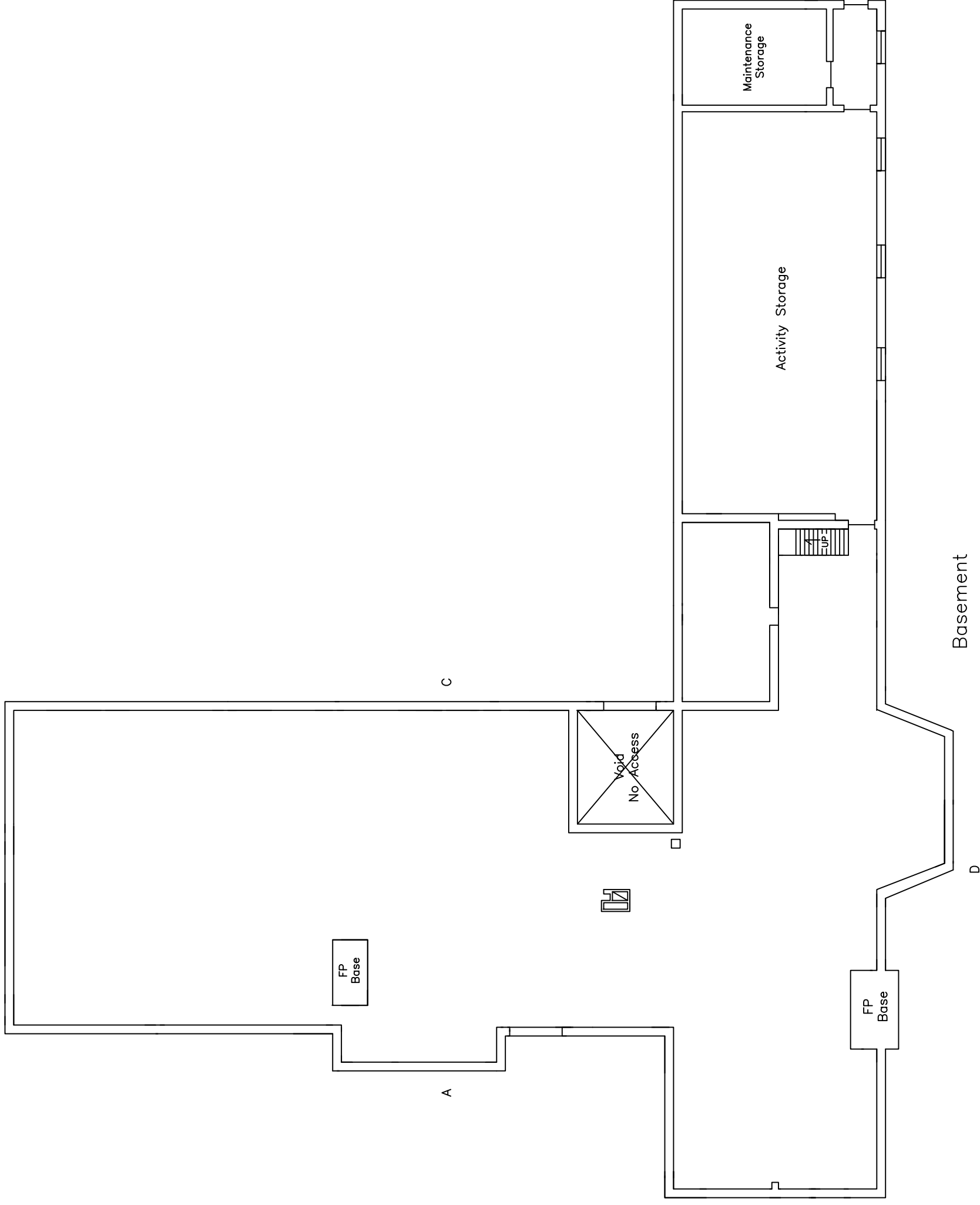
Greenway Farms Residence Building  
5051 Gann Store Road  
Hixson, Tennessee



First Floor

Greenway Farms Residence Building  
5051 Gann Store Road  
Hixson, Tennessee

B



Basement

D

A

C

**HUD Guidelines  
Chapter 7 Forms for  
Inspections**



# Targeted LBP Testing Data Sheet

Address/Unit No.   Greenway Farms Residence Building, 5051 Gann Store Road, Hixson, Tennessee  

Room Equivalent   All  

XRF Model No.   XLp 303A   Inspector Name   Mark Dempsey   Signature   *[Signature]*  



Sample ID#	Substrate	Component	Color	Test Locations	XRF Reading	Correction Value	Result	Classification (POS, NEG or INC)	Laboratory Result	Units (mg/cm <sup>2</sup> or ppm)	Final Classification
			SEE	ATTACHED	DATA						
			XRF	READINGS							

Reading No	Time	Units	Component	Substrate	Side	Condition	Color	Room	Results	PbC	PbC Error
1	1/7/2016 13:39	cps	ShutterCal	200.69		380.22	4.81	2.4		1.65	0
2	1/7/2016 13:41	mg / cm ^2	Calibrate				Red		Positive	1	0.1
3	1/7/2016 13:43	mg / cm ^2	Calibrate				Red		Positive	1	0.1
4	1/7/2016 13:45	mg / cm ^2	Calibrate				Red		Positive	1	0.1
5	1/7/2016 13:46	mg / cm ^2	Wall	Drywall	A	Intact	Wall paper	1	Negative	< LOD	0.03
6	1/7/2016 13:47	mg / cm ^2	Wall	Drywall	B	Intact	Wall paper	1	Negative	< LOD	0.03
7	1/7/2016 13:48	mg / cm ^2	Window casing	Wood	B	Peeling	Gray	1	Negative	< LOD	0.03
8	1/7/2016 13:48	mg / cm ^2	Window casing	Wood	B	Peeling	Gray	1	Negative	< LOD	0.03
9	1/7/2016 13:49	mg / cm ^2	Shelf	Wood	B	Peeling	Gray	1	Negative	< LOD	0.03
10	1/7/2016 13:49	mg / cm ^2	Shelf	Wood	B	Peeling	Gray	1	Negative	< LOD	0.03
11	1/7/2016 13:50	mg / cm ^2	Shelf trim	Wood	B	Intact	Natural	1	Negative	< LOD	0.03
12	1/7/2016 13:50	mg / cm ^2	Baseboard	Wood	C	Intact	Gray	1	Negative	< LOD	0.03
13	1/7/2016 13:51	mg / cm ^2	Baseboard cap	Wood	C	Intact	Natural	1	Negative	< LOD	0.03
14	1/7/2016 13:51	mg / cm ^2	Shoe molding	Wood	C	Intact	Natural	1	Negative	< LOD	0.08
15	1/7/2016 13:52	mg / cm ^2	Door casing	Wood	D	Peeling	Gray	1	Negative	< LOD	0.05
16	1/7/2016 13:52	mg / cm ^2	Door	Wood	D	Intact	Gray	1	Negative	< LOD	0.03
17	1/7/2016 13:53	mg / cm ^2	Door jamb	Wood	D	Intact	Gray	1	Negative	< LOD	0.03
18	1/7/2016 13:54	mg / cm ^2	Column	Wood	A	Intact	Gray	1	Negative	< LOD	0.03
19	1/7/2016 13:55	mg / cm ^2	Wall	Drywall	A	Intact	White	2	Negative	< LOD	0.03
20	1/7/2016 13:56	mg / cm ^2	Baseboard	Wood	C	Intact	Gray	2	Negative	< LOD	0.03
21	1/7/2016 13:56	mg / cm ^2	Baseboard cap	Wood	C	Intact	Natural	2	Negative	< LOD	0.03
22	1/7/2016 13:56	mg / cm ^2	Shoe molding	Wood	C	Intact	Natural	2	Negative	< LOD	0.03
23	1/7/2016 13:57	mg / cm ^2	Window stool	Wood	D	Peeling	Gray	2	Negative	< LOD	0.03
24	1/7/2016 13:58	mg / cm ^2	Window casing	Wood	D	Peeling	Gray	2	Negative	< LOD	0.03
25	1/7/2016 13:58	mg / cm ^2	Door casing	Wood	A	Peeling	Gray	2	Negative	< LOD	0.03
26	1/7/2016 13:59	mg / cm ^2	Door	Wood	A	Peeling	Gray	2	Negative	< LOD	0.03
27	1/7/2016 13:59	mg / cm ^2	Door casing	Wood	B	Peeling	Blue	2	Negative	< LOD	0.03
28	1/7/2016 14:00	mg / cm ^2	Door jamb	Wood	B	Peeling	Blue	2	Negative	< LOD	0.1
29	1/7/2016 14:01	mg / cm ^2	Wall	Drywall	B	Intact	White	3	Negative	< LOD	0.17
30	1/7/2016 14:02	mg / cm ^2	Ledge	Wood	B	Peeling	Gray	3	Negative	< LOD	0.03
31	1/7/2016 14:02	mg / cm ^2	Ledge casing	Wood	B	Intact	Gray	3	Negative	< LOD	0.03
32	1/7/2016 14:03	mg / cm ^2	Ceiling	Drywall		Intact	White	3	Negative	< LOD	0.03
33	1/7/2016 14:04	mg / cm ^2	Door	Metal	C	Peeling	Blue	3	Negative	< LOD	0.03
34	1/7/2016 14:07	mg / cm ^2	Door casing	Wood	A	Peeling	White	kit-1	Negative	< LOD	0.38
35	1/7/2016 14:07	mg / cm ^2	Door	Wood	A	Peeling	White	kit-1	Negative	< LOD	0.17
36	1/7/2016 14:08	mg / cm ^2	Door jamb	Wood	A	Peeling	White	kit-1	Negative	< LOD	0.13
37	1/7/2016 14:08	mg / cm ^2	Base cabinet	Wood	D	Peeling	White	kit-1	Negative	< LOD	0.03
38	1/7/2016 14:09	mg / cm ^2	Base cabinet	Wood	D	Peeling	Green	kit-1	Negative	< LOD	0.09
39	1/7/2016 14:10	mg / cm ^2	Wall cabinet	Wood	D	Peeling	Green	kit-1	Negative	< LOD	0.03
40	1/7/2016 14:10	mg / cm ^2	Wall cabinet	Wood	D	Peeling	White	kit-1	Negative	< LOD	0.03
41	1/7/2016 14:11	mg / cm ^2	Wall cabinet	Wood	D	Peeling	Gray	kit-2	Negative	< LOD	0.03
42	1/7/2016 14:11	mg / cm ^2	Base cabinet	Wood	D	Peeling	Gray	kit-2	Negative	< LOD	0.07
43	1/7/2016 14:13	mg / cm ^2	Wall	Drywall	B	Intact	Gray	4	Negative	< LOD	0.03
44	1/7/2016 14:16	mg / cm ^2	Wall	Drywall	A	Intact	White	5	Negative	< LOD	0.03
45	1/7/2016 14:17	mg / cm ^2	Baseboard	Wood	A	Intact	Gray	5	Negative	< LOD	0.03
46	1/7/2016 14:17	mg / cm ^2	Baseboard cap	Wood	A	Intact	Natural	5	Negative	< LOD	0.03
47	1/7/2016 14:18	mg / cm ^2	Shoe molding	Wood	A	Intact	Natural	5	Negative	< LOD	0.04
48	1/7/2016 14:19	mg / cm ^2	Door casing	Wood	A	Intact	Gray	5	Negative	< LOD	0.03
49	1/7/2016 14:19	mg / cm ^2	Door	Wood	A	Peeling	Gray	5	Negative	< LOD	0.03
50	1/7/2016 14:20	mg / cm ^2	Door jamb	Wood	A	Intact	Gray	5	Negative	< LOD	0.03
51	1/7/2016 14:20	mg / cm ^2	Wall	Wood	A	Intact	Natural	6	Negative	< LOD	0.07
52	1/7/2016 14:21	mg / cm ^2	Baseboard	Wood	A	Intact	Natural	6	Negative	< LOD	0.07
53	1/7/2016 14:21	mg / cm ^2	Window stool	Wood	A	Intact	Natural	6	Negative	< LOD	0.03
54	1/7/2016 14:21	mg / cm ^2	Window casing	Wood	A	Intact	Natural	6	Negative	< LOD	0.2
55	1/7/2016 14:22	mg / cm ^2	Cabinet door	Wood	B	Peeling	Natural	6	Negative	< LOD	0.03
56	1/7/2016 14:23	mg / cm ^2	Door casing	Wood	D	Intact	Gray	6	Negative	< LOD	0.03
57	1/7/2016 14:23	mg / cm ^2	Door	Wood	D	Intact	Gray	6	Negative	< LOD	0.03
58	1/7/2016 14:27	mg / cm ^2	Wall @ skylite	Metal	A	Peeling	White	7	Negative	< LOD	0.06
59	1/7/2016 14:28	mg / cm ^2	Skylite casing	Wood		Peeling	White	7	Negative	< LOD	0.07
60	1/7/2016 14:29	mg / cm ^2	Ceiling	Drywall		Peeling	White	7	Negative	< LOD	0.03
61	1/7/2016 14:30	mg / cm ^2	Wall	Wood	C	Intact	Gray	8	Negative	< LOD	0.03

Reading No	Time	Units	Component	Substrate	Side	Condition	Color	Room	Results	PbC	PbC Error
62	1/7/2016 14:31	mg / cm ^2	Baseboard	Wood	C	Peeling	Gray	8	Negative	< LOD	0.07
63	1/7/2016 14:31	mg / cm ^2	Window stool	Wood	C	Peeling	Gray	8	Negative	< LOD	0.1
64	1/7/2016 14:31	mg / cm ^2	Window casing	Wood	C	Peeling	Gray	8	Negative	< LOD	0.03
65	1/7/2016 14:34	mg / cm ^2	Door casing	Wood	A	Intact	Brown	9	Negative	< LOD	0.03
66	1/7/2016 14:34	mg / cm ^2	Door	Wood	A	Intact	Brown	9	Negative	< LOD	0.03
67	1/7/2016 14:35	mg / cm ^2	Window casing	Wood	C	Intact	Brown	10	Negative	< LOD	0.06
68	1/7/2016 14:35	mg / cm ^2	Window stool	Wood	C	Intact	Brown	10	Negative	< LOD	0.04
69	1/7/2016 14:36	mg / cm ^2	Wall	Drywall	B	Intact	Tan	11	Negative	< LOD	0.03
70	1/7/2016 14:37	mg / cm ^2	Wall	Drywall	D	Intact	Wall paper	13	Negative	< LOD	0.03
71	1/7/2016 14:38	mg / cm ^2	Baseboard	Wood	B	Peeling	White	13	Negative	< LOD	0.07
72	1/7/2016 14:39	mg / cm ^2	Door casing	Wood	B	Peeling	White	13	Negative	< LOD	0.11
73	1/7/2016 14:39	mg / cm ^2	Door	Metal	D	Intact	White	13	Negative	< LOD	0.06
74	1/7/2016 14:40	mg / cm ^2	Vanity	Wood	C	Peeling	White	14	Negative	< LOD	0.03
75	1/7/2016 14:42	mg / cm ^2	Tub	Marble		Intact	Black	15	Negative	< LOD	0.03
76	1/7/2016 14:42	mg / cm ^2	Window stool	Wood	C	Peeling	White	15	Negative	< LOD	0.05
77	1/7/2016 14:43	mg / cm ^2	Window casing	Wood	C	Intact	White	15	Negative	< LOD	0.07
78	1/7/2016 14:46	mg / cm ^2	Wall	Wood	A	Intact	Blue	Ext.	Negative	< LOD	0.22
79	1/7/2016 14:47	mg / cm ^2	Door casing	Wood	A	Intact	Blue	Ext.	Negative	< LOD	0.03
80	1/7/2016 14:47	mg / cm ^2	Door	Wood	A	Peeling	Blue	Ext.	Negative	< LOD	0.03
81	1/7/2016 14:48	mg / cm ^2	Window stool	Wood	A	Intact	Blue	Ext.	Negative	0.4	0.2
82	1/7/2016 14:48	mg / cm ^2	Window casing	Wood	A	Intact	Blue	Ext.	Negative	< LOD	0.28
83	1/7/2016 14:49	mg / cm ^2	Window	Wood	A	Intact	Blue	Ext.	Negative	0.24	0.16
84	1/7/2016 14:50	mg / cm ^2	Porch floor	Wood	A	Peeling	Natural	Ext.	Negative	< LOD	0.03
85	1/7/2016 14:50	mg / cm ^2	Porch pickett	Wood	A	Peeling	Natural	Ext.	Null	< LOD	0.03
86	1/7/2016 14:50	mg / cm ^2	Porch pickett	Wood	A	Peeling	Natural	Ext.	Negative	< LOD	0.03
87	1/7/2016 14:50	mg / cm ^2	porch rail	Wood	A	Peeling	Natural	Ext.	Negative	< LOD	0.03
88	1/7/2016 14:52	mg / cm ^2	Porch ceiling	Wood	A	Intact	Blue	Ext.	Negative	0.7	0.3
89	1/7/2016 14:52	mg / cm ^2	Porch beam	Wood	A	Intact	Blue	Ext.	Negative	< LOD	0.14
90	1/7/2016 14:52	mg / cm ^2	Fascia	Wood	A	Intact	Blue	Ext.	Negative	< LOD	0.24
91	1/7/2016 14:53	mg / cm ^2	Soffit	Wood	A	Intact	Blue	Ext.	Negative	< LOD	0.23
92	1/7/2016 14:54	mg / cm ^2	Wall	Wood	B	Intact	Blue	Ext.	Negative	< LOD	0.12
93	1/7/2016 14:54	mg / cm ^2	Window stool	Wood	B	Peeling	Blue	Ext.	Negative	< LOD	0.03
94	1/7/2016 14:55	mg / cm ^2	Window casing	Wood	B	Peeling	Blue	Ext.	Negative	< LOD	0.03
95	1/7/2016 14:55	mg / cm ^2	Window	Wood	B	Peeling	Blue	Ext.	Negative	< LOD	0.03
96	1/7/2016 14:57	mg / cm ^2	Fascia	Wood	B	Peeling	Blue	Ext.	Negative	0.4	0.2
97	1/7/2016 14:57	mg / cm ^2	Soffit	Wood	B	Peeling	Blue	Ext.	Negative	0.8	0.1
98	1/7/2016 14:58	mg / cm ^2	Band board	Wood	B	Intact	Blue	Ext.	Negative	< LOD	0.14
99	1/7/2016 14:59	mg / cm ^2	Corner board	Wood	B	Peeling	Blue	Ext.	Negative	< LOD	0.09
100	1/7/2016 15:00	mg / cm ^2	Wall	Wood	C	Intact	Blue	Ext.	Negative	< LOD	0.03
101	1/7/2016 15:01	mg / cm ^2	Window stool	Wood	C	Intact	Blue	Ext.	Negative	< LOD	0.15
102	1/7/2016 15:01	mg / cm ^2	Window casing	Wood	C	Intact	Blue	Ext.	Negative	0.4	0.2
103	1/7/2016 15:01	mg / cm ^2	Window	Wood	C	Peeling	Blue	Ext.	Negative	< LOD	0.31
104	1/7/2016 15:02	mg / cm ^2	Fascia	Wood	C	Intact	Blue	Ext.	Negative	< LOD	0.03
105	1/7/2016 15:02	mg / cm ^2	Soffit	Wood	C	Intact	Blue	Ext.	Negative	< LOD	0.41
106	1/7/2016 15:03	mg / cm ^2	Hand rail	Metal	C	Intact	Silver	Ext.	Negative	< LOD	1.24
107	1/7/2016 15:04	mg / cm ^2	Porch ceiling	Wood	C	Peeling	White	Ext.	Negative	< LOD	0.03
108	1/7/2016 15:05	mg / cm ^2	Porch beam	Wood	C	Intact	Blue	Ext.	Negative	< LOD	0.19
109	1/7/2016 15:05	mg / cm ^2	Wall	Wood	D	Intact	Blue	Ext.	Negative	< LOD	0.31
110	1/7/2016 15:06	mg / cm ^2	Fascia	Wood	D	Intact	Blue	Ext.	Negative	< LOD	0.3
111	1/7/2016 15:06	mg / cm ^2	Soffit	Wood	D	Intact	Blue	Ext.	Negative	< LOD	0.31
112	1/7/2016 15:08	mg / cm ^2	Door casing	Wood	D	Intact	Blue	Ext.	Negative	< LOD	0.03
113	1/7/2016 15:08	mg / cm ^2	Door	Wood	D	Intact	Blue	Ext.	Negative	< LOD	0.03
114	1/7/2016 15:08	mg / cm ^2	Window stool	Wood	D	Intact	Blue	Ext.	Negative	< LOD	0.03
115	1/7/2016 15:09	mg / cm ^2	Window casing	Wood	D	Intact	Blue	Ext.	Negative	< LOD	0.03
116	1/7/2016 15:09	mg / cm ^2	Window	Wood	D	Peeling	Blue	Ext.	Negative	< LOD	0.2
117	1/7/2016 15:10	mg / cm ^2	Corner board	Wood	D	Peeling	Blue	Ext.	Negative	< LOD	0.14
118	1/7/2016 15:10	mg / cm ^2	Porch floor	Wood	D	Peeling	Natural	Ext.	Negative	< LOD	0.03
119	1/7/2016 15:17	mg / cm ^2	Door casing	Metal	A	Peeling	Light gray	Basement	Negative	< LOD	0.03
120	1/7/2016 15:18	mg / cm ^2	Door	Metal	A	Peeling	Light gray	Basement	Negative	< LOD	0.03
121	1/7/2016 15:18	mg / cm ^2	Wall	Cmu	D	Intact	White	Basement	Negative	< LOD	0.03
122	1/7/2016 15:22	mg / cm ^2	Calibrate				Red		Positive	1	0.1

Reading No	Time	Units	Component	Substrate	Side	Condition	Color	Room	Results	PbC	PbC Error
123	1/7/2016 15:23	mg / cm ^2	Calibrate				Red		Positive	1	0.1
124	1/7/2016 15:25	mg / cm ^2	Calibrate				Red		Positive	1	0.1

# Calibration Check Test Results

Page 1 of 1

Inspector: Mark Dempsey  
Company: Alternative Actions, Inc.  
Address / Unit No.: Greenway Farms Residence Building  
5051 Gann Store Road  
Hixson, Tennessee



Device: Niton XLp 303A XRF Serial Number: 15441

Inspector's Signature:

A handwritten signature in black ink, appearing to read "Mark Dempsey".

Date: 1/7/2016

**Calibration Check Tolerance Used 20 Second Read Between 0.8 to 1.2 mg/cm<sup>2</sup>**

First Calibration Check

Red NIST SRM 2573			First Average	Difference Between First Average and 1.0 mg/cm <sup>2</sup>
First Reading	Second Reading	Third Reading		
1.00	1.00	1.00	1.00	0.00

Second Calibration Check

Red NIST SRM 2573			First Average	Difference Between First Average and 1.0 mg/cm <sup>2</sup>
First Reading	Second Reading	Third Reading		
1.00	1.00	1.00	1.00	0.00

Third Calibration Check

Red NIST SRM 1.04 2573			First Average	Difference Between First Average and 1.0mg/cm <sup>2</sup>
First Reading	Second Reading	Third Reading		

Fourth Calibration Check

Red NIST SRM 2573			First Average	Difference Between First Average and 1.0 mg/cm <sup>2</sup>
First Reading	Second Reading	Third Reading		

Fifth Calibration Check

Red NIST SRM 1.04 2573			First Average	Difference Between First Average and 1.0 mg/cm <sup>2</sup>
First Reading	Second Reading	Third Reading		

\* If the difference of the Calibration Check Average from the re NIST SRM 2573 film value is greater than the specified Calibration Check Tolerance for this device, consult the manufacturer's recommendations to bring the instrument back into control. For a 20 second sample, the reading should be 0.8 to 1.2 mg/cm<sup>2</sup>. If average reading is outside the aforementioned limits, retest all testing combinations tested since last successful calibration check test.

# Substrate Correction Values

Inspector: Mark Dempsey  
 Company: Alternative Actions, Inc.  
 Address / Unit No.: Greenway Farms Residence Building  
 5051 Gann Store Road  
 Hixson, Tennessee



Device: Niton XLp 303A      XRF Serial Number: 15441

Inspector's Signature:

Date: 1/7/2016

Use this form when the XRF Performance Characteristics Sheet indicates that correction for substrate bias is needed.

Substrate		Brick	Concrete	Drywall	Metal	Plaster	Wood
L o c a t i o n	1	First Reading					
		Second Reading					
		Third Reading					
	2	First Reading					
		Second Reading					
		Third Reading					
Correction Values (Average of the Six Readings)							

Transfer Correction Values to the "Correction Value" column of the LBP Testing Data Sheet form corresponding to each substrate.

**Notes:**

Based on Niton Corporation's "Performance Characteristic Sheet" (EDITION NO.: 4) for Model XLp 303A using operating software 5.1, there are no inconclusive classifications. Substrate correction is not required.

**XRF  
PERFORMANCE  
SPECIFICATIONS**

## Performance Characteristic Sheet

EFFECTIVE DATE: September 24, 2004

EDITION NO.: 1

### MANUFACTURER AND MODEL:

Make: *Niton LLC*Tested Model: *XLp 300*Source:  $^{109}\text{Cd}$ 

Note: This PCS is also applicable to the equivalent model variations indicated below, for the Lead-in-Paint K+L variable reading time mode, in the XLi and XLp series:

XLi 300A, XLi 301A, XLi 302A and XLi 303A.

XLp 300A, XLp 301A, XLp 302A and XLp 303A.

XLi 700A, XLi 701A, XLi 702A and XLi 703A.

XLp 700A, XLp 701A, XLp 702A, and XLp 703A.

Note: The XLi and XLp versions refer to the shape of the handle part of the instrument. The differences in the model numbers reflect other modes available, in addition to Lead-in-Paint modes. The manufacturer states that specifications for these instruments are identical for the source, detector, and detector electronics relative to the Lead-in-Paint mode.

## FIELD OPERATION GUIDANCE

### OPERATING PARAMETERS:

Lead-in-Paint K+L variable reading time mode.

### XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm <sup>2</sup> (inclusive)
---

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm<sup>2</sup> in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm<sup>2</sup> film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds.

### SUBSTRATE CORRECTION:

For XRF results using Lead-in-Paint K+L variable reading time mode, substrate correction is not needed for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

### INCONCLUSIVE RANGE OR THRESHOLD:

K+L MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm <sup>2</sup> )
Results not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0



## BACKGROUND INFORMATION

### EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted in August 2004 on 133 testing combinations. The instruments that were used to perform the testing had new sources; one instrument's was installed in November 2003 with 40 mCi initial strength, and the other's was installed June 2004 with 40 mCi initial strength.

### OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

### SUBSTRATE CORRECTION VALUE COMPUTATION:

Substrate correction is not needed for brick, concrete, drywall, metal, plaster or wood when using Lead-in-Paint K+L variable reading time mode, the normal operating mode for these instruments. If substrate correction is desired, refer to Chapter 7 of the HUD Guidelines for guidance on correcting XRF results for substrate bias.

### EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use the K+L variable time mode readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family housing a result is defined as the average of three readings. In multifamily housing, a result is a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten re-test XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

**TESTING TIMES:**

For the Lead-in-Paint K+L variable reading time mode, the instrument continues to read until it is moved away from the testing surface, terminated by the user, or the instrument software indicates the reading is complete. The following table provides testing time information for this testing mode. The times have been adjusted for source decay, normalized to the initial source strengths as noted above. Source strength and type of substrate will affect actual testing times. At the time of testing, the instruments had source strengths of 26.6 and 36.6 mCi.

Testing Times Using K+L Reading Mode (Seconds)						
Substrate	All Data			Median for laboratory-measured lead levels (mg/cm <sup>2</sup> )		
	25 <sup>th</sup> Percentile	Median	75 <sup>th</sup> Percentile	Pb < 0.25	0.25 ≤ Pb < 1.0	1.0 ≤ Pb
Wood Drywall	4	11	19	11	15	11
Metal	4	12	18	9	12	14
Brick Concrete Plaster	8	16	22	15	18	16

**CLASSIFICATION RESULTS:**

XRF results are classified as positive if they are greater than or equal to the threshold, and negative if they are less than the threshold.

**DOCUMENTATION:**

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) and QuanTech, Inc., under a contract between MRI and the XRF manufacturer. HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*.

Mr. Eric Booker  
Public Works  
City of Chattanooga  
Development Resource Center  
1250 Market Street, Suite 2100  
Chattanooga, TN 37402

February 5, 2016

Subject: **Greenway Farms Residence Building**  
**5051 Gann Store Road**  
**Hixson, Tennessee**

Dear Mr. Booker,

At your request, Alternative Actions, Inc. made a visit to the building located at Greenway Farms, 5051 Gann Store Road, Hixson, Tennessee to conduct an Indoor Air Quality (IAQ) inspection. There have been on-going issues of excess moisture in the building due to roof leaks and poor drainage around the building. The roof has been repaired after leaking for years. Alternative Actions, Inc. was asked to perform an IAQ inspection to determine the source of odors and the extent of the damage caused by the drainage issues and prior roof leak. The inspection of the main floor was conducted January 7, 2016. The inspection of the basement and crawlspace was made on January 20, 2016.

#### Inspection

Our inspection was first made on the main floor by walking the various rooms looking for visible signs of growth or water intrusion. Ceiling damage that displaced drywall was found in the front foyer (RM-5) and next to the fire place in the crew room (RM-6). Water stains were found in many rooms where the previous roof had leaked. Several walls were found to have water damage on the drywall due to water entering the wall cavities. Microbial growth was found in RM-1, RM-5 and RM-6 that had grown from the back side of the drywall to the finished side. Wall damage was found in RM-1, KIT-1, RM-5, RM-6, RM-7, RM-8, RM-10, RM-13 and RM-14. Using a pinned moisture meter and infra-red camera, walls and ceilings were checked for residual moisture. We found that the drywall was within normal range except for close to the floor level. Readings collected from the floors found slight elevations, primarily being caused by conditions in the crawlspace. The highest of the floor moisture levels was a large rectangular area in RM-3 in front of the rear entry door. Average temperature on the main floor was 67 degrees Fahrenheit. Average relative humidity 42%. Outside temperature on the day of the main floor inspection was 63.9 degrees Fahrenheit. Outside relative humidity was 32.5%.

Our second site visit focused on the basement and crawlspace. Concrete block walls located below grade had elevated moisture. This is primarily being caused by poor drainage around the building. Hydraulic pressure has pushed the foundation wall near the staircase causing a shift in the wall position. The area directly under the rear entry door and into RM-3 is sealed off with no access. It is holding water and is where we have found odors. The crawlspace has a partial vapor barrier. Most of the soil however is uncovered. This is allowing additional moisture to be released in the crawlspace from the soil. It is also helping to provide and support surface microbial growth. Various types of building materials have been left in the crawlspace supporting microbial growth.

Insulation was found missing or damaged from some of the HVAC duct work. This has allowed for condensation to add to the moisture content. Foundation vents are present but there are not enough for natural cross ventilation. The storage rooms have a concrete slab and concrete block walls. The concrete ceiling doubles for parking in the carport. The rooms are not conditioned. The underground portions of the concrete walls have elevated moisture. Temperatures range between 43.7 to 57.2 degrees Fahrenheit. Temperature in the storage room was 50.4 degrees Fahrenheit. Outside temperature during the crawlspace and basement inspection was 31.7 degrees Fahrenheit. Outside relative humidity was 96.5%. At the time of the inspection there was a mixture of rain, sleet and occasional snow.

Moisture readings were collected from the floor joists and box beams. They were slightly elevated reading on average 16% - 18%. Insulation was missing in many areas between floor joists. Most of the soil, except for directly at the concrete block walls were dry the day of the inspection.

### Testing

Air samples are used to determine elevated spore counts within an environment. These readings are compared with the other air samples including the exterior which represent naturally occurring spore counts. The activity level and species are used to aid in determining the severity and potential for human reactions.

Air samples were collected from the following on the main floor: one (1) RM-1, one (1) RM-3, one (1) RM-5, one (1) RM-6, one (1) RM-7, one (1) RM-13 and one (1) from the exterior. The exterior sample was collected to establish a baseline of naturally occurring mold. The air samples, using Micro 5 samplers, were collected to determine if elevated levels were present at the time of the inspection. These are non-viable samples.

Air samples were collected from the following from the basement/crawlspace: one (1) crawlspace B side, one (1) crawlspace middle, one (1) crawlspace by void, one (1) crawlspace D side, one (1) storage room, one (1) crawlspace C side and one (1) from the exterior. The exterior sample was collected to establish a baseline of naturally occurring mold. The air samples, using Micro 5 samplers, were collected to determine if elevated levels were present at the time of the inspection. These are non-viable samples.

These are non-viable samples and are not typically cultured. The Micro 5 air samples are non-viable air samples that represent the immediate airborne type (species) and air concentration of the spores. The samples are used for evaluating the extent and level of microbial growth and contamination. They also form the basis for the clearance sampling, if required.

The non-viable Micro 5 samplers give airborne concentration of individual spores, alive and dead. This form of sampler has particle collection efficiency  $\approx 95$  @  $1 \mu\text{m}$ . This is used, sometimes in conjunction with bulk samples and/ or tape samples, to detect Mycotoxin Molds, which often do not appear in cultured viable samples. Based on years of testing, it is generally accepted by the inspectors and IH professionals for the purpose of clearance after remedial work, airborne concentrations  $>2,000$  Spores/ $\text{m}^3$  of any species of mold is considered to be elevated and will require some form of remedial action. For pre-job evaluations, air sample concentrations are statistically factored

compared to exterior conditions to determine what is natural and which areas might be elevated.

### Sample Results

A total of six interior samples were collected from the main floor and one outside for comparison. A total of six samples were collected from the crawlspace and storage room in the basement plus an outside sample for comparison. Samples are used to help evaluate the building and microbial activity. The samples, once collected and logged were sent to a third party laboratory by Federal Express overnight service. Sample results for the micro-5 air samples were e-mailed to our office. The samples are used to determine the type of mold/bacteria present, activity level and whether the mold / bacteria is active or dormant. Corrective actions vary depending upon the type and activity level. In some cases, special protective measures must be taken to protect the health of the occupants and workers. This is particularly true when dealing with "Mycotoxin Molds" and "Pathogenic Molds" which have been positively linked to adverse and serious health conditions.

See attached "Air Sample Comparison Sheet" for additional details.

### Air Samples

All air samples collected on the main floor found "Allergenic Molds" to be present. The samples inside are low and below the levels typically used for clearances after remediation.

Air samples collected from the basement and crawlspace were found to be elevated above normal levels. Most of the spores found were "Allergenic Molds". Stachybotrys however, a Mycotoxin Mold" was found to be present in all but one of the crawlspace samples.

The higher concentration in the basement and crawlspace is due to the additional supporting moisture, lack of vapor barrier and poor circulation. Spores get pulled or pushed in by the wind but cannot easily move out of the crawlspace through the foundation vents. Allergenic molds are normally not dangerous in low to mid range amounts of up to 20 CFUs of common allergenic species for viable samples and <2000 Spores/m<sup>3</sup> for non-viable samples. Above these levels they can cause allergic or asthmatic systems such as wheezing and runny nose. These molds can typically be controlled with proper cleaning of surfaces, use of special biocides or use of other gasses such as ozone. These are the most common, naturally occurring types of mold. They are always present in the outside air as individual spores and easily enter dwellings and buildings. There are no acceptable levels for Mycotoxin molds. All inside air samples are considered to be elevated.

Active mold growth in indoor environments may lead to adverse health effects. The presence of mold on building materials does not necessitate that people will be exposed or exhibit health effects. In order for humans to be exposed indoors, fungal spores, fragments or metabolites must be released into the air and inhaled, physically contacted (dermal exposure) or ingested. Whether or not symptoms develop in people from exposure to mold depends on the nature of the fungal susceptibility of the exposed

persons. Susceptibility varies with the genetic predisposition (e.g. allergic reactions do not always occur in all individuals), age, state of health and concurrent exposures.

Since mold is naturally present in outdoor environments and we share the same air between the indoors and the outdoors, it is impossible to eliminate all mold spores but, the mold colonies, which is what makes people sick and causes property damage, can be controlled by stopping the water intrusion and lowering relative humidity to the point where interior conditions cannot support mold growth.

## **Conclusion**

Based on the visual inspection, readings taken during the inspection and sample results, it is Alternative Actions, Inc.'s opinion that the microbial activity on the main level is currently stopped. The primary cause, the leaking roof, has been replaced. No signs of active water leaks were found. Temperature and relative humidity on the main floor will not support surface growth. When mold colonies lose the moisture required for continued growth they either die or go dormant awaiting the next moisture event. The roof leaks were long term. Affected drywall, including the areas of water staining, need to be removed and replaced. This helps to remove the dormant spores. The remedial work will have to be performed in conjunction with asbestos removal. The spray texture has been found to contain asbestos and the removal is regulated by EPA and OSHA. The spray texture removal will have to be performed in a containment environment with engineering controls. The work will have to be performed by an abatement contractor with State accreditations for the firm, supervisor and workers.

The crawlspace and basement rooms are being influenced by water intrusion through the foundation block. This intrusion is driven by hydraulic pressure outside being pushed through the block. If a French drain is present, it has failed. The hydraulic pressure has damaged one portion of the foundation wall along the kitchen. There is also a rectangular section of foundation extending into the crawlspace with no access that is full of moisture. With no access and no ventilation, the evaporation of the moisture is supporting microbial growth under the floor in this area. The area in question is noted on the attached drawing as the area where flooring will need to be removed. Other moisture sources include improper vapor barrier, lack of air movement, missing insulation between the floor joists and damaged or missing HVAC duct insulation. Gutters and downspouts are damaged. The rainwater is being discharged at the building adding additional water sitting against the building.

The following recommendations have been prepared to address the microbial issues and moisture intrusion issues. The moisture issues must be addressed and corrected in order to make the remedial actions permanent. The work will require a combination of specialty contractors and City maintenance. The asbestos spray texture requires an abatement contractor to remove the spray texture where work needs to be performed. For OSHA purposes, it is recommended to have the asbestos abatement contractor remove the drywall as well since the joint compound contains some fibers. The cleaning of the framing on the main floor, cleaning of the crawlspace with HEPA vacuums and an approved biocide and the installation of a proper vapor barrier should be performed by a mold remediation company. The containment required for the floor removal at the back double door area will need to be made by the IAQ contractor. The odor noticed and elevated moisture are in this area. It is expected to have active microbial growth under the floor. The French drain, tree removal, gutter and downspout repairs and

replacement of drywall removed during abatement can be performed by a GC or City workers. Repair of the foundation wall will need to be by a specialty company.

## **Recommendations**

### **Interior**

To be performed either in conjunction with the asbestos abatement or after the asbestos abatement has been completed and cleared.

- 1) Isolate areas where drywall will need to be removed from the walls and ceiling as indicated on the attached main floor remedial drawing. Use engineering controls to establish a slightly negative pressure environment.
- 2) Remove wood trim, shelves, etc. in order to access the drywall to be removed. Clean wood items to be saved using HEPA vacuums and an approved biocide.
- 3) Remove and bag drywall material. Bags will need to be taped off before leaving the work area to control dust and mold spores. Discard any insulation encountered. Removal of drywall will need to be the area of water intrusion and or growth plus 2' in each direction to ensure all affected materials are removed.
- 4) Clean all framing and remaining finishes in the area using HEPA vacuums and an approved biocide. Stained wood will need to be sanded to new wood finish to remove embedded microbial growth. Water damaged wood should be cut out and replaced. Do not use any form of a sealant.
- 5) Check moisture content of all remaining framing or finishes left in work area. All materials will need to be dried, if necessary, to a moisture content of 12% or less.
- 6) The rectangular area in front of the rear double doors will need to be removed as noted on the attached drawing. This area will need to be isolated from other areas within the building. Debris can exit out the rear double doors. Once the flooring and subflooring is removed, evaluate the framing, box beam and door threshold for water damage, rot and microbial growth. Dry or replace framing as necessary. Framing components will need to be dried to 12% moisture content or less. Clean framing using HEPA vacuums and an approved biocide.
- 7) While the floor is open, an evaluation will need to be made to determine why this area is sealed off. A drainage plan will need to be developed which will probably require a vapor barrier being installed within the rectangle.
- 8) Areas of removal will require ozone treatment as a final cleaning step. The use of ozone does not replace proper cleaning.
- 9) Work areas will require air clearance to ensure spore counts are returned to a safe and natural level after the remediation.

## **Basement/Crawlspace**

- 1) Remove construction and stored debris.
- 2) Remove insulation from between floor joists.
- 3) Repair fiberglass duct insulation.
- 4) Install proper vapor barrier. Vapor barrier should be a minimum of 6-mil in thickness. Do not use clear polyethylene. Run vapor barrier up walls and piers 1'. Mechanically fasten the vapor barrier. Overlap seams and sections by 2'. Use spray glue and 3" duct tape. No soil can be exposed.
- 5) Clean floor joists and exposed surfaces using HEPA vacuums and an approved biocide.
- 6) Dry floor joists to 12% or less moisture content.
- 7) Treat crawlspace with ozone for 48 hours.
- 8) Install additional vents to aide in natural ventilation.

## **Rectangular Enclosed Area**

Inside the crawlspace is a rectangular area of block wall with no access. At a minimum, drainage needs to be installed to keep the area from building up excess moisture. A structural engineer will need to look at the walls to determine if they actually have a purpose or are left over from a previous house configuration. If possible it is best to remove the two side walls allowing for natural airflow under the that portion of the main floor.

## **Foundation Repair Foundation Wall**

A section of foundation wall near the kitchen has been pushed by hydraulic water pressure and possibly tree roots. This is a structural issue. It will need to be corrected to stop water intrusion and protect the structure. This repair needs to be performed at the same time as the installation of the French drain.

## **Outside**

- 1) A proper French drain will need to be installed to take the hydraulic pressure off the building. The attached drawing indicates where the French drain will need to be installed and drained. The drains run along the bedroom side, the back of the building and carport. The drain system needs to be installed at the footer level. Use hard pipe instead of corrugated. Corrugated piping has a shorter life and is difficult to clean even with cleanouts installed. Holes should be drilled in the top half of the piping for water to enter. If installed properly with cleanouts, it can be maintained possibly for a lifetime. You may need a design to be prepared to insure proper installation.

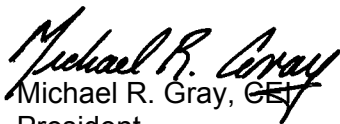


- 2) The roots of the tree, at a minimum, will need to be cut to make room for the French drain. The roots are also suspected to have contributed to the broken foundation wall. Often, trees will die from the roots being cut. Cutting down the two trees should be considered.
- 3) Gutters and downspouts need to be repaired. Downspout discharge should be at least 6' from the building. Due to location, it is probably better to tie into the French drain system. If you do combine, increase the French drain pipe size to 6" diameter.
- 4) The foundation vents are at or below grade. They need access to more air. Install metal or concrete foundation vent wells. Gravel pits need to be in the bottom for drainage. A slotted or grated cover can be used to keep leaves out of the well. Covers will need to be kept clean to allow for maximum air flow.

**Limit of Liability:** Every attempt has been made to identify locations and sources that may contribute to indoor air quality problems. Our report is a snap-shot of the conditions found during the evaluation. The owner, insurance carrier and or contractor should understand that conditions can change based on the amount of time allowed to transpire after the evaluation. Alternative Actions, Inc. performed a non-destructive evaluation of the property. Walls and floors were not dislodged, pulled up or otherwise disturbed during the evaluation. The owner, insurance carrier and or contractor should contact Alternative Actions if suspect materials or additional scope is encountered for evaluation. Alternative Action's liability is no more than the amount paid for the evaluation.

Should you have any questions, please contact me at (423) 843-0773.

Sincerely,

  
Michael R. Gray, ~~CEO~~  
President

Attachments: Spore Comparison Sheet  
Sample Location Drawings  
Lab Results

Project No.: AAI-4545A

**Alternative Actions, Inc.  
Spore Count Sheet**

Collected : 1/07/2016

Cassettes: Micro 5

Air Volume: 25 L

Location: Main Floor - Greenway Farms  
Hixson, Tennessee

	4545-01	4545-02	4545-03	4545-04	4545-05	4545-06	4545-07	Difference
	RM-1	RM-3	RM-5	RM-6	RM-7	RM-13	Outside	Inside/ Outside
Cladosporium			160	80	520	40	80	440
Peronospora/Oidium	80							80
Penicillium/Aspergillus		120	800	40	160	600	80	720
Aureobasidium						40		40
Pithomyces							40	
Smuts, Periconia, Myxomycetes				80	80		40	40
Trichocladium					40			40
Total Spore Count	80	120	960	200	800	680	240	1,360

Note A: No known human health relationship to ascospores or basidiospores.  
Both are readily found in nature.

Comparison is of inside living area compared to outside naturally occurring.

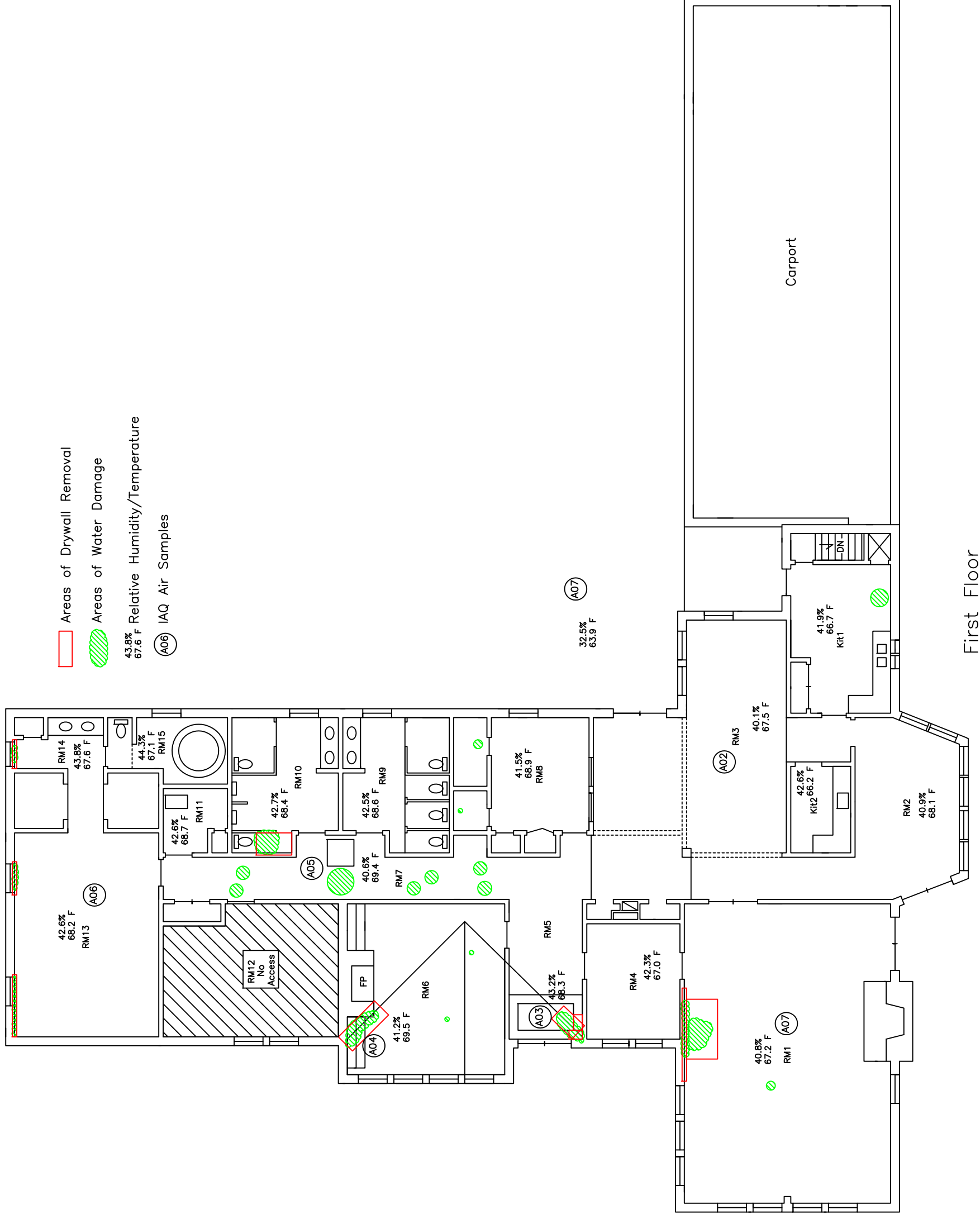
Location: Basement/Crawlspace - Greenway Farms  
Hixson, Tennessee

	4545-08	4545-09	4545-10	4545-11	4545-12	4545-13	4545-14	Difference
	Crawlspace B	Crawlspace Mid	Crawlspace Void	Crawlspace D	Storage	Crawlspace C	Outside	Inside/ Outside
Cladosporium	360	880	440	1,300	200	640	120	1,180
Peronospora/Oidium	40							40
Penicillium/Aspergillus	7,200	9,200	20,000	5,400	12,000	3,200	280	19,720
Alternaria	80	120	40					120
Aureobasidium	40		40			80	40	40
Drechslera/Bipolaris			80					80
Arthrinium					40		40	
Curvularia		120	40	200		40		200
Stachybotrys		160	80	120		80		160
Torula						40		40
Cheatomium	240	2,200	1,400	160		160	40	2,160
Pithomyces	200	40		80				200
Epicoccum	160	240	160			40		240
Pestalotia			80					80
Nigrospora			40					40
Spegazzinia	40	40	40	240				240
Smuts, Periconia, Myxomycetes	1,200	960	1,600	2,700	120	600	80	2,620
Taeniolella		40						40
Bispora				40				40
Trichocladium			80					80
<b>Total Spore Count</b>	<b>9,560</b>	<b>14,000</b>	<b>24,120</b>	<b>10,240</b>	<b>12,360</b>	<b>4,880</b>	<b>600</b>	<b>27,320</b>

Note A: No known human health relationship to ascospores or basidiospores.  
Both are readily found in nature.

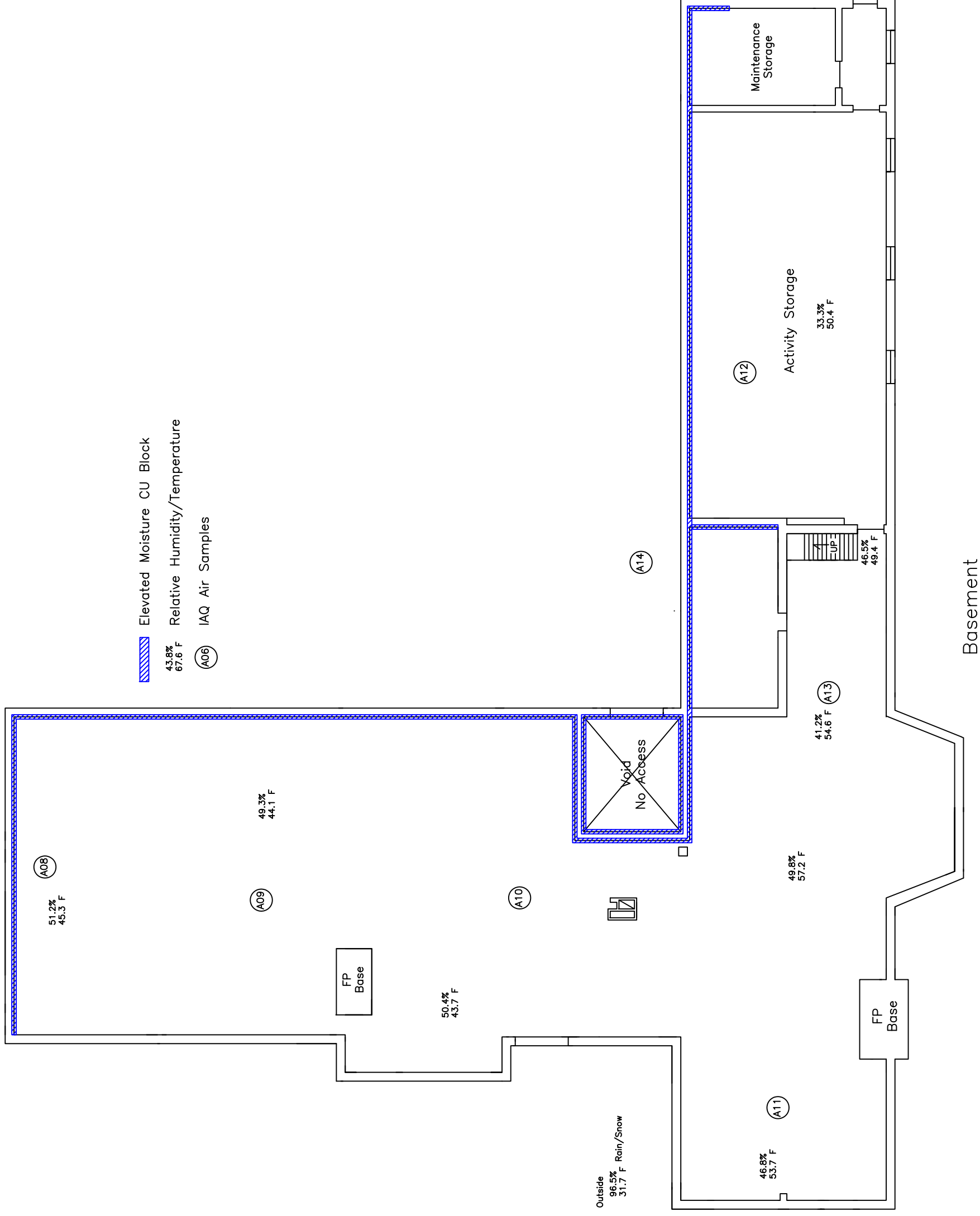
Comparison is of inside living area compared to outside naturally occurring.

Greenway Farms Residence Building  
 5051 Gann Store Road  
 Hixson, Tennessee



First Floor

Greenway Farms Residence Building  
5051 Gann Store Road  
Hixson, Tennessee

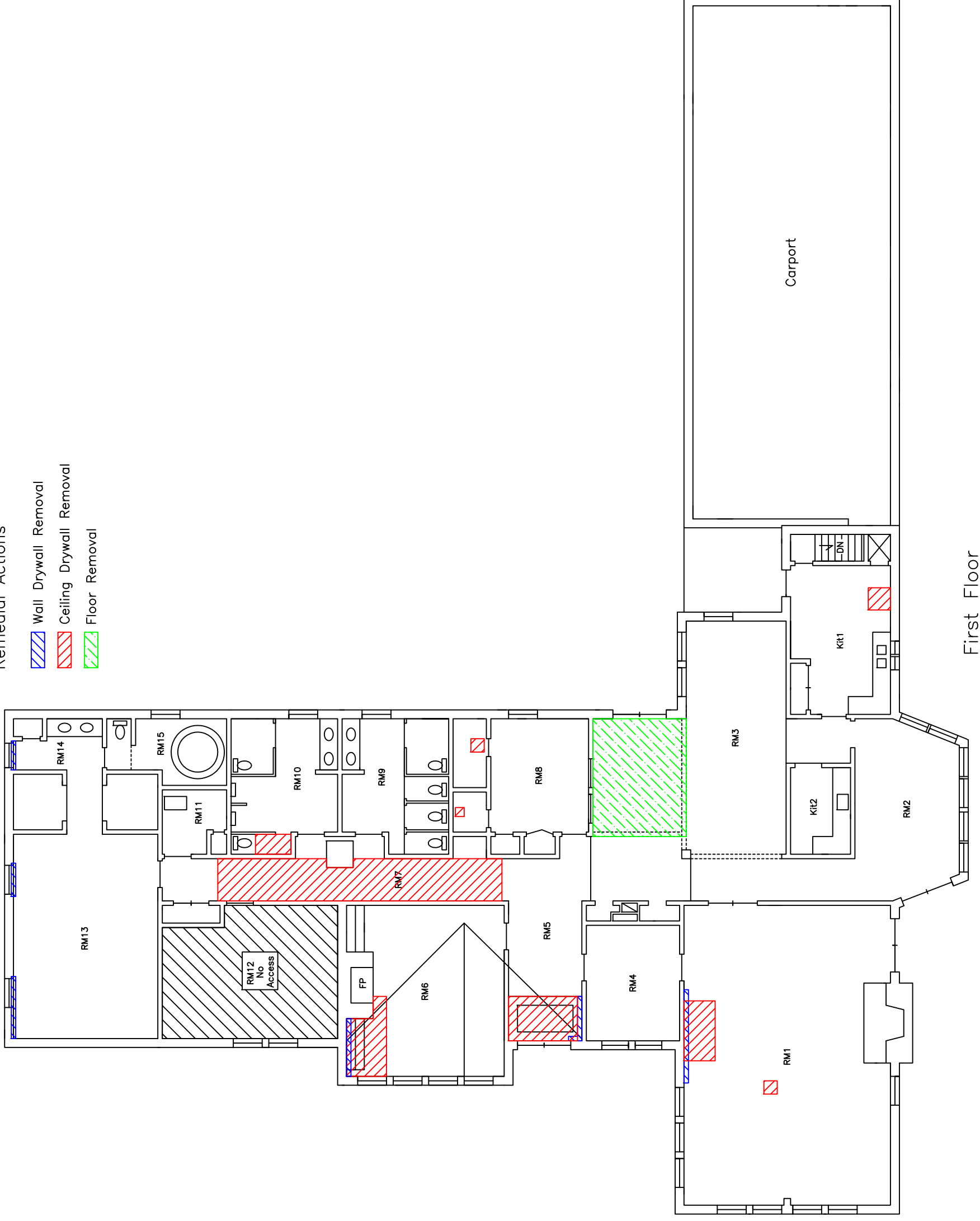


Basement

Greenway Farms Residence Building  
5051 Gann Store Road  
Hixson, Tennessee

Remedial Actions



- Wall Drywall Removal
- Ceiling Drywall Removal
- Floor Removal



First Floor

Greenway Farms Residence Building  
 5051 Gann Store Road  
 Hixson, Tennessee

Remedial Actions

-  True French Drain System
-  True Vapor Barrier

Repair gutters and downspouts. Connect downspouts to French drainage system. No surface discharge.

Repair or replace HVAC duct insulation and ensure proper seal at joints and penetrations. Clean HVAC system.

Remove insulation between floor joists. Replace.

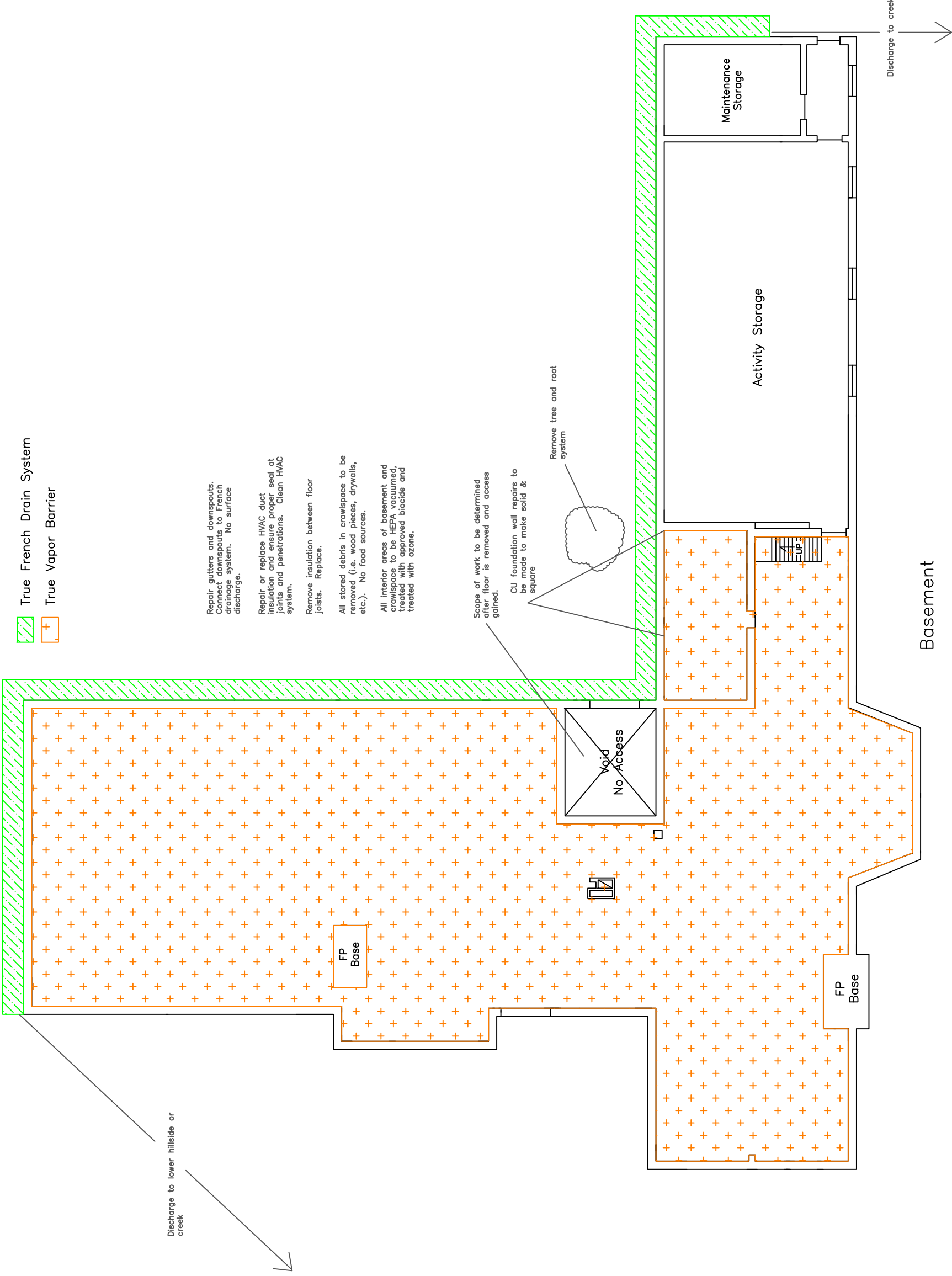
All stored debris in crawlspace to be removed (i.e. wood pieces, drywalls, etc.). No food sources.

All interior areas of basement and crawlspace to be HEPA vacuumed, treated with approved biocide and treated with ozone.

Scope of work to be determined after floor is removed and access gained.

CU foundation wall repairs to be made to make solid & square

Remove tree and root system



Basement



# Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.  
7469 Whitepine Rd  
Richmond, VA 23237

Report Number: 16-01-00687

Telephone: 800.347.4010

Received Date: 01/08/2016

Client: Alternative Actions Inc.  
7505 Middle Valley Rd. Ste 113  
Hixson, TN 37343

Analyzed Date: 01/12/2016

Reported Date: 01/12/2016

Project/Test Address: AAI-4545; Chattanooga, TN

Client Number:

44-1169

Fax Number:

423-843-9526

## Laboratory Results

Lab # :	16-01-00687-007	16-01-00687-001	16-01-00687-002	16-01-00687-003	16-01-00687-004					
Client Sample ID :	4545-07	4545-01	4545-02	4545-03	4545-04					
Date Collected :	01/07/2016	01/07/2016	01/07/2016	01/07/2016	01/07/2016					
Collection Location :	OUTSIDE	RM-1	RM-3	RM-5	RM-6					
Sampling Media :	Micro5	Micro5	Micro5	Micro5	Micro5					
Analytical Sensitivity (spores/m3) :	40	40	40	40	40					
Volume (L) :	25	25	25	25	25					
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores	2	80					4	160	2	80
Peronospora/Oidium spores			2	80						
Penicillium/Aspergillus group spores	2	80			3	120	20	800	1	40
Pithomyces spores	1	40								
smuts, Periconia, myxomycetes	1	40							2	80
<b>TOTAL SPORES(Spores/m3)</b>	240		80		120		960		200	
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	





# Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.  
7469 Whitepine Rd  
Richmond, VA 23237

Telephone: 800.347.4010

Client: Alternative Actions Inc.  
7505 Middle Valley Rd. Ste 113  
Hixson, TN 37343

Report Number: 16-01-00687

Received Date: 01/08/2016

Analyzed Date: 01/12/2016

Reported Date: 01/12/2016

Project/Test Address: AAI-4545; Chattanooga, TN

Client Number:

44-1169

## Laboratory Results

Fax Number:

423-843-9526

Lab # :	16-01-00687-007	16-01-00687-005	16-01-00687-006							
Client Sample ID :	4545-07	4545-05	4545-06							
Date Collected :	01/07/2016	01/07/2016	01/07/2016							
Collection Location :	OUTSIDE	RM-7	RM-13							
Sampling Media :	Micro5	Micro5	Micro5							
Analytical Sensitivity (spores/m3) :	40	40	40							
Volume (L) :	25	25	25							
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores	2	80	13	520	1	40				
Penicillium/Aspergillus group spores	2	80	4	160	15	600				
Aureobasidium spores					1	40				
Pithomyces spores	1	40								
smuts, Periconia, myxomycetes	1	40	2	80						
Trichocladium spores			1	40						

TOTAL SPORES(Spores/m3)

240

800

680

Analyst:

Felicia Butler

Felicia Butler

Felicia Butler

**Sample Narratives:**

(Sample 005) M02: Large amounts of particulate observed.

# Environmental Hazards Services, L.L.C

Client Number: 44-1169  
Project/Test Address: AAI-4545; Chattanooga, TN

Report Number: 16-01-00687

Method: Non-Culturable Spore Trap Examination

Reviewed By Authorized Signatory:



---

Laura Carson  
Microbiology Lab Technical  
Manager

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Sample location, description, volume, etc., was provided by the client. The Client is hereby notified that due to the subjective nature of fungal analysis and the growth process of fungal infestation, laboratory samples can and do change over time relative to the originally sampled material. This report shall not be reproduced except in full, without the written consent of Environmental Hazards Services, L.L.C.



# Air Report Summary

Environmental Hazards Services, L.L.C.  
7469 Whitepine Rd  
Richmond, VA 23237  
Telephone: 800.347.4010

Project/Test Address: AAI-4545; Chattanooga, TN  
Client Number: 44-1169  
Report Number: 16-01-00687

This summary is based on the results obtained by Environmental Hazards Services for the samples taken at the above Project/Test Address. For details such as mold type and spore counts, please see the Report Number listed above. Environmental Hazards Services is a laboratory only, and this summary in no way constitutes a remediation plan. The test(s) performed is/are designed to give a "picture-in-time"; results and conditions in the property may change in the future. If the testing was performed as a result of the property currently experiencing a water infiltration or moisture problem, the source of the problem should be corrected immediately. The Environmental Protection Agency recommends that any indoor mold growth be addressed and all water or moisture sources be eliminated.

Sample Number	Location	Sample Type	Unusual Mold Condition(s) Exist
16-01-00687-001	RM-1	Mold Air	No
16-01-00687-002	RM-3	Mold Air	No
16-01-00687-003	RM-5	Mold Air	Yes
16-01-00687-004	RM-6	Mold Air	No
16-01-00687-005	RM-7	Mold Air	No
16-01-00687-006	RM-13	Mold Air	No

### Unusual Mold Condition(s) Explanation

- Yes** One or more of the samples in the table above indicate the presence of elevated indoor mold spores or colonies for these specific locations only. Professional advice will be necessary to determine the appropriate actions to take to correct the conditions indicated. The information in your report and this summary may be used by an Industrial Hygienist or an Indoor Air Quality professional to assist in the determination of necessary actions.
- No** The samples in the table above do not indicate the presence of elevated indoor mold spores or colonies for these specific locations only.

The recommendations found in this summary are based on accepted industry standards develop by the American Conference of Governmental Industrial Hygienists (ACGIH), the EPA, and the New York City Department of Health.<sup>1</sup>

For further information, please visit our website at [www.leadlab.com](http://www.leadlab.com)

<sup>1</sup>Reference material includes the ACGIH publication : "Bioaerosols: Assessment and Control", the EPA publication: " Mold Remediation in Schools and Commercial Buildings", and the New York Department of Health publication: "Guidelines on Assessment and Remediation of Fungi in Indoor Environments"

Summary reports are generated by Environmental Hazards Services, LLC at the request of, and for the exclusive use of, the person or entity (client) named on this report. Reports or copies of same will not be released by Environmental Hazards Services, LLC to any third party without the prior express written consent from the client named in this report. This report applies only to those samples taken at the time, place and location references by the client. This report was designed by Environmental Hazards Services, LLC following current industry guidelines for the interpretation of microbial sampling and analysis. Interpretation of these parameters is a scientific work in progress and may as such be changed at any time without notice. This report makes no express or implied warranty or guarantee as to the sampling methodology used by the client. The client is solely responsible for the use and interpretation of these test results. Environmental Hazards Services, LLC makes no express or implied warranties as to such use or interpretation.



# Mold Spore Descriptions

Environmental Hazards Services, L.L.C.

7469 Whitepine Rd  
Richmond, VA 23237

Telephone: 800.347.4010

Project/Test Address: AAI-4545; Chattanooga, TN

Client Number: 44-1169

Report Number: 16-01-00687

Section 2: The following fungal descriptions are pertinent to the indoor samples collected. General characterization of mold is made with respect to their most common impact to human health. Many genera of molds have species with varying characteristics.

Spore Name	Description
Cladosporium spores	Reported to be allergenic. Most commonly identified spore in outdoor samples. Highly seasonal. Indoor species may differ from outdoor species. Typically found inside supply ducts.
Peronospora/Oidium spores	No information regarding the health effects of this genus is available at this time. All mold should be treated as potential allergens.
Penicillium/Aspergillus group spores	Reported to be allergenic. Many species have been documented to produce mycotoxins, which may be associated with pulmonary disease in humans and other animals. Research studies have implicated several of these toxins as carcinogens in laboratory animals following inhalation. A wide number of organisms have been grouped into these two genera. Extremely difficult to identify down to species level. Typically identified in soil, cellulose, food, paint, compost piles, carpeting, wallpaper and in the fiberglass insulation used in interior ductwork.
Aureobasidium spores	Reported to be allergenic. Commonly found in high moisture areas such as bathrooms and kitchens. Rarely associated with skin disorders.
Pithomyces spores	Reported to be allergenic. Some species may, in rare instances, produce the toxin sporidesmin.
smuts, Periconia, myxomycetes	Reported to be allergenic. This class of fungal spores is most often related to agriculture and plant disease and is rarely found indoors.
Bispora spores	No information regarding the health effects of this genus is available at this time. All molds should be treated as potential allergens.
Trichocladium spores	Reported to be allergenic. No additional health data for this genus is available at this time.

Summary reports are generated by Environmental Hazards Services, LLC at the request of and for the exclusive use of the person or entity (client) named on this report. Results, reports or copies of same will not be released by Environmental Hazards Services, LLC to any third party without the prior express written consent from the client named in this report. This report applies only to those samples taken at the time, place and location referenced by the client. This report was designed by Environmental Hazards Services, LLC following current industry guidelines for the interpretation of microbial sampling and analysis. Interpretation of these parameters is a scientific work in progress and may as such be changed at any time without notice. This report makes no express or implied warranty or guarantee as to the sampling methodology used by the client. The client is solely responsible for the use and interpretation of these results. Environmental Hazards Services, LLC makes no express or implied warranties as to such use of interpretation.



# Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.  
7469 Whitepine Rd  
Richmond, VA 23237

Report Number: 16-01-02160

Telephone: 800.347.4010

Received Date: 01/21/2016

Client: Alternative Actions Inc.  
7505 Middle Valley Rd. Ste 113  
Hixson, TN 37343

Analyzed Date: 01/21/2016

Reported Date: 01/21/2016

Project/Test Address: AAI-4545; Chattanooga, TN

Client Number:

44-1169

Fax Number:

423-843-9526

## Laboratory Results

Lab # :	16-01-02160-007	16-01-02160-001	16-01-02160-002	16-01-02160-003	16-01-02160-004					
Client Sample ID :	4545-14	4545-08	4545-09	4545-10	4545-11					
Date Collected :	01/20/2016	01/20/2016	01/20/2016	01/20/2016	01/20/2016					
Collection Location :	OUTSIDE	CRAWLSPACE B	CRAWLSPACE MID	CRAWLSPACE VOID	CRAWLSPACE D					
Sampling Media :	Micro5	Micro5	Micro5	Micro5	Micro5					
Analytical Sensitivity (spores/m3) :	40	40	40	40	40					
Volume (L) :	25	25	25	25	25					
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores	3	120	9	360	22	880	11	440	33	1300
Peronospora/Oidium spores			1	40						
Penicillium/Aspergillus group spores	7	280	180	7200	229	9200	203	20000	135	5400
Alternaria spores			2	80	3	120	1	40		
Aureobasidium spores	1	40	1	40			1	40		
Drechslera/Bipolaris group spores							2	80		
Arthrinium spores	1	40								
Curvularia spores					3	120	1	40	5	200
Stachybotrys spores					4	160	2	80	3	120
Chaetomium spores	1	40	6	240	56	2200	36	1400	4	160
Pithomyces spores			5	200	1	40			2	80
Epicoccum spores			4	160	6	240	4	160		
Pestalotia spores							2	80		
Nigrospora spores							1	40		
Spegazzinia spores			1	40	1	40	1	40	6	240
smuts, Periconia, myxomycetes	2	80	30	1200	24	960	40	1600	67	2700
Taeniolella spores					1	40				

# Environmental Hazards Services, L.L.C

Client Number: 44-1169

Report Number: 16-01-02160

Project/Test Address: AAI-4545; Chattanooga, TN

Lab # :	16-01-02160-007		16-01-02160-001		16-01-02160-002		16-01-02160-003		16-01-02160-004	
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Bispora spores									1	40
Trichocladium spores							2	80		

TOTAL SPORES(Spores/m3) 600 9600 14000 24000 10000

Analyst: Felicia Butler Killian Laudenbach Killian Laudenbach Killian Laudenbach Felicia Butler



# Non-Viable Spore Trap Analysis Report

Environmental Hazards Services, L.L.C.  
7469 Whitepine Rd  
Richmond, VA 23237

Report Number: 16-01-02160

Telephone: 800.347.4010

Received Date: 01/21/2016

Client: Alternative Actions Inc.  
7505 Middle Valley Rd. Ste 113  
Hixson, TN 37343

Analyzed Date: 01/21/2016

Reported Date: 01/21/2016

Project/Test Address: AAI-4545; Chattanooga, TN

Client Number:

44-1169

## Laboratory Results

Fax Number:

423-843-9526

Lab # :	16-01-02160-007	16-01-02160-005	16-01-02160-006							
Client Sample ID :	4545-14	4545-12	4545-13							
Date Collected :	01/20/2016	01/20/2016	01/20/2016							
Collection Location :	OUTSIDE	STORAGE	CRAWLSPACE C							
Sampling Media :	Micro5	Micro5	Micro5							
Analytical Sensitivity (spores/m3) :	40	40	40							
Volume (L) :	25	25	25							
Spore ID	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)	Raw Count	Results (Spores/m3)
Cladosporium spores	3	120	5	200	16	640				
Penicillium/Aspergillus group spores	7	280	305	12000	156	6200				
Aureobasidium spores	1	40			2	80				
Arthrimum spores	1	40	1	40						
Curvularia spores					1	40				
Stachybotrys spores					2	80				
Torula spores					1	40				
Chaetomium spores	1	40			4	160				
Epicoccum spores					1	40				
smuts, Periconia, myxomycetes	2	80	3	120	15	600				

TOTAL SPORES(Spores/m3)

600

13000

7900

Analyst:

Felicia Butler

Felicia Butler

Felicia Butler

# Environmental Hazards Services, L.L.C

Client Number: 44-1169  
Project/Test Address: AAI-4545; Chattanooga, TN

Report Number: 16-01-02160

## Sample Narratives:

---

- (Sample 001) M02: Large amounts of particulate observed.
- (Sample 002) M03: Substantial amount of particulate observed, counts may be underestimated.
- (Sample 003) M08: Substantial amount of particulate observed, counts may be underestimated. Due to the high number of Penicillium/Aspergillus spores, a partial trace was analyzed for these spores. The analytical sensitivity for these spores on this sample is 100 spores/m3.
- (Sample 004) M03: Substantial amount of particulate observed, counts may be underestimated.
- (Sample 006) M02: Large amounts of particulate observed.

Method: Non-Culturable Spore Trap Examination

Reviewed By Authorized Signatory:



---

Felicia Butler  
Microbiology Analyst

The condition of the samples analyzed was acceptable upon receipt per laboratory protocol unless otherwise noted on this report. Results represent the analysis of samples submitted by the client. Sample location, description, volume, etc., was provided by the client. The Client is hereby notified that due to the subjective nature of fungal analysis and the growth process of fungal infestation, laboratory samples can and do change over time relative to the originally sampled material. This report shall not be reproduced except in full, without the written consent of Environmental Hazards Services, L.L.C.





# Air Report Summary

Environmental Hazards Services, L.L.C.  
7469 Whitepine Rd  
Richmond, VA 23237  
Telephone: 800.347.4010

Project/Test Address: AAI-4545; Chattanooga, TN  
Client Number: 44-1169  
Report Number: 16-01-02160

This summary is based on the results obtained by Environmental Hazards Services for the samples taken at the above Project/Test Address. For details such as mold type and spore counts, please see the Report Number listed above. Environmental Hazards Services is a laboratory only, and this summary in no way constitutes a remediation plan. The test(s) performed is/are designed to give a "picture-in-time"; results and conditions in the property may change in the future. If the testing was performed as a result of the property currently experiencing a water infiltration or moisture problem, the source of the problem should be corrected immediately. The Environmental Protection Agency recommends that any indoor mold growth be addressed and all water or moisture sources be eliminated.

Sample Number	Location	Sample Type	Unusual Mold Condition(s) Exist
16-01-02160-001	CRAWLSPACE B	Mold Air	Yes
16-01-02160-002	CRAWLSPACE MID	Mold Air	Yes
16-01-02160-003	CRAWLSPACE VOID	Mold Air	Yes
16-01-02160-004	CRAWLSPACE D	Mold Air	Yes
16-01-02160-005	STORAGE	Mold Air	Yes
16-01-02160-006	CRAWLSPACE C	Mold Air	Yes

### Unusual Mold Condition(s) Explanation

Yes One or more of the samples in the table above indicate the presence of elevated indoor mold spores or colonies for these specific locations only. Professional advice will be necessary to determine the appropriate actions to take to correct the conditions indicated. The information in your report and this summary may be used by an Industrial Hygienist or an Indoor Air Quality professional to assist in the determination of necessary actions.

The recommendations found in this summary are based on accepted industry standards develop by the American Conference of Governmental Industrial Hygienists (ACGIH), the EPA, and the New York City Department of Health.<sup>1</sup>

For further information, please visit our website at [www.leadlab.com](http://www.leadlab.com)

<sup>1</sup>Reference material includes the ACGIH publication : "Bioaerosols: Assessment and Control", the EPA publication: " Mold Remediation in Schools and Commercial Buildings", and the New York Department of Health publication: "Guidelines on Assessment and Remediation of Fungi in Indoor Environments"

Summary reports are generated by Environmental Hazards Services, LLC at the request of, and for the exclusive use of, the person or entity (client) named on this report. Reports or copies of same will not be released by Environmental Hazards Services, LLC to any third party without the prior express written consent from the client named in this report. This report applies only to those samples taken at the time, place and location references by the client. This report was designed by Environmental Hazards Services, LLC following current industry guidelines for the interpretation of microbial sampling and analysis. Interpretation of these parameters is a scientific work in progress and may as such be changed at any time without notice. This report makes no express or implied warranty or guarantee as to the sampling methodology used by the client. The client is solely responsible for the use and interpretation of these test results. Environmental Hazards Services, LLC makes no express or implied warranties as to such use or interpretation.



# Mold Spore Descriptions

Environmental Hazards Services, L.L.C.

7469 Whitepine Rd  
Richmond, VA 23237

Telephone: 800.347.4010

Project/Test Address: AAI-4545; Chattanooga, TN

Client Number: 44-1169

Report Number: 16-01-02160

Section 2: The following fungal descriptions are pertinent to the indoor samples collected. General characterization of mold is made with respect to their most common impact to human health. Many genera of molds have species with varying characteristics.

Spore Name	Description
Cladosporium spores	Reported to be allergenic. Most commonly identified spore in outdoor samples. Highly seasonal. Indoor species may differ from outdoor species. Typically found inside supply ducts.
Peronospora/Oidium spores	No information regarding the health effects of this genus is available at this time. All mold should be treated as potential allergens.
Penicillium/Aspergillus group spores	Reported to be allergenic. Many species have been documented to produce mycotoxins, which may be associated with pulmonary disease in humans and other animals. Research studies have implicated several of these toxins as carcinogens in laboratory animals following inhalation. A wide number of organisms have been grouped into these two genera. Extremely difficult to identify down to species level. Typically identified in soil, cellulose, food, paint, compost piles, carpeting, wallpaper and in the fiberglass insulation used in interior ductwork.
Alternaria spores	Reported to be allergenic. Commonly found growing in carpets and on indoor textiles. This fungi has been indicated as a potential cause of hypersensitivity pneumonitis. Rare species known to produce tenuazonic acid and other toxic metabolites that may cause disease in humans.
Aureobasidium spores	Reported to be allergenic. Commonly found in high moisture areas such as bathrooms and kitchens. Rarely associated with skin disorders.
Drechslera/Bipolaris group spores	Toxigenic. Also recognized as an allergen. Under certain conditions, this fungi has been documented to produce the mycotoxin, sterigmatocystin. Studies have indicated that this toxin may cause damage to the liver and kidneys in laboratory animals.
Arthrinium spores	Reported to be allergenic. Typically found associated with agriculture. Rarely found in indoor samples.
Curvularia spores	Reported to be allergenic. No additional health data for this genus is available at this time.
Stachybotrys spores	Toxigenic. Also recognized as an allergen. Typically a fungus of dark green/black coloration, it grows readily on building materials with a high cellulose content but low in nitrogen, and is rarely observed in outdoor samples. Certain strains of Stachybotrys may produce the mycotoxin, trichothecene under appropriate conditions which has been documented to cause problems associated with the circulatory, alimentary, skin and nervous systems. Absorption of trichothecene into the tissues of the human lung may cause a condition known as pneumomycosis. Although there have been conflicting studies concerning the toxicity of this fungi, it still appears that extreme caution should be practiced when dealing with this mold.
Torula spores	Toxigenic. Also recognized as an allergen. Studies have shown that certain species may produce a toxin in the laboratory.
Chaetomium spores	Reported to be allergenic. Some species may be associated with disease in humans. Commonly found on the paper used as facing on sheetrock.
Pithomyces spores	Reported to be allergenic. Some species may, in rare instances, produce the toxin sporidesmin.
Epicoccum spores	Reported to be allergenic. Commonly found on plants, textiles and products made of paper.

Spore Name	Description
Pestalotia spores	No information regarding the health effects of this genus is available at this time. All mold should be treated as potential allergens.
Nigrospora spores	Reported to be allergenic. No additional health data for this genus is available at this time.
Trichoderma spores	Toxigenic. Also recognized as an allergen. May produce certain antibodies known to be toxic to humans. Grows well on cellulose products and building materials.
Spegazzinia spores	Reported to be allergenic. Rarely found indoors.
smuts, Periconia, myxomycetes	Reported to be allergenic. This class of fungal spores is most often related to agriculture and plant disease and is rarely found indoors.
Taeniolella spores	No information regarding the health effects of this genus is available at this time. All mold should be treated as potential allergens.
Bispora spores	No information regarding the health effects of this genus is available at this time. All molds should be treated as potential allergens.
Trichocladium spores	Reported to be allergenic. No additional health data for this genus is available at this time.

Summary reports are generated by Environmental Hazards Services, LLC at the request of and for the exclusive use of the person or entity (client) named on this report. Results, reports or copies of same will not be released by Environmental Hazards Services, LLC to any third party without the prior express written consent from the client named in this report. This report applies only to those samples taken at the time, place and location referenced by the client. This report was designed by Environmental Hazards Services, LLC following current industry guidelines for the interpretation of microbial sampling and analysis. Interpretation of these parameters is a scientific work in progress and may as such be changed at any time without notice. This report makes no express or implied warranty or guarantee as to the sampling methodology used by the client. The client is solely responsible for the use and interpretation of these results. Environmental Hazards Services, LLC makes no express or implied warranties as to such use of interpretation.

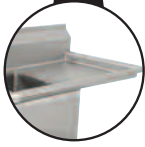


18 GAUGE STAINLESS STEEL

# FE SERIES - FABRICATED SINKS



## Three & Four Compartments



**Roller Rim Edge For Additional Strength**



**K-700**  
Removable Side Splashes Fits Left OR Right Side

Item #: \_\_\_\_\_ Qty #: \_\_\_\_\_  
 Model #: \_\_\_\_\_  
 Project #: \_\_\_\_\_  
**PROVIDED BY OWNER - CONTRACTOR TO INSTALL**

MODEL #	Length L	Width W	Bowl Size A & B	Bowl Depth	Drbd. Length C	# of Drbrds.	Drbd. Location	Wt	Aprox. Cubes
<b>3 COMP.</b>									
FE-3-1515-X	50"	20 3/4"	15"x15"	12"	N/A	0	None	95 lbs.	25
FE-3-1515-15RorLX	62 1/2"	20 3/4"		12"	15"	1	R or L	105 lbs.	31
FE-3-1515-15RLX	75"	20 3/4"		12"	15"	2	R & L	115 lbs.	31
FE-3-1620-X	53"	25 3/4"	16"x20"	12"	N/A	0	None	88 lbs.	25
FE-3-1620-18RorLX	68 1/2"	25 3/4"		12"	18"	1	R or L	96 lbs.	38
FE-3-1620-18RLX	84"	25 3/4"		12"	18"	2	R & L	105 lbs.	42
FE-3-1812-X	59"	23 3/4"	18"x18"	12"	N/A	0	None	90 lbs.	22
FE-3-1812-18RorL-X	74 1/2"	23 3/4"		12"	18"	1	R or L	102 lbs.	29
FE-3-1812-18RLX	90"	23 3/4"		12"	18"	2	R & L	110 lbs.	42
FE-3-1812-24RLX	102"	23 3/4"	18"x24"	12"	24"	2	R & L	149 lbs.	46
FE-3-1824-18RLX	90"	29 3/4"		14"	18"	2	R & L	240 lbs.	47
FE-3-1824-24RorLX	80 1/2"	29 3/4"		14"	24"	1	R or L	242 lbs.	50
FE-3-1824-24RLX	102"	29 3/4"	24"x24"	14"	24"	2	R & L	250 lbs.	54
FE-3-2424-X*	79"	29 3/4"		14"	N/A	0	None	300 lbs.	47
FE-3-2424-24RorL-X*	98 1/2"	29 3/4"		14"	24"	1	R or L	328 lbs.	67
FE-3-2424-24RLX*	120"	29 3/4"	4 COMP.	14"	24"	2	R & L	340 lbs.	67
FE-4-1812-18RL-X*	108"	23 3/4"		18"x18"	12"	18"	2	R & L	250 lbs.
<b>SPACE SAVER</b>									
FE-3-1014-X	35"	19 3/4"	10"x14"	10"	N/A	0	None	85 lbs.	18
FE-3-1014-15RLX	60"	19 3/4"		10"	15"	2	R & L	98 lbs.	22
FE-3-1416-12RLX	66"	21 3/4"	14"x16"	12"	12"	2	R & L	92 lbs.	42

\* Requires Two Faucets

**FEATURES:**

- Backsplash has tile edge for ease of installation.
- Sink bowls are 3/4" coved corner and meet NSF requirements.
- Roller Rim Edge for additional strength.
- 10"x14 Sink Bowls are 10" deep.
- 14"x16", 15"x15", 16"x20" & 18"x18" Sink Bowls are 12" deep.
- 18"x24" & 24"x24" Sink Bowls are 14" deep.
- 9" Backsplash.

**CONSTRUCTION:**

- All TIG welded.
- Welded areas blended to match adjacent surfaces and to a satin finish.
- Gussets welded to a die-embossed reinforced plate.

**MATERIAL:**

- 1 5/8" diameter galvanized legs with 1" adjustable plastic bullet feet.
- Entire unit is 18 gauge 304 stainless steel.
- Gussets - galvanized steel.

**MECHANICAL:**

- Supply is 1/2" IPS hot & cold.
- Faucet holes on 8" centers.
- Faucets are not included (**see accessories**).
- Waste drains are 1 1/2" IPS S/S basket type, located in center of sink bowl, and are included.

**OPTIONAL:**

- FE-SS-12 S/S Leg Upgrade For Sinks w/ 12" Deep Bowls
- FE-SS-14 S/S Leg Upgrade For Sinks w/ 14" Deep Bowls



**Customer Service Available To Assist You 1-800-645-3166 8:30 am - 8:00 pm E.S.T.**

Email Orders To: [customer@advancetabco.com](mailto:customer@advancetabco.com). For Smart Fabrication™ Quotes, Email To: [smartfab@advancetabco.com](mailto:smartfab@advancetabco.com) or Fax To: 631-586-2933

**NEW YORK**  
Fax: (631) 242-6900

**GEORGIA**  
Fax: (770) 775-5625

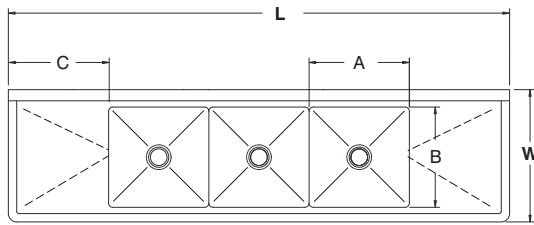
**TEXAS**  
Fax: (972) 932-4795

**NEVADA**  
Fax: (775) 972-1578

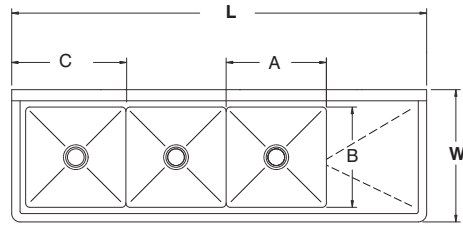
# DIMENSIONS and SPECIFICATIONS

TOL Overall:  $\pm .500''$  Interior:  $\pm .250''$

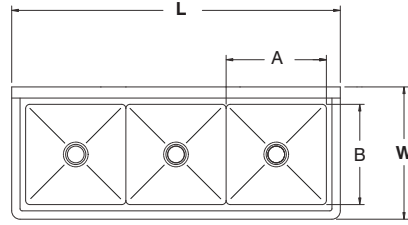
ALL DIMENSIONS ARE TYPICAL



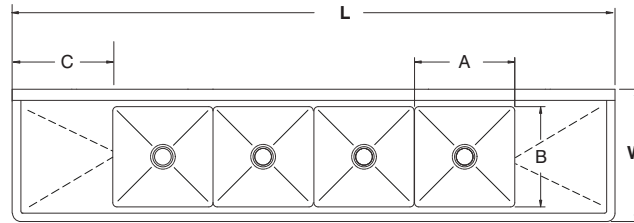
**3 COMP - 2 DRBD**



**3 COMP - 1 DRBD**



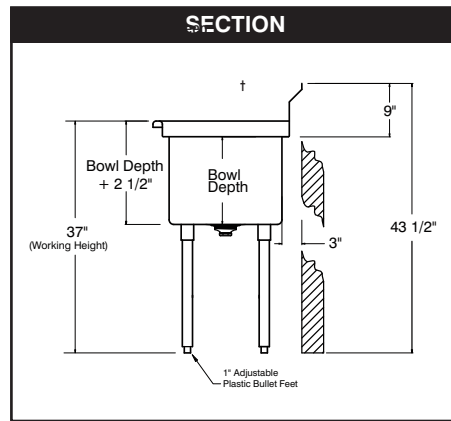
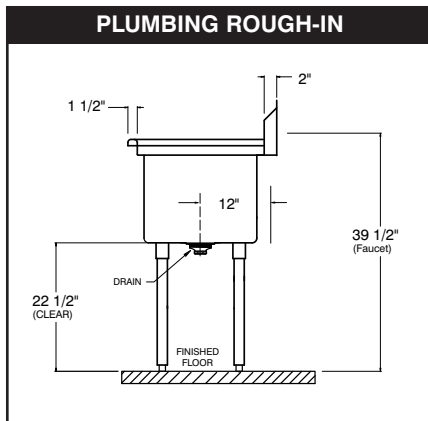
**3 COMP**



**4 COMP - 2 DRBD**

**ACCESSORIES**

	Model #	Qty
DRAINS		
FAUCETS		



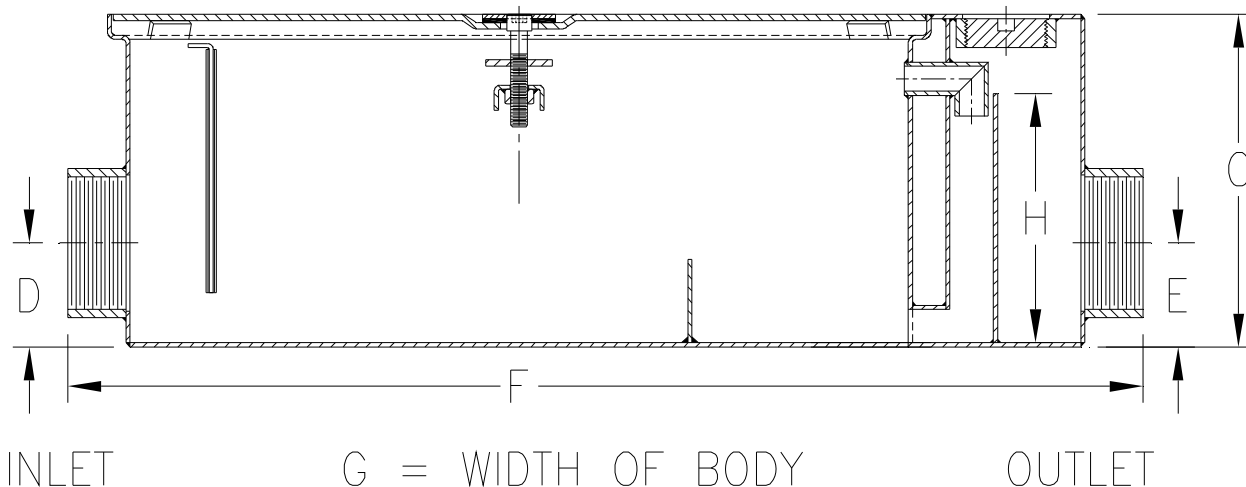


**Z1171**  
**LOW PROFILE GREASE INTERCEPTOR**

TAG \_\_\_\_\_

Dimensional Data (inches and [ mm ]) are Subject to Manufacturing Tolerances and Change Without Notice

**PROVIDED BY OWNER -  
 CONTRACTOR TO INSTALL**



Size	Inlet/ Outlet Size*	Flow Rate G.P.M. [L]	Capacity		Approx. Wt. Lbs. [kg]	Dimensions in Inches				
			Water Gal. [L]	Grease Lbs. [kg]		C	D/E	F	G	H
500	3" [76]	20 [76]	15 [60]	40 [18]	102 [46]	10 [254]	3-1/8 [79]	31 [787]	21-1/8 [536]	6-3/4 [171]
700		35 [132]	30 [113]	70 [32]	172 [78]	10-3/4 [273]	3-1/8 [79]	42-1/8 [1070]	29-3/8 [746]	7 [178]
800		50 [189]	45 [170]	100 [45]	210 [95]	16 [406]	10 [254]	49-1/2 [1257]	29-3/8 [746]	10 [254]

**ENGINEERING SPECIFICATION:** ZURN Z1171 Acid Resistant Coated interior and exterior fabricated steel low type grease interceptor, PDI rated at \_\_\_\_ GPM and \_\_\_\_ Lbs. grease capacity, with internal air relief by-pass, bronze cleanout plug, removable pressure equalizing/flow diffusing inlet baffle, fixed bottom outlet baffle, and visible double wall trap seal. Gasketed non-skid secured cover, complete with center tie down assembly and Z1108 flow control fitting. Regularly furnished with 3 [76] low inlet and outlet.\*

**OPTIONS** (Check/specify appropriate options)

**PREFIXES**

- \_\_\_\_ Z Acid Resistant Coated Fabricated Steel\*
- \_\_\_\_ ZS All Type 304 Fabricated Stainless Steel

**SUFFIXES**

- \_\_\_\_ -L Angle Type (Z1108-L) Flow Control Device with Plunger.
- \_\_\_\_ -PW Plug Wrench

Caution: Installations using indirect piping to unit could result in standing water in floor sink or flooding if line blockage occurs.

REV. J	DATE: 1/5/11	C.N. NO. 120722
DWG. NO. 58907		PRODUCT NO. Z1171

\*REGULARLY FURNISHED UNLESS OTHERWISE SPECIFIED