

**ADDENDUM NO. 3**

DATE: April 6, 2020  
TO: All Potential Bidders  
FROM: Penny Owens, Purchasing Agent, City of Knoxville  
SUBJECT: Addendum No. 3 – Cumberland Estates Recreation Center Roof Replacement

**BIDS TO BE OPENED: April 28, 2020, at 11:00:00 a.m. (Eastern Time)**

This addendum becomes a part of the Contract Document and modifies the original specifications as noted.

Attached is the Roof Sampling Report from Quantum Environmental & Engineering Services documenting that asbestos containing materials were not found in the sampled roofing materials at this facility.

**ADDENDUM NO. 3**



April 2, 2020

Shawn Fitzpatrick, P.E.  
City of Knoxville, Engineering Department  
3131 Morris Avenue  
Knoxville, TN 37909

Subject: Roof Sampling Report  
Cumberland Estates Recreation Center, 4529 Silverhill Drive, Knoxville, Tennessee

Dear Mr. Fitzpatrick:

On April 1, 2020, Quantum Environmental & Engineering Services, LLC (QE2) performed a sampling event at the City of Knoxville's Cumberland Estates Recreation Center on Silverhill Drive in Knoxville, Tennessee. The sampling was performed in support of a future roof replacement project at the site. The Cumberland Estates Recreation Center is steel-framed on a concrete slab, with a brick and concrete façade. The roof has a combination of flat and slightly pitched sections with a rolled shingle cover. Limited portions of the roof have a short parapet curb. The building includes multi-purpose rooms, restrooms, a kitchen, offices, storage rooms, and a gymnasium. The current sampling event included only the roof of the building. Photographs are provided in Attachment 1.

Suspect asbestos-containing materials (ACMs) on the roof were inspected and three homogeneous areas (HAs) were identified and documented. Materials identified included tar-based sealants, layered flashing materials, and the horizontal layered roofing components. The layered horizontal components included a rolled shingle cover, felt papers, and Styrofoam and fiber board insulation over a Tectum base. The flashing included four distinct layers. The materials were logged, and three representative samples were collected. Bulk samples were submitted to SanAir Technologies Laboratory (SanAir) in Powhatan, Virginia, for analysis by Polarized Light Microscopy (PLM). Ten analyses were performed since the horizontal and flashing samples contained multiple layers. The laboratory report with sample chain-of-custody is included as Attachment 2.

The analytical results indicated that no asbestos was detected in any component of any sample. The results for samples collected from the Cumberland Estates Recreation Center are provided in Table 1. Laboratory data sheets and chain of custody forms are provided as Attachment 2.

**Table 1**  
**Laboratory Results of Asbestos Sampling**  
**Cumberland Estates Recreation Center Roof, Knoxville**

Sample #s	Sample Description & Location	Asbestos Content
CERC-1	Black tar-based roof sealant / Gym roof	ND
CERC-2	Flat, layered roofing materials (multiple layers – shingle, tar papers, fiber board insulation, Tectum base) / horizontal built-up roof	ND
CERC-3	Parapet curb flashing (felt papers, tar, shingle) / curb flashing on roof	ND

CERC = Cumberland Estates Recreation Center      ND = None Detected

Other suspect materials could potentially be uncovered during the roof replacement work. If other potentially impacted suspect materials are encountered, they should be sampled to confirm or deny asbestos content.

QE2 appreciates this opportunity to conduct this work for the City of Knoxville. Please contact me at (865) 689-1395 if you have any other comments, questions, or concerns.

Sincerely,



Terence Davis, P.G.  
Senior Environmental Specialist

c:      QE2 File: 501507  
         Attachments

**ATTACHMENT 1**

**PHOTOGRAPHS**



Cumberland Estates Recreation Center – South face



East face with gym

**ATTACHMENT 2**

**LABORATORY REPORTS AND CHAIN-OF-CUSTODY**



**The Identification Specialists**

Analysis Report  
prepared for  
Quantum Environmental & Engineering Services, LLC

**Report Date: 4/2/2020**

**Project Name: Cumberland Eastates Rec Center**

**Project #: 501507**

**SanAir ID#: 20014931**



NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061  
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SanAir ID Number  
20014931  
FINAL REPORT  
4/2/2020 11:49:00 AM

**Name:** Quantum Environmental & Engineering Services, LLC  
**Address:** 126 Dante Road  
Knoxville, TN 37918  
**Phone:** 865-689-1395

**Project Number:** 501507  
**P.O. Number:**  
**Project Name:** Cumberland Eastates Rec Center  
**Collected Date:** 4/1/2020  
**Received Date:** 4/2/2020 9:20:00 AM

Dear Terry Davis,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Thursday, April 02, 2020 via FedEx. The final report(s) is enclosed for the following sample(s): CERC-1, CERC-2, CERC-3.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

A handwritten signature in black ink that reads "Sandra Sobrino". The signature is written in a cursive, flowing style.

Sandra Sobrino  
Asbestos & Materials Laboratory Manager  
SanAir Technologies Laboratory

Final Report Includes:  
- Cover Letter  
- Analysis Pages  
- Disclaimers and Additional Information

Sample conditions:  
- 3 samples in Good condition.





SanAir ID Number  
**20014931**  
 FINAL REPORT  
 4/2/2020 11:49:00 AM

**Name:** Quantum Environmental & Engineering Services, LLC  
**Address:** 126 Dante Road  
 Knoxville, TN 37918  
**Phone:** 865-689-1395

**Project Number:** 501507  
**P.O. Number:**  
**Project Name:** Cumberland Eastates Rec Center  
**Collected Date:** 4/1/2020  
**Received Date:** 4/2/2020 9:20:00 AM

Analyst: Hogrefe, Sarah

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

SanAir ID / Description	Stereoscopic	Components		Asbestos Fibers
	Appearance	% Fibrous	% Non-fibrous	
CERC-1 / 20014931-001 Roofing Tar/Gym Roof	Black Non-Fibrous Homogeneous	15% Cellulose	85% Other	None Detected
CERC-2 / 20014931-002 Built Up Roofing Materials, Flashing	Black Non-Fibrous Homogeneous	30% Cellulose	70% Other	None Detected
CERC-2 / 20014931-002 Built Up Roofing Materials, Shingle	Tan Non-Fibrous Heterogeneous	10% Glass	90% Other	None Detected
CERC-2 / 20014931-002 Built Up Roofing Materials, Tar	Black Non-Fibrous Heterogeneous	5% Glass	95% Other	None Detected
CERC-2 / 20014931-002 Built Up Roofing Materials, Insulation	Brown Fibrous Homogeneous	99% Cellulose	1% Other	None Detected
CERC-2 / 20014931-002 Built Up Roofing Materials, Stucco	White Non-Fibrous Heterogeneous	35% Cellulose	65% Other	None Detected
CERC-3 / 20014931-003 Roof Flashing Layers, Flashing	Black Non-Fibrous Homogeneous	30% Cellulose	70% Other	None Detected
CERC-3 / 20014931-003 Roof Flashing Layers, Roof Cement	Black Non-Fibrous Heterogeneous		100% Other	None Detected
CERC-3 / 20014931-003 Roof Flashing Layers, Shingle	Black Non-Fibrous Heterogeneous	10% Glass	90% Other	None Detected
CERC-3 / 20014931-003 Roof Flashing Layers, Tar	Black Non-Fibrous Heterogeneous	10% Glass 5% Cellulose	85% Other	None Detected

Analyst:

Approved Signatory:

Analysis Date: 4/2/2020

Date: 4/2/2020

## **Disclaimer**

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Samples are held for a period of 60 days.

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

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

### Asbestos Certifications

NVLAP lab code 200870

City of Philadelphia: ALL-460

PA Department of Environmental Protection Number: 68-05397

California License Number: 2915

Colorado License Number: AL-23143

Connecticut License Number: PH-0105

Massachusetts License Number: AA000222

Maine License Number: LB-0075

New York ELAP lab ID: 11983

Rhode Island License Number: AAL-126

Texas Department of State Health Services License Number: 300440

Commonwealth of Virginia 3333000323

Washington State License Number: C989

West Virginia License Number: LT000566

Vermont License: AL166318

Revision Date: 11/30/2017

# SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B - Powhatan, VA 23139  
 804.897.1177 / 888.895.1177 / Fax 804.897.0070  
 www.sanair.com

## Asbestos Chain of Custody

SanAir ID Number

20014931

Company: Quantum Environmental & Engineering, LLC	Project #: 501507	Phone #: 865-689-1395
Address: 126 Dante Road	Project Name: Cumberland Estates Rec Center	Phone #: 865-607-0210
City, St., Zip: Knoxville, TN 37918	Date Collected: 4/1/2020	Fax #: 865-689-6844
Samples Collected By: TLD	P.O. Number:	Email: tdavis@QE2LLC.com

### Asbestos Analysis Types

Bulk		Air		Soil/Vermiculite	
ABB	PLM EPA 600/R-93/116 <input checked="" type="checkbox"/>	ABA	PCM NIOSH 7400 <input type="checkbox"/>	ABSE	PLM EPA 600/R-93/116 (Qual.) <input type="checkbox"/>
	Positive Stop <input type="checkbox"/>	ABA-2	OSHA w/ TWA* <input type="checkbox"/>	ABSP	PLM CARB 435 (LOD <1%) <input type="checkbox"/>
ABEPA	PLM EPA 400 Point Count <input type="checkbox"/>	ABTEM	TEM AHERA <input type="checkbox"/>	ABSP1	PLM CARB 435 (LOD 0.25%) <input type="checkbox"/>
ABB1K	PLM EPA 1000 Point Count <input type="checkbox"/>	ABATN	TEM NIOSH 7402 <input type="checkbox"/>	ABSP2	PLM CARB 435 (LOD 0.1%) <input type="checkbox"/>
ABBEN	PLM EPA NOB <input type="checkbox"/>	ABT2	TEM Level II <input type="checkbox"/>		
ABBCH	TEM Chatfield <input type="checkbox"/>				
ABBTM	TEM EPA NOB <input type="checkbox"/>	Water		Dust	
ABBNY	TEM NY ELAP 198.4 <input type="checkbox"/>	ABHE	EPA 100.2 <input type="checkbox"/>	ABWA	TEM Wipe ASTM D-6480 <input type="checkbox"/>
OTHER/ Matrix :	<input type="checkbox"/>			ABDMV	TEM Microvac ASTM D-5755 <input type="checkbox"/>

Turn Around Times	<input type="checkbox"/> 3 HR (4 HR TEM)	<input checked="" type="checkbox"/> 6 HR (8HR TEM)	<input type="checkbox"/> 12 HR	<input type="checkbox"/> 24 HR
	2 Days <input type="checkbox"/>	3 Days <input type="checkbox"/>	4 Days <input type="checkbox"/>	5 Days <input type="checkbox"/>

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start - Stop
CERC-1	roofing tar / Gym roof		Bulk		
CERC-2	built up roofing materials		↓		
CERC-3	roof flashing layers				

Special Instructions	6-Hr TAT - Thanks!
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Relinquished by	Date	Time	Received by	Date	Time
Terence Davis	4/1/2020	1445	uu	APR 02 2020	9:20am

Unless scheduled, the turn around time for all samples received after 5 pm Friday will begin at 8 am Monday morning. Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time. Work with standard turn around time sent Priority Overnight and Billed To Recipient will be charged a \$10 shipping fee.