ADDENDUM THREE
AVONDALE YOUTH AND FAMILY DEVELOPMENT CENTER
BUILDING ABATEMENT AND DEMOLITION
CONTRACT NO. Y-15-008-202
CITY OF CHATTANOOGA, TENNESSEE

The following changes shall be made to the Contract Documents, Specifications, and Drawings:

I. Revised Bid Form

A. An updated bid form is provided in this Addendum.

II. Pre-Bid Meeting

A. The Pre-Bid Meeting Agenda is attached for reference.
B. The sign-in list from the Pre-Bid Meeting is attached for reference.
C. The environmental reports prepared by Alternative Actions are included for reference.

III. Questions and Responses

Q1. **Where we are required to remove asphalt, are we also required to remove all the gravel under the asphalt? And are we then required to install and grade fill dirt at those same locations with 3" topsoil and seed and straw.**

A1. Asphalt, concrete slabs, other structures and obstructions removed as part of this contract shall be completely removed to full depth, including removal of aggregate base layers. Soil exposed during removal of these items will require stabilization as part of mandatory erosion control measures. Temporary seed and straw will be required in these areas during construction. Final seeding and stabilization will not be paid for separately but will be included in the cost of Erosion Control. Spreading of topsoil is not required, and will not be measured or paid for separately, but *may* be necessary in order establish proper temporary and/or permanent vegetative stabilization.

Q2. **Trees are called for removal at the parking lot closest to Wilson Street. Is the curbing and asphalt to be removed or will that be left in place?**

A2. Removal of trees is not to be measured and paid for separately but the cost included in the cost of other items. Also, quantities of curb, asphalt, and other structures and obstructions that are removed in order to remove the trees will not be measured and paid for separately. It is not intended that the parking lot next to Wilson Street be removed as part of this Contract, and so we expect the majority of curb and asphalt to remain in place.

Q3. **On the abatement drawing it states "existing concrete slabs and masonry may not be salvaged and must be disposed of at an appropriate C&D landfill." Does this mean all of the debris from the building has to go to a special landfill? Or are we allowed to dispose of it at a standard landfill?**

A3. The Contractor is responsible for compliance with Federal, State, and local laws and regulations in conducting all operations under this Contract. The slabs and

masonry that are part of the building must be disposed of at a landfill that is permitted for Construction and Demolition waste (C&D). In Tennessee, Class III and Class IV landfills are permitted for C&D. A nearby Class III landfill in Tennessee is the Bradley County landfill. The Contractor is responsible for all costs associated with disposal of this waste. Documentation of disposal of this waste will be required.

Q4. **Does this project have liquidated damages? If so, what is the amount per day?**

A4. Liquidated damages are established in the Contract (Section 500) at $500 per day.

Q5. **The 30-day schedule seems very aggressive. It will take the abatement contractor at least a week to perform their work which only leaves approximately 20 days after that for building demolition. Is it possible to increase the project schedule to include more time?**

A5. The contract duration is established at 30 calendar days to prevent interference with subsequent phases of construction.

Q6. **We noticed during a site visit that there is a concrete slab under the existing tennis court. Are we to include the demo of the concrete slab in our per square foot number?**

A6. Removal of the tennis court area is to be measured as concrete slab as opposed to asphalt. The quantities have been revised on the bid form.

Q7. **This project will require a 14-calendar-day waiting period through the Air Pollution offices; this will obviously take up a lot of the 30-day schedule so is it possible to add to the schedule?**

A7. The 30-day schedule will be measured from the required start date of construction/demolition, which is typically 10 calendar days past the official Notice to Proceed. As the Asbestos Notification is mandatory and must be processed prior to the start of construction/demolition, the City may, if deemed necessary extend in writing the period between Notice to Proceed and commencement of the Work. The 30-calendar day construction/demolition contract duration will not be affected by this, as timely completion of this contract is imperative.

IV. Contract Specifications

Section 1090 was omitted and is included in this addendum.

July 30, 2019

/s/ Justin C. Holland, Administrator
City of Chattanooga
Department of Public Works

BID SCHEDULE

AVONDALE YOUTH AND FAMILY DEVELOPMENT CENTER BUILDING ABATEMENT AND DEMOLITION

Y-15-008-202

CHATTANOOGA, TENNESSEE

DESCRIPTION

The scope of work shall consist of the following operations, including but not limited to: installation of appropriate erosion controls in accordance with approved SWPPP and erosion control plans; demolition of selected portions of asphalt pavement, concrete curbs, fences, drainage pipes and structures, and other structures and obstructions on site and within the area denoted for demolition; disconnection, capping, plugging, removal, and abandonment of utility lines connected to the existing old Avondale YFD Center; abatement of asbestos and lead paint in the existing old Avondale YFD Center; demolition and filling of basement and demolition and disposal of the existing old Avondale YFD Center; protection of the demolition work areas; coordination of activities with YFD staff and other contractors on site to maintain access to the driveway and the new YFD center, and to avoid interference with center operations or ongoing construction activities.

AVONDALE YOUTH AND FAMILY DEVELOPMENT CENTER BUILDING ABATEMENT AND DEMOLITION

TOTAL $ _____

_____

BASE BID $ _____

_____

Note : Dollar amounts are to be shown in both words and figures. In case of discrepancy, dollar amounts shown in words will govern.

Contractor certifies that he has reviewed the plans and specifications, and that all items of work not specifically listed in the Bid Schedule are included in the prices for the various items listed on the Bid Schedule.

BIDDER: **DATE:**

BY: **(Signature)** **TITLE:**

ADDRESS:

CITY: **STATE:** **ZIP CODE:**

TELEPHONE NUMBER:

Bid Schedule

Contract Number Y-15-008-202

AVONDALE YOUTH AND FAMILY DEVELOPMENT CENTER BUILDING ABATEMENT AND DEMOLITION

City of Chattanooga

CONTRACT NUMBER Y-15-008-202					
Item No.	**Description**	**Estimated Qty.**	**Unit**	**Unit Price**	**Total Price**
BASE BID					
00717	Mobilization	1	LS		
02270	Erosion Control	1	LS		
02271	Temporary Seeding	1	LS		
00023-1	Removal of Structures and Obstructions	1	LS		
00023-2	Removal of Existing Asphalt Pavement	19400	SF		
00023-3	Removal of Existing Storm Drain Pipe	560	LF		
00023-4	Removal of Existing Storm Drain Structures	10	EA		
00023-5	Removal of Concrete Pavement, Exterior Slabs, Sidewalks, Steps, Etc.	14500	SF		
00023-6	Temporary Stormwater Control	1	LS		
00023-7	Controlling and Maintaining Access (Includes Fencing, Barriers, and Gravel for Temporary Paving)	1	LS		
00023-8	Demolition of Existing YFD Building (CMU), Including Removal & Disposal of Roofs, Walls, Floors, Foundation, Doors, Windows, and All Other Building Components	5625	SF		
01310-1	Abatement, Removal, and Disposal of White Duct Tape	10	SF		
01310-2	Abatement, Removal, and Disposal of Floor Tile & Mastic Adhesives	4800	SF		
01310-3	Environmental Consultant and Air Clearance	1	LS		

Y-15-008-202 TOTAL BASE BID $ _____

AVONDALE YOUTH AND FAMILY DEVELOPMENT CENTER DEMOLITION
CONTRACT NUMBER Y-15-008-202
PRE-BID MEETING AGENDA
Tuesday July 23, 2019

1. Receipt of Bids – Thursday, August 8 at 2:00 PM @ Chattanooga City Hall, Purchasing Department, Suite G13. 101 E. 11th St.

2. Last day for questions- Friday August 2 at 4:30 p.m.

3. Bidding Requirements- Comply with the requirements described in 00200 Instruction to Bidders

4. Contract and bid forms included in the project manual. Contractor must supply originals of Sections 201-486, and Section 201 must be placed on the outside of the bid envelope.

5. Contract Time- **30 calendar days**

6. Nothing said in this meeting changes any of the Contract Documents. All questions to be submitted in writing; all official responses to be made in writing.

7. Questions shall be submitted in writing using the "Request for Bidder Information" form in the Contract Documents Section 00009-1, and shall be submitted to the City of Chattanooga Purchasing Department.

8. Project consists of:

   The scope of work shall consist of the following operations, including but not limited to: installation of appropriate erosion controls in accordance with approved SWPPP and erosion control plans; demolition of selected portions of asphalt pavement, concrete curbs, fences, drainage pipes and structures, and other structures and obstructions on site and within the area denoted for demolition; disconnection, capping, plugging, removal, and abandonment of utility lines connected to the existing old Avondale YFD Center; abatement of asbestos and lead paint in the existing old Avondale YFD Center; demolition and filling of basement and demolition and disposal of the existing old Avondale YFD Center; protection of the demolition work areas; coordination of activities with YFD staff and other contractors on site to maintain access to the driveway and the new YFD Center, and to avoid interference with center operations or ongoing construction activities.

7/23/2019

SIGN-IN SHEET

PROJECT: Y-15-608-202 AVONDALE YFD DEMO

	NAME	COMPANY	PHONE	EMAIL
1	ANDREW HUTSELL	CITY OF CHATTANOOGA	423-643-6045	AHUTSELL@CHATTANOOGA.GOV
2	Tracy Burton	P+D	423-421-0398	K_Burton@EABFI.com
3	Heath Littrell	HL Construction	423-464-4506	Heath@HLConstructionsite.com
4	Jenni Newberry	HL Construction	423-457-4530	jnewberry@hlconstructionsite.com
5	Donna/Alvin Cordell	Cordell's Construction & Paving	423-595-1086 / 322-5074	dcordell516@yahoo.com
6	Blake Blevins	Logan Excavating	706-764-6491	bblevins@loganexcavating.com
7	Skip Smith	J & J Contractors	423-265-3233	skip@jjcontractors.com
8	Charles Walker	Thomas Environmental	615-417-3894	charles@tescompanies.com
9	Steve Steele	NEO	865-250-9454	ssteele@neocorporation.com
10	Josh Kyker	NEO	423-402-5351	JKyker@neocorporation.com
11	Bryan Kile	SE Environmental	423-551-1786	bKile@southeast-environmental.com
12	James Morehead	Complete Demolition	770-757-7149	james.eds@att.net
13	Calvin Ball	Tower Construction Co.	4234214619	calvin.ball@towerconstructionco.com
14	Jason McKinney	YFD	423-643-6886	jmckinney@chattanooga.gov
15	Debbie Talley	City	423-643-7230	dtalley@chattanooga.gov
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ASBESTOS NESHAP REPORT

The Avondale Youth and Family Development Center
1305 Dodson Avenue
Chattanooga, Tennessee

For

City of Chattanooga
Department of Public Works
Engineering Division
1250 Market Street, Suite 2100
Chattanooga, Tennessee 37402

by

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

November 29, 2016

TN Firm # A-F-642-46019
TN Inspector# A-I-57513-45710

AAI-4763

ALTERNATIVE ACTIONS, INC.
7505 Middle Valley Road, Suite 113, Hixson, Tennessee 37343

Mr. Andrew Hutsell
City of Chattanooga
Department of Public Works
Engineering Division
1250 Market Street, Suite 2100
Chattanooga, TN 37402

November 29, 2016

NESHAP Inspection – "The Avondale Youth and Family Development Center"
1305 Dodson Avenue, Chattanooga, Tennessee

Dear Mr. Hutsell,

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 demolition of "The Avondale Youth and Family Development Center" located at 1305 Dodson Avenue, Chattanooga, Tennessee. The initial field inspection was conducted on October 31, 2016.

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 114 samples were collected and submitted to an accredited laboratory using PLM analysis. Due to positive stop protocols, a total of 104 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 1305 Dodson Avenue, Chattanooga, Tennessee. The site consists of an activities building built in 1949 with a concession building at the ballfields. The activities building is a gymnasium with offices, meeting rooms, bathrooms, and storage rooms. All buildings are in use and in good condition.

The buildings have a perimeter foundation covered with a concrete slab and painted concrete block walls. The roof is low sloped with EPDM rubber membrane. The interior walls and ceiling are drywall and/or block. The floors are concrete covered with multiple layers of tile. Bathroom and kitchen floors are also tile in multiple layers. A basement room is located under the old stage room and contains the HVAC unit. The concession stand had no suspect materials to test.

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:

4763-02	Yellow/ Black Mastic in RM-12
4763-06	Black Mastic in RM-1,2,5
4763-08C	Yellow/ Black Mastic in RM-5
4763-09	Yellow/ Black Mastic in RM-9,10
4763-11	Yellow/ Black Mastic in RM-14,15
4763-12	Yellow/ Black Mastic in RM-16
4763-13	Yellow/ Black Mastic in RM-16
4763-15	Yellow/ Black Mastic in RM-16
4763-26	White Duct Tape in Basement HVAC

Recommendations

Floor Tile – While not asbestos containing, the floor tile is considered contaminated since the asbestos mastic adhesive is adhered to the bottom of the tiles. Floor tile in an intact condition is considered a Category I, non-friable, asbestos containing material by the Federal NESHAP Standards when they are undisturbed and in good condition. This material has the option of being removed prior to demolition or left in place during demolition. If left in place, material must remain wet at all time. Floor tile and associated mastic debris must be segregated and disposed of at a Subtitle D, sanitary landfill. If the floor tile and associated mastic cannot be segregated, all debris must be disposed of at a Subtitle D, sanitary landfill. This includes the concrete slab. None of the concrete slab debris can be used for fill on site or at an alternate site if the floor tile and or mastic adhesives remain on the concrete slab.

It is recommended to remove the asbestos floor tile prior to demolition. This work will need to be performed by a State of Tennessee accredited asbestos contractor using accredited supervisor and workers. All material and debris must be properly disposed of at an approved asbestos landfill. While EPA looks upon this material as non-friable, OSHA Regulations 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. Once removed, the concrete slab can be used for fill or normal disposal.

Asbestos Adhesives - Asbestos mastic adhesives are considered a Category I, non-friable, asbestos containing building material by Federal NESHAP Regulations. Adhesives, found in good condition, have the option of being left in place and maintained, covered by another type of flooring or removed.

It is recommended to remove the asbestos floor tile prior to demolition. This work will need to be performed by a State of Tennessee accredited asbestos contractor using accredited supervisor and workers. All material and debris must be properly disposed of at an approved asbestos landfill. While EPA looks upon this material as non-friable, OSHA Regulations 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. Once removed, the concrete slab can be used for fill or normal disposal.

Duct Tape - Duct tape is considered a Regulated Asbestos Containing Material (RACM). It will easily release fibers when disturbed. Duct tape must be removed prior to demolition in a proper and controlled method and disposed of at an approved asbestos landfill. The removal crew as outlined by the Federal and State OSHA Regulations must use proper protection. Due to removal requirements, it is required that the duct tape removal be performed by an accredited abatement contractor.

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

Sincerely,

Keith Boyd

Keith Boyd
Environmental Inspector/Project Mgr.

Tennessee Certification
Certification No.: A-I-57513-45710
Expiration Date: November 30, 2016

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

Sample Spreadsheet
The Avondale Youth and Family Development Center
1305 Dodson Avenue, Chattanooga, Tennessee

Sample Number	Sample Description	Sample Location	Condition	Laboratory Results
4763-01A	White 12"x12" Floor Tile w/Blue Spots	RM 13	Good	No Asbestos Detected
4763-01A	Orange/Black Mastic	RM 13	Good	**Trace<1% Chrysotile**
4763-01B	White 12"x12" Floor Tile w/Blue Spots	RM 12	Good	No Asbestos Detected
4763-01B	Yellow Mastic	RM 12	Good	No Asbestos Detected
4763-01C	White 12"x12" Floor Tile w/Blue Spots	RM 1	Good	No Asbestos Detected
4763-01C	Yellow Mastic	RM 1	Good	No Asbestos Detected
4763-02	Blue 12"x12" Floor Tile	RM 12	Good	No Asbestos Detected
4763-02	Yellow/Black Mastic	RM 12	Good	**2% Chrysotile Asbestos**
4763-03	Teal 12"x12" Floor Tile	RM 12	Good	No Asbestos Detected
4763-03	Yellow/Black Mastic	RM 12	Good	**Trace<1% Chrysotile**
4763-04	Yellow 12"x12" Floor Tile	RM 1	Good	No Asbestos Detected
4763-04	Orange Mastic	RM 1	Good	No Asbestos Detected
4763-05	Red 12"x12" Floor Tile	RM 1	Good	No Asbestos Detected
4763-05	Yellow Mastic	RM 1	Good	No Asbestos Detected
4763-06A	Orange 12"x12" Floor Tile	RM 1	Good	No Asbestos Detected
4763-06A	Black Mastic	RM 1	Good	**3% Chrysotile Asbestos**
4763-06B	Orange 12"x12" Floor Tile	RM 2	Good	No Asbestos Detected
4763-06B	Black Mastic	RM 2	Good	**Not Analyzed/ Positive Stop**
4763-06C	Orange 12"x12" Floor Tile	RM 5	Good	No Asbestos Detected
4763-06C	Black Mastic	RM 5	Good	**Not Analyzed/ Positive Stop**

Sample Spreadsheet
The Avondale Youth and Family Development Center
1305 Dodson Avenue, Chattanooga, Tennessee

Sample Number	Sample Description	Sample Location	Condition	Laboratory Results
4763-07A	Gray 12"x12" Floor Tile	RM 2	Good	No Asbestos Detected
4763-07A	Yellow Mastic	RM 2	Good	No Asbestos Detected
4763-07B	Gray 12"x12" Floor Tile	RM 4	Good	No Asbestos Detected
4763-07B	Yellow Mastic	RM 4	Good	No Asbestos Detected
4763-07C	Gray 12"x12" Floor Tile	RM 6	Good	No Asbestos Detected
4763-07C	Yellow Mastic	RM 6	Good	No Asbestos Detected
4763-08A	Light Blue 12"x12" Floor Tile	RM 5	Good	No Asbestos Detected
4763-08A	Yellow Mastic	RM 5	Good	No Asbestos Detected
4763-08B	Light Blue 12"x12" Floor Tile	RM 11	Good	No Asbestos Detected
4763-08B	Yellow Mastic	RM 11	Good	No Asbestos Detected
4763-08C	Light Blue 12"x12" Floor Tile	RM 5	Good	No Asbestos Detected
4763-08C	Yellow/Black Mastic	RM 5	Good	**2% Chrysotile Asbestos**
4763-09A	Light Green 12"x12" Floor Tile	RM 9	Good	No Asbestos Detected
4763-09A	Yellow/Black Mastic	RM 9	Good	**2% Chrysotile Asbestos**
4763-09B	Light Green 12"x12" Floor Tile	RM 10	Good	No Asbestos Detected
4763-09B	Yellow/Black Mastic	RM 10	Good	**Not Analyzed/ Positive Stop**
4763-09C	Light Green 12"x12" Floor Tile	RM 9	Good	No Asbestos Detected
4763-09C	Yellow/Black Mastic	RM 9	Good	**Not Analyzed/ Positive Stop**
4763-10A	Dark Green 12"x12" Floor Tile	RM 9	Good	No Asbestos Detected
4763-10B	Dark Green 12"x12" Floor Tile	RM 10	Good	No Asbestos Detected

Sample Spreadsheet
The Avondale Youth and Family Development Center
1305 Dodson Avenue, Chattanooga, Tennessee

Sample Number	Sample Description	Sample Location	Condition	Laboratory Results
4763-10C	Dark Green 12"x12" Floor Tile	RM 9	Good	No Asbestos Detected
4763-10C	Yellow Mastic	RM 9	Good	No Asbestos Detected
4763-11A	Gray 12"x12" Floor Tile	RM 15	Good	No Asbestos Detected
4763-11A	Yellow/Black Mastic	RM 15	Good	**2% Chrysotile Asbestos**
4763-11B	Gray 12"x12" Floor Tile	RM 15	Good	No Asbestos Detected
4763-11B	Yellow/Black Mastic	RM 15	Good	**Not Analyzed/ Positive Stop**
4763-11C	Gray 12"x12" Floor Tile	RM 14	Good	No Asbestos Detected
4763-11C	Yellow/Black Mastic	RM 14	Good	**Not Analyzed/ Positive Stop**
4763-12A	Blue/Green 12"x12" Floor Tile	RM 16	Good	No Asbestos Detected
4763-12A	Yellow/Black Mastic	RM 16	Good	**2% Chrysotile Asbestos**
4763-12B	Blue/Green 12"x12" Floor Tile	RM 16	Good	No Asbestos Detected
4763-12B	Yellow/Black Mastic	RM 16	Good	**Not Analyzed/ Positive Stop**
4763-12C	Blue/Green 12"x12" Floor Tile	RM 16	Good	No Asbestos Detected
4763-12C	Yellow/Black Mastic	RM 16	Good	**Not Analyzed/ Positive Stop**
4763-13	Yellow 12"x12" Floor Tile	RM 16	Good	No Asbestos Detected
4763-13	Yellow/Black Mastic	RM 16	Good	**2% Chrysotile Asbestos**
4763-14	Blue 12"x12" Floor Tile	RM 16	Good	No Asbestos Detected
4763-14	Yellow Mastic	RM 16	Good	No Asbestos Detected
4763-15	Red 12"x12" Floor Tile	RM 16	Good	No Asbestos Detected
4763-15	Yellow/Black Mastic	RM 16	Good	**2% Chrysotile Asbestos**

Sample Spreadsheet
The Avondale Youth and Family Development Center
1305 Dodson Avenue, Chattanooga, Tennessee

Sample Number	Sample Description	Sample Location	Condition	Laboratory Results
4763-16A	Red 4" Base Cove	RM 1	Good	No Asbestos Detected
4763-16A	Beige Mastic	RM 1	Good	No Asbestos Detected
4763-16A	Red 4" Base Cove	RM 1	Good	No Asbestos Detected
4763-16A	Beige Mastic	RM 1	Good	No Asbestos Detected
4763-16A	Red 4" Base Cove	RM 1	Good	No Asbestos Detected
4763-16A	Beige Mastic	RM 1	Good	No Asbestos Detected
4763-17A	Blue 4" Base Cove	RM 5	Good	No Asbestos Detected
4763-17A	Beige Mastic	RM 5	Good	No Asbestos Detected
4763-17B	Blue 4" Base Cove	RM 5	Good	No Asbestos Detected
4763-17B	Beige Mastic	RM 5	Good	No Asbestos Detected
4763-17C	Blue 4" Base Cove	RM 5	Good	No Asbestos Detected
4763-17C	Beige Mastic	RM 5	Good	No Asbestos Detected
4763-18A	Gray 4" Base Cove	RM 2	Good	No Asbestos Detected
4763-18A	Beige Mastic	RM 2	Good	No Asbestos Detected
4763-18B	Gray 4" Base Cove	RM 2	Good	No Asbestos Detected
4763-18B	Beige Mastic	RM 2	Good	No Asbestos Detected
4763-18C	Gray 4" Base Cove	RM 2	Good	No Asbestos Detected
4763-18C	Beige Mastic	RM 2	Good	No Asbestos Detected
4763-19A	Green 4" Base Cove	RM 9	Good	No Asbestos Detected
4763-19A	Beige Mastic	RM 9	Good	No Asbestos Detected

Sample Spreadsheet
The Avondale Youth and Family Development Center
1305 Dodson Avenue, Chattanooga, Tennessee

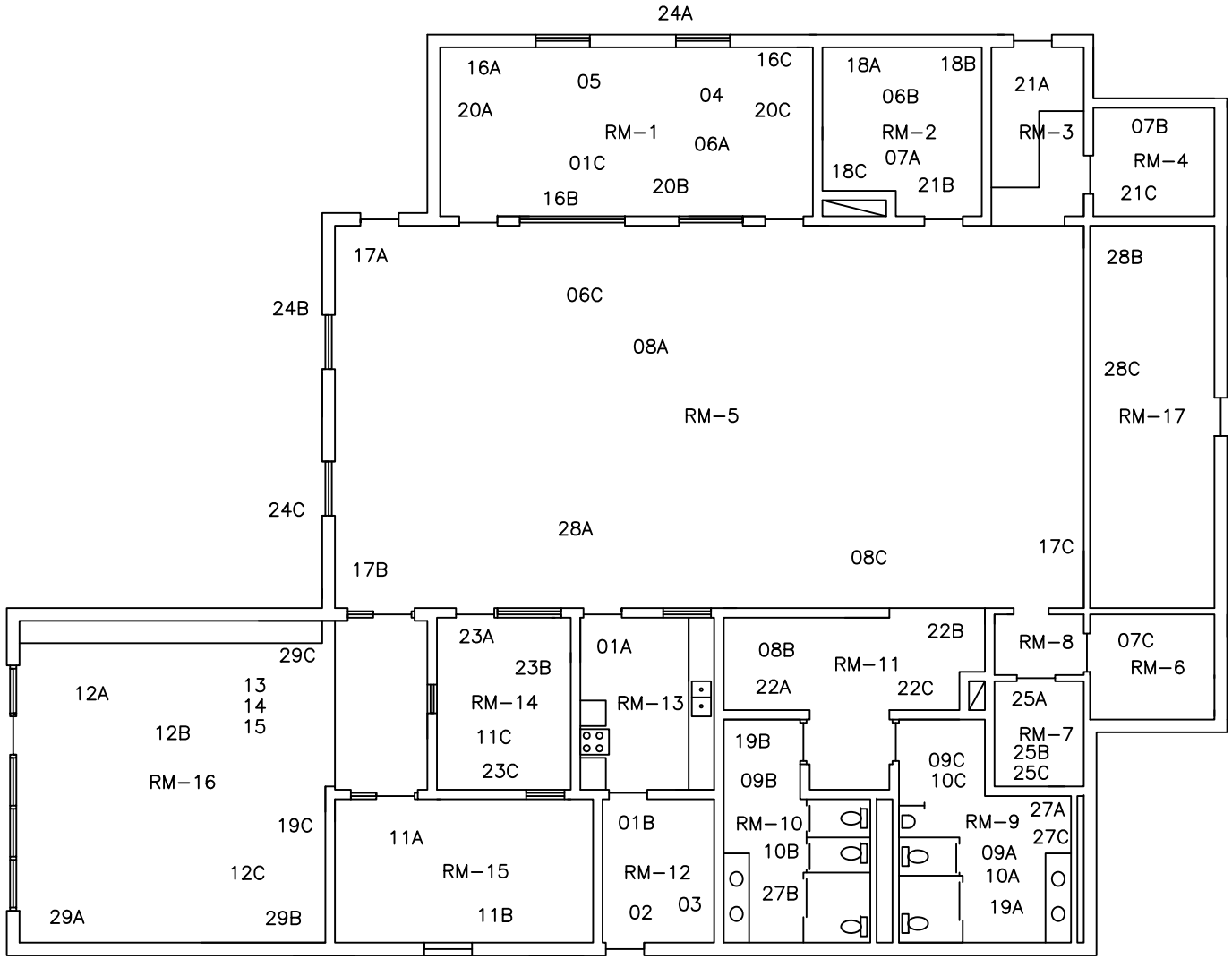
Sample Number	Sample Description	Sample Location	Condition	Laboratory Results
4763-19B	Green 4" Base Cove	RM 10	Good	No Asbestos Detected
4763-19B	Beige Mastic	RM 10	Good	No Asbestos Detected
4763-19C	Green 4" Base Cove	RM 16	Good	No Asbestos Detected
4763-19C	Beige Mastic	RM 16	Good	**Trace<1% Chrysotile**
4763-20A	White 2'x2' Ceiling tile Stripe Pattern	RM 1	Good	No Asbestos Detected
4763-20B	White 2'x2' Ceiling tile Stripe Pattern	RM 1	Good	No Asbestos Detected
4763-20C	White 2'x2' Ceiling tile Stripe Pattern	RM 1	Good	No Asbestos Detected
4763-21A	White 2'x4' Ceiling tile Smooth Pattern	RM 3	Good	No Asbestos Detected
4763-21B	White 2'x4' Ceiling tile Smooth Pattern	RM 2	Good	No Asbestos Detected
4763-21C	White 2'x4' Ceiling tile Smooth Pattern	RM 4	Good	No Asbestos Detected
4763-22A	White 2'x2' Ceiling tile Pin Hole/ Stripe Pattern	RM 11	Good	No Asbestos Detected
4763-22B	White 2'x2' Ceiling tile Pin Hole/ Stripe Pattern	RM 11	Good	No Asbestos Detected
4763-22C	White 2'x2' Ceiling tile Pin Hole/ Stripe Pattern	RM 11	Good	No Asbestos Detected
4763-23A	White 2'x2' Ceiling tile Pin Hole Pattern	RM 14	Good	No Asbestos Detected
4763-23B	White 2'x2' Ceiling tile Pin Hole Pattern	RM 14	Good	No Asbestos Detected
4763-23C	White 2'x2' Ceiling tile Pin Hole Pattern	RM 14	Good	No Asbestos Detected
4763-24A	Dark Brown Window Caulk	RM 1	Good	No Asbestos Detected
4763-24B	Dark Brown Window Caulk	RM 5	Good	No Asbestos Detected
4763-24C	Dark Brown Window Caulk	RM 5	Good	No Asbestos Detected
4763-25A	White Pipe Insulation	RM 7 Closet	Good	No Asbestos Detected

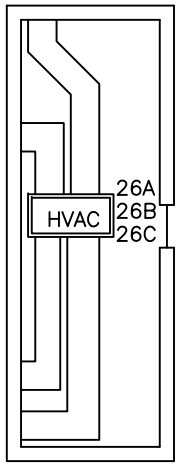
Sample Spreadsheet
The Avondale Youth and Family Development Center
1305 Dodson Avenue, Chattanooga, Tennessee

Sample Number	Sample Description	Sample Location	Condition	Laboratory Results
4763-25B	White Pipe Insulation	RM 7 Closet	Good	No Asbestos Detected
4763-25C	White Pipe Insulation	RM 7 Closet	Good	No Asbestos Detected
4763-26A	White Duct Tape	Basement HVAC	Good	**65% Chrysotile Asbestos**
4763-26B	White Duct Tape	Basement HVAC	Good	**Not Analyzed/ Positive Stop**
4763-26C	White Duct Tape	Basement HVAC	Good	**Not Analyzed/ Positive Stop**
4763-27A	White Drywall	RM 9	Good	No Asbestos Detected
4763-27B	White Drywall	RM 10	Good	No Asbestos Detected
4763-27C	White Drywall	RM 9	Good	No Asbestos Detected
4763-28A	White 1'x2' Ceiling tile Smooth Pattern	RM 5	Good	No Asbestos Detected
4763-28B	White 1'x2' Ceiling tile Smooth Pattern	RM 17	Good	No Asbestos Detected
4763-28C	White 1'x2' Ceiling tile Smooth Pattern	RM 17	Good	No Asbestos Detected
4763-29A	White Drywall	RM 16	Good	No Asbestos Detected
4763-29B	White Drywall	RM 16	Good	No Asbestos Detected
4763-29C	White Drywall	RM 16	Good	No Asbestos Detected

ASBESTOS TAKEOFFS
“The Avondale Youth and Family Development Center
1305 Dodson Avenue, Chattanooga, Tennessee

Sample Number	Location	Asbestos Material	Quantity
4763-02	RM-12	Yellow/Black Mastic	4,800 S.F.
4763-06	RM-1,2,5		
4763-08C	RM-5		
4763-09	RM-9,10		
4763-11	RM-14,15		
4763-12	RM-16		
4763-13	RM-16		
4763-15	RM-16		
4763-26	Basement HVAC	White Duct Tape	10 S.F.

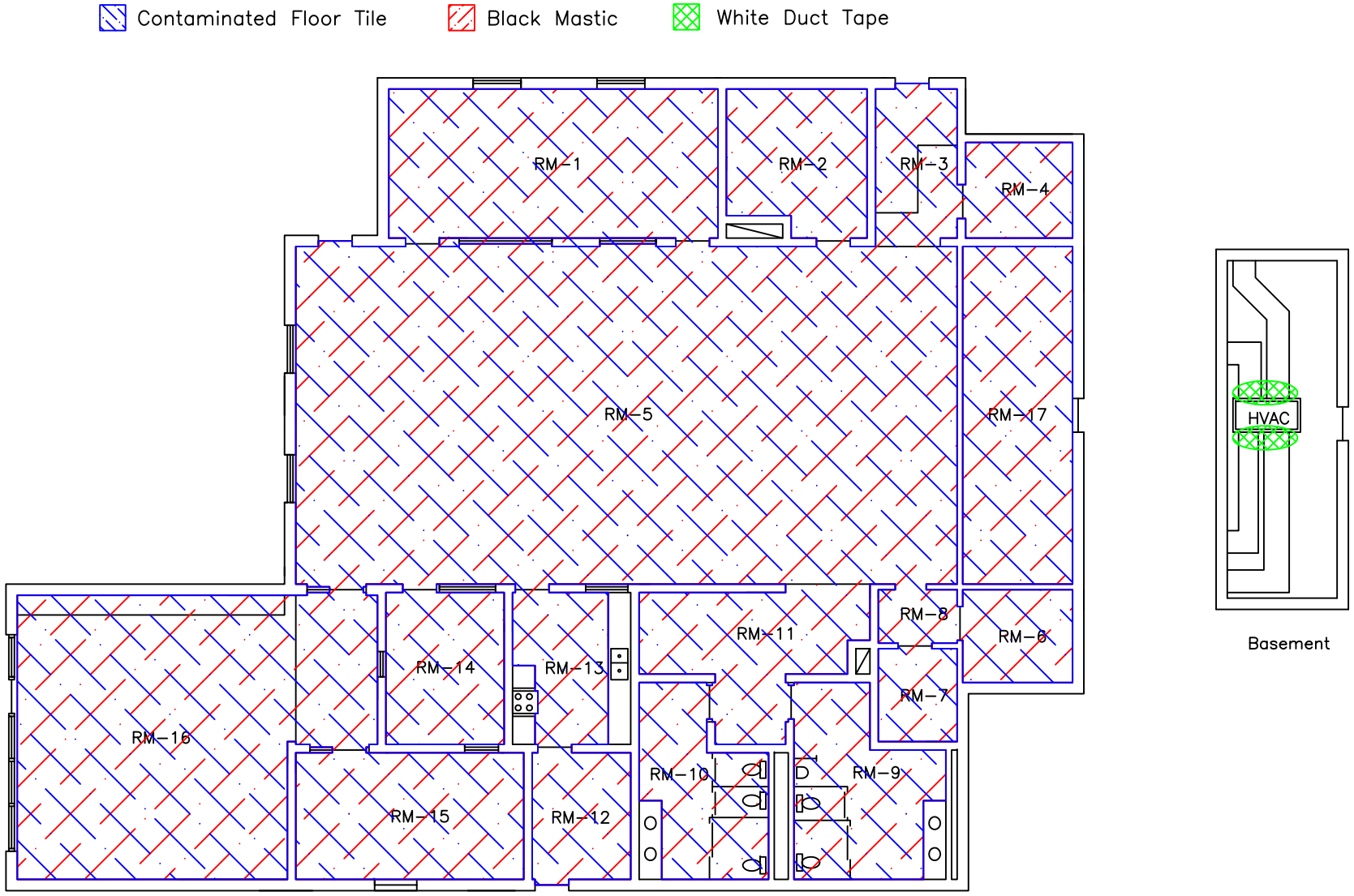




Basement

Sample Locations

The Avondale Youth and Family Development Center
1305 Dodson Avenue, Chattanooga, TN



Asbestos Locations

The Avondale Youth and Family Development Center
1305 Dodson Avenue, Chattanooga, TN

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

Asbestos Bulk Analysis Report

Report Number: 16-11-00317

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

Received Date: 11/02/2016
Analyzed Date: 11/03/2016
Reported Date: 11/04/2016

Project/Test Address: AAI-4763; 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
16-11-00317-001A	4763-01A	Tile	White Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-001B	4763-01A	Mastic	Orange/Black Adhesive; Inhomogeneous	Trace <1% Chrysotile	100% Non-Fibrous
			Total Asbestos:	Trace <1%	
Unable to cleanly separate materials					
16-11-00317-002A	4763-01B	Tile	White Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-002B	4763-01B	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-003A	4763-01C	Tile	White Vinyl; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-003B	4763-01C	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-004A	4763-02	Tile	Blue Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-004B	4763-02	Mastic	Yellow/Black Adhesive; Inhomogeneous	2% Chrysotile	98% Non-Fibrous
			Total Asbestos:	2%	
Unable to cleanly separate materials					
16-11-00317-005A	4763-03	Tile	Teal Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-005B	4763-03	Mastic	Yellow/Black Adhesive; Inhomogeneous	Trace <1% Chrysotile	100% Non-Fibrous
			Total Asbestos:	Trace <1%	
Unable to cleanly separate materials					
16-11-00317-006A	4763-04	Tile	Yellow Vinyl; Homogeneous	NAD	2% Cellulose 98% Non-Fibrous
16-11-00317-006B	4763-04	Mastic	Orange Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-007A	4763-05	Tile	Burgundy Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-007B	4763-05	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-008A	4763-06A	Tile	Orange Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-008B	4763-06A	Mastic	Black Adhesive; Homogeneous	3% Chrysotile	97% Non-Fibrous
			Total Asbestos:	3%	
16-11-00317-009A	4763-06B	Tile	Orange Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-009B	4763-06B	Mastic		Did Not Analyze (Positive Stop)	
16-11-00317-010A	4763-06C	Tile	Orange Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-010B	4763-06C	Mastic		Did Not Analyze (Positive Stop)	
16-11-00317-011A	4763-07A	Tile	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-011B	4763-07A	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-012A	4763-07B	Tile	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-012B	4763-07B	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-013A	4763-07C	Tile	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-013B	4763-07C	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-014A	4763-08A	Tile	Blue Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-014B	4763-08A	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-015A	4763-08B	Tile	Blue Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-015B	4763-08B	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-016A	4763-08C	Tile	Blue Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-016B	4763-08C	Mastic	Yellow/Black Adhesive; Inhomogeneous	2% Chrysotile	98% Non-Fibrous
			Total Asbestos:	2%	

Unable to cleanly separate materials

Environmental Hazards Services, L.L.C

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-017A	4763-09A	Tile	Teal Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-017B	4763-09A	Mastic	Yellow/Black Adhesive; Inhomogeneous	2% Chrysotile	98% Non-Fibrous
			Total Asbestos:	2%	
Unable to cleanly separate materials					
16-11-00317-018A	4763-09B	Tile	Teal Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-018B	4763-09B	Mastic		Did Not Analyze (Positive Stop)	
16-11-00317-019A	4763-09C	Tile	Teal Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-019B	4763-09C	Mastic		Did Not Analyze (Positive Stop)	
16-11-00317-020	4763-10A		Green Vinyl; Homogeneous	NAD	100% Non-Fibrous
No mastic present					
16-11-00317-021	4763-10B		Green Vinyl; Homogeneous	NAD	100% Non-Fibrous
No mastic present					
16-11-00317-022A	4763-10C	Tile	Green Vinyl; Homogeneous	NAD	100% Non-Fibrous

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-022B	4763-10C	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-023A	4763-11A	Tile	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-023B	4763-11A	Mastic	Yellow/Black Adhesive; Inhomogeneous	2% Chrysotile	98% Non-Fibrous
			Total Asbestos:	2%	
Unable to cleanly separate materials					
16-11-00317-024A	4763-11B	Tile	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-024B	4763-11B	Mastic		Did Not Analyze (Positive Stop)	
16-11-00317-025A	4763-11C	Tile	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-025B	4763-11C	Mastic		Did Not Analyze (Positive Stop)	
16-11-00317-026A	4763-12A	Tile	Teal Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-026B	4763-12A	Mastic	Yellow/Black Adhesive; Inhomogeneous	2% Chrysotile	98% Non-Fibrous
			Total Asbestos:	2%	
Unable to cleanly separate materials					

Environmental Hazards Services, L.L.C

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-027A	4763-12B	Tile	Teal Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-027B	4763-12B	Mastic		Did Not Analyze (Positive Stop)	
16-11-00317-028A	4763-12C	Tile	Teal Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-028B	4763-12C	Mastic		Did Not Analyze (Positive Stop)	
16-11-00317-029A	4763-13	Tile	Yellow Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-029B	4763-13	Mastic	Yellow/Black Adhesive; Inhomogeneous	2% Chrysotile	98% Non-Fibrous
			Total Asbestos:	2%	
Unable to cleanly separate materials					
16-11-00317-030A	4763-14	Tile	Blue Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-030B	4763-14	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-031A	4763-15	Tile	Red Vinyl; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-031B	4763-15	Mastic	Yellow/Black Adhesive; Inhomogeneous	2% Chrysotile	98% Non-Fibrous
			Total Asbestos:	2%	
Unable to cleanly separate materials					
16-11-00317-032A	4763-16A	Cove Base	Red Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-032B	4763-16A	Mastic	Beige Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-033A	4763-16B	Cove Base	Red Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-033B	4763-16B	Mastic	Beige Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-034A	4763-16C	Cove Base	Red Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-034B	4763-16C	Mastic	Beige Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-035A	4763-17A	Cove Base	Blue Vinyl; Homogeneous	NAD	100% Non-Fibrous

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-035B	4763-17A	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-036A	4763-17B	Cove Base	Blue Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-036B	4763-17B	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-037A	4763-17C	Cove Base	Blue Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-037B	4763-17C	Mastic	Yellow Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-038A	4763-18A	Cove Base	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-038B	4763-18A	Mastic	Beige Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-039A	4763-18B	Cove Base	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-039B	4763-18B	Mastic	Beige Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-040A	4763-18C	Cove Base	Gray Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-040B	4763-18C	Mastic	Beige Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-041	4763-19A		Green Vinyl; Homogeneous	NAD	100% Non-Fibrous
No mastic present					
16-11-00317-042A	4763-19B	Cove Base	Green Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-042B	4763-19B	Mastic	Brown Adhesive; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-043A	4763-19C	Cove Base	Green Vinyl; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-043B	4763-19C	Mastic	Beige/Brown Adhesive; Inhomogeneous	Trace <1% Chrysotile	100% Non-Fibrous
			Total Asbestos:	Trace <1%	
Unable to cleanly separate materials					

Environmental Hazards Services, L.L.C

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-044	4763-20A		Gray/White Fibrous; Inhomogeneous	NAD	55% Cellulose 35% Fibrous Glass 10% Non-Fibrous
16-11-00317-045	4763-20B		Gray/White Fibrous; Inhomogeneous	NAD	55% Cellulose 35% Fibrous Glass 10% Non-Fibrous
16-11-00317-046	4763-20C		Gray/White Fibrous; Inhomogeneous	NAD	55% Cellulose 35% Fibrous Glass 10% Non-Fibrous
16-11-00317-047	4763-21A		White Chalky; Brown Fibrous; Inhomogeneous	NAD	5% Cellulose 3% Fibrous Glass 92% Non-Fibrous
16-11-00317-048	4763-21B		White Chalky; Brown Fibrous; Inhomogeneous	NAD	5% Cellulose 3% Fibrous Glass 92% Non-Fibrous
16-11-00317-049	4763-21C		White Chalky; Brown Fibrous; Inhomogeneous	NAD	3% Cellulose 3% Fibrous Glass 94% Non-Fibrous
16-11-00317-050	4763-22A		Gray/White Fibrous; Inhomogeneous	NAD	55% Cellulose 35% Fibrous Glass 10% Non-Fibrous

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-051	4763-22B		Gray/White Fibrous; Inhomogeneous	NAD	55% Cellulose 35% Fibrous Glass 10% Non-Fibrous
16-11-00317-052	4763-22C		Gray/White Fibrous; Inhomogeneous	NAD	55% Cellulose 35% Fibrous Glass 10% Non-Fibrous
16-11-00317-053	4763-23A		Beige/White Fibrous; Inhomogeneous	NAD	55% Cellulose 35% Fibrous Glass 10% Non-Fibrous
16-11-00317-054	4763-23B		Beige/White Fibrous; Inhomogeneous	NAD	55% Cellulose 35% Fibrous Glass 10% Non-Fibrous
16-11-00317-055	4763-23C		Beige/White Fibrous; Inhomogeneous	NAD	55% Cellulose 35% Fibrous Glass 10% Non-Fibrous
16-11-00317-056	4763-24A		Brown Pliable; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-057	4763-24B		Brown Pliable; Homogeneous	NAD	100% Non-Fibrous
16-11-00317-058	4763-24C		Brown Pliable; Homogeneous	NAD	100% Non-Fibrous

Environmental Hazards Services, L.L.C

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-059	4763-25A		White/Yellow Fibrous; Silver Foil-Like; Inhomogeneous	NAD	15% Cellulose 83% Fibrous Glass 2% Non-Fibrous
16-11-00317-060	4763-25B		White Fibrous; White Vinyl-Like; Silver Foil-Like; Inhomogeneous	NAD	10% Cellulose 10% Fibrous Glass 80% Non-Fibrous
16-11-00317-061	4763-25C		White/Yellow Fibrous; White Vinyl-Like; Silver Foil-Like; Inhomogeneous	NAD	5% Cellulose 85% Fibrous Glass 10% Non-Fibrous
16-11-00317-062	4763-26A		White Fibrous; Homogeneous	65% Chrysotile	10% Cellulose 25% Non-Fibrous
			Total Asbestos:	65%	
16-11-00317-063	4763-26B			Did Not Analyze (Positive Stop)	
16-11-00317-064	4763-26C			Did Not Analyze (Positive Stop)	
16-11-00317-065	4763-27A		White Chalky; Brown Fibrous; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous
16-11-00317-066	4763-27B		White Chalky; Brown Fibrous; Inhomogeneous	NAD	15% Cellulose 85% Non-Fibrous

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

Lab Sample Number	Client Sample Number	Layer Type	Lab Gross Description	Asbestos	Other Materials
16-11-00317-067	4763-27C		White Chalky; Brown Fibrous; Inhomogeneous	NAD	5% Cellulose 95% Non-Fibrous
16-11-00317-068	4763-28A		Brown Fibrous; White Paint-Like; Inhomogeneous	NAD	97% Cellulose 3% Non-Fibrous
16-11-00317-069	4763-28B		Brown Fibrous; White Paint-Like; Inhomogeneous	NAD	97% Cellulose 3% Non-Fibrous
16-11-00317-070	4763-28C		Brown Fibrous; White Paint-Like; Inhomogeneous	NAD	98% Cellulose 2% Non-Fibrous
16-11-00317-071	4763-29A		White Chalky; Brown Fibrous; Inhomogeneous	NAD	10% Cellulose 3% Fibrous Glass 87% Non-Fibrous
16-11-00317-072	4763-29B		White Chalky; Brown Fibrous; Inhomogeneous	NAD	10% Cellulose 2% Fibrous Glass 88% Non-Fibrous
16-11-00317-073	4763-29C		White Chalky; Brown Fibrous; Inhomogeneous	NAD	5% Cellulose 2% Fibrous Glass 93% Non-Fibrous

No Joint Compound Material Present

Environmental Hazards Services, L.L.C

Client Number: 44-1169 Report Number: 16-11-00317

Project/Test Address: AAI-4763; Chattanooga, TN

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

QC Sample: 90-M22014-4

QC Blank: SRM 1866 Fiberglass

Reporting Limit: 1% Asbestos

Method: EPA Method 600/R-93/116, EPA Method 600/M4-82-020

Analyst: Kathy Fletcher

Reviewed By Authorized Signatory: 

Tasha Eaddy
QA/QC Clerk

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

The Avondale Youth and Family Development Center
1305 Dodson Avenue
Chattanooga, Tennessee

For

City of Chattanooga
Department of Public Works
Engineering Division
1250 Market Street, Suite 2100
Chattanooga, Tennessee 37402

by

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

November 23, 2016

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

AAI-4763

Table of Contents

Targeted LBP Inspection Report Summary

DISCLOSURE RESPONSIBILITY: A copy of this summary report will need to be provided to the various demolition contractors which will be performing work in the affected areas of the Avondale Community Center and Concession Stand. The report is required to be given to the contractors in its entirety that will have a possibility of coming in contact with any components found to be painted with Lead-Based Paint (LBP).

DISCLAIMER: This is our report of a visual survey and X-Ray Fluorescence (XRF) analysis of the readily accessible areas of the complex 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.

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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. Andrew Hutsell, City of Chattanooga, Department of Public Works, Engineering Department, 1250 Market Street, Suite 2100, at the "The Avondale Youth and Family Development Center", 1305 Dodson Avenue, Chattanooga, Tennessee. This property has a single story commercial building and a concession stand. The Community Center was occupied at the time of the inspection.

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 October 31, 2016. The inspections 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

Lead based paint was found on interior and exterior components. Items noted as peeling represent a current lead hazard.

Lead Paint Testing

Interior

Component	Location	Condition
Walls	RM-1, Side A,D	Intact
	RM-2, Side A,B	Intact
	RM-3, Side A,D	Intact
	RM-4, Side B	Intact
	RM-5, Side D	Peeling
	RM-7, Side A,B,C,D	Intact
	RM-8, Side A,C,D	Intact
	RM-14, Side C,D	Intact
	RM-17, Side B	Intact
Column	RM-11, Side A	Intact

Exterior

Component	Location	Condition
Wall	Exterior, Side A	Peeling
Basement door casing	Exterior, Side B	Peeling
Basement door jamb	Exterior, Side B	Peeling

No lead based paint was discovered at the concession stand.

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

SPECIFIC RECOMMENDATIONS:

The Community Center and the Concession Stand will be completely demolished. Lead painted components must be disposed of at a sanitary C & D landfill. The concrete block and other painted components can not be used a fill onsite or at an alternate landfill without being abated first.

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:

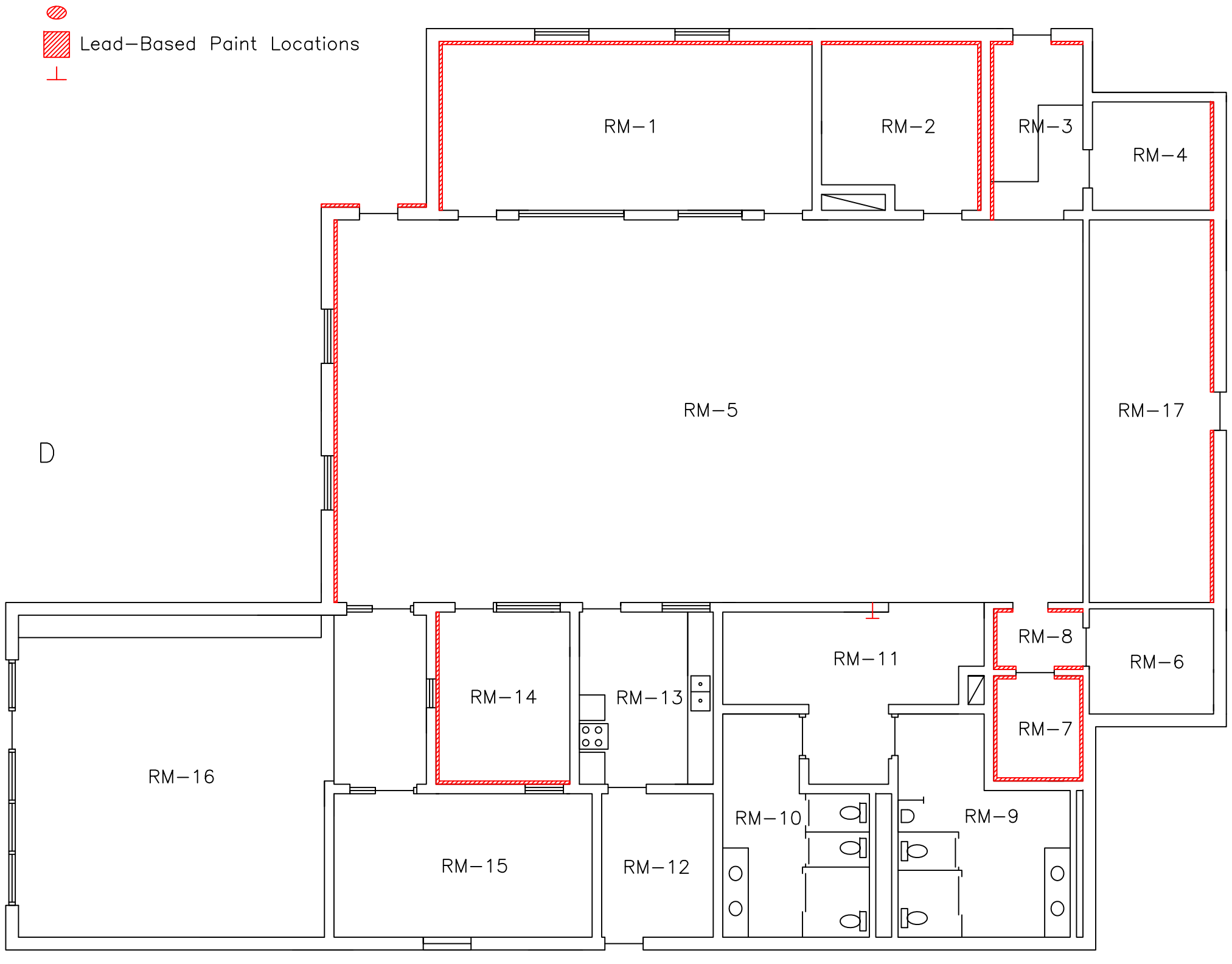
Mark Dempsey
Environmental Inspector/Project Mgr.

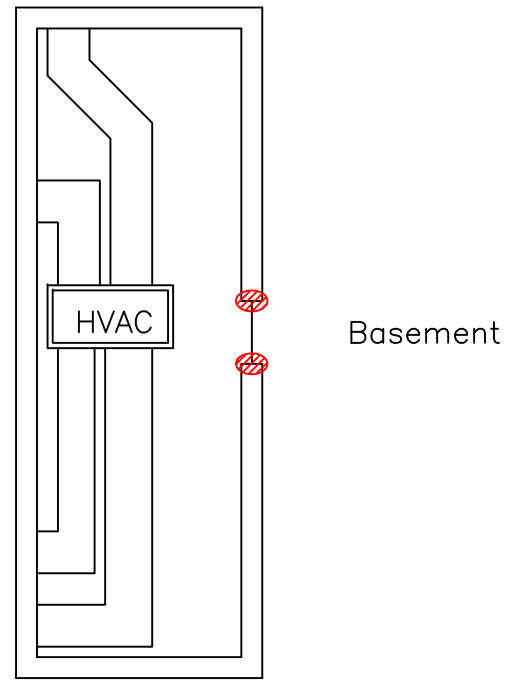
Date: November 23, 2016

Avondale Community Center
1305 Dodson Avenue
Chattanooga, Tennessee

A

Lead–Based Paint Locations





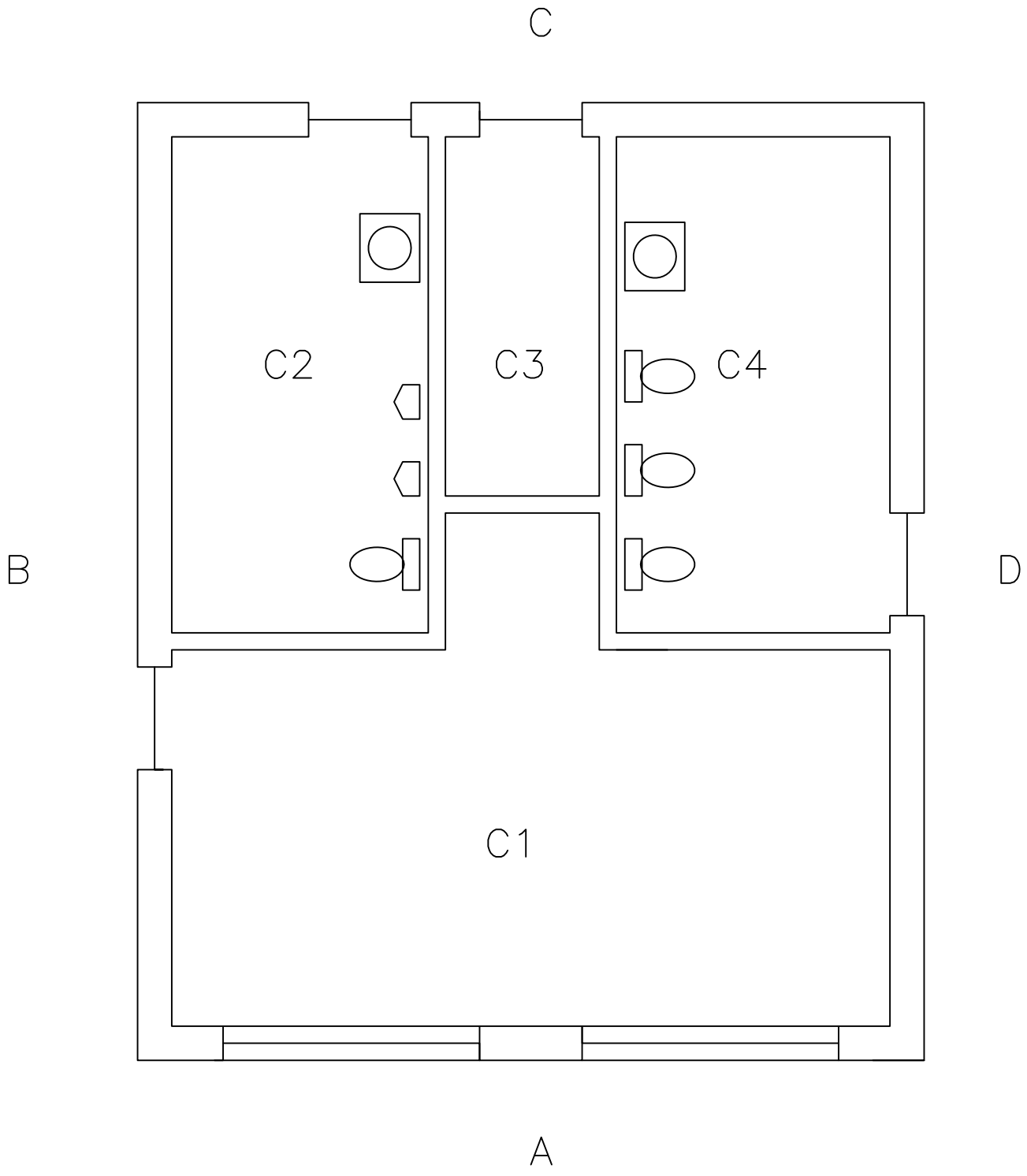
Basement

D

B

C

Concession Stand



HUD Guidelines Chapter 7 Forms for Inspections

Targeted LBP Testing Data Sheet

Address/Unit No. 1305 Dodson Avenue, Chattanooga, Tennessee

Room Equivalent All

XRF Model No. Pb200i Inspector Name Mark Dempsey Signature

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

AAI Form 7.1
3/01/01

XRF Model: Pb200i
Serial No.: 1213

XRF Results
1305 Dodson Avenue - Avondale Comm. Ctr.
Chattanooga, Tennessee

AAI-4763

Reading #	mgcm2	Result	DateTime	COMPONENT	SIDE	Color	SUBSTRATE	CONDITION	ROOM NUMBER
1	1	Positive	10/31/2016 9:08	Calibrate		Green			
2	1.1	Positive	10/31/2016 9:09	Calibrate		Green			
3	1.1	Positive	10/31/2016 9:09	Calibrate		Green			
4	0.4	Negative	10/31/2016 9:17	Wall	A	Yellow	Block	Intact	1
5	0	Negative	10/31/2016 9:17	Win. Casing	A	Brown	Metal	Intact	1
6	0.5	Negative	10/31/2016 9:18	Door Casing	C	Maroon	Metal	Peeling	1
7	0.2	Negative	10/31/2016 9:19	Door	C	Maroon	Metal	Peeling	1
8	0.4	Negative	10/31/2016 9:19	Door Casing	C	Maroon	Metal	Peeling	1
9	1.7	Positive	10/31/2016 9:19	Wall	D	Yellow	Block	Intact	1
10	2.8	Positive	10/31/2016 9:20	Wall	A	Yellow	Block	Intact	1
11	0	Negative	10/31/2016 9:20	Wall	B	Yellow	Block	Intact	1
12	-0.1	Negative	10/31/2016 9:20	Wall	C	Yellow	Block	Intact	1
13	0.7	Negative	10/31/2016 9:21	Column	C	Yellow	Metal	Intact	1
14	0	Negative	10/31/2016 9:23	Wall	A	Yellow	Block	Intact	1
15	0.5	Negative	10/31/2016 9:23	Wall	A	Yellow	Block	Intact	1
16	1.1	Positive	10/31/2016 9:23	Wall	A	Yellow	Block	Intact	1
17	3	Positive	10/31/2016 9:24	Wall	A	Yellow	Block	Intact	1
18	2.8	Positive	10/31/2016 9:26	Wall	A	Blue	Block	Intact	2
19	1.3	Positive	10/31/2016 9:26	Wall	A	Blue	Block	Intact	2
20	0.1	Negative	10/31/2016 9:26	Wall	C	Blue	Block	Intact	2
21	0	Negative	10/31/2016 9:26	Wall	D	Blue	Block	Intact	2
22	1.7	Positive	10/31/2016 9:27	Wall	B	Blue	Block	Intact	2
23	0.5	Negative	10/31/2016 9:27	Door Casing	C	Gray	Metal	Intact	2
24	0.2	Negative	10/31/2016 9:28	Door	C	Gray	Metal	Intact	2
25	2.1	Positive	10/31/2016 9:30	Wall	A	Lgt. Blue	Block	Intact	3
26	0.5	Negative	10/31/2016 9:30	Wall	A	Blue	Block	Intact	3
27	0.3	Negative	10/31/2016 9:30	Wall	A	Blue	Block	Intact	3
28	0.5	Negative	10/31/2016 9:31	Wall	B	Blue	Block	Intact	3
29	0.1	Negative	10/31/2016 9:31	Wall	B	Blue	Block	Intact	3
30	2	Positive	10/31/2016 9:31	Wall	D	Lgt. Blue	Block	Intact	3
31	0.5	Negative	10/31/2016 9:31	Wall	D	Blue	Block	Intact	3
32	0.2	Negative	10/31/2016 9:32	Door Casing	A	Blue	Metal	Peeling	3
33	0.2	Negative	10/31/2016 9:32	Door	A	Blue	Metal	Peeling	3
34	0.1	Negative	10/31/2016 9:33	Railing		Blue	Metal	Peeling	3
35	0	Negative	10/31/2016 9:33	Railing	D	Blue	Metal	Peeling	3
36	0.2	Negative	10/31/2016 9:34	Ceiling		White	Drywall	Peeling	3
37	0.4	Negative	10/31/2016 9:35	Wall	A	Gray	Block	Intact	4
38	2.1	Positive	10/31/2016 9:36	Wall	B	Gray	Block	Intact	4
39	0.5	Negative	10/31/2016 9:36	Wall	C	Gray	Block	Intact	4
40	0.2	Negative	10/31/2016 9:36	Wall	D	Gray	Block	Intact	4
41	0.5	Negative	10/31/2016 9:36	Wall	D	Gray	Block	Intact	4
42	0.5	Negative	10/31/2016 9:37	Door Casing	D	Gray	Metal	Intact	4
43	0.1	Negative	10/31/2016 9:37	Door	D	Gray	Metal	Intact	4
44	0.4	Negative	10/31/2016 9:38	Floor		Red	Tile	Peeling	4
45	0	Negative	10/31/2016 9:42	Wall	A	Blue	Block	Peeling	5
46	0.1	Negative	10/31/2016 9:42	Wall	A	Lgt. Blue	Block	Peeling	5
47	0.3	Negative	10/31/2016 9:43	Column	A	Blue	Metal	Intact	5
48	0.6	Negative	10/31/2016 9:43	Column	A	Blue	Metal	Intact	5
49	0.2	Negative	10/31/2016 9:44	Wall	B	Drk. Blue	Wood	Peeling	5
50	0.1	Negative	10/31/2016 9:45	Wall	B	Blue	Wood	Peeling	5
51	0.4	Negative	10/31/2016 9:45	Wall	B	Blue	Concrete	Peeling	5
52	0.5	Negative	10/31/2016 9:46	Door Casing	C	Blue	Metal	Peeling	5
53	0.2	Negative	10/31/2016 9:46	Door	C	Blue	Metal	Peeling	5
54	1.7	Positive	10/31/2016 9:47	Wall	D	Drk. Blue	Block	Peeling	5
55	1.6	Positive	10/31/2016 9:48	Wall	D	Lgt. Blue	Block	Peeling	5
56	0.7	Negative	10/31/2016 9:50	Wall	A	Gray	Block	Intact	6
57	-0.2	Negative	10/31/2016 9:50	Wall	B	Gray	Block	Intact	6
58	0.6	Negative	10/31/2016 9:50	Wall	D	Gray	Block	Intact	6
59	0.3	Negative	10/31/2016 9:50	Door Casing	D	Gray	Metal	Intact	6
60	0.1	Negative	10/31/2016 9:51	Door	D	Gray	Metal	Intact	6
61	1.5	Positive	10/31/2016 9:52	Wall	A	Gray	Block	Intact	7

Reading #	mgcm2	Result	DateTime	COMPONENT	SIDE	Color	SUBSTRATE	CONDITION	ROOM NUMBER
62	2	Positive	10/31/2016 9:52	Wall	B	Gray	Block	Intact	7
63	0.6	Negative	10/31/2016 9:52	Wall	B	Gray	Block	Intact	7
64	1.7	Positive	10/31/2016 9:53	Wall	C	Gray	Block	Intact	7
65	1.2	Positive	10/31/2016 9:53	Wall	D	Gray	Block	Intact	7
66	1.7	Positive	10/31/2016 9:54	Wall	A	Blue	Block	Intact	8
67	0.7	Negative	10/31/2016 9:54	Wall	B	Blue	Block	Intact	8
68	1.2	Positive	10/31/2016 9:54	Wall	C	Blue	Block	Intact	8
69	1.2	Positive	10/31/2016 9:55	Wall	D	Blue	Block	Intact	8
70	0.2	Negative	10/31/2016 9:56	Ceiling		White	Drywall	Intact	8
71	0	Negative	10/31/2016 9:57	Wall	A	Green	Block	Intact	9
72	0.1	Negative	10/31/2016 9:57	Wall	A	Green	Block	Intact	9
73	-0.3	Negative	10/31/2016 9:58	Wall	C	Green	Block	Peeling	9
74	0	Negative	10/31/2016 9:58	Wall	D	Green	Block	Peeling	9
75	0.3	Negative	10/31/2016 9:58	Wall	D	Green	Block	Peeling	9
76	0.5	Negative	10/31/2016 9:59	Door Casing	D	Green	Metal	Peeling	9
77	0.3	Negative	10/31/2016 9:59	Door	D	Green	Metal	Peeling	9
78	0	Negative	10/31/2016 10:00	Wall	A	Green	Block	Intact	10
79	0.2	Negative	10/31/2016 10:01	Wall	C	Green	Block	Intact	10
80	0.1	Negative	10/31/2016 10:04	Wall	A	Blue	Block	Intact	11
81	0.1	Negative	10/31/2016 10:04	Wall	A	Blue	Block	Intact	11
82	1	Positive	10/31/2016 10:04	Column	A	Lgt. Blue	Metal	Intact	11
83	0.2	Negative	10/31/2016 10:05	Column	A	Blue	Metal	Intact	11
84	0.1	Negative	10/31/2016 10:06	Wall	C	Blue	Block	Intact	11
85	0	Negative	10/31/2016 10:07	Wall	A	Green	Block	Intact	12
86	0.4	Negative	10/31/2016 10:07	Wall	C	Green	Block	Intact	12
87	0.2	Negative	10/31/2016 10:08	Door Casing	A	Green	Wood	Intact	12
88	0.1	Negative	10/31/2016 10:08	Door	A	Green	Wood Fiber	Intact	12
89	0.2	Negative	10/31/2016 10:08	Door Casing	C	Green	Metal	Intact	12
90	0.1	Negative	10/31/2016 10:09	Door	C	Green	Metal	Intact	12
91	0.2	Negative	10/31/2016 10:10	Wall	B	Green	Block	Intact	13
92	0	Negative	10/31/2016 10:10	Wall	D	Green	Block	Intact	13
93	0.3	Negative	10/31/2016 10:10	Column	A	Green	Metal	Intact	13
94	0.4	Negative	10/31/2016 10:11	Door Casing	A	Green	Metal	Peeling	13
95	0.2	Negative	10/31/2016 10:11	Door	A	Green	Metal	Peeling	13
96	0.3	Negative	10/31/2016 10:12	Win. Casing	A	Green	Metal	Intact	13
97	0	Negative	10/31/2016 10:12	Wall	A	Green	Block	Intact	13
98	-0.1	Negative	10/31/2016 10:13	Wall	A	Green	Block	Intact	14
99	0.1	Negative	10/31/2016 10:13	Wall	B	Green	Block	Intact	14
100	0.4	Negative	10/31/2016 10:14	Wall	C	Green	Block	Intact	14
101	2.1	Positive	10/31/2016 10:14	Wall	C	Drk. Green	Block	Intact	14
102	0.1	Negative	10/31/2016 10:15	Wall	D	Green	Block	Intact	14
103	1.8	Positive	10/31/2016 10:15	Wall	D	Drk. Green	Block	Intact	14
104	0.1	Negative	10/31/2016 10:16	Door Casing	A	Green	Metal	Peeling	14
105	0.1	Negative	10/31/2016 10:16	Door	A	Green	Metal	Peeling	14
106	0	Negative	10/31/2016 10:18	Wall	A	Green	Block	Intact	15
107	0.1	Negative	10/31/2016 10:18	Wall	A	Green	Block	Intact	15
108	-0.1	Negative	10/31/2016 10:18	Wall	C	Green	Block	Intact	15
109	0.4	Negative	10/31/2016 10:18	Wall	C	Green	Block	Intact	15
110	0.2	Negative	10/31/2016 10:19	Door Casing	A	Green	Metal	Peeling	15
111	0.1	Negative	10/31/2016 10:19	Door	A	Green	Metal	Peeling	15
112	-0.1	Negative	10/31/2016 10:20	Wall	A	Green	Block	Intact	16
113	0	Negative	10/31/2016 10:21	Wall	A	Green	Block	Intact	16
114	0	Negative	10/31/2016 10:21	Wall	C	Green	Block	Intact	16
115	0.1	Negative	10/31/2016 10:21	Wall	C	Green	Block	Intact	16
116	0.4	Negative	10/31/2016 10:23	Column	C	Blue	Metal	Peeling	16
117	0.3	Negative	10/31/2016 10:23	Column	C	Blue	Metal	Peeling	16
118	0.1	Negative	10/31/2016 10:24	Column	A	Blue	Metal	Peeling	5
119	0.1	Negative	10/31/2016 10:24	Column	A	Blue	Metal	Peeling	5
120	0.2	Negative	10/31/2016 10:25	Beam	A	Blue	Metal	Peeling	5
121	0.2	Negative	10/31/2016 10:26	Beam	C	Blue	Metal	Peeling	5
122	0.2	Negative	10/31/2016 10:26	Column	C	Blue	Metal	Peeling	5

Reading #	mgcm2	Result	DateTime	COMPONENT	SIDE	Color	SUBSTRATE	CONDITION	ROOM NUMBER
123	0.2	Negative	10/31/2016 10:28	Wall	A	Beige	Block	Peeling	Ext.
124	1	Positive	10/31/2016 10:29	Wall	A	Beige	Block	Peeling	Ext.
125	0.2	Negative	10/31/2016 10:30	Wall	A	Beige	Block	Peeling	Ext.
126	0.2	Negative	10/31/2016 10:30	Door	A	Beige	Metal	Peeling	Ext.
127	0	Negative	10/31/2016 10:31	Wall	B	Beige	Block	Peeling	Ext.
128	0.4	Negative	10/31/2016 10:31	Wall	B	Beige	Block	Peeling	Ext.
129	0.2	Negative	10/31/2016 10:32	Railing	B	Beige	Metal	Peeling	Ext.
130	0.3	Negative	10/31/2016 10:32	Railing	B	Beige	Metal	Peeling	Ext.
131	1.4	Positive	10/31/2016 10:34	Bsmnt. Dr. casing	B	Beige	Wood	Peeling	Ext.
132	0	Negative	10/31/2016 10:35	Bsmnt. Door	B	White	Metal	Peeling	Ext.
133	1.4	Positive	10/31/2016 10:35	Bsmnt. Dr. jamb	B	Gray	Wood	Peeling	Ext.
134	0	Negative	10/31/2016 10:37	Wall	C	Beige	Block	Peeling	Ext.
135	0.3	Negative	10/31/2016 10:37	Wall	C	Beige	Block	Peeling	Ext.
136	0.1	Negative	10/31/2016 10:37	Railing	C	Beige	Metal	Peeling	Ext.
137	0.1	Negative	10/31/2016 10:38	Railing	C	Beige	Metal	Peeling	Ext.
138	0.1	Negative	10/31/2016 10:38	Railing	C	Gray	Metal	Peeling	Ext.
139	0	Negative	10/31/2016 10:39	Wall	C	Beige	Block	Peeling	Ext.
140	0.1	Negative	10/31/2016 10:39	Wall	D	Beige	Block	Intact	Ext.
141	0.1	Negative	10/31/2016 10:40	Wall	D	Beige	Block	Peeling	Ext.
142	0.2	Negative	10/31/2016 10:41	Railing	D	Black	Metal	Peeling	Ext.
143	0.2	Negative	10/31/2016 10:45	Soffit	D	Beige	Wood	Peeling	Ext.
144	0.2	Negative	10/31/2016 10:45	Fascia	D	Beige	Wood	Peeling	Ext.
145	0.2	Negative	10/31/2016 10:46	Soffit	D	Beige	Wood	Peeling	Ext.
146	0.2	Negative	10/31/2016 10:46	Fascia	D	Beige	Wood	Peeling	Ext.
147	1.5	Positive	10/31/2016 10:49	Wall	B	Lgt. Blue	Block	Intact	17
148	1.6	Positive	10/31/2016 10:50	Wall	B	Drk. Blue	Block	Intact	17
149	1.1	Positive	10/31/2016 12:01	Calibrate		Green			
150	1.1	Positive	10/31/2016 12:01	Calibrate		Green			
151	1.1	Positive	10/31/2016 12:02	Calibrate		Green			
				Concession Stand					
152	0	Negative	10/31/2016 12:03	Wall	A	Beige	Block	Intact	C-1
153	0.2	Negative	10/31/2016 12:04	Win. Sash	A	Brown	Wood	Peeling	C-1
154	0.3	Negative	10/31/2016 12:04	Door Casing	B	Beige	Metal	Peeling	C-1
155	0.1	Negative	10/31/2016 12:05	Door	B	Beige	Metal	Peeling	C-1
156	0.2	Negative	10/31/2016 12:06	Crown Molding	A	White	Wood	Peeling	C-1
157	0	Negative	10/31/2016 12:06	Ceiling	A	White	Wood	Peeling	C-1
158	0	Negative	10/31/2016 12:09	Wall	B	Beige	Block	Intact	C-2
159	0	Negative	10/31/2016 12:09	Wall	C	Beige	Block	Intact	C-2
160	0.2	Negative	10/31/2016 12:14	Wall	C	Beige	Wood	Intact	C-2
161	0.1	Negative	10/31/2016 12:14	Ceiling		White	Wood	Peeling	C-2
162	0.2	Negative	10/31/2016 12:15	Crown Molding	D	White	Wood	Peeling	C-2
163	0.5	Negative	10/31/2016 12:15	Door Casing	C	Beige	Metal	Peeling	C-2
164	0.1	Negative	10/31/2016 12:15	Door	C	Beige	Metal	Peeling	C-2
165	0	Negative	10/31/2016 12:18	Wall	A	Beige	Block	Peeling	Ext.
166	0.2	Negative	10/31/2016 12:19	Win. Sill-Stool	A	Beige	Wood	Peeling	Ext.
167	0.3	Negative	10/31/2016 12:19	Win. Casing	A	Beige	Wood	Peeling	Ext.
168	0.2	Negative	10/31/2016 12:19	Win. Sash	A	Beige	Wood	Peeling	Ext.
169	0.2	Negative	10/31/2016 12:20	Soffit	A	Beige	Wood	Peeling	Ext.
170	0.1	Negative	10/31/2016 12:20	Fascia	A	Beige	Wood	Peeling	Ext.
171	0.2	Negative	10/31/2016 12:20	Band Board	A	Beige	Wood	Peeling	Ext.
172	0	Negative	10/31/2016 12:21	Wall	B	Beige	Block	Peeling	Ext.
173	-0.2	Negative	10/31/2016 12:22	Wall	C	Beige	Block	Peeling	Ext.
174	0.4	Negative	10/31/2016 12:22	Soffit	C	Beige	Wood	Peeling	Ext.
175	0.2	Negative	10/31/2016 12:22	Fascia	C	Beige	Wood	Peeling	Ext.
176	0.4	Negative	10/31/2016 12:22	Band Board	C	Beige	Wood	Peeling	Ext.
177	-0.1	Negative	10/31/2016 12:23	Door Casing	C	Beige	Metal	Peeling	Ext.
178	0.1	Negative	10/31/2016 12:24	Door	C	Beige	Metal	Peeling	Ext.
179	-0.1	Negative	10/31/2016 12:24	Wall	D	Beige	Block	Peeling	Ext.
180	-0.2	Negative	10/31/2016 12:24	Wall	D	Gray	Block	Peeling	Ext.
181	0.1	Negative	10/31/2016 12:25	Wall	D	White	Block	Peeling	Ext.
182	-0.1	Negative	10/31/2016 12:25	Crown Molding	D	Beige	Wood	Peeling	Ext.

Reading #	mgcm2	Result	DateTime	COMPONENT	SIDE	Color	SUBSTRATE	CONDITION	ROOM NUMBER
183	0.3	Negative	10/31/2016 12:26	Column	D	Yellow	Metal	Peeling	Ext.
184	0.2	Negative	10/31/2016 12:27	Column	D	Yellow	Metal	Peeling	Ext.
185	1.1	Positive	10/31/2016 12:29	Calibrate		Green			
186	1.1	Positive	10/31/2016 12:29	Calibrate		Green			
187	1.1	Positive	10/31/2016 12:30	Calibrate		Green			

Calibration Check Test Results
Page __1__ of __1__

Inspector: Mark Dempsey

Company: Alternative Actions, Inc.

Address / Unit No.: 1305 Dodson Avenue
Chattanooga, Tennessee

Device: Heuresis Pb200i XRF Serial Number: 1213

Inspector's Signature:

Date: 10/31/2016

Calibration Check Tolerance Used ___Read Between 0.8 to 1.2 mg/cm^2_____

First Calibration Check

Green NIST SRM 2579			First Average	Difference Between First Average and 1.0 mg/cm^2
First Reading	Second Reading	Third Reading		
1.00	1.10	1.10	1.06	0.06

Second Calibration Check

Green NIST SRM 2579			First Average	Difference Between First Average and 1.0 mg/cm^2
First Reading	Second Reading	Third Reading		
1.10	1.10	1.10	1.10	0.10

Third Calibration Check

Green NIST SRM 2579			First Average	Difference Between First Average and 1.0mg/cm^2
First Reading	Second Reading	Third Reading		
1.10	1.10	1.10	1.10	0.10

Fourth Calibration Check

Green NIST SRM 2579			First Average	Difference Between First Average and 1.0 mg/cm^2
First Reading	Second Reading	Third Reading		

Fifth Calibration Check

Green NIST SRM 2579			First Average	Difference Between First Average and 1.0 mg/cm^2
First Reading	Second Reading	Third Reading		

* If the difference of the Calibration Check Average from the NIST SRM 2579 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. The reading should be 0.8 to 1.2 mg/cm^2. 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.: 1305 Dodson Avenue
Chattanooga, Tennessee

Device: Heuresis Pb200i XRF Serial Number: 1213

Inspector's Signature:

Date: 10/31/2016

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

Substrate			Brick	Concrete	Drywall	Metal	Plaster	Wood
Location	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 the Heuresis "Performance Characteristic Sheet", December 2015 for Model Pb200i using operating software version 2.1-2, there are no inconclusive classifications. Substrate correction is not required.

XRF PERFORMANCE SPECIFICATIONS

Performance Characteristic Sheet

EFFECTIVE DATE: **December 1, 2015**

MANUFACTURER AND MODEL:

Make: ***Heuresis***
Models: ***Model Pb200i***
Source: ***^{57}Co, 5 mCi (nominal – new source)***

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Action Level mode

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm^2 (inclusive)

SUBSTRATE CORRECTION:

Not applicable

INCONCLUSIVE RANGE OR THRESHOLD:

ACTION LEVEL MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Results not corrected for substrate bias on any substrate	Brick Concrete Drywall Metal Plaster Wood	1.0 1.0 1.0 1.0 1.0 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 using test results on building components in the HUD archive. Testing was conducted on 146 test samples in November 2015, with two separate instruments running software version 2.1-2 in Action Level test mode. The actual source strength of each instrument on the day of testing was approximately 2.0 mCi; source ages were approximately one year.

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.

XRF CALIBRATION CHECK:

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

If the average (rounded to 1 decimal place) of three readings is outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instrument into control before XRF testing proceeds.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Chapter 7 of the HUD Guidelines provides guidance on correcting XRF results for substrate bias. Supplemental guidance for using the paint film nearest 1.0 mg/cm^2 for substrate correction is provided:

XRF results are corrected for substrate bias by subtracting from each XRF result a correction value determined separately in each house for single-family housing or in each development for multifamily housing, for each substrate. The correction value is an average of XRF readings taken over the NIST SRM paint film nearest to 1.0 mg/cm^2 at test locations that have been scraped bare of their paint covering. Compute the correction values as follows:

> Using the same XRF instrument, take three readings on a bare substrate area covered with the NIST SRM paint film nearest 1 mg/cm^2. Repeat this procedure by taking three more readings on a second bare substrate area of the same substrate covered with the NIST SRM.
>
> Compute the correction value for each substrate type where XRF readings indicate substrate correction is needed by computing the average of all six readings as shown below.
>
> <u>For each substrate type</u> (the 1.02 mg/cm^2 NIST SRM is shown in this example; use the actual lead loading of the NIST SRM used for substrate correction):
>
> Correction value = (1st + 2nd + 3rd + 4th + 5th + 6th *Reading*)/6 - 1.02 mg/cm^2
>
> Repeat this procedure for each substrate requiring substrate correction in the house or housing development.

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.

Conduct XRF re-testing 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 and multi-family housing, a result is defined as 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 the 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 readings.

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

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:

In the Action Level paint test mode, the instrument takes the longest time to complete readings close to the Federal standard of 1.0 mg/cm^2. The table below shows the mean and standard deviation of actual reading times by reading level for paint samples during the November 2015 archive testing. The tested instruments reported readings to one decimal place. No significant differences in reading times by substrate were observed. These times apply only to instruments with the same source strength as those tested (2.0 mCi). Instruments with stronger sources will have shorter reading times and those with weaker sources, longer reading times, than those in the table.

Mean and Standard Deviation of Reading Times in Action Level Mode by Reading Level		
Reading (mg/cm^2)	**Mean Reading Time (seconds)**	**Standard Deviation (seconds)**
< 0.7	3.48	0.47
0.7	7.29	1.92
0.8	13.95	1.78
0.9 – 1.2	15.25	0.66
1.3 – 1.4	6.08	2.50
≥ 1.5	3.32	0.05

CLASSIFICATION OF RESULTS:

XRF results are classified as **positive** if they are **greater than or equal** to the stated threshold for the instrument (1.0 mg/cm^2), and *negative* if they are *less than* the threshold.

DOCUMENTATION:

A report titled *Methodology for XRF Performance Characteristic Sheets* (EPA 747-R-95-008) 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. The report may be downloaded at http://www2.epa.gov/lead/methodology-xrf-performance-characteristic-sheets-epa-747-r-95-008-september-1997.

This XRF Performance Characteristic Sheet (PCS) was developed by QuanTech, Inc., under a contract with the XRF manufacturer.

SECTION 01090
ABBREVIATIONS

1.01 GENERAL

Wherever in these Specifications and Contract Documents the abbreviations, or pronouns in place of them are used, the intent and meaning shall be interpreted as specified herein.

1.02 ABBREVIATIONS

AA	-	Aluminum Association
AAMA	-	Architectural Aluminum Manufacturer's Association
AASHTO	-	American Association of State Highway and Transportation Officials
ACI	-	American Concrete Institute
ACPA	-	American Concrete Pipe Association
AEIC	-	Association of Edison Illuminating Companies
AFBMA	-	Anti-Friction Bearing Manufacturers Association
AGA	-	American Gas Association
AGMA	-	American Gear Manufacturers Association
AIA	-	American Institute of Architects
AIEE	-	American Institute of Electrical Engineers
AISC	-	American Institute of Steel Construction
AITC	-	American Institute of Time Construction
ANSI	-	American National Standards Institute
AMCA	-	Air Moving and Conditioning Association
APA	-	American Plywood Association
APHA	-	American Public Health Association
API	-	American Petroleum Institute
APWA	-	American Public Works Administration
ARC	-	Appalachian Regional Commission
AREA	-	American Railroad Engineering Association
ASA	-	American Standards Association
ASCE	-	American Society of Civil Engineers
ASHRAE	-	American Society of Heating, Refrigeration, and Air Conditioning Engineers
ASME	-	American Society of Mechanical Engineers
ASTM	-	American Society for Testing and Materials
AWS	-	American Welding Society
AWWA	-	American Water Works Association
CFR	-	Code of Federal Regulations
CRSI	-	Concrete Reinforcing Steel Institute
CTI	-	Cooling Tower Institute
DEMA	-	Diesel Engine Manufacturers Association
EDA	-	Economic Development Administration
EPA	-	Environmental Protection Agency
FmHA	-	Farmers Home Administration
FS	-	Federal Specifications
HEI	-	Heat Exchange Institute

IEEE	-	Institute of Electronic and Electrical Engineers
IES	-	Illuminating Engineering Society
IPCEA	-	Insulated Power Cable Engineers Association
IPC	-	Institute of Printed Circuits
ISA	-	Instrument Society of America
MBMA	-	Metal Building Manufacturers Association
MSS	-	Manufacturers Standardization Society of the Valve and Fitting Industry
MUTCD	-	Manual on Uniform Traffic Control Devices
NAAMM	-	National Association of Architectural Metal Manufacturers
NACE	-	National Association of Corrosion Engineers
NBFU	-	National Board of Fire Underwriters
NBS	-	National Bureau of Standards
NCPI	-	National Clay Pipe Institute
NEC	-	National Electric Code
NEMA	-	National Electrical Manufacturers Association
NFPA	-	National Fire Protection Association
NRMA	-	National Ready-Mix Association
OSHA	-	Occupational Safety and Health Administration
PCA	-	Portland Cement Association
PCI	-	Prestressed Concrete Institute
SBC	-	Southern Building Code
SMACNA	-	Sheet Metal and Air Conditioning Contractors National Association
SSPC	-	Steel Structures Painting Council
TCA	-	Tile Council of America
TDEC	-	Tennessee Department of Environment and Conservation
TEMA	-	Tubular Exchangers Manufacturers Association
UBC	-	Uniform Building code
UL	-	Underwriters Laboratories
USDC	-	United States Department of Commerce
WBCF	-	Water Pollution Control Federation

END OF DOCUMENT